PEACE RIVER REGIONAL DISTRICT

REPORT

To: Chair and Directors Report Number: ENV-BRD-283

From: Electoral Area Directors Committee Date: April 30, 2026

Subject: Electoral Area Directors Committee Recommendations from April 17, 2026 – Environmental Services

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The following recommendations from the Electoral Area Directors Committee meeting held April 17, 2026 are presented to the Regional Board for consideration:

RECOMMENDATION #1: *[Corporate Unweighted]*

That the Regional Board proceed with decommissioning the Rose Prairie Water Station based on the results presented in the attached '2025 Phase 2 Field Program Summary – Rose Prairie Water Well Drilling and Pump Test' by TetraTech Canada Ltd. dated March 17, 2026.

RECOMMENDATION #2: *[Corporate Unweighted]*

That the Regional Board consider further investigation at the North Peace Park for possible development of an Area B community water source.

BACKGROUND/RATIONALE:

The draft minutes of the Electoral Area Directors Committee meeting held on April 17, 2026, are provided on the Consent Calendar of this meeting agenda.

Please click here to access the Committee Agenda, please see Item 8.2 titled "Rose Prairie Water and Drilling and Sampling Program – Update 4, ENV-EADC-054" to review the report.

ALTERNATIVE OPTIONS:

1. That the Regional Board provide further direction.

STRATEGIC PLAN RELEVANCE:

☒ Asset and Infrastructure Management

FINANCIAL CONSIDERATION(S):

Please click here to access the April 17, 2026 Electoral Area Directors Committee or use the links provided above to review the Financial Considerations within the report.

COMMUNICATIONS CONSIDERATION(S):

Please click here to access the April 17, 2026 Electoral Area Directors Committee or use the links provided above to review the Communications Considerations within the report.

OTHER CONSIDERATION(S):

Please click here to access the April 17, 2026 Electoral Area Directors Committee or use the links provided above to review the Other Considerations within the report.

Attachments:

1. 2025 Phase 2 Field Program Summary – Rose Prairie Water Well Drilling and Pump Test

2025 Phase 2 Field Program Summary
Rose Prairie Water Well Drilling and Pump Test

PRESENTED TO

Peace River Regional District

MARCH 17, 2026
ISSUED FOR REVIEW
704-ENW.GENV03704-02

This 'Issued for Review' document is provided solely for the purpose of client review and presents our interim findings and recommendations to date. Our usable findings and recommendations are provided only through an 'Issued for Use' document, which will be issued subsequent to this review. Final design should not be undertaken based on the interim recommendations made herein. Once our report is issued for use, the 'Issued for Review' document should be either returned to Tetra Tech Canada Inc. (Tetra Tech) or destroyed.

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LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Peace River Regional District (PRRD) and their agents. Tetra Tech Canada Inc. (Tetra Tech) does not accept any responsibility for the accuracy of any of the data, the analysis, or the recommendations contained or referenced in the report when the report is used or relied upon by any Party other than PRRD, or for any Project other than the proposed development at the subject site. Any such unauthorized use of this report is at the sole risk of the user. Use of this document is subject to the Limitations on the Use of this Document attached in the Appendix or Contractual Terms and Conditions executed by both parties.

1.0 INTRODUCTION AND BACKGROUND

The Peace River Regional District (PRRD) retained Tetra Tech Canada Inc. (Tetra Tech) for the provision of environmental consulting services. These services entailed conducting a desktop hydrogeological assessment and background information search (Phase 1) to assess presence/absence of potential aquifer(s) beneath the properties listed below and shown on Figure 1 (herein referred to as 'the site').

- The Northwest Quadrant, Section 22, Township 86, Range 18, West of the 6th Meridian, Peace River District
- The Southwest Quadrant, Section 22, Township 86, Range 18, West of the 6th Meridian, Peace River District
- The Northwest Quadrant, Section 15, Township 86, Range 18, West of the 6th Meridian, Peace River District

A technical memorandum (memo) presenting the results of the Phase 1 hydrogeological desktop assessment, and proposed options for Phase 2 including exploratory drilling and well testing, and associated cost estimate was submitted to PRRD on April 20, 2024 (Tetra Tech 2024).

Phase 2 was initiated from August 12 to 19, 2024, and September 4 to 9, 2024 when Tetra Tech oversaw the exploratory drilling of three proposed drilling locations as shown on Figure 1. Carbon Mountain Drilling (Carbon Drilling), based out of Fort St. John, BC, drilled the three boreholes at Locations 1 to 3.

A prolific water bearing zone was observed at Location 3. Location 1 and Location 2 were deemed capable of producing insufficient quantity of water; the right-of-first-refusal has been extended to the landowner if they decide to proceed with these wells for future use. It is understood that the groundwater extracted needs to be free from hydrocarbons or dissolved explosive gases, and that water quality must be suitable for treatment by the existing Rose Prairie Water Station. Based on the air and groundwater sampling results for Location 3, there was no indication as to the presence of H_2S at this location. A report summarizing the findings of Phase 2 fieldwork conducted until December 2024 was provided to PRRD on January 15, 2025 (Tetra Tech 2025a).

Due to concerns that the delay between the drilling of Location 3 and planned pump testing could result in borehole integrity issues, Tetra Tech and PRRD decided to convert Location 3 to an observation well, and to drill and install a new pumping well within 15 to 150 m of Location 3, screened in the same aquifer. Location 4 was drilled approximately 17 m east of Location 3 and was completed as pumping well PW25-04 on November 25, 2025; Location 3 was completed as monitoring well MW25-03 from January 6 to 8, 2026. Air and groundwater sampling was conducted by Tetra Tech following development of PW25-04. Based on the analytical results and discussion with PRRD the decision was made to proceed with conducting a step-rate test and 72-hour constant-rate test to assess aquifer properties and feasibility for future use as a water source well. These tests were conducted from January 19 to 23, 2026.

This document presents a summary of field work completed as part of the continuation of the Phase 2 program from November 17, 2025 to January 23, 2026, including a summary of well completion at Locations 3 and 4, the results of air and water quality sampling and analysis of the step-rate and constant-rate tests. Results for investigative works conducted prior to November 2025 are provided in Tetra Tech's 2024 Field Program Summary Report (Tetra Tech 2025a).

This report was prepared in accordance with Tetra Tech's Limitations on the Use of this Document, provided in Appendix A.

2.0 PROJECT OVERVIEW

2.1 Objectives

The objectives of the project were to:

- Conduct an exploratory drilling program to assess if an aquifer capable of producing a minimum of 20 US gallons per minute (USgpm) is present below the site; and
- Construct a water well and conduct an aquifer testing program to support a groundwater diversion licence application.

It is understood that the groundwater extracted needs to be free from hydrocarbons or dissolved explosive gases, and be suitable for treatment by the existing Rose Prairie Water Station.

2.2 Scope

The investigation was undertaken in accordance with Tetra Tech's proposal and cost estimate presented to PRRD on April 20, 2024 (Tetra Tech 2024), and an updated workplan and cost estimate presented to PRRD on November 10, 2025 (Tetra Tech 2025b) which accounted for drilling of an additional location and proceeding with the step-rate and constant-rate pumping tests. The Phase 2 scope included the following:

- Project management and coordination, including assistance with contractor selection for drilling and pumping tests.
- Planning and field supervision of drilling, installation, well development and air and water quality sampling.
- Planning and supervision of the pumping test program.
- Data reduction, analysis, and interpretation.
- Preparing a report summarizing the work completed.

2.3 Phase 2 Field Program Summary

The Phase 2 Field program was completed between August 2024 and January 2026 and was comprised of four separate field mobilizations. Drilling was completed by Carbon Drilling using a truck mounted reverse circulation (RC) rig. PRRD marked out the approximate locations for the boreholes and utility locates were conducted prior to Tetra Tech and Carbon Drilling's arrival on site.

The drilling program consisted of drilling four boreholes, each with a diameter of approximately 8" (203.2 mm). The total drilled depth of all boreholes was approximately 630m. The borehole locations are presented on Figure 1, and details for each borehole are summarized on Table 2-1 below.

Table 2-1: Summary of Drilling Activities

Borehole ID	Well Type	Borehole Location (UTM) (1)			Drilled Depth (mbgs)	Screen Interval (mbgs)	Drilling Dates	
		Easting	Northing	Collar Elevation (masl)			Start	End
Location 1	n/a	637702.21	6260538.11	677.8	170.7	n/a	Aug. 12, 2024	Aug. 15, 2024
Location 2	n/a	637546.25	6261120.93	676.3	152.4	n/a	Aug. 15, 2024	Aug. 18, 2024
Location 3 / MW25-03	2" Monitoring Well	637821.96	6261594.03	666.0	158.5	142.0 to 126.7	Sept. 4, 2024	Sept. 9, 2024[1]
Location 4 / PW25-04	5" Pumping Well	637839.06	6261594.59	666.7	149.0	125.4 to 127.2	Nov. 17, 2025	Nov. 25, 2025

masl: metres above sea level.
mbgs: metres below ground surface.
UTM Zone 10V
[1] Location 3 was completed as a monitoring well from January 6 to 8, 2026

Following the August 2024, September 2024, and November 2025 field mobilizations for drilling and well installation Tetra Tech returned to the site to conduct pump testing from January 19 to 23, 2026.

3.0 METHODOLOGY

Drilling was conducted in day shifts ranging from 10 to 12 hours, depending on field conditions. Tetra Tech logged and photographed drill cuttings, observed drilling activities, provided the well design to the driller, oversaw or provided remote support for well installation, backfilling and development and collected air and water quality samples. Tetra Tech returned to the site to oversee the step-rate test and 72-hour constant-rate pumping tests.

3.1 Well Installation

3.1.1 Location 3 (MW25-03)

Carbon Drilling completed the installation of MW25-03 at Location 3 following a well-construction plan provided by Tetra Tech. The monitoring well was constructed using 50.8 mm (2") PVC and 10-slot (0.254 mm or 0.01") screen. Pea gravel backfill was used to fill the borehole to the base of the screened interval, and 10/20 filter sand was used as a filter pack. The annulus space above the filter pack was filled with hydrated bentonite chips, followed by pea gravel, and a surficial seal of bentonite. Sacrificial steel casing was left downhole from surface to past the overburden/bedrock contact at 84 metres below ground surface (mbgs) (277').

A borehole log for Location3 / MW25-03 including well completion details is included in Appendix B.

3.1.2 Location 4 (PW25-04)

Tetra Tech was onsite to supervise the installation of PW25-04 at Location 4, conducted by Carbon Drilling. The pumping well was constructed as follows:

- A 10” (254 mm) casing was drilled to 5 mbg and used to install a continuous, minimum 1” radial surface seal around the permanent 8” (203.2 mm) well casing.
- An 8” (203.2 mm) casing was drilled past the overburden/bedrock contact (79.5 mbgs) to a total depth of 84 mbgs.
- A 7 7/8” (200 mm) open hole was drilled to the total depth of 145.5 mbg.
- 6 5/8” (168.3 mm) casing was run to the total depth, with 20-slot stainless steel screen exposed from 144.94 to 126.42 mbg.

The preliminary design of the pumping well included installing shale traps at regular intervals to provide an interior seal between the casing and telescope screen. This was amended in the field by Carbon Drilling and instead a Kpacker was proposed to act as an interior seal between the casing and the telescoped screen. Prior to completing the installation, we discussed their rationale for this change which included:

- An observed seal between the 8” casing shoe/bedrock, as evidence by holding production water to surface during drilling.
- Concern that the fractured sloughing zone noted above would not have stayed open to allow installation of a shale trap.
- Observations of relatively clear water at rates of 70-100 gpm during overdrilling of the 6” casing.
- No communication of air or water between the 6 5/8” and 8” casing during airlifting of the casing at rates of 100 gpm.

As such, the proposed alternative was considered reasonable and installation proceeded to completion.

A borehole log for Location4/PW25-04 including well completion details is included in Appendix B.

3.2 Well Development

Following the screen installation at Location 4, Carbon Drilling developed the well thoroughly using a gas compressor and jetting tool. Tetra Tech provided technical support during the well development. The well development activities were completed to remove fines from the area immediately around the well screen, ensuring hydraulic connection to the aquifer, and that representative groundwater samples are collected, and aquifer properties are obtained during future testing.

The well development started above the screen, working downwards in 6-inch depth increments. Development continued until produced water had a measured turbidity of less than 50 NTU, and other measured parameters (pH, temperature, dissolved oxygen, electrical conductivity (EC), oxidation-reduction potential(ORP)) had stabilized over three consecutive readings.

Following completion of MW25-03, Carbon Drilling returned to site to develop the monitoring well. The well was developed using a gas compressor and jetting tool. Development continued until the maximum allotted time of 4 hours, and field observations indicated that clarity had improved.

3.3 Groundwater Sampling

Groundwater sampling was conducted twice at PW25-04:

- Following well development, collecting the sample from the outflow of the air jetting tool; and
- Prior to the end of the 72-hour pumping test, collecting the sample from the sample port at the top of the wellhead.

Clean nitrile gloves were worn while filling sample bottles and combustible headspace vapour/hydrogen sulfide readings were measured using an RKI Eagle at the surface casing immediately before sample collection. Field parameters (pH, temperature, EC, dissolved oxygen, ORP and turbidity) were measured at time of sample collection.

The groundwater sample collected following development was analyzed for the following:

- Dissolved gases (CH_4, H_2S)
- Routine (Turbidity, Electrical Conductivity (EC), Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Hardness, pH, Alkalinity)
- Anions (Chloride, Sulfate, Fluoride, Sulphide as S, Sulphide as H_2S, Hydroxide, Carbonate, Bicarbonate)
- Nutrients (Ammonia, Nitrate, Nitrite, Total Nitrogen, Phosphorus)
- Physical test (UV absorbance 254 mm, UV transmittance)
- H_2S
- Color
- Dissolved Organic Carbon / Total Organic Carbon (DOC/TOC)
- Dissolved and Total Metals (including Mercury and Cyanide)
- VHw6-10 (volatile hydrocarbons in water, carbon range of C6-10), BTEXS (benzene, toluene, ethylbenzene, xylenes, and styrene), PAHs, and VOCs

The groundwater sample collected prior to the end of the 72-hour pumping test was analyzed for the above parameters, in addition to the following:

- Microbial (E. coli, Total and Fecal Coliform, Heterotrophic Plate Count)
- Trihalomethane (THM)/Haloacetic Acid (HAA) formation potential
- Radium 226 and 228, Gross Alpha and Beta

Samples for dissolved metals and dissolved organic carbon were **field filtered and preserved** as per laboratory instructions. Samples were collected in laboratory supplied containers and stored in coolers. The collected samples were stored on ice and were submitted to ALS Laboratory of Fort St. John and the Saskatchewan Research Council of Saskatoon under standard chain-of-custody (CoC) procedures.

No quality issues were observed by the laboratories upon reception of the samples. However, the bottle intended for analysis of THM/HAA formation potential was broken in transit. As such, THM/HAA analysis has been omitted during this event.

3.4 Air Sampling

Ambient air samples were collected by Tetra Tech at the well head at the time of groundwater sampling. The air sample cannister were positioned at the opening of the well head, with the valve open for 4 minutes and then closed and submitted for methane and sulfur compound gas analysis to ALS Laboratory of Fort St. John under standard CoC procedures (completion of CoC).

3.5 Field Verification Survey

Tetra Tech field staff conducted a field verification survey (FVS) within an approximately 1.6 km radius of the water source well to identify any nearby water wells and surface waterbodies. Tetra Tech field personnel drove on all safely accessible roads within the 1.6 km radius of the site to collect information on wells owned by neighbours to confirm the information available in the British Columbia (BC) water well database. If a well owner was not present, Tetra Tech field personnel left a questionnaire related to the water well along with a cover letter containing Tetra Tech contact information.

3.6 Aquifer Testing

Aquifer testing was conducted after well installation and development once the aquifer had stabilized, and groundwater level was anticipated to be at its static level. The aquifer testing involved a step-rate test, a 72-hour constant-rate pumping test, a recovery test, and the collection of groundwater and air samples as detailed in Sections 3.3 and 3.4. The aquifer testing was conducted by Carbon Drilling and overseen by Tetra Tech. A detailed description for these tests is provided below.

3.6.1 Pump Installation

Carbon Drilling temporarily installed a 90L Goulds 6” 20 Horsepower pump, rated for 35-130 USgpm, above the screened section of the pumping well, and extended a discharge line to a nearby ditch. A flow meter was installed at the pumping well to record the pumping rate throughout the duration of the pumping test. Dedicated pressure transducers with data-logging capability (dataloggers) were installed within both the pumping and observation wells, as detailed in Section 3.6.2.

3.6.2 Monitoring Well Instrumentation

Water-level monitoring during the step-rate and constant-rate tests was performed using a combination of manual measurements and dataloggers. Dataloggers were installed in the pumping well and monitoring well to observe the spread of test-induced hydraulic response. A barometric pressure logger was set up at surface near the observation well to record changes in barometric pressure that might affect the groundwater levels. During the step-rate tests data loggers collected readings every second; during the constant-rate test data loggers collected readings every minute.

The frequency of manual water levels during the constant-rate test and recovery is detailed in Table 3-1.

Table 3-1: Manual Water Level Measurements

Time Since Pumping Started	Monitoring Frequency	
	Pumping Well	Observation Well
0 – 10 minutes	Every minute	Every 10 minutes
10 – 20 minutes	Every 2 minutes	
20 – 50 minutes	Every 5 minutes	
60 – 100 minutes	Every 10 minutes	
100 – 200 minutes	Every 20 minutes	Every 50 minutes
200 – 500 minutes	Every 50 minutes	
500 – 1000 minutes	Every 100 minutes	Every 100 minutes
1000 – 2000 minutes	Every 200 minutes	Every 500 minutes
2000 – 4320 minutes (72 hours)	Every 500 minutes	

3.6.3 Step-Rate Test

A step-rate test was conducted to investigate the performance of the pumping well under controlled variable discharge rates, to evaluate well efficiency and help determine a suitable pumping rate for the constant-rate pumping test. The step-rate test was conducted as follows:

- Tetra Tech provided the driller with a datalogger capable of measuring pressure and temperature to install in the pumping well at least 0.5 m above the pump.
- The pump rate was increased from an initially low constant-rate to higher constant-rates.
- Water levels at the pumping well were monitored during the step-test using a data logger, in addition to periodic manual water level readings following the same frequency as outlined in Table 3-1.

Tetra Tech initially proposed step-test rates of 5 to 25 USgpm in the 2025 workplan (Tetra Tech 2025b). However, following discussion with PRRD and Carbon Drilling the proposed step-test rates were increased in acknowledgement of the available equipment, observations during drilling/development and potential future supply requirements. The step-test rates are presented in Table 3-2.

Table 3-2: Step-Test Rates

1 m^3/day = 0.184 USgpm	Step 1	Step 2	Step 3	Step 4	Step 5
m^3/day	146.7	184.8	217.4	326.1	543.5
USgpm	27	34	40	60	100

Following completion of the step-rate test, Tetra Tech analyzed the step-drawdown data from the pumping and observation wells and selected a pumping rate of 60 USgpm for the constant-rate pumping test.

3.6.4 Constant-Rate Test

The constant-rate test (CRT) consisted of 72 hours of pumping followed by 16 hours of recovery monitoring at the pumping well and the monitoring well. Tetra Tech and Carbon Drilling staff were present on site during the day to monitor the pump, flow rate and water levels, and Carbon Drilling personnel continued monitoring over night. The flow rate was monitored via flow meter to ensure that it did not vary by more than 5% for the duration of the test, and the discharge line was checked frequently to ensure that it was not interfered with or blocked during the test.

Water level measurements were recorded using the datalogger in the pumping well and the monitoring well at one-minute intervals for the duration of the 72-hour pumping test. The frequency of manual water levels during the CRT and recovery are detailed in Table 3-1. A groundwater sample was collected prior to the end of the CRT on January 22, 2026, as described in Section 3.3.

3.6.5 Recovery

After 72-hours of pumping the pump was shut off and the recovery period was initiated, with continued groundwater level monitoring within the pumping and monitoring wells. The pump was left downhole during this period so as not to disrupt water level recovery measurements. Recovery was monitored until approximately 34% of the maximum observed drawdown in the pumping well remained relative to pre-test conditions. As the recovery rate for the majority of the maximum observed drawdown was achieved within the first few minutes, it was noted that the remaining recovery was likely to extend well beyond the anticipated 24 hours allowable under the budget and recovery monitoring was terminated early.

4.0 2025-2026 PHASE 2 PROGRAM RESULTS

4.1 Drilling

The observed lithology at Location 4 was consistent with that of Location 3, located approximately 17m to the west and consisted of clay to approximately 79.5 mbg overlying interbedded sandstone, shale or siltstone bedrock units. The soil and rock descriptions were interpreted from visual field classification only. The size and angularity of the drill cuttings was generally due to the air rotary drilling method. No laboratory testing was completed to supplement the field descriptions. Borehole logs for Location 4, and an updated borehole log for Location 3 with confirmed completion details are included in Appendix B.

During drilling of Location 4 flow testing was conducted by timing the filling of a 5-gallon bucket from the RC cuttings discharge line. Flow testing was recorded at Location 4 to range from 21 USgpm at 113 m to greater than 74 USgpm at 143 m.

4.2 Field Verification Survey

A field verification survey was conducted on November 24, 2025. Table 4-1 summarizes the findings from the survey.

Table 4-1: Field Verification Survey

Approximate Address	Landowner Present Y/N	Groundwater Well On Property Y/N	Additional Steps
6308 256 Road	No	Unknown	Left Survey Form in mailbox
15951 259 Road	Yes	No – water is trucked in.	None needed
6157 and 6203 Feist Road	Yes	No – water is trucked in.	None needed
15828 261 Road	Yes	No – water is trucked in.	None needed
15574 to 15576 259 Road	Yes	Yes – Well Tag # 109871	Left survey form with landowner, but could not conduct survey as they did not know well details offhand. Was requested to refer to well license form available through iMapBC.

The field verification survey was conducted on households within an approximate 1.6 km radius of the site and did not include commercial or industrial wells which may be present.

A review of the BC groundwater wells and aquifer database (GWELLS) indicates that there are five registered wells within 1.6 km of the site:

- Wells 102976 and 102982 were located on the same lot as Locations 3 and 4, but are noted to have been decommissioned in 2013. There are no screen details or yield estimates provided in the records;
- Well 102981, belonging to Pengrowth Corp., is noted to be located on the same lot as Locations 3 and 4, approximately 250 m to the southwest. There are no screen details or yield estimates provided in the record. During the field verification survey there was no well head identified based on the provided coordinates in the well record;
- Well 109871, belonging to private landowners, is located approximately 300 west of Locations 3 and 4 on the same lot. It is screened from 420 to 480 feet below ground (128 to 146 mbg) and has an approximate yield of 20 USgpm; and
- Well 102977, belonging to Pengrowth Corp., is located approximately 1.5 km north of Locations 3 and 4. There are no screen details or yield estimates provided in the record.

Snowy conditions during fieldwork reduced foot and vehicle access during the field verification survey. However, no surface water bodies were identified within 100 m of the pumping well and observation well. Roseland Creek is located approximately 750 m to the east of Location 4. The mapped water courses indicated on Figure 1 as being located immediately north, and approximately 400 m south of Locations 3 and 4 were not visible during the time of the field verification survey. However, the ditch along the roadway immediately north of Locations 3 and 4, interpreted to be an extension of a watercourse, was dry.

4.3 Analytical Results

4.3.1 Soil Gas Air Quality

Soil gas air quality samples were collected at Location 4 at the completion of well development, and prior to the completion of the pumping test. The results have not been compared to provincial or federal regulatory guidelines. Tabulated results from soil gas sampling are presented on Table 1, appended to the text.

The results from the soil gas air quality sample collected at Location 4 following completion of well development are summarized as follows:

- CH_4 concentrations were below the laboratory detection limit; and
- Concentrations of sulfur compounds, including H_2S, were below the laboratory detection limits.

During drilling a faint rotten egg odor was intermittently observed but was not present at the time of sampling. Typically, H_2S is only detectable through scent at concentrations below 10 ppm, and the field photo ionization detector (PID) did not detect H_2S, CH_4 or VOCs at the time of sample collection.

The results from the soil gas air quality sample collected at Location 4 prior to the completion of the pumping test are summarized as follows:

- Concentrations of methane (CH_4) were below the laboratory detection limit;

- H_2S was detected at a concentration of 16.2 ppbv (0.016 ppm); and
- All remaining sulfur compounds were below the laboratory detection limit.

During sample collection a rotten egg odor was present around the well head, the sample port and the discharge outflow, indicating the presence of H_2S at low concentration. The PID did not detect H_2S, CH_4 or VOCs at the time of sample collection, and as the detection limit of the PID is 0.01 ppm it is unlikely that the low concentrations of H_2S measured in the soil gas air quality sample would be detectable by the unit. For reference, the federal 8-hour time weighted average for worker H_2S exposure is 1 ppm.

Analytical laboratory certificates from soil gas sampling are provided in Appendix C.

4.3.2 Groundwater Quality

Groundwater quality samples were collected at Location 4 at the completion of well development, and prior to the completion of the pumping test. Analytical results were compared to a range of the most stringent provincial and federal drinking water quality guidelines including the Health Canada Drinking Water Quality Guidelines (GCDWQ), BC *Contaminated Sites Regulation* guidelines for Drinking Water Use (BC CSR DW) and the BC Water Quality Guidelines for Drinking Water Use (BC WQG). Groundwater analytical results compared to provincial standards are presented on Table 2, and groundwater analytical results compared to federal standards are presented on Table 3 following the text.

The results from the groundwater quality sample collected at Location 4 following completion of well development are summarized as follows:

- Total Metals: Aluminum, Arsenic, Cobalt, Iron, Lithium, Manganese and Sodium were present in concentrations that exceeded one or more of the BC CSR DW, BC WQG and GCDWQ regulations.
- Dissolved Metals: Arsenic, Lithium, Manganese and Sodium exceeded one or more of the BC CSR DW, BC WQG and GCDWQ regulations.
- Ethylbenzene: Exceeded the GCDWQ and BC WQG (aesthetic objective only).
- Total Organic Carbon: Exceeded the BC WQG.
- Total Dissolved Solids: Exceeded the GCDWQ aesthetic objective. The aesthetic objective is primarily related to consumer complaints regarding scaling in water pipes, heaters, boilers and home appliances.
- Hydrogen Sulfide (H_2S), and dissolved methane (CH_4) were less than the laboratory detection limits.
- The remaining parameters in groundwater were either less than the laboratory detection limits or below the applicable standards.

The results from the groundwater quality sample collected at Location 4 prior to the completion of the pumping test are summarized as follows:

- Total Metals: Lithium, Manganese and Sodium were present in concentrations that exceeded one or more of the BC CSR DW, BC WQG and GCDWQ regulations.
  - Manganese exceeded the aesthetic objective of the BC WQG/GCDWQ only. The aesthetic objective is based on minimizing the occurrence of discolored water in homes. In both November 2025 and January 2026 the measured color units of water from Location 4 have been below the detection limit.

- Dissolved Metals: Lithium, Manganese and Sodium were present in concentrations that exceeded one or more of the BC CSR DW, BC WQG and GCDWQ regulations.
- Total Dissolved Solids: Exceeded the GCDWQ aesthetic objective. The aesthetic objective is primarily related to consumer complaints regarding scaling in water pipes, heaters, boilers and home appliances.
- H_2S was less than the laboratory detection limits.
- Dissolved methane was detected at a concentration of 1.02 mg/L.
- All hydrocarbon parameters, including Ethylbenzene, were below the laboratory detection limits.
- Radium 226 and 228 were below the BC WQG and GCDWQ guidelines.
- The remaining parameters in groundwater were either less than the laboratory detection limits or below the applicable standards.

Analytical laboratory certificates from groundwater sampling are provided in Appendix C.

4.4 Aquifer Testing

4.4.1 Step-Rate Testing

Step-rate tests were conducted by pumping each well at several rates for 20 minutes to one-hour periods called steps. These tests were used to characterize well efficiency and performance, and to choose the optimal rates for the constant-rate tests.

Well efficiency can be evaluated by calculating specific capacity, which is defined as the ratio of steady-state flow to steady-state drawdown. As PW25-04 did not reach steady state during the last two steps the drawdown of each step was extrapolated to a common time for the purpose of calculating specific capacity. The resulting specific-capacity values steadily decreased as the rate increased during the variable-rate tests, which indicates declining well efficiency as the pumping rate increases. A plot of drawdown vs time in PW25-04 during the step-rate test is presented on Figure 2A.

These well losses have been evaluated with Jacob's equation (Jacob, 1947), which can be written as follows:

- $s/Q=B+CQ$
- s = drawdown
- Q = flow rate
- B, C = aquifer and well loss coefficients, respectively

A plot of s/Q vs. Q will result in a straight line if the head loss across the screen and completion zone can be represented by this type of quadratic (Handbook of Groundwater Engineering, 2007). If the head loss is linear (C=0), the line will be horizontal. If the head loss is non-linear (C>0), the line will have a slope of C and y-intercept of B.

The s/Q ratios for the step-rate test at PW25-04 increased with increasing flow rate, indicating well losses associated with turbulent flow and/or decreasing saturated thickness of the screen. For the current interpretation, estimated aquifer loss and well loss are included in Table 4-2.

Table 4-2: Summary of Step-Rate Testing on January 19, 2026

Location	Rate		Step Duration	Drawdown Measured At End of Step	Estimated Drawdown at 72 Hours	s/Q	Aquifer Loss Coefficient B	Well Loss Coefficient C
	USgpm	L/s	Minutes	m	m	ms/L	ms/L	ms^2/L^2
PW25-04	28	1.77	20	0.20	0.22	0.11	0.0587	0.0375
	34	2.15	20	0.31	0.51	0.14		
	40	2.52	20	0.39	0.65	0.15		
	60	3.79	60	0.81	1.54	0.22		
	100	6.31	60	1.82	3.51	0.29		

Analytical details from step-rate testing are provided in Appendix D.

4.4.2 Constant-Rate Testing

Aquifer parameters were interpreted from the drawdown and recovery response of the pumping well PW25-04 and observation well MW25-03 during and after the constant-rate test. A summary of the estimated aquifer properties from the constant-rate test is presented on Table 4-3 below.

Table 4-3: Summary of Estimated Aquifer Properties from Constant-rate Test

Pumping Well	Monitoring Well and Method	Transmissivity (T)		Hydraulic Conductivity (K)		Storativity (S)
		m^2/day	m^2/s	m/day	m/s	unitless
PW25-04	PW25-04 Moench Drawdown/Recovery	264.3	$3.0x10^{-3}$	6.1	$7.1x10^{-5}$	-
	PW25-04 Barker Drawdown/Recovery	112.9	$1.3x10^{-3}$	2.6	$3.1x10^{-5}$	-
	PW25-04 Cooper-Jacob Drawdown (Late)	38.1	$4.4x10^{-4}$	0.9	$1.1x10^{-5}$	-
	MW25-03 Cooper-Jacob Drawdown (Late)	48.3	$5.6x10^{-4}$	1.2	$1.4x10^{-5}$	0.2

The analysis of the constant-rate tests assumes the following:

- Aquifer thicknesses of 43 m and 41 m at PW25-04 and MW25-04, respectively, based on pre-test static water level measurements;
- Radial distance of 17 m from the pumping well, based on field measurements; and
- Storativity has not been assessed from the response in the pumping well, as this data is often influenced by wellbore storage and other considerations.

During the constant-rate test at PW25-04 drawdown was observed at both the pumping well, and the observation well MW25-03 located approximately 17m to the west. The maximum drawdown observed in the pumping and observation wells was 1.77 m and 1.04 m, respectively. Time series of groundwater elevation changes in the wells are presented on Figure 2B.

The drawdown over time in both wells did not follow the ideal type-curve for an infinite, uniform aquifer and the data did not indicate the presence of a nearby recharge boundary. From approximately 100 minutes onward the drawdown rate began to gradually slow and became approximately constant, appearing as a steepened curve on a log-linear plot and a straight line on a linear plot. The transition to the near constant rate may indicate a dual-

porosity response, wherein initial flow is dominated by highly transmissive fractures with low storage and then becomes dominated by flow from the rock matrix itself, with lower transmissivity but higher storage. The recovery exhibited a similar response, with approximately 30% of the maximum drawdown in the pumping well recovering in the first minute, followed by incremental recovery overnight. However, the observed total drawdown over the course of the constant-rate test was approximately 5% of the maximum allowable drawdown (32m – assuming maximum allowable drawdown is to the mid-screen elevation). This relatively minor drawdown over the course of 72-hours of pumping at a rate higher than the planned demand of 20-40 USgpm indicates that the aquifer may be of large areal extent with significant stored volume.

Over a period of approximately 16 hours the pumping well and observation wells recovered to approximately 66% and 29% of their pre-test static water levels, respectively. The reduced recovery observation, and the transition to a near constant drawdown rate additionally suggests that the aquifer may be characterized by a fracture network that will be drained and slowly recharged by loss to the fractures from rock matrix storage. As such, the continued linear decline in water levels may be due to effectively diminishing transmissivity, or may represent the influence of a nearby boundary such as faulting or closed fractures that limit recharge to the well.

Typical type curve solutions were not applicable to the response observed in both wells, and estimates of aquifer parameters were conducted using a variety of solutions. The response was initially analyzed in Aqtesolv Software using the Moench (Moench 1984) and Barker (Barker 1988) solutions for fractured aquifers, assuming slab-type matrix blocks, but the curve fit was poor. The results of these analyses have been presented here as the estimated upper limit of aquifer transmissivity. The Cooper-Jacob (Cooper and Jacob, 1946) straight-line drawdown method for confined aquifers was applied to the late drawdown data in both wells, as it is inferred that the near constant drawdown rate observed in the later portion of the test may be more representative of conditions to be anticipated during long term use.

Using these solutions yielded an estimate of aquifer transmissivity ranging from 38.1 to 264.3 m^2/day, and storage estimated from the drawdown response at MW25-03 using the Cooper-Jacob method was 0.2. The storage estimate is likely more representative of the rock matrix than fracture storage, which would be assumed to be much lower.

Analytical details from constant-rate testing are provided in Appendix D.

4.4.3 Apparent Safe Well Yield

A safe well yield estimate is required for a pumping well to avoid long-term aquifer depletion and potential effects to surface water. These estimates should be regularly reviewed if additional data is collected to incrementally incorporate data from high-flow and low-flow seasons.

The safe yield for a well is defined as the maximum sustainable rate at which it can be pumped continuously for 00 days under the least favourable recharge conditions. It is estimated using the formula:

$$Q = D_{max} \times Sc_{100}$$

Where: Q is the safe yield; D_{max} is the maximum design drawdown; and Sc_{100} is the projected specific capacity after 100 days of pumping.

D_{max} is calculated as the difference between the lowest seasonal water table level (assumed as 1 m below static water level measured prior to pumping test) and the lowest allowable pumping level in the well (10 m above bottom of well, or midway through screen), less interference drawdown caused by pumping of other wells. The estimated safe well yield based on a seasonal low water level 1 m below that measured at the pumping test is 29.2 L/s, or 463 USgpm. However, given observations of near-constant drawdown and limited recovery it may not be likely that pumping the aquifer at this rate would result in full recovery.

Table 4 presents the parameters and calculations used to derive the aquifer safe yield.

5.0 CONCEPTUAL UNDERSTANDING

5.1 Conceptual Model

The conceptual model is preliminary and should be updated in the event of additional data collection.

Based on data collected from the pumping test it is inferred that the aquifer is characterized by fast draining fracture networks and dominant lower transmissivity, higher storage rock matrix flow. The bedrock aquifer is currently interpreted as being confined based on the observation of a thick silty-clay overlying rock, though water levels and permeability of these soils have not been assessed. Recharge is assumed to be limited, and the constant-rate response data did not indicate the presence of a nearby recharge boundary. However, over the course of the constant-rate test the total drawdown was approximately 5% of the available drawdown for the well, at a pumping rate exceeding the planned demand of between 20-40 USgpm, which indicates that the aquifer may be of large areal extent with significant stored volume.

The transmissivity of the bedrock aquifer is moderately high, ranging from 38.1 to 264.3 m^2/day. However, it is possible that ongoing pumping may reduce transmissivity over time, as evidenced by the steepening of the drawdown curve over the course of the test which may continue to further steepen as fractures drain and storage in the rock matrix is reduced with limited recharge.

5.2 Groundwater Under Direct Influence of Surface Water (GWUDI)

An initial GWUDI screening was conducted on the Site area to confirm that a detailed GWUDI assessment was not required. Following the criteria outlined in the desktop assessment (Tetra Tech 2024) it was determined that:

- The water source well is a bored well;
- The production zone is deeper than 15 mbg;
- The water source well is completed in a confined aquifer;
- The water source well is not completed in fractured bedrock at or near ground surface; and
- The water source well is not completed within 100 m of any surface waterbody.

During construction of the well, Tetra Tech ensured that the completed design met the requirements of the British Columbia *Water Sustainability Act Groundwater Protection Regulation* (B.C. Regulation 39/2016), in particular ensuring:

- The integrity of the surface well seal; and
- That only water from the production interval entered the well by confirming the integrity of the seal between the 8” casing shoe and bedrock just below the overburden/bedrock constant, and noting no communication of air or water in the annulus between the 6 5/8” drill rod and the 8” casing during airlifting for development.

Based on these criteria, it is inferred that the water from the source well is not likely to communicate with surface water and as such a detailed GWUDI assessment is not required.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The Phase 2 program was initiated in 2024 with drilling at Locations 1, 2, and 3 (Figure 1), and a report summarizing the findings of fieldwork conducted until December 2024 was provided to PRRD on January 15, 2025 (Tetra Tech 2025a). Phase 2 fieldwork was continued and completed from November 17, 2025 to January 23, 2026 following the drilling and completion of PW25-04 (Location 4) as a pumping well, the completion of MW25-03 (Location 3) as a monitoring well, and conducting a 72 hour pump test on PW25-04.

Based on data collected from the pumping test it is inferred that the aquifer is characterized by fast draining fracture networks and dominant lower transmissivity, higher storage rock matrix flow. The bedrock aquifer is currently interpreted as being confined based on the observation of a thick silty-clay overlying rock, though water levels and permeability of these soils have not been assessed. Recharge is assumed to be limited, and the constant-rate response data did not indicate the presence of a nearby recharge boundary. However, over the course of the constant-rate test the total drawdown was approximately 5% of the available drawdown for the well, at a pumping rate exceeding the planned demand of between 20-40 USgpm, which indicates that the aquifer may be of large areal extent with significant stored volume. It is possible that long term usage at more typical rates may be sustainable and as such a longer term constant-rate test of 7 to 30 days is recommended if PRRD intends to proceed with Location 4 for potable water supply.

Analytical results from soil gas and groundwater sampling at PW25-04 (Location 4) have varied between sampling events. Following a request from PRRD, Tetra Tech conducted additional review of the analytical results with respect to the risk of non-compliance utilizing the existing water treatment system. A technical memorandum summarizing process recommendations is presented in Appendix E. In consideration of PRRD's requirements that the water source be free of explosive gases and be treatable using the existing water treatment technologies (filtration, chloride, fluoride), there are three concerns that may impact future use of water from Location 4:

- H2S odor was variably detected during drilling/pumping, and gas results have been inconsistent. This suggests that H2S may continue to be present at variable concentrations during future use.
  - The measured concentration of H2S in the soil gas sample (0.0162 ppm) is low enough that it may not be detectable by commercially available monitors, and was not detected by the field PID during drilling or sampling. H2S becomes flammable at concentrations between 4,000 and 46,000 ppm.
  - H2S may continue to be detectable at variable concentrations but does not presently exceed any permissible limits. As such, additional treatment via aeration tower has not been included as a recommended treatment in the updated process analysis (Appendix E). This recommendation may be amended if higher concentrations are detected, or if PRRD requires non-detectable H2S or methane to be present in treated water. Resampling is recommended to confirm these concentrations remain below the guideline concentrations.
- Methane in drinking water is non-toxic, with no applicable guideline for comparison purposes, and was not detected in soil gas. The elevated dissolved methane concentration in January 2026 is anomalous in comparison to previous results at Locations 2, 3, and 4 but has been confirmed by the lab after repeating the analysis and checking the data. While there is no current target under the relevant guidelines for dissolved methane, the memo in Appendix E includes optional recommendations for further treatment. However, while the presence of dissolved methane in water may raise questions for the potential to partition to the gas phase in standing water/open pipes the concentration measured in January 2026 is below the threshold for concern, as provided by the US Department of the Interior, Office of Surface Mining (Eltschlager et al, 2001) action levels for dissolved methane:

  - <10 mg/L – no action required beyond periodic monitoring. Location 4 had a measured dissolved methane concentration of 1.02 mg/L (1020 µg/L).
  - 10-28 mg/L – well owners should consider removing potential ignition sources form the immediate area.
  - > 28 mg/L – take immediate action to reduce methane levels.
- There is uncertainty regarding the following parameters that will require resampling to confirm target concentration achievability using the existing water treatment facility
  - Bromide should be resampled with a laboratory reportable detection limit (RDL) of <0.01 mg/L to confirm that concentrations will be treatable using nano-filtration. Whole bromide concentrations to date have been less than the laboratory RDL, but the current laboratory RDL is >0.01 mg/L. Although there is no guideline value for bromide, the presence of bromide can create brominated disinfection byproducts with the current water treatment system.
  - Turbidity should be resampled to confirm that untreated water has a turbidity of <0.1 mg/L. It is recommended to also measure the Silt Density Index (SDI). The SDI parameter represents presence of solids and colloidal matter that can exist at low turbidity.
  - THM/HAA formation potential analysis will be required to identify if any hazardous disinfection byproducts could form following chlorination.
  - TOC concentrations have been variable at PW25-04, and treatment with the existing system will only partially achieve the target concentration of <4 mg/L. Resampling is required to confirm that concentrations are < 4 mg/L and will not require additional treatment with granular activated carbon (GAC)(Appendix E).

Lithium, manganese and sodium concentrations greater than the applicable guidelines are anticipated to be treatable using the existing water treatment system, as noted in Appendix E.

Based on the findings from the Phase 2 field program, the following steps are recommended to address the applicability of Location 4 for future potable water use:

- Soil gas and water resampling should be conducted at PW25-04, including THM/HAA formation potential, SDI, and bromide. It is recommended to submit bromide for analysis with a RDL of <0.01 mg/L.
- If the results are considered unfavorable due to exceedances of provincial/federal water quality guidelines or not meeting the quality criteria established by PRRD, a new candidate location should be identified following an updated desktop review. Alternatively, PRRD may consider incorporating additional treatment technology (e.g particulate filter + granulated activated carbon + reverse osmosis) as outlined in Appendix E.
- If the results are considered favorable, an additional pumping test should be conducted at rates within the anticipated demand range of 25 to 40 USGPM for a minimum of 7 days, with the possibility of extending the test to up to 30 days. The results from this test will be used to identify the presence of any distant recharge boundaries that would support the viability of PW25-04 for long term use. An additional groundwater quality sample will be collected immediately before the end of the test for the same parameters established in Section 3.3.
- If the groundwater pump test and quality test results are acceptable following the second constant-rate test, PW25-04 will be considered viable for long term use utilizing the existing water treatment system.
- If the groundwater pump test and quality test results following the second constant-rate test are not acceptable, a new candidate location should be identified following an updated desktop review.

7.0 CLOSURE

We trust this document meets your present requirements. If you have any questions or comments, please contact the undersigned.

Respectfully submitted,
Tetra Tech Canada Inc.

ISSUED FOR REVIEW
704-ENW.GENV03704-02

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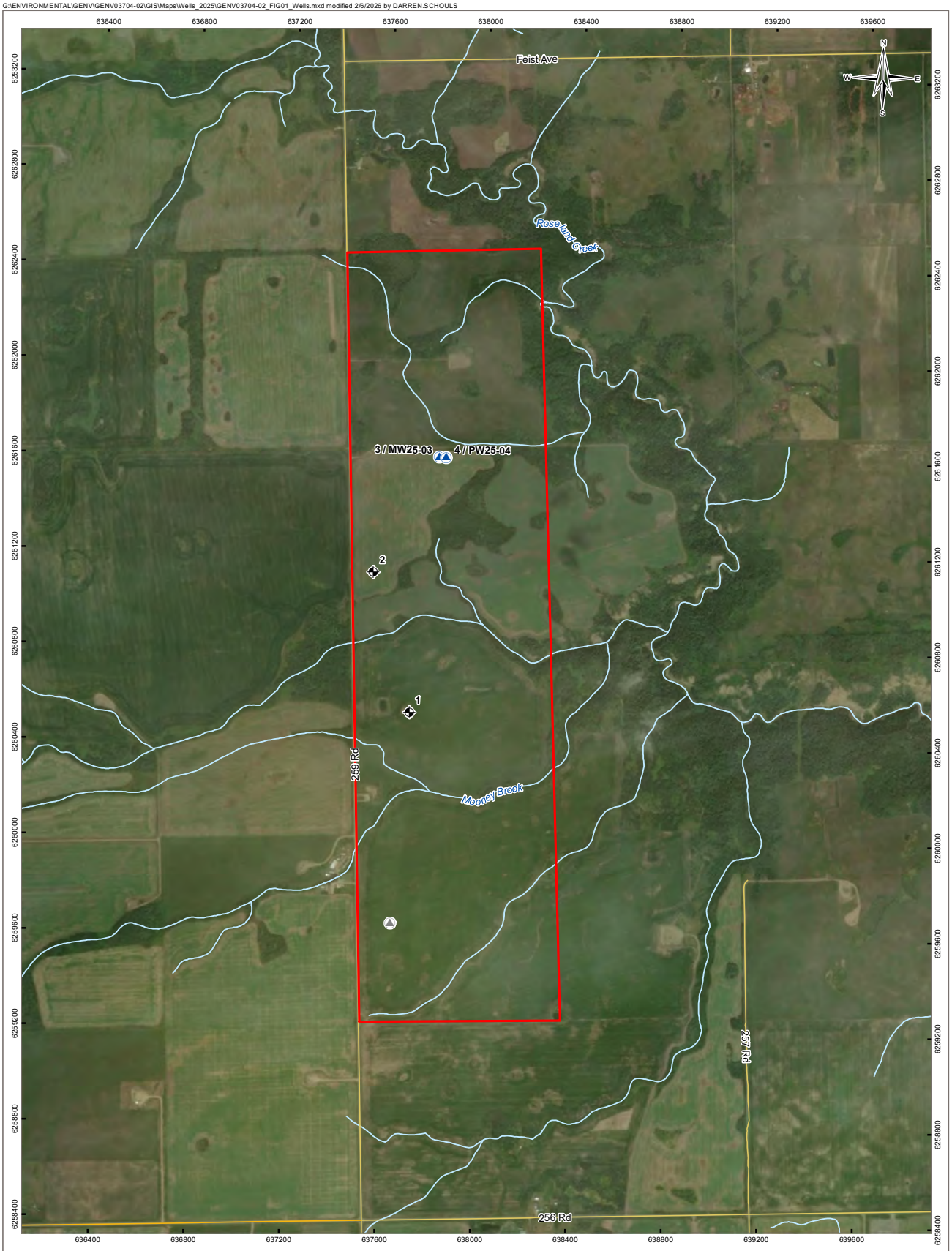
FIGURES

Figure 1 Water Well Drilling Locations
Figure 2A Drawdown vs. Time During Step-Rate Test
Figure 2B Drawdown vs. Time During Constant-Rate Test

G:\ENVIRONMENTAL\GENV\GENV03704-02\GIS\Maps\Wells_2025\GENV03704-02_FIG01_Wells.mxd modified 2/6/2026 by DARREN.SCHOULS



LEGEND

- Borehole
- Groundwater Well
- Cancelled Groundwater Well
- Permitted Drilling Area

Base Data

- Main Road
- Local Road
- Watercourse

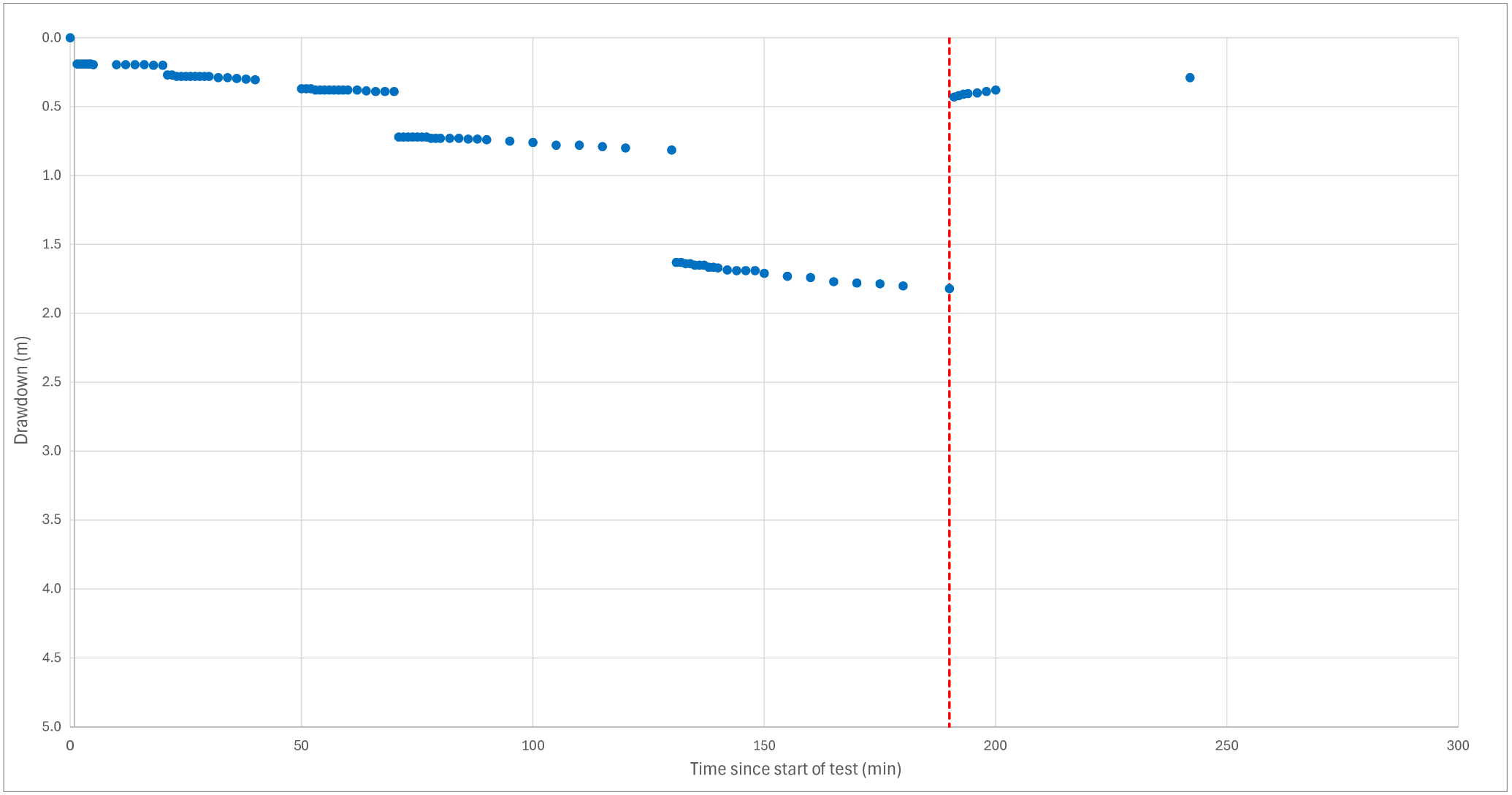
NOTES
Imagery: ESRI, Maxar (2023)

STATUS
ISSUED FOR REVIEW

PRRD HYDROGEOLOGICAL ASSESSMENT PHASE 2

Phase 2 Program Drilling Locations

PROJECTION: UTM Zone 10	DATUM: NAD83	CLIENT: Peace River Regional District
Scale: 1:15,000 (300 150 0 300 Metres)		TETRA TECH
FILE NO.: GENV03704-02_FIG01_Wells.mxd		
OFFICE: Tt-VANC	DWN: DS / CKD: TK / APVD: SK / REV: 0	Figure 1
DATE: February 6, 2026	PROJECT NO.: ENW.GENV03704-02	



LEGEND

- Pumping Well PW25-04
- End of Test

NOTES

STATUS
ISSUE FOR REVIEW

CLIENT PRRD

2025 PHASE 2 FIELD PROGRAM SUMMARY

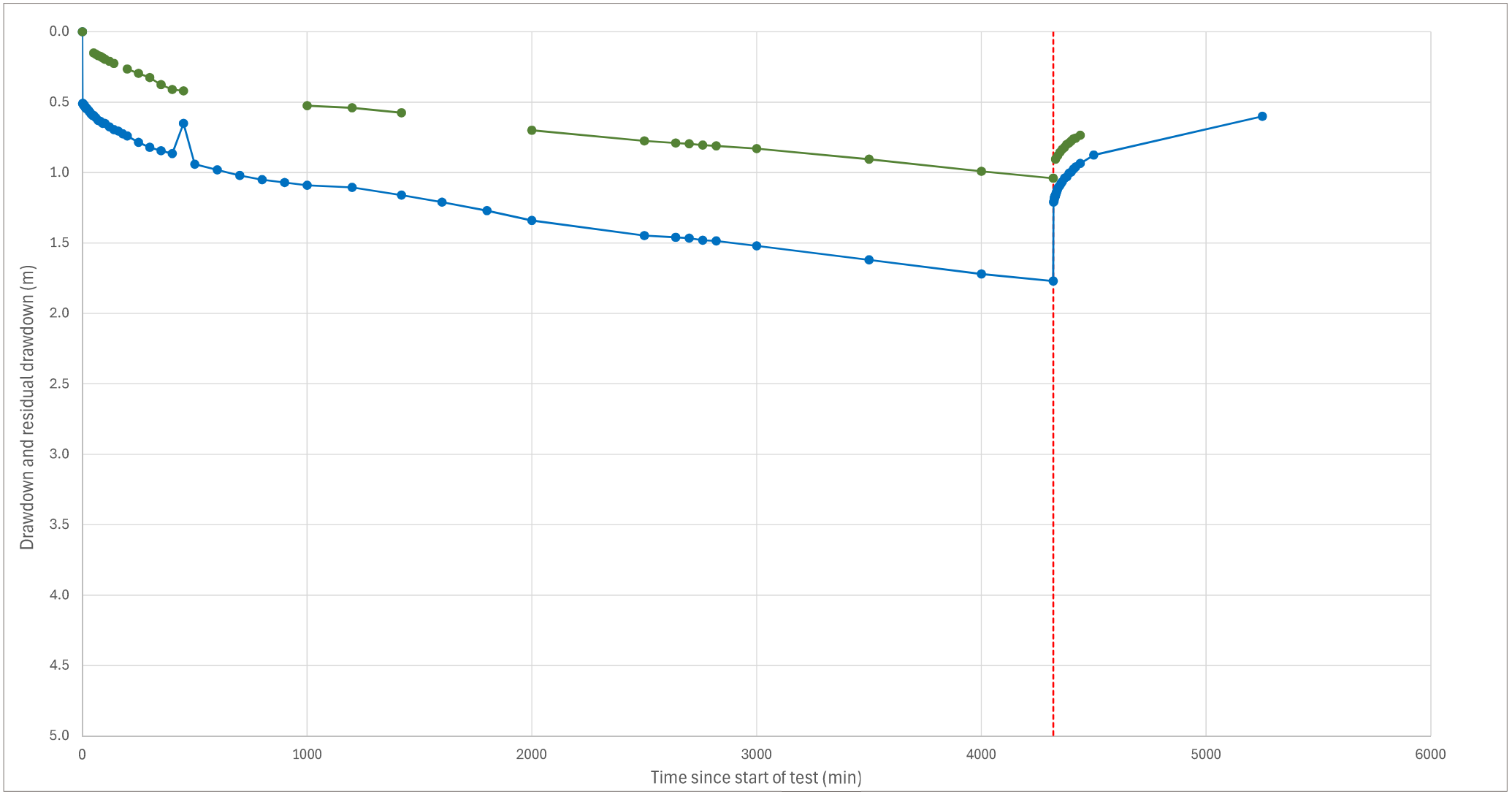
DRAWDOWN VS. TIME DURING STEP-RATE TEST

TETRA TECH

PROJECT NO.	DWN	CKD	REV
ENW.GENV03704-02	TK	SK	0

OFFICE	DATE
VANCOUVER	FEBRUARY 2026

FIGURE 2A



LEGEND

- End of Test (72 Hours)
- Pumping Well PW25-04
- Observation Well MW25-03

NOTES

STATUS
ISSUE FOR REVIEW

CLIENT PRRD

TETRA TECH

2025 PHASE 2 FIELD PROGRAM SUMMARY

DRAWDOWN VS. TIME DURING CONSTANT-RATE TEST

PROJECT NO.	DWN	CKD	REV
ENW.GENV03704-02	TK	SK	0

OFFICE	DATE
VANCOUVER	FEBRUARY 2026

FIGURE 2B

TABLES

Table 1 Soil Gas Analytical Results
Table 2 Groundwater Analytical Results - BC Guidelines and Standards
Table 3 Groundwater Analytical Results - Federal Guidelines
Table 4 Calculation of Apparent Safe Yield for Pumping Well PW25-04

Table 1: Soil Gas Results

		Location Code	Location 2	Location 3		Location 4	
		Field ID	Location 2	Location 3	Location 3	MW25-04	Location 4
		Date	23 Aug 2024	09 Sep 2024	20 Nov 2024	25 Nov 2025	22 Jan 2026
		Lab Report Number	FJ2402552	FJ2402713	FJ2403535	FJ2503633	FJ2600155
		Sample Code	FJ2402552-001	FJ2402713-001	FJ2403535-001	FJ2503633-001	FJ2600155-001
Parameter	**Unit**	**RDL**					
Physical Parameters							
Pressure on receipt	Inches Hg	0.1	-8.17	-2.05	-6.13	-5.93	-4.91
Gases							
Methane	%	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Total Reduced Sulfur							
Sulfur, total reduced (as H_2S), 10 compounds	ug/m^3	16	427	<16	<16	<16	23
Sulfur, total reduced (as H_2S), 22 compounds	ug/m^3	25	427	<25	<25	<25	<25
Sulfur, total reduced (as H_2S), NPRI 6	ug/m^3	12	427	13	<12	<12	23
Sulfur, total reduced (as H_2S), Ontario 4	ug/m^3	11	19	<11	<11	<11	23
Sulfur Compounds							
Carbon disulfide	ppbv	2	45.7	<2.0	<2.0	<2.0	<2.0
	ug/m^3	6.2	142	<6.2	<6.2	<6.2	<6.2
Carbonyl Sulphide	ppbv	4	247	9.6	<4.0	<4.0	<4.0
	ug/m^3	10	607	24	<10	<10	<10
Diethyl disulfide	ppbv	2	<2.0	<2.0	<2.0	<2.0	<2.0
	ug/m^3	10	<10	<10	<10	<10	<10
Diethyl sulphide	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	15	<15	<15	<15	<15	<15
Dimethyl Disulphide	ppbv	2	<2.0	<2.0	<2.0	<2.0	<2.0
	ug/m^3	0.0077	<0.0077	<0.0077	<0.0077	<0.0077	<0.0077
Dimethyl Sulfide	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	10	<10	<10	<10	<10	<10
Dimethylthiophene, 2,5-	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	18	<18	<18	<18	<18	<18
Ethyl Methyl Sulfide	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	12	<12	<12	<12	<12	<12
Ethyl Mercaptan	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	10	<10	<10	<10	<10	<10
Ethylthiophene, 2-	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	18	<18	<18	<18	<18	<18
Hydrogen sulfide	ppbv	4	13.5	<4.0	<4.0	<4.0	16.2
	ug/m^3	5.6	18.8	<5.6	<5.6	<5.6	22.6
iso-Butyl mercaptan	ppbv	4	<4.0	<12	<4.0	<4.0	<4.0
	ug/m^3	15	<15	<4.0	<15	<15	<15
Isopropyl Mercaptan	ppbv	4	<4.0	<15	<4.0	<4.0	<4.0
	ug/m^3	12	<12	<4.0	<12	<12	<12
Methyl Mercaptan	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	7.9	<7.9	<7.9	<7.9	<7.9	<7.9
Methylthiophene, 2-	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	16	<16	<16	<16	<16	<16
Methylthiophene, 3-	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	16	<16	<16	<16	<16	<16
sec-Butyl Mercaptan + Thiophene	ppbv	6	<6.0	<6.0	<6.0	<6.0	<6.0
	ug/m^3	21	<21	<21	<21	<21	<21
t-Butyl mercaptan	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	15	<15	<15	<15	<15	<15
tetrahydrothiophene	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	14	<14	<14	<14	<14	<14
1-Butyl mercaptan	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	15	<15	<15	<15	<15	<15
1-Propanethiol	ppbv	4	<4.0	<4.0	<4.0	<4.0	<4.0
	ug/m^3	12	<12	<12	<12	<12	<12

Notes:

- Not analyzed or no applicable guideline

< Concentration is less than the laboratory detection limit indicated.

Table 2: Groundwater Analytical Results - BC Guidelines and Standards

					Location Code	Location 2	Location 3		Location 4	
					Field ID	Location 2	Location 3	LOCATION 3	MW25-04	LOCATION 4
					Date	20 Aug 2024	20 Nov 2024	09 Sep 2024	25 Nov 2025	22 Jan 2026
					Lab Report Number	FJ2402491	FJ2403536	FJ2402712	FJ2503634	FJ2600154
					Sample Code	FJ2402491-001	FJ2403536-001	FJ2402712-001	FJ2503634-001	FJ2600154-001
Parameter	**Unit**	**BC WQG**		**CSR**						
		AO	**MAC**	**DW**						
Field Parameter Measurements										
pH	pH Units	-	-	-	7.31	-	7.4	8.1	8.07	
Temperature	°C	-	-	-	9.6	-	7	9	8	
Electrical Conductivity (EC)	µS/cm	-	-	-	676	-	1,250	1,794	1,852	
Dissolved Oxygen	mg/L	-	-	-	8.17	-	8.53	95.2	-	
	%	-	-	-	71.8	-	-	-	58	
Oxidation-Reduction Potential (ORP)	mV	-	-	-	-9	-	-9	66	42	
Turbidity	NTU	-	1	-	3045	-	343.2	42	0.64	
Physical Parameters										
pH	pH Units	-	-	-	7.99	8.34	8.39	8.47	8.44	
Electrical Conductivity (EC)	µS/cm	-	-	-	975	1,890	1,800	1,740	1,860	
Total Dissolved Solids (TDS)	µg/L	-	-	-	906,000	1,230,000	1,340,000	1,150,000	1,140,000	
Total Suspended Solids (TSS)	µg/L	-	-	-	-	-	-	-	<3,000	
Turbidity	NTU	-	1	-	>4,000	26	316	42.2	0.73	
Hardness as $CaCO_3$	µg/L	-	-	-	227,000	251,000	350,000	127,000	123,000	
Dissolved Hardness as $CaCO_3$	µg/L	-	-	-	41,200	238,000	353,000	129,000	122,000	
Alkalinity (total as $CaCO_3$)	µg/L	-	-	-	534,000	946,000	882,000	943,000	954,000	
Alkalinity (pp as CaCO3)	µg/L	-	-	-	<1,000	6,700	10,400	15,700	13,500	
Alkalinity (Bicarbonate as $CaCO_3$)	µg/L	-	-	-	534,000	933,000	861,000	912,000	927,000	
Alkalinity (Carbonate as $CaCO_3$)	µg/L	-	-	-	<1,000	13,300	20,800	31,400	27,000	
Alkalinity (Hydroxide) as $CaCO_3$	µg/L	-	-	-	<1,000	<1,000	<1,000	<1,000	<1,000	
Bromide	µg/L	-	-	-	<250	<500	<500	<500	<500	
Chloride	µg/L	250,000	-	250,000	19,000	38,600	38,800	37,100	38,100	
Fluoride	µg/L	-	1,500	1,500	478	629	<200	926	718	
Sulphate	µg/L	500,000	-	500,000	12,700	120,000	136,000	28,200	50,400	
Sulphide	µg/L	-	-	-	350	<10	<10	<10	<10	
Sulphide (as H_2S)	µg/L	-	-	50	372	<11	<11	<11	<11	
Colour, True	Col. Unit	15	-	-	5.8	<5.0	<5.0	<5.0	<5.0	
Transmittance, UV (@ 254nm)	% T/cm	-	-	-	72.3	82.6	86.7	80.7	80.5	
UV Absorbance @ 254nm	AU/cm	-	-	-	0.141	0.083	0.062	0.093	0.094	
Cyanide										
Cyanide Total	µg/L	-	-	200	<5.0	<5.0	<5.0	<5.0	<5.0	
Carbon										
Dissolved Organic Carbon (DOC)	µg/L	-	-	-	27,500	4,000	3,370	3,860	3,740	
Total Organic Carbon (TOC)	µg/L	-	4,000	-	101,000	3,740	7,250	4,890	3,760	
Nutrients										
Ammonia as N	µg/L	-	-	-	-	-	-	1,170	1,470	
Nitrate (as N)	µg/L	-	10,000	10,000	41.2	<50.0	<50.0	<50.0	<50.0	
Nitrite (as N)	ug/L	-	1,000	1,000	<5.0	<10.0	<10.0	<10.0	<10.0	
Nitrogen (Total)	µg/L	-	-	-	-	-	-	1,370	1,520	
Phosphorus, total	mg/L	-	-	-	-	-	-	0.0883	0.0685	
Biological										
Faecal Coliforms	MPN/100mL	-	-	-	-	-	-	-	<1	
Total Coliforms	MPN/100mL	-	-	-	-	-	-	-	<1	
E. Coli	MPN/100mL	-	10	-	-	-	-	-	<1	
Heterotrophic plate count [HPC]	CFU/mL	-	-	-	-	-	-	-	92	
Dissolved Metals										
Aluminum	µg/L	-	9,500	9,500	136	2.7	7.8	4.6	3.9	
Antimony	µg/L	-	6	6	2.06	6.71	0.91	3.7	<0.20	
Arsenic	µg/L	-	10	10	1.14	6.23	0.9	33.5	2.86	
Barium	µg/L	-	-	1,000	352	418	48.3	604	388	
Beryllium	µg/L	-	-	8	<0.100	<0.100	<0.100	<0.100	<0.100	
Bismuth	µg/L	-	-	-	<0.050	<0.100	<0.050	<0.100	<0.100	
Boron	µg/L	-	5,000	5,000	240	329	371	344	366	
Cadmium	µg/L	-	5	5	0.0186	0.0734	0.0304	<0.0150	<0.0100	
Calcium	µg/L	-	-	-	7,600	38,900	62,600	22,300	20,800	
Chromium	µg/L	-	50	50[#1]	<0.50	<1.00	<0.50	<1.00	<1.00	
Cesium	µg/L	-	-	-	0.057	0.078	0.053	0.08	0.064	
Cobalt	µg/L	-	1	1	0.42	1.74	0.48	0.75	0.21	
Copper	µg/L	1,000	2,000	1,500	0.53	0.55	<0.20	0.55	0.61	
Iron	µg/L	300	-	6,500	174	787	178	<20	80	
Lead	µg/L	-	5	10	0.073	<0.100	<0.050	<0.100	<0.100	
Lithium	µg/L	-	-	8	6.8	14.1	20.6	13.1	17.6	
Magnesium	µg/L	-	-	-	5,390	34,200	47,700	17,800	17,000	
Manganese	µg/L	20	120	1,500	141	112	110	33.9	20.8	
Mercury	µg/L	-	1	1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Molybdenum	µg/L	-	88	250	19.2	30.4	3.92	15.9	6.69	
Nickel	µg/L	-	80	80	3.47	11.1	1.52	5.02	<1.00	
Phosphorus	µg/L	-	-	-	<50	<100	<50	<100	<100	
Potassium	µg/L	-	-	-	5,180	3,390	4,400	2,800	2,480	
Rubidium	µg/L	-	-	-	1.88	2.38	2.4	1.99	1.68	
Selenium	µg/L	-	10	10	0.941	3.01	1.76	1.55	<0.100	
Silicon	µg/L	-	-	-	2,040	4,070	4,860	3,880	4,380	
Silver	µg/L	-	-	20	<0.010	<0.020	<0.010	<0.020	<0.020	
Sodium	µg/L	-	-	200,000	244,000	401,000	360,000	418,000	423,000	
Strontium	µg/L	-	7,000	2,500	150	598	994	420	459	
Sulphur	µg/L	-	-	-	11,000	42,800	51,000	12,200	19,800	
Tellurium	µg/L	-	-	-	<0.20	<0.40	<0.20	<0.40	<0.40	
Thallium	µg/L	-	-	-	<0.010	0.023	<0.010	<0.020	<0.020	
Thorium	µg/L	-	-	-	<0.10	<0.20	<0.10	<0.20	<0.20	
Tin	µg/L	-	-	2,500	<0.10	<0.20	<0.10	<0.20	<0.20	
Titanium	µg/L	-	-	-	5.27	<0.60	<0.30	<0.60	<0.60	
Tungsten	µg/L	-	-	3	<0.10	0.3	<0.10	<0.20	<0.20	
Uranium	µg/L	-	20	20	2.63	6.24	1.41	2.77	0.47	
Vanadium	µg/L	-	-	20	0.59	<1.00	<0.50	<1.00	<1.00	
Zinc	µg/L	5,000	3,000	3,000	2	4.3	2.2	<2.0	38	
Zirconium	µg/L	-	-	-	<0.20	0.41	0.35	0.47	<0.40	
Total Metals										
Aluminum	µg/L	-	9,500	9,500	72,300	165	3,140	1,050	6.7	
Antimony	µg/L	-	6	6	1.68	6.96	0.99	3.21	0.11	
Arsenic	µg/L	-	10	10	32.5	21.4	3.62	33.6	2.85	
Barium	µg/L	-	-	1,000	9,270	467	206	667	380	
Beryllium	µg/L	-	-	8	5.83	<0.100	0.213	<0.100	<0.100	
Bismuth	µg/L	-	-	-	1.36	<0.100	<0.100	<0.100	<0.050	
Boron	µg/L	-	5,000	5,000	284	352	319	323	349	
Cadmium	µg/L	-	5	5	14.7	0.116	0.318	0.0513	<0.0050	
Calcium	µg/L	-	-	-	32,500	41,000	55,300	21,300	20,300	
Chromium	µg/L	-	50	50[#2]	194	<1.00	8.17	1.66	<0.50	
Cesium	µg/L	-	-	-	16.1	0.125	1.53	0.281	0.066	
Cobalt	µg/L	-	1	1	89.1	1.9	3.41	1.25	0.24	
Copper	µg/L	1,000	2,000	1,500	295	2.64	13.4	3.79	11.9	
Iron	µg/L	300	-	6,500	274,000	3,170	18,800	1,400	216	
Lead	µg/L	-	5	10	102	0.556	5.62	1.22	1.55	
Lithium	µg/L	-	-	8	119	15.4	22.8	12.6	15.7	
Magnesium	µg/L	-	-	-	35,500	36,200	51,400	18,000	17,600	
Manganese	µg/L	20	120	1,500	4,590	115	251	46.9	21.7	
Mercury	µg/L	-	1	1	1.43	<0.0050	0.0608	0.0073	<0.0050	
Molybdenum	µg/L	-	88	250	9.22	33.5	3.97	14.3	6.72	
Nickel	µg/L	-	80	80	328	11.9	12	6.76	0.89	
Phosphorus	µg/L	-	-	-	4,070	<100	140	<100	86	
Potassium	µg/L	-	-	-	14,400	3,390	4,600	2,810	2,570	
Rubidium	µg/L	-	-	-	97.2	2.7	9.91	3.25	1.72	
Selenium	µg/L	-	10	10	4.38	3.15	1.9	1.58	0.079	
Silicon	µg/L	-	-	-	87,200	4,680	10,000	5,010	4,250	
Silver	µg/L	-	-	20	3.59	<0.020	0.122	0.026	0.013	
Sodium	µg/L	-	-	200,000	232,000	395,000	362,000	381,000	422,000	
Strontium	µg/L	-	7,000	2,500	528	665	1,040	387	450	
Sulphur	µg/L	-	-	-	14,000	48,800	57,800	11,300	19,700	
Tellurium	µg/L	-	-	-	<1.00	<0.40	<0.40	<0.40	<0.20	
Thallium	µg/L	-	-	-	1.35	0.028	0.088	0.027	<0.010	
Thorium	µg/L	-	-	-	34.8	<0.20	1.5	0.25	<0.10	
Tin	µg/L	-	-	2,500	<0.50	<0.20	<0.20	<0.20	0.47	
Titanium	µg/L	-	-	-	107	5.54	18.7	<18.6	<0.30	
Tungsten	µg/L	-	-	3	<0.50	0.33	<0.20	<0.20	<0.10	
Uranium	µg/L	-	20	20	10.7	6.95	1.79	2.76	0.468	
Vanadium	µg/L	-	-	20	233	1.27	11.8	3.48	<0.50	
Zinc	µg/L	5,000	3,000	3,000	1,030	9.2	76.7	7.2	51.2	
Zirconium	µg/L	-	-	-	<1.00	0.64	<0.40	0.5	0.43	

Notes:

#1	Standard is for Chromium VI.
-	Not analyzed or no CSR standard exists.
<	Concentration is less than the laboratory detection limit indicated.
CSR	Environmental Management Act (EMA). 2023. Contaminated Sites Regulation (CSR), B.C. Reg. 375/96, deposited 1996/12/16, O.C. 1480/96, effective 1997/04/01(including amendments up to B.C. Reg. 159/2025, effective October 9, 2025) Schedule 3.2
BC WQG - Drinking Water	British Columbia Ministry of Environment and Climate Change Strategy. 2020. B.C. Source Drinking Water Quality Guidelines: Guideline Summary. Water Quality Guideline Series, WQG-01. Prov. B.C., Victoria B.C.
MAC	Maximum allowable concentration
AO	Aesthetic objective
DW	Drinking Water Standards
Shaded	Shaded indicates an exceedence of the applicable BCWQGs DW standards.
BOLD	Underlined and bolded indicates an exceedance of the applicable CSR DW standards.
Italic	Italics and underlined indicates detection limit greater than CSR and BCWQG standards

Table 2: Groundwater Analytical Results - BC Guidelines and Standards

				Location Code	Location 2	Location 3		Location 4	
				Field ID	Location 2	Location 3	LOCATION 3	MW25-04	LOCATION 4
				Date	20 Aug 2024	20 Nov 2024	09 Sep 2024	25 Nov 2025	22 Jan 2026
				Lab Report Number	FJ2402491	FJ2403536	FJ2402712	FJ2503634	FJ2600154
				Sample Code	FJ2402491-001	FJ2403536-001	FJ2402712-001	FJ2503634-001	FJ2600154-001
Parameter	**Unit**	**BC WQG**		**CSR**					
		AO	**MAC**	**DW**					
Gases									
Methane	µg/L	-	-	-	10.5	-	<5.0	<5.0	1,020
Methane	ppmv	-	-	-	43,600	-	-	-	-
BTEXS & MTBE									
Benzene	µg/L	-	5	5	-	-	<0.50	1.82	<0.50
Toluene	µg/L	24	-	60	-	-	<0.50	17.2	<0.40
Ethylbenzene	µg/L	1.6	140	140	-	-	<0.50	1.86	<0.50
Xylenes Total	µg/L	20	90	90	-	-	<0.50	11.4	<0.50
Styrene	µg/L	-	-	800	-	-	<0.50	<0.50	<0.50
Methyl t-butyl ether (MTBE)	µg/L	15	-	95	-	-	<0.50	<0.50	<0.50
Volatile Hydrocarbons									
VHs (C_6-C_{10})	ug/L	-	-	-	-	-	<100	<100	<100
VPHw	µg/L	-	-	-	-	-	<100	<100	<100
Hydrocarbons									
F1 (C_6-C_{10})	µg/L	-	-	-	-	-	<100	-	-
F1 (C_6-C_{10}) less BTEX	µg/L	-	-	-	-	-	<100	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	µg/L	-	-	250	-	-	-	<0.010	<0.010
Acenaphthylene	µg/L	-	-	-	-	-	-	0.012	<0.010
Acridine	µg/L	-	-	-	-	-	-	<0.037	<0.010
Anthracene	µg/L	-	-	1,000	-	-	-	<0.010	<0.010
Benz(a)anthracene	µg/L	-	-	0.07	-	-	-	<0.010	<0.010
Benzo(a)pyrene	µg/L	-	-	0.01	-	-	-	<0.0050	<0.0050
Benzo(b+j)fluoranthene	µg/L	-	-	0.07	-	-	-	<0.010	<0.010
Benzo(b&j&k)fluoranthene	µg/L	-	-	-	-	-	-	<0.015	<0.015
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	-	<0.010	<0.010
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	-	<0.010	<0.010
Chrysene	µg/L	-	-	7	-	-	-	<0.010	<0.010
Dibenz(a,h)anthracene	µg/L	-	-	0.01	-	-	-	<0.0050	<0.0050
Fluoranthene	µg/L	-	-	150	-	-	-	<0.010	<0.010
Fluorene	µg/L	-	-	150	-	-	-	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	-	-	<0.010	<0.010
1-Methylnaphthalene	µg/L	-	-	5.5	-	-	-	0.026	<0.010
2-Methylnaphthalene	µg/L	-	-	15	-	-	-	0.044	<0.010
Naphthalene	µg/L	-	-	80	-	-	-	0.385	<0.050
Phenanthrene	µg/L	-	-	-	-	-	-	0.031	<0.020
Pyrene	µg/L	-	-	100	-	-	-	0.026	<0.010
Quinoline	µg/L	-	-	0.05	-	-	-	<0.050	<0.050
Volatile Organic Compounds (VOCs)									
1,1,1-Trichloroethane	µg/L	-	-	8,000	-	-	-	<0.50	<0.50
Bromodichloromethane	µg/L	-	-	100	-	-	-	<0.50	<0.50
Bromoform	µg/L	-	-	100	-	-	-	<0.50	<0.50
Carbon tetrachloride	µg/L	-	2	2	-	-	-	<0.50	<0.50
Chlorobenzene	µg/L	30	-	80	-	-	-	<0.50	<0.50
Chloroethane	µg/L	-	-	-	-	-	-	<0.50	<0.50
Chloroform	µg/L	-	-	100	-	-	-	<0.50	<0.50
Chloromethane	µg/L	-	-	-	-	-	-	<5.0	<5.0
Dibromochloromethane	µg/L	-	-	100	-	-	-	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	3	200	200	-	-	-	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	-	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	1	5	5	-	-	-	<0.50	<0.50
1,1-Dichloroethane	µg/L	-	-	30	-	-	-	<0.50	<0.50
1,2-Dichloroethane	µg/L	-	5	5	-	-	-	<0.50	<0.50
1,1-Dichloroethene	µg/L	-	14	14	-	-	-	<0.50	<0.50
1,2-Dichloroethene (cis)	µg/L	-	-	8	-	-	-	<0.50	<0.50
1,2-Dichloroethene (trans)	µg/L	-	-	80	-	-	-	<0.50	<0.50
1,2-Dichloropropane	µg/L	-	-	4.5	-	-	-	<0.50	<0.50
1,3-Dichloropropene	µg/L	-	-	1.5	-	-	-	<0.75	<0.75
1,3-Dichloropropene [cis]	µg/L	-	-	-	-	-	-	<0.50	<0.50
1,3-Dichloropropene [trans]	µg/L	-	-	-	-	-	-	<0.50	<0.50
Methylene Chloride	µg/L	-	50	50	-	-	-	<1.0	<1.0
1,1,1,2-Tetrachloroethane	µg/L	-	-	6	-	-	-	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	-	-	0.8	-	-	-	<0.20	<0.20
Tetrachloroethene	µg/L	-	-	30	-	-	-	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	-	-	3	-	-	-	<0.50	<0.50
Trichloroethene	µg/L	-	5	5	-	-	-	<0.50	<0.50
Trichlorofluoromethane	µg/L	-	-	1,000	-	-	-	<0.50	<0.50
Vinyl chloride	µg/L	-	2	2	-	-	-	<0.40	<0.40
Additional Testing									
Gross alpha	Bq/L	-	0.5	-	-	-	-	-	*<0.71*
Gross beta	Bq/L	-	1	-	-	-	-	-	0.47
Radium-226	Bq/L	-	5	-	-	-	-	-	0.02
Radium-228	Bq/L	-	2	-	-	-	-	-	<0.08

Notes:

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AO	Aesthetic objective
DW	Drinking Water Standards
Shaded	Shaded indicates an exceedence of the applicable BCWQGs DW standards.
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Table 3: Groundwater Analytical Results - Federal Guidelines

			Location Code	Location 2	Location 3		Location 4	
			Field ID	Location 2	Location 3	LOCATION 3	MW25-04	LOCATION 4
			Date	20 Aug 2024	20 Nov 2024	09 Sep 2024	25 Nov 2025	22 Jan 2026
			Lab Report Number	FJ2402491	FJ2403536	FJ2402712	FJ2503634	FJ2600154
			Sample Code	FJ2402491-001	FJ2403536-001	FJ2402712-001	FJ2503634-001	FJ2600154-001
Parameter	**Unit**	**GCDWQ [1]**						
		MAC	**OV**					
Physical Parameters								
pH	pH Units	-	7-10.5	7.99	8.34	8.39	8.47	8.44
Electrical Conductivity (EC)	µS/cm	-	-	975	1,890	1,800	1,740	1,860
Total Dissolved Solids (TDS)	µg/L	-	500,000	**906,000**	**1,230,000**	**1,340,000**	**1,150,000**	**1,140,000**
Total Suspended Solids (TSS)	µg/L	-	-	-	-	-	-	<3,000
Turbidity	NTU	-	1	*>4,000*	**26**	**316**	**42.2**	0.73
Hardness as $CaCO_3$	µg/L	-	-	227,000	251,000	350,000	127,000	123,000
Dissolved Hardness as $CaCO_3$	µg/L	-	-	41,200	238,000	353,000	129,000	122,000
Alkalinity (total as $CaCO_3$)	µg/L	-	-	534,000	946,000	882,000	943,000	954,000
Alkalinity (pp as CaCO3)	µg/L	-	-	<1,000	6,700	10,400	15,700	13,500
Alkalinity (Bicarbonate as $CaCO_3$)	µg/L	-	-	534,000	933,000	861,000	912,000	927,000
Alkalinity (Carbonate as $CaCO_3$)	µg/L	-	-	<1,000	13,300	20,800	31,400	27,000
Alkalinity (Hydroxide) as $CaCO_3$	µg/L	-	-	<1,000	<1,000	<1,000	<1,000	<1,000
Bromide	µg/L	-	-	<250	<500	<500	<500	<500
Chloride	µg/L	-	250,000	19,000	38,600	38,800	37,100	38,100
Fluoride	µg/L	1,500	-	478	629	<200	926	718
Sulphate	µg/L	-	500,000	12,700	120,000	136,000	28,200	50,400
Sulphide	µg/L	-	50	**350**	<10	<10	<10	<10
Sulphide (as H_2S)	µg/L	-	-	372	<11	<11	<11	<11
Colour, True	Col. Unit	-	15	5.8	<5.0	<5.0	<5.0	<5.0
Transmittance, UV (@ 254nm)	% T/cm	-	-	72.3	82.6	86.7	80.7	80.5
UV Absorbance @ 254nm	AU/cm	-	-	0.141	0.083	0.062	0.093	0.094
Cyanide								
Cyanide Total	µg/L	200	-	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon								
Dissolved Organic Carbon (DOC)	µg/L	-	-	27,500	4,000	3,370	3,860	3,740
Total Organic Carbon (TOC)	µg/L	-	-	101,000	3,740	7,250	4,890	3,760
Nutrients								
Ammonia as N	µg/L	-	-	-	-	-	1,170	1,470
Nitrate (as N)	µg/L	10,000	-	41.2	<50.0	<50.0	<50.0	<50.0
Nitrite (as N)	µg/L	1,000	-	<5.0	<10.0	<10.0	<10.0	<10.0
Nitrogen (Total)	µg/L	-	-	-	-	-	1,370	1,520
Phosphorus, total	mg/L	-	-	-	-	-	0.0883	0.0685
Biological								
Faecal Coliforms	MPN/100mL	-	-	-	-	-	-	<1
Total Coliforms	MPN/100mL	-	-	-	-	-	-	<1
E. Coli	MPN/100mL	0	-	-	-	-	-	<1
Heterotrophic plate count [HPC]	CFU/mL	-	-	-	-	-	-	92
Dissolved Metals								
Aluminum	µg/L	2,900	100 [2]	**136**	2.7	7.8	4.6	3.9
Antimony	µg/L	6	-	2.06	6.71	0.91	3.7	<0.20
Arsenic	µg/L	10	-	1.14	6.23	0.9	33.5	2.86
Barium	µg/L	2,000	-	352	418	48.3	604	388
Beryllium	µg/L	-	-	<0.100	<0.100	<0.100	<0.100	<0.100
Bismuth	µg/L	-	-	<0.050	<0.100	<0.050	<0.100	<0.100
Boron	µg/L	5,000	-	240	329	371	344	366
Cadmium	µg/L	7	-	0.0186	0.0734	0.0304	<0.0150	<0.0100
Calcium	µg/L	#2	-	7,600	38,900	62,600	22,300	20,800
Chromium	µg/L	50	-	<0.50	<1.00	<0.50	<1.00	<1.00
Cesium	µg/L	-	-	0.057	0.078	0.053	0.08	0.064
Cobalt	µg/L	-	-	0.42	1.74	0.48	0.75	0.21
Copper	µg/L	2,000	1,000	0.53	0.55	<0.20	0.55	0.61
Iron	µg/L	-	300	174	**787**	178	<20	80
Lead	µg/L	5	-	0.073	<0.100	<0.050	<0.100	<0.100
Lithium	µg/L	-	-	6.8	14.1	20.6	13.1	17.6
Magnesium	µg/L	-	-	5,390	34,200	47,700	17,800	17,000
Manganese	µg/L	120	20	**141**	**112**	**110**	**33.9**	**20.8**
Mercury	µg/L	1	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum	µg/L	-	-	19.2	30.4	3.92	15.9	6.69
Nickel	µg/L	-	-	3.47	11.1	1.52	5.02	<1.00
Phosphorus	µg/L	-	-	<50	<100	<50	<100	<100
Potassium	µg/L	-	-	5,180	3,390	4,400	2,800	2,480
Rubidium	µg/L	-	-	1.88	2.38	2.4	1.99	1.68
Selenium	µg/L	50	-	0.941	3.01	1.76	1.55	<0.100
Silicon	µg/L	-	-	2,040	4,070	4,860	3,880	4,380
Silver	µg/L	-	-	<0.010	<0.020	<0.010	<0.020	<0.020
Sodium	µg/L	-	200,000	**244,000**	**401,000**	**360,000**	**418,000**	**423,000**
Strontium	µg/L	7,000	-	150	598	994	420	459
Sulphur	µg/L	-	-	11,000	42,800	51,000	12,200	19,800
Tellurium	µg/L	-	-	<0.20	<0.40	<0.20	<0.40	<0.40
Thallium	µg/L	-	-	<0.010	0.023	<0.010	<0.020	<0.020
Thorium	µg/L	-	-	<0.10	<0.20	<0.10	<0.20	<0.20
Tin	µg/L	-	-	<0.10	<0.20	<0.10	<0.20	<0.20
Titanium	µg/L	-	-	5.27	<0.60	<0.30	<0.60	<0.60
Tungsten	µg/L	-	-	<0.10	0.3	<0.10	<0.20	<0.20
Uranium	µg/L	20	-	2.63	6.24	1.41	2.77	0.47
Vanadium	µg/L	-	-	0.59	<1.00	<0.50	<1.00	<1.00
Zinc	µg/L	-	5,000	2	4.3	2.2	<2.0	38
Zirconium	µg/L	-	-	<0.20	0.41	0.35	0.47	<0.40
Total Metals								
Aluminum	µg/L	2,900	100 [2]	**72,300**	**165**	**3,140**	**1,050**	6.7
Antimony	µg/L	6	-	1.68	6.96	0.99	3.21	0.11
Arsenic	µg/L	10	-	32.5	21.4	3.62	33.6	2.85
Barium	µg/L	2,000	-	9,270	467	206	667	380
Beryllium	µg/L	-	-	5.83	<0.100	0.213	<0.100	<0.100
Bismuth	µg/L	-	-	1.36	<0.100	<0.100	<0.100	<0.050
Boron	µg/L	5,000	-	284	352	319	323	349
Cadmium	µg/L	7	-	14.7	0.116	0.318	0.0513	<0.0050
Calcium	µg/L	-	-	32,500	41,000	55,300	21,300	20,300
Chromium	µg/L	50	-	194	<1.00	8.17	1.66	<0.50
Cesium	µg/L	-	-	16.1	0.125	1.53	0.281	0.066
Cobalt	µg/L	-	-	89.1	1.9	3.41	1.25	0.24
Copper	µg/L	2,000	1,000	295	2.64	13.4	3.79	11.9
Iron	µg/L	-	300	**274,000**	**3,170**	**18,800**	**1,400**	216
Lead	µg/L	5	-	102	0.556	5.62	1.22	1.55
Lithium	µg/L	-	-	119	15.4	22.8	12.6	15.7
Magnesium	µg/L	-	-	35,500	36,200	51,400	18,000	17,600
Manganese	µg/L	120	20	**4,590**	**115**	**251**	**46.9**	**21.7**
Mercury	µg/L	1	-	1.43	<0.0050	0.0608	0.0073	<0.0050
Molybdenum	µg/L	-	-	9.22	33.5	3.97	14.3	6.72
Nickel	µg/L	-	-	328	11.9	12	6.76	0.89
Phosphorus	µg/L	-	-	4,070	<100	140	<100	86
Potassium	µg/L	-	-	14,400	3,390	4,600	2,810	2,570
Rubidium	µg/L	-	-	97.2	2.7	9.91	3.25	1.72
Selenium	µg/L	50	-	4.38	3.15	1.9	1.58	0.079
Silicon	µg/L	-	-	87,200	4,680	10,000	5,010	4,250
Silver	µg/L	-	-	3.59	<0.020	0.122	0.026	0.013
Sodium	µg/L	-	200,000	**232,000**	**395,000**	**362,000**	**381,000**	**422,000**
Strontium	µg/L	7,000	-	528	665	1,040	387	450
Sulphur	µg/L	-	-	14,000	48,800	57,800	11,300	19,700
Tellurium	µg/L	-	-	<1.00	<0.40	<0.40	<0.40	<0.20
Thallium	µg/L	-	-	1.35	0.028	0.088	0.027	<0.010
Thorium	µg/L	-	-	34.8	<0.20	1.5	0.25	<0.10
Tin	µg/L	-	-	<0.50	<0.20	<0.20	<0.20	0.47
Titanium	µg/L	-	-	107	5.54	18.7	<18.6	<0.30
Tungsten	µg/L	-	-	<0.50	0.33	<0.20	<0.20	<0.10
Uranium	µg/L	20	-	10.7	6.95	1.79	2.76	0.468
Vanadium	µg/L	-	-	233	1.27	11.8	3.48	<0.50
Zinc	µg/L	-	5,000	1,030	9.2	76.7	7.2	51.2
Zirconium	µg/L	-	-	<1.00	0.64	<0.40	0.5	0.43

Notes:

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MAC refers to the Maximum Acceptable Concentration according to the GCDWQ criteria.
Other Value refers to the aesthetic objectives or operational guidance values according to the GCDWQ criteria.

[2] Operational guideline that applies only to conventional treatment plants using aluminum-based coagulatants

"-" No applicable guideline or not analyzed

Shaded - Greater than GCDWQ MAC Guideline

BOLD - Greater than GCDWQ OV Guideline

Italic - Detection limit greater than GCDWQ criteria

Table 3: Groundwater Analytical Results - Federal Guidelines

	Location Code			Location 2	Location 3		Location 4	
	Field ID			Location 2	Location 3	LOCATION 3	MW25-04	LOCATION 4
	Date			20 Aug 2024	20 Nov 2024	09 Sep 2024	25 Nov 2025	22 Jan 2026
	Lab Report Number			FJ2402491	FJ2403536	FJ2402712	FJ2503634	FJ2600154
	Sample Code			FJ2402491-001	FJ2403536-001	FJ2402712-001	FJ2503634-001	FJ2600154-001
Parameter	**Unit**	**GCDWQ [1]**						
		MAC	**OV**					
Gases								
Methane	µg/L	-	-	10.5	-	<5.0	<5.0	1,020
Methane	ppmv	-	-	43,600	-	-	-	-
BTEXS & MTBE								
Benzene	µg/L	5	-	-	-	<0.50	1.82	<0.50
Toluene	µg/L	60	24	-	-	<0.50	17.2	<0.40
Ethylbenzene	µg/L	140	1.6	-	-	<0.50	**1.86**	<0.50
Xylenes Total	µg/L	90	20	-	-	<0.50	11.4	<0.50
Styrene	µg/L	-	-	-	-	<0.50	<0.50	<0.50
Methyl t-butyl ether (MTBE)	µg/L	-	15	-	-	<0.50	<0.50	<0.50
Volatile Hydrocarbons								
VHs (C_6-C_{10})	ug/L	-	-	-	-	<100	<100	<100
VPHw	µg/L	-	-	-	-	<100	<100	<100
Hydrocarbons								
F1 (C_6-C_{10})	µg/L	-	-	-	-	<100	-	-
F1 (C_6-C_{10}) less BTEX	µg/L	-	-	-	-	<100	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	µg/L	-	-	-	-	-	<0.010	<0.010
Acenaphthylene	µg/L	-	-	-	-	-	0.012	<0.010
Acridine	µg/L	-	-	-	-	-	<0.037	<0.010
Anthracene	µg/L	-	-	-	-	-	<0.010	<0.010
Benz(a)anthracene	µg/L	-	-	-	-	-	<0.010	<0.010
Benzo(a)pyrene	µg/L	0.04	-	-	-	-	<0.0050	<0.0050
Benzo(b+j)fluoranthene	µg/L	-	-	-	-	-	<0.010	<0.010
Benzo(b&j&k)fluoranthene	µg/L	-	-	-	-	-	<0.015	<0.015
Benzo(g,h,i)perylene	µg/L	-	-	-	-	-	<0.010	<0.010
Benzo(k)fluoranthene	µg/L	-	-	-	-	-	<0.010	<0.010
Chrysene	µg/L	-	-	-	-	-	<0.010	<0.010
Dibenz(a,h)anthracene	µg/L	-	-	-	-	-	<0.0050	<0.0050
Fluoranthene	µg/L	-	-	-	-	-	<0.010	<0.010
Fluorene	µg/L	-	-	-	-	-	<0.010	<0.010
Indeno(1,2,3-c,d)pyrene	µg/L	-	-	-	-	-	<0.010	<0.010
1-Methylnaphthalene	µg/L	-	-	-	-	-	0.026	<0.010
2-Methylnaphthalene	µg/L	-	-	-	-	-	0.044	<0.010
Naphthalene	µg/L	-	-	-	-	-	0.385	<0.050
Phenanthrene	µg/L	-	-	-	-	-	0.031	<0.020
Pyrene	µg/L	-	-	-	-	-	0.026	<0.010
Quinoline	µg/L	-	-	-	-	-	<0.050	<0.050
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	µg/L	-	-	-	-	-	<0.50	<0.50
Bromodichloromethane	µg/L	-	-	-	-	-	<0.50	<0.50
Bromoform	µg/L	-	-	-	-	-	<0.50	<0.50
Carbon tetrachloride	µg/L	2	-	-	-	-	<0.50	<0.50
Chlorobenzene	µg/L	-	-	-	-	-	<0.50	<0.50
Chloroethane	µg/L	-	-	-	-	-	<0.50	<0.50
Chloroform	µg/L	-	-	-	-	-	<0.50	<0.50
Chloromethane	µg/L	-	-	-	-	-	<5.0	<5.0
Dibromochloromethane	µg/L	-	-	-	-	-	<0.50	<0.50
1,2-Dichlorobenzene	µg/L	-	-	-	-	-	<0.50	<0.50
1,3-Dichlorobenzene	µg/L	-	-	-	-	-	<0.50	<0.50
1,4-Dichlorobenzene	µg/L	5	1	-	-	-	<0.50	<0.50
1,1-Dichloroethane	µg/L	-	-	-	-	-	<0.50	<0.50
1,2-Dichloroethane	µg/L	5	-	-	-	-	<0.50	<0.50
1,1-Dichloroethene	µg/L	-	-	-	-	-	<0.50	<0.50
1,2-Dichloroethene (cis)	µg/L	-	-	-	-	-	<0.50	<0.50
1,2-Dichloroethene (trans)	µg/L	-	-	-	-	-	<0.50	<0.50
1,2-Dichloropropane	µg/L	-	-	-	-	-	<0.50	<0.50
1,3-Dichloropropene	µg/L	-	-	-	-	-	<0.75	<0.75
1,3-Dichloropropene [cis]	µg/L	-	-	-	-	-	<0.50	<0.50
1,3-Dichloropropene [trans]	µg/L	-	-	-	-	-	<0.50	<0.50
Methylene Chloride	µg/L	50	-	-	-	-	<1.0	<1.0
1,1,1,2-Tetrachloroethane	µg/L	-	-	-	-	-	<0.50	<0.50
1,1,2,2-Tetrachloroethane	µg/L	-	-	-	-	-	<0.20	<0.20
Tetrachloroethene	µg/L	10	-	-	-	-	<0.50	<0.50
1,1,2-Trichloroethane	µg/L	-	-	-	-	-	<0.50	<0.50
Trichloroethene	µg/L	5	-	-	-	-	<0.50	<0.50
Trichlorofluoromethane	µg/L	-	-	-	-	-	<0.50	<0.50
Vinyl chloride	µg/L	2	-	-	-	-	<0.40	<0.40
Additional Testing								
Gross alpha	Bq/L	0.5	-	-	-	-	-	*<0.71*
Gross beta	Bq/L	1	-	-	-	-	-	0.47
Radium-226	Bq/L	5	-	-	-	-	-	0.02
Radium-228	Bq/L	2	-	-	-	-	-	<0.08

Notes:

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BOLD - Greater than GCDWQ OV Guideline

Italic - Detection limit greater than GCDWQ criteria

Table 4: Calculation of Apparent Safe Yield for Pumping Well PW25-04

	UNIT	PW25-04
GROUND ELEVATION	m-geod.	665.51
STICKUP	m	1.14
STATIC WATER ELEVATION - Nov. 24, 2025 [1]	m-geod.	564.05
STATIC WATER ELEVATION - January 19, 2026[1]	m-geod.	564.02
Change between November and January	m	0.03
ESTIMATED SEASONAL LOW STATIC ELEVATION [2]	m-geod.	563.02
ESTIMATED INTERFERENCE FROM OTHER WELLS [3]	m	0.0
ESTIMATED MINIMUM STATIC ELEVATION[4]	m	563.02
BOTTOM OF WELL SCREEN	m-geod.	520.57
TOP OF WELL SCREEN	m-geod.	539.09
PUMP SET ELEVATION [5]	m-geod.	521.03
RECOMMENDED LOWEST PUMPING ELEVATION [5]	m-geod.	531.03
SATURATED SCREEN LENGTH AT LOWEST PUMPING ELI	m	10.00
AVAILABLE DRAWDOWN [6]	m	31.99
ALLOWABLE DRAWDOWN [7]	m	31.99
MANUFACTURER MAXIMUM ENTRANCE VELOCITY	m/s	0.03
SCREEN RADIUS	m	0.15
TEST PUMPING RATE	L/s	3.8
	m^3/day	327.1
	USgpm	60
PUMPING TEST DRAWDOWN PROJECTED TO 100 DAYS	m	4.1
PROJECTED LONG TERM SPECIFIC CAPACITY [8]	L/s/m	0.91
ESTIMATED SAFE YIELD [9]	L/s	**29.2**
	m^3/day	2527
	USgpm	463
MAXIMUM SCREEN CAPACITY AT DESIGN PUMPING ELEVATION [10]	L/s	46
	m^3/day	3950.2
	USGPM	724

Notes

1. Static water elevation measured immediately prior to January 2026 pumping test.
2. Allow 1 m drop to assumed seasonal low levels in late summer or late winter.
3. Assumes no other wells pumping near PW25-04.
4. Estimated minimum static elevation is seasonal low water elevation.
5. Design pumping level to be as low as possible, 10 m above bottom of well (mid-screen).
6. Difference between recommended lowest pumping level and estimated minimum static elevation.
7. Allowable drawdown does not incorporate a factor of safety (i.e. allowable drawdown = 100% of available drawdown).
8. Long term specific capacity is flow rate of pumping test divided by pumping test drawdown projected to 100 days.
9. Estimated safe yield is calculated as allowable drawdown times long term specific capacity.
10. Screen capacity based on 0.03 m/s entrance velocity mulitplied by saturated well screen open area.

APPENDIX A

TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT

LIMITATIONS ON USE OF THIS DOCUMENT

GEOENVIRONMENTAL

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1.3 STANDARD OF CARE

Services performed by TETRA TECH for the Professional Document have been conducted in accordance with the Contract, in a manner consistent with the level of skill ordinarily exercised by members of the profession currently practicing under similar conditions in the jurisdiction in which the services are provided. Professional judgment has been applied in developing the conclusions and/or recommendations provided in this Professional Document. No warranty or guarantee, express or implied, is made concerning the test results, comments, recommendations, or any other portion of the Professional Document.

If any error or omission is detected by the Client or an Authorized Party, the error or omission must be immediately brought to the attention of TETRA TECH.

1.4 DISCLOSURE OF INFORMATION BY CLIENT

The Client acknowledges that it has fully cooperated with TETRA TECH with respect to the provision of all available information on the past, present, and proposed conditions on the site, including historical information respecting the use of the site. The Client further acknowledges that in order for TETRA TECH to properly provide the services contracted for in the Contract, TETRA TECH has relied upon the Client with respect to both the full disclosure and accuracy of any such information.

1.5 INFORMATION PROVIDED TO TETRA TECH BY OTHERS

During the performance of the work and the preparation of this Professional Document, TETRA TECH may have relied on information provided by third parties other than the Client.

While TETRA TECH endeavours to verify the accuracy of such information, TETRA TECH accepts no responsibility for the accuracy or the reliability of such information even where inaccurate or unreliable information impacts any recommendations, design or other deliverables and causes the Client or an Authorized Party loss or damage.

1.6 GENERAL LIMITATIONS OF DOCUMENT

This Professional Document is based solely on the conditions presented and the data available to TETRA TECH at the time the data were collected in the field or gathered from available databases.

The Client, and any Authorized Party, acknowledges that the Professional Document is based on limited data and that the conclusions, opinions, and recommendations contained in the Professional Document are the result of the application of professional judgment to such limited data.

The Professional Document is not applicable to any other sites, nor should it be relied upon for types of development other than those to which it refers. Any variation from the site conditions present, or variation in assumed conditions which might form the basis of design or recommendations as outlined in this report, at or on the development proposed as of the date of the Professional Document requires a supplementary exploration, investigation, and assessment.

TETRA TECH is neither qualified to, nor is it making, any recommendations with respect to the purchase, sale, investment or development of the property, the decisions on which are the sole responsibility of the Client.

1.7 NOTIFICATION OF AUTHORITIES

In certain instances, the discovery of hazardous substances or conditions and materials may require that regulatory agencies and other persons be informed and the client agrees that notification to such bodies or persons as required may be done by TETRA TECH in its reasonably exercised discretion.

APPENDIX B

BOREHOLE LOGS

BOREHOLE KEYSHEET

Water Level Measurement


Measured in standpipe, piezometer or well


Inferred

Sample Types


A-Casing


Core


Disturbed, Bag, Grab


HQ Core


Jar


Jar and Bag


NQ Core


No Recovery


Split Spoon/SPT


Tube


CRREL Core

Backfill Materials


Asphalt


Bentonite


Cement/ Grout


Drill Cuttings


Grout


Gravel


Sand


Slough


Topsoil Backfill

Lithology - Graphical Legend[1]


Asphalt


Bedrock


Cobbles/Boulders


Clay


Coal


Concrete


Fill


Gravel


Limestone


Mudstone


Organics


Peat


Sand


Sandstone


Shale


Silt


Siltstone


Till


Topsoil

1. The graphical legend is an approximation and for visual representation only. Soil strata may comprise a combination of the basic symbols shown above. Particle sizes are not drawn to scale

TETRA TECH

Peace River Regional District

Borehole No: **Location 1**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
0				0
	Air rotary	CLAY - massive, dry, firm, low plastic, dark grey, some iron oxidation		
5				10
				20
10		- trace gravel, angular gravel to 5 mm diameter		30
				40
15		SILT - clayey, trace to some gravel, angular gravel to 5 mm diameter, massive, sticky, dry, firm, low plastic, grey, trace iron oxides		50
		CLAY - trace gravel, angular gravel to 10 mm diameter, massive, very sticky, moist, medium plastic, grey, 2 mm thick brownish yellow clay lenses		60
20				70
		- some gravel, sticky, firm		80
25				90
		- trace gravel		100
30				110
		- dry, low plastic, dark grey		120
35				130
		- homogeneous, gravel to 5 mm diameter, dense		140
40				150
		SANDSTONE (BEDROCK) - coarse grained sandstone, dark grey		160
45				
50				

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 170.7 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 12
Logged By: FN	Completion Date: 2024 August 19
Reviewed By:	Page 1 of 4

Peace River Regional District

Borehole No: **Location 1**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
50				170
		SHALE (BEDROCK) - brittle, hard, black, interbedded yellowish brown sand		
55				180
				190
60				200
		- softer, dark greyish brown, no visible inclusions		210
65				
		SANDSTONE (BEDROCK) - soft, brownish yellow, intermixed with clay - sticky, low plastic, grey		220
70				230
	Air rotary	SHALE (BEDROCK) - trace sand, coarse grained white sand, brittle, black, intermixed with siltstone - firm, hard, grey, intermixed with sandstone - loose, yellowish brown		240
75				250
		SILTSTONE (BEDROCK) - firm to hard, dense, dark grey, intermixed with clay - sticky, soft		260
80				270
		SHALE (BEDROCK) - brittle, hard, dark grey, intermixed with sticky clay		280
85				290
90				300
		SANDSTONE (BEDROCK) - soft, light brown, intermixed with shale - brittle, platy, firm to hard, dark greyish black		310
95				
		- fine grained sandstone, very hard, grey, no visible intermix		320
100				

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 170.7 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 12
Logged By: FN	Completion Date: 2024 August 19
Reviewed By:	Page 2 of 4

Peace River Regional District

Borehole No: **Location 1**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
100				330
105	Air rotary	- dark grey		340
		SAND - trace gravel, coarse grained sand, subangular gravel to 10 mm diameter, dry, loose, grey		350
110				360
		SHALE (BEDROCK) - brittle, firm, dark grey		370
115				380
		SANDSTONE (BEDROCK) - stiff, compacted, dark grey		390
120				400
		SHALE (BEDROCK) - brittle, platy, firm, dark greyish black		410
125		SANDSTONE (BEDROCK) - broken to subrounded chunks to 10 mm diameter, very stiff to hard, dark grey		420
130				430
				440
135				450
		SHALE (BEDROCK) - brittle, platy, sticky, firm, dark greyish black		460
140		- compact, very hard		470
145		SANDSTONE (BEDROCK) - coarse grained sandstone, extremely hard, light grey, salt and pepper (white, grey and black)		480
150				490

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 170.7 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 12
Logged By: FN	Completion Date: 2024 August 19
Reviewed By:	Page 3 of 4

Peace River Regional District

Borehole No: **Location 1**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
150				500
	Air rotary	- fine grained sandstone, dark grey		
		SHALE (BEDROCK) - brittle, platy, soft, dark grey		510
155				
				520
160		SHALE AND SANDSTONE (BEDROCK) - intermixed, harder		
				530
		SANDSTONE - trace soft shale, fine grained sandstone, gritty, soft, light grey		
165				540
		- hard, limited recovery		
				550
170				
		END OF BOREHOLE (170.7 metres)		560
				570
175				
				580
180				
				590
				600
185				
				610
				620
190				
				630
				640
195				
				650
200				

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 170.7 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 12
Logged By: FN	Completion Date: 2024 August 19
Reviewed By:	Page 4 of 4

Peace River Regional District

Borehole No: **Location 2**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
0				0
		CLAY - massive, dry, stiff, low plastic, dark grey, iron oxides, trace white fine grained material		
5				10
				20
10				30
		- angular gravel to 10 mm diameter, sticky		40
15		- hard boulder approximately 300 mm thick, gravel to 50 mm diameter		50
		- some gravel, angular gravel to 10 mm dimeter, moist, firm, intermixed with dark brown sand lenses		60
20				70
	Air rotary			
25		- gravel to 5 mm diameter, medium plastic		80
				90
30				100
		- sandy, low plastic, dark brown sand		110
35				120
		- trace sand, soft		
40				130
		- silty, sandy, medium plastic		140
45				150
		SAND - coarse grained sand, wet, loose, intermixed with clay - trace gravel, low plastic		
		CLAY - trace gravel, moist, dense, low plastic, dark grey, intermixed with silt and fine grained sand		160
50				

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 152.4 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 15
Logged By: FN	Completion Date: 2024 August 17
Reviewed By:	Page 1 of 4

ENVIRONMENTAL ZONE10.GPJ EBA.GDT 26-2-11

Peace River Regional District

Borehole No: **Location 2**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
50				170
55	Air rotary	SHALE (BEDROCK) - fissile, soft, low plastic, dark grey to black, dark brown sand layers		180
				190
60		- dry, very dense, dark grey, no visible sand, silt or gravel		200
65				210
				220
70		- angular gravel to 20 mm diameter for 300 mm - trace sand, trace gravel, coarse grained sand, gravel to 5 mm diameter, sticky, dark grey to black		230
				240
75				250
				260
80				270
85				280
				290
90				300
		SANDSTONE (BEDROCK) - angular gravel to 7 mm diameter, hard, dark grey SHALE (BEDROCK) - angular gravel to 7 mm diameter, fissile, dry, very dense, dark grey		
95		SANDSTONE (BEDROCK) - coarse grained sandstone, very hard, dark grey		310
		SHALE (BEDROCK) - fissile, dry, very dense, low plastic, dark grey to black, intermixed with fine grained brown sand		320
100				

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 152.4 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 15
Logged By: FN	Completion Date: 2024 August 17
Reviewed By:	Page 2 of 4

Peace River Regional District

Borehole No: **Location 2**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
100				330
		SANDSTONE (BEDROCK) - well graded, hard, grey		
		SHALE (BEDROCK) - sticky, hard, low plastic, dark grey to dark brown, intermixed with dark brown sand		340
105				350
		SANDSTONE (BEDROCK) - hard, dark brown		
110				360
				370
115				380
			Note: Circulation lost, stratigraphy estimated based of Driller interpretation	
120				390
				400
125	Air rotary			410
				420
130		- non sticky, soft		430
				440
135		- harder		450
				460
140				470
				480
145				
150				490

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 152.4 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 15
Logged By: FN	Completion Date: 2024 August 17
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ENVIRONMENTAL ZONE10.GPJ EBA.GDT 26-2-11

Peace River Regional District

Borehole No: **Location 2**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Notes and Comments	Depth (ft)
150				500
		END OF BOREHOLE (152.4 metres)		
155				510
160				520
165				530
170				540
175				550
180				560
185				570
190				580
195				590
200				600
				610
				620
				630
				640
				650

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 152.4 m
Equipment Type: Truck mounted RC	Start Date: 2024 August 15
Logged By: FN	Completion Date: 2024 August 17
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ENVIRONMENTAL ZONE10.GPJ EBA.GDT 26-2-11

Peace River Regional District

Borehole No: **Location 3/MW25-03**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Sample Type	VOC / H2S	Notes and Comments	Monitoring well	Depth (ft)
0				VOC 5 10 15 20; H2S 1 2 3 4		0.9 m stickup	0
		CLAY - trace organics, trace gravel, homogeneous, subangular gravel to 20 mm diameter, moist, firm, medium plastic, light brown			51 mm diameter PVC pipe	Pea gravel	
						2.44 m	10
5		- boulder					
						Bentonite	20
						9.14 m	30
10							40
15		- no visible organics, soft to firm, grey					50
							60
20		- fine to coarse grained gravel					70
	Air rotary						80
25		- firm					90
							100
30		- trace to some gravel, trace silt, high plastic					110
35							120
							130
40						168 mm steel drill casing	140
		- increased silt, medium plastic					
45							150
							160
50							

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 158.5 m
Equipment Type: Truck mounted RC	Start Date: 2024 September 4
Logged By: TK	Completion Date: 2024 September 7
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ENV-DETAILED WELL ZONE10.GPJ EBA.GDT 26-2-11

Peace River Regional District

Borehole No: **Location 3/MW25-03**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Sample Type	VOC / H2S	Notes and Comments	Monitoring well	Depth (ft)
50				VOC 5 10 15 20; H2S 1 2 3 4			170
55		- no visible gravel					180
60							190
65						Pea gravel	200
70	Air rotary	- stiff					210
75							220
80		SANDSTONE (BEDROCK) - fine to medium grained sandstone					230
85		SHALE (BEDROCK) - weak, brown				84.4 m, bottom of steel drill casing	240
90							250
95		SANDSTONE AND SHALE (BEDROCK) - interlayered, fine to medium grained sandstone					260
100							270
							280
							290
							300
							310
							320

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 158.5 m
Equipment Type: Truck mounted RC	Start Date: 2024 September 4
Logged By: TK	Completion Date: 2024 September 7
Reviewed By:	Page 2 of 4

Peace River Regional District

Borehole No: **Location 3/MW25-03**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Sample Type	VOC / H2S	Notes and Comments	Monitoring well	Depth (ft)
100				VOC 5 10 15 20; H2S 1 2 3 4			330
		- weak, brownish grey					340
105							350
110							360
							370
115		SANDSTONE (BEDROCK) - greyish black, some shale lenses					380
							390
120							
		- some shale, weathered, weak, H2S odour observed from 121.92 metres on				121.6 m; Bentonite plug; 123.8 m	400
125	Air rotary					126.8 m	410
		SHALE (BEDROCK) - weak, grey					420
130							430
						Filter pack	
135		SANDSTONE (BEDROCK) - medium to coarse grained sandstone				0.020" slot size (20 slot)	440
		- harder					450
		SHALE (BEDROCK) - weak, dark grey, intermixed fine grained sandstone					
140							460
						142.0 m	
							470
145							
		- some fine grained sandstone, dense					480
150							490

TETRA TECH	Contractor: Carbon Mountain Drilling	Completion Depth: 158.5 m
	Equipment Type: Truck mounted RC	Start Date: 2024 September 4
	Logged By: TK	Completion Date: 2024 September 7
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ENV-DETAILED WELL ZONE10.GPJ EBA.GDT 26-2-11

Peace River Regional District

Borehole No: **Location 3/MW25-03**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Sample Type	VOC / H2S	Notes and Comments	Monitoring well	Depth (ft)
150				VOC: 5 10 15 20; H2S: 1 2 3 4			
155	Air rotary					Pea gravel	500 510
160		END OF BOREHOLE (158.5 metres) Monitoring well installed to 146.3 metres				158.5 m	520 530
165							540
170							550 560
175							570
180							580 590
185							600
190							610 620
195							630 640
200							650

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 158.5 m
Equipment Type: Truck mounted RC	Start Date: 2024 September 4
Logged By: TK	Completion Date: 2024 September 7
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ENV-DETAILED WELL ZONE10.GPJ EBA.GDT 26-2-11

Peace River Regional District

Borehole No: **Location 4/PW25-04**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District Rose Prairie, British Columbia	Ground Elev: 144 m

Depth (m)	Method	Soil Description	Sample Type	Vapour readings (ppmv) 200 400 600 800	Notes and Comments	Pumping Well	Elevation (m)
0						Pipe stickup	
	Air Rotary	CLAY - trace gravel, subangular gravel, moist, medium plastic, brown			175 mm diameter PVC pipe		
5						5.0 m, Bottom of 254 mm casing	140
10							135
15		- firm, high plastic, greyish brown					130
20							125
25		- slightly more gravel to 10 mm diameter					120
30							115
35							110
40							105
45							100
50		- trace gravel, subangular gravel					95

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 149 m
Equipment Type: Truck mounted RC	Start Date: 2025 November 16
Logged By: TK	Completion Date: 2025 November 25
Reviewed By:	Page 1 of 4

Peace River Regional District

Borehole No: **Location 4/PW25-04**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District Rose Prairie, British Columbia	Ground Elev: 144 m

Depth (m)	Method	Soil Description	Sample Type	Vapour readings (ppmv) 200 400 600 800	Notes and Comments	Pumping Well	Elevation (m)
50							
55	Air Rotary	- medium plastic					90
60		- more firm, high plastic					85
65		- grey					80
70							75
75		- no visible gravel, very firm					70
80		SANDSTONE - fractured, fine to medium grained sandstone, subangular rock fragments to 10 mm diameter, reddish brown					65
85						84.0 m, Bottom of 203 mm casing	60
90		SHALE - angular rock fragments to 10 mm diameter, dark grey					55
95							50
100							45

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 149 m
Equipment Type: Truck mounted RC	Start Date: 2025 November 16
Logged By: TK	Completion Date: 2025 November 25
Reviewed By:	Page 2 of 4

Peace River Regional District

Borehole No: **Location 4/PW25-04**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	Ground Elev: 144 m
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Sample Type	Vapour readings (ppmv) 200 400 600 800	Notes and Comments	Pumping Well	Elevation (m)
100							
Nov24/25 ▼ 105	Air Rotary	- some sandstone chips					Nov24/25 ▼ 40
110							35
		SHALE AND SANDSTONE - fine grained sandstone, some larger chips, quartz fragments					
115							30
120							25
125		SHALE - dark grey - 500 mm thick very hard sandstone layer				126.4 m, Bottom of 168 mm casing	20
130							15
135						20-Slot Stainless Steel Screen	10
		SHALE AND SANDSTONE - fine grained sandstone					
140							5
145							0
150		END OF BOREHOLE (149.0 metres)					-5

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 149 m
Equipment Type: Truck mounted RC	Start Date: 2025 November 16
Logged By: TK	Completion Date: 2025 November 25
Reviewed By:	Page 3 of 4

ENV-DETAILED WELL ZONE10.GPJ EBA.GDT 26-2-26

Peace River Regional District

Borehole No: **Location 4/PW25-04**

Project: Rose Prairie Water Well Drilling & Pump Test	Project No: ENW.GENV03704-02
Location: NW 1/4, Sec. 22-86-18 W6M, Peace River District	Ground Elev: 144 m
Rose Prairie, British Columbia	

Depth (m)	Method	Soil Description	Sample Type	Vapour readings (ppmv) 200 400 600 800	Notes and Comments	Pumping Well		Elevation (m)
150		water - 102.6 metres on November 24, 2025 Monitoring well installed to 144.94 metres						-10
155								-15
160								-20
165								-25
170								-30
175								-35
180								-40
185								-45
190								-50
195								-55
200								

TETRA TECH

Contractor: Carbon Mountain Drilling	Completion Depth: 149 m
Equipment Type: Truck mounted RC	Start Date: 2025 November 16
Logged By: TK	Completion Date: 2025 November 25
Reviewed By:	Page 4 of 4

APPENDIX C

ANALYTICAL LABORATORY CERTIFICATES

CERTIFICATE OF ANALYSIS

Work Order	:	**FJ2503633**		
Client	:	**Tetra Tech Canada Inc.**	Laboratory	: ALS Environmental - Fort St. John
Contact	:	Carl Wu	Account Manager	: Brent Mack
Address	:	110, 140 Quarry Park Blvd SE Calgary Alberta Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John BC Canada V1J 6P3
Telephone	:	----	E-mail	: Brent.Mack@ALSGlobal.com
Project	:	704-ENW.GENV03704-02	Telephone	: 778-370-3279
PO	:	----	Date Samples Received	: 25-Nov-2025 14:45
C-O-C number	:	----	Date Analysis Commenced	: 28-Nov-2025
Sampler	:	Thom Kolb	Issue Date	: 02-Dec-2025 09:56
Site	:	----		
Quote number	:	VA24-EBAE100-013		
No. of samples received	:	1		
No. of samples analysed	:	1		

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*
David Tremblett	VOC Section Supervisor	Air Quality, Waterloo, Ontario

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 units
%	percent
inches Hg	inches of mercury
ppbv	parts per billion (volume/volume)
µg/m³	micrograms per cubic metre

<: 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.

Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:17	----	----	----	----
						FJ2503633-001	----	----	----	----
						Result	----	----	----	----
Field Tests										
ID, batch proof	----	EF001/WT	-	-		251006.304	----	----	----	----
ID, canister	----	EF001/WT	-	-		01400-0351	----	----	----	----
ID, regulator	----	EF001/WT	-	-		G457	----	----	----	----
Pressure on receipt	----	EF001/WT	0.10	inches Hg		-5.93	----	----	----	----
Sulfur Compounds										
Carbon disulfide	75-15-0	E630/WT	2.0	ppbv		<2.0	----	----	----	----
Carbon disulfide	75-15-0	EC630/WT	6.2	µg/m³		<6.2	----	----	----	----
Carbonyl sulfide	463-58-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Carbonyl sulfide	463-58-1	EC630/WT	10	µg/m³		<10	----	----	----	----
Diethyl disulfide	110-81-6	E630/WT	2.0	ppbv		<2.0	----	----	----	----
Diethyl disulfide	110-81-6	EC630/WT	10	µg/m³		<10	----	----	----	----
Diethyl sulfide	352-93-2	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Diethyl sulfide	352-93-2	EC630/WT	15	µg/m³		<15	----	----	----	----
Dimethyl disulfide	624-92-0	E630/WT	2.0	ppbv		<2.0	----	----	----	----
Dimethyl disulfide	624-92-0	EC630/WT	7.7	µg/m³		<7.7	----	----	----	----
Dimethyl sulfide	75-18-3	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Dimethyl sulfide	75-18-3	EC630/WT	10	µg/m³		<10	----	----	----	----
Dimethylthiophene, 2,5-	638-02-8	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Dimethylthiophene, 2,5-	638-02-8	EC630/WT	18	µg/m³		<18	----	----	----	----
Ethyl mercaptan	75-08-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Ethyl mercaptan	75-08-1	EC630/WT	10	µg/m³		<10	----	----	----	----

Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:17	----	----	----	----
						FJ2503633-001	----	----	----	----
						Result	----	----	----	----
Sulfur Compounds										
Ethyl methyl sulfide	624-89-5	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Ethyl methyl sulfide	624-89-5	EC630/WT	12	µg/m³		<12	----	----	----	----
Ethylthiophene, 2-	872-55-9	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Ethylthiophene, 2-	872-55-9	EC630/WT	18	µg/m³		<18	----	----	----	----
Hydrogen sulfide	7783-06-4	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Hydrogen sulfide	7783-06-4	EC630/WT	5.6	µg/m³		<5.6	----	----	----	----
Isobutyl mercaptan	513-44-0	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Isobutyl mercaptan	513-44-0	EC630/WT	15	µg/m³		<15	----	----	----	----
Isopropyl mercaptan	75-33-2	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Isopropyl mercaptan	75-33-2	EC630/WT	12	µg/m³		<12	----	----	----	----
Methyl mercaptan	74-93-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Methyl mercaptan	74-93-1	EC630/WT	7.9	µg/m³		<7.9	----	----	----	----
Methylthiophene, 2-	554-14-3	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Methylthiophene, 2-	554-14-3	EC630/WT	16	µg/m³		<16	----	----	----	----
Methylthiophene, 3-	616-44-4	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Methylthiophene, 3-	616-44-4	EC630/WT	16	µg/m³		<16	----	----	----	----
n-Butyl mercaptan	109-79-5	E630/WT	4.0	ppbv		<4.0	----	----	----	----
n-Butyl mercaptan	109-79-5	EC630/WT	15	µg/m³		<15	----	----	----	----
Propyl mercaptan	107-03-9	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Propyl mercaptan	107-03-9	EC630/WT	12	µg/m³		<12	----	----	----	----
sec-butyl mercaptan + thiophene	----	E630/WT	6.0	ppbv		<6.0	----	----	----	----

Analytical Results

Sub-Matrix: Canister
(Matrix: Air)

					Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:17	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FJ2503633-001	----	----	----	----
						Result	----	----	----	----
Sulfur Compounds										
sec-butyl mercaptan + thiophene	----	EC630/WT	14	µg/m³		<21	----	----	----	----
t-Butyl mercaptan	75-66-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
t-Butyl mercaptan	75-66-1	EC630/WT	15	µg/m³		<15	----	----	----	----
Tetrahydrothiophene	110-01-0	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Tetrahydrothiophene	110-01-0	EC630/WT	14	µg/m³		<14	----	----	----	----
Sulfur, total reduced (as H2S), 10 compounds	----	EC630/WT	16	µg/m³		<16	----	----	----	----
Sulfur, total reduced (as H2S), 22 compounds	----	EC630/WT	25	µg/m³		<25	----	----	----	----
Sulfur, total reduced (as H2S), NPRI 6	----	EC630/WT	12	µg/m³		<12	----	----	----	----
Sulfur, total reduced (as H2S), Ontario 4	----	EC630/WT	11	µg/m³		<11	----	----	----	----
Permanent Gases										
Methane	74-82-8	E629B-H/WT	0.050	%		<0.050	----	----	----	----

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **FJ2503633**	Page	: 1 of 5
Client	: **Tetra Tech Canada Inc.**	Laboratory	: ALS Environmental - Fort St. John
Contact	: Carl Wu	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John, British Columbia Canada V1J 6P3
Telephone	: ----	Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02	Date Samples Received	: 25-Nov-2025 14:45
PO	: ----	Issue Date	: 02-Dec-2025 09:56
C-O-C number	: ----		
Sampler	: Thom Kolb		
Site	: ----		
Quote number	: VA24-EBAE100-013		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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 Method Blank value outliers occur.
No Duplicate outliers occur.
No Laboratory Control Sample (LCS) outliers occur
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)

No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

No Quality Control Sample Frequency Outliers occur.

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: **Air**

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

Analyte Group : Analytical Method / 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*
Field Tests : Air Canister Information										
Air Canister MW25-04	EF001	25-Nov-2025	----	----	----		28-Nov-2025	----	----	
Permanent Gases : Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)										
Air Canister MW25-04	E629B-H	25-Nov-2025	----	----	----		02-Dec-2025	30 days	7 days	✓
Sulfur Compounds : Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)										
Air Canister MW25-04	E630	25-Nov-2025	----	----	----		28-Nov-2025	7 days	3 days	✓

Legend & Qualifier Definitions

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: **Air**

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)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	2364622	1	1	100.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	2360647	1	1	100.0	5.0	✓
Laboratory Control Samples (LCS)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	2364622	1	1	100.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	2360647	1	1	100.0	5.0	✓
Method Blanks (MB)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	2364622	1	1	100.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	2360647	1	1	100.0	5.0	✓
Air Canister Information	EF001	2359666	1	7	14.2	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
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H ALS Environmental - Waterloo	Air	EPA Method 3C & ASTM D1946	This analysis is performed using procedures adapted from EPA Method 3C & ASTM D1946. Air samples are collected into cleaned evacuated canisters. A volume of air is removed from the canister and injected by means of a gas-sampling/backflush valve onto a series of packed GC columns and measured using a thermal conductivity detector (TCD). Oxygen is not separated from Argon. Canister samples will be retained for 7 calendar days after final report. If you require a longer canister storage time, please contact your account manager.
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630 ALS Environmental - Waterloo	Air	ASTM D5504 (mod)	This analysis is performed using procedures adapted from ASTM D5504. Air samples are collected into cleaned evacuated silica-coated canisters. By means of a loop system, a volume of air is transferred from the canister and cryofocused before determining the sulfur compounds by GC-SCD. Silica coated passivated canisters may allow for reliable sample analysis after 24 hours. In such cases, analysis is recommended within 7 days of collection. Canister samples will be retained for 7 calendar days after final report. If you require a longer canister storage time, please contact your Project Manager.
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ug/m3)	EC630 ALS Environmental - Waterloo	Air	ASTM D5504	convert ppbv to ug/m3
Air Canister Information	EF001 ALS Environmental - Waterloo	Air	In-house	Air canister information provided by client and recorded on ALS report may affect the validity of results.

QUALITY CONTROL REPORT

Work Order	: **FJ2503633**	Page	: 1 of 5
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Carl Wu	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John, British Columbia Canada V1J 6P3
Telephone	: ----	Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02	Date Samples Received	: 25-Nov-2025 14:45
PO	: ----	Date Analysis Commenced	: 28-Nov-2025
C-O-C number	: ----	Issue Date	: 02-Dec-2025 09:56
Sampler	: Thom Kolb		
Site	: ----		
Quote number	: VA24-EBAE100-013		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
- 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*
David Tremblett	VOC Section Supervisor	Waterloo Air Quality, Waterloo, Ontario

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

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: **Air**

					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*
Sulfur Compounds (QC Lot: 2360647)											
FJ2503633-001	MW25-04	Carbon disulfide	75-15-0	E630	2.0	ppbv	<2.0	<2.0	0	Diff <2x LOR	----
		Carbonyl sulfide	463-58-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Diethyl disulfide	110-81-6	E630	2.0	ppbv	<2.0	<2.0	0	Diff <2x LOR	----
		Diethyl sulfide	352-93-2	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Dimethyl disulfide	624-92-0	E630	2.0	ppbv	<2.0	<2.0	0	Diff <2x LOR	----
		Dimethyl sulfide	75-18-3	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Dimethylthiophene, 2,5-	638-02-8	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Ethyl mercaptan	75-08-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Ethyl methyl sulfide	624-89-5	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Ethylthiophene, 2-	872-55-9	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Hydrogen sulfide	7783-06-4	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Isobutyl mercaptan	513-44-0	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Isopropyl mercaptan	75-33-2	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Methyl mercaptan	74-93-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Methylthiophene, 2-	554-14-3	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Methylthiophene, 3-	616-44-4	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		n-Butyl mercaptan	109-79-5	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Propyl mercaptan	107-03-9	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		sec-butyl mercaptan + thiophene	----	E630	6.0	ppbv	<6.0	<6.0	0	Diff <2x LOR	----
		t-Butyl mercaptan	75-66-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
		Tetrahydrothiophene	110-01-0	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	----
Permanent Gases (QC Lot: 2364622)											
FJ2503633-001	MW25-04	Methane	74-82-8	E629B-H	0.050	%	<0.050	<0.050	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: **Air**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Field Tests (QCLot: 2359666)						
Pressure on receipt	----	EF001	0.1	Inches Hg	-30.0	----
Sulfur Compounds (QCLot: 2360647)						
Carbon disulfide	75-15-0	E630	2	ppbv	<2.0	----
Carbonyl sulfide	463-58-1	E630	4	ppbv	<4.0	----
Diethyl disulfide	110-81-6	E630	2	ppbv	<2.0	----
Diethyl sulfide	352-93-2	E630	4	ppbv	<4.0	----
Dimethyl disulfide	624-92-0	E630	2	ppbv	<2.0	----
Dimethyl sulfide	75-18-3	E630	4	ppbv	<4.0	----
Dimethylthiophene, 2,5-	638-02-8	E630	4	ppbv	<4.0	----
Ethyl mercaptan	75-08-1	E630	4	ppbv	<4.0	----
Ethyl methyl sulfide	624-89-5	E630	4	ppbv	<4.0	----
Ethylthiophene, 2-	872-55-9	E630	4	ppbv	<4.0	----
Hydrogen sulfide	7783-06-4	E630	4	ppbv	<4.0	----
Isobutyl mercaptan	513-44-0	E630	4	ppbv	<4.0	----
Isopropyl mercaptan	75-33-2	E630	4	ppbv	<4.0	----
Methyl mercaptan	74-93-1	E630	4	ppbv	<4.0	----
Methylthiophene, 2-	554-14-3	E630	4	ppbv	<4.0	----
Methylthiophene, 3-	616-44-4	E630	4	ppbv	<4.0	----
n-Butyl mercaptan	109-79-5	E630	4	ppbv	<4.0	----
Propyl mercaptan	107-03-9	E630	4	ppbv	<4.0	----
sec-butyl mercaptan + thiophene	----	E630	6	ppbv	<6.0	----
t-Butyl mercaptan	75-66-1	E630	4	ppbv	<4.0	----
Tetrahydrothiophene	110-01-0	E630	4	ppbv	<4.0	----
Permanent Gases (QCLot: 2364622)						
Methane	74-82-8	E629B-H	0.05	%	<0.050	----

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: **Air**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Sulfur Compounds (QCLot: 2360647)									
Carbonyl sulfide	463-58-1	E630	4	ppbv	104 ppbv	88.7	60.0	140	----
Hydrogen sulfide	7783-06-4	E630	4	ppbv	112 ppbv	106	60.0	140	----
Methyl mercaptan	74-93-1	E630	4	ppbv	101 ppbv	103	60.0	140	----
Permanent Gases (QCLot: 2364622)									
Methane	74-82-8	E629B-H	0.05	%	15 %	103	70.0	130	----

60 NORTHLAND ROAD, UNIT 1
WATERLOO, ON N2V 2B8
Phone: (519) 886-6910
Fax: (519) 886-9047
Toll Free: 1-800-668-9878

AIR QUALITY CHAIN OF CUSTODY FORM - Canister/Tube/Gas Bag

Note: All TAT Quoted is in **business days** which exclude statutory holidays and weekends. TAT of samples received **past 3:00 pm or Saturday / Sunday** begin the next day.

DATE REQUIRED

SERVICE REQUESTED
- 10 day (regular) ☐
- Rush 5 day (50%) ☑
- Rush 3 day (100%) ☑
- Rush 2 day (200%) ☐
- Rush 1 day (300%) - Enquire ☐

All rush work requires lab approval before sample submission

COMPANY NAME	TETRA TECH CANADA INC.
OFFICE	CALGARY
PROJECT MANAGER	CARL WU
PROJECT #	704-ENV.GENV03704-02
PHONE	587-830-1121
FAX	
ACCOUNT #	VA24-EBAE100-013
QUOTATION #	
PO #	

REGULATION
CRITERIA
OTHER INFORMATION

REPORT FORMAT/DISTRIBUTION
EMAIL ✓ FAX ____ BOTH ____
SELECT: PDF ____ DIGITAL ____ BOTH ✓
EMAIL 1 carl.wu@tetratech.com
EMAIL 2 thom.kolb@tetratech.com

SUBMISSION #:
ENTERED BY:
DATE/TIME ENTERED:
BIN #:

SAMPLING INFORMATION

Sample Date/Time: Date (dd-mmm-yy)	Time (24hr) (hh:mm)	Canister or Tube ID# (e.g. 060000-XXXX or G0XXXXXXSVI)	Regulator Serial # CS1200-XXXX or GXX	Matrix Type	SAMPLE DESCRIPTION TO APPEAR ON REPORT	TUBE AIR VOLUME - L ☐ or m³ ☐	METHANE SG29M / FULL SULFUR SCAN SG30	STARTING PRESSURE - Pre-Sampling ("Hg)	ENDING PRESSURE - Post Sampling ("Hg)	COLLECTION TIME (HRS) MINUTES	Field Conditions (Rain/Wind/Dust/Odour) Field PID Reading	LAB ID
25-NOV-25	13:17	01400-0351	G457	SG	MW25-04		✓	27	6	4	COLD, SUNNY, 0 ppm	

Environmental Division
Fort St. John
Work Order Reference
FJ2503633

Telephone : +1 250 261 5617

FJAE Shipping & Receiving
Call Out
Expedite
Priority
1 # of Coolers
# of Carboys
Air
Ground

Rush Samples

SPECIAL INSTRUCT

This Chain of Custody Form is only to be used for Air Quality Samples

Gas Vapour = SG
Indoor Air = IA
Ambient Air = AA
Industrial Hygiene = IH

SAMPLE CONDITION AS RECEIVED
- FROZEN ☐
- COLD ☐
- COOLING INITIATED ☐
- AMBIENT ☐

MEAN TEMP

SAMPLED BY:	TK [redacted]	DATE & TIME	11/25/2025 13:07	RECEIVED BY:	DATE & TIME
RELINQUISHED BY	TK [redacted]	DATE & TIME	11/26/2025 14:38	RECEIVED AT LAB BY: [redacted]	17.8 C NOV 25/25 2.45 PM

OBSERVATIONS Yes ☐ No ☐ If yes add SIF

INIT

Notes

1. Quote number must be provided to ensure proper pricing.
2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.
3. Any known or suspected hazards relating to a sample must be noted on the chain of custody in comment section.

REV6-2015

CERTIFICATE OF ANALYSIS

Work Order	: **FJ2503634**		
Client	: **Tetra Tech Canada Inc.**	Laboratory	: ALS Environmental - Fort St. John
Contact	: Carl Wu	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE Calgary Alberta Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John BC Canada V1J 6P3
Telephone	: ----	E-mail	: Brent.Mack@ALSGlobal.com
Project	: 704-ENW.GENV03704-02	Telephone	: 778-370-3279
PO	: ----	Date Samples Received	: 25-Nov-2025 15:45
C-O-C number	: 20-965712	Date Analysis Commenced	: 27-Nov-2025
Sampler	: Thom Kolb	Issue Date	: 02-Dec-2025 17:38
Site	: ----		
Quote number	: VA24-EBAE100-013		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
- Surrogate Control Limits

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*
Dan Gebert	Supervisor - Metals Mercury & Speciation	Metals, Burnaby, British Columbia
David Tremblett	VOC Section Supervisor	Air Quality, Waterloo, Ontario
Kim Jensen	Department Manager - Metals	Organics, Burnaby, British Columbia
Lia Xie	Lab Assistant	Inorganics, Burnaby, British Columbia
Lindsay Gung	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Monica Ko	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Ophelia Chiu	Department Manager - Organics	Organics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Robert Nguyen	Analyst	Metals, Burnaby, British Columbia
Ruth Wahyudi	Lab Assistant	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 units
% T/cm	% transmittance per centimetre
AU/cm	absorbance units per centimetre
CU	colour units (1 cu = 1 mg/l pt)
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: 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.

Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.
DLCI	Detection Limit Raised: Chromatographic interference due to co-elution.
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).

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:25	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FJ2503634-001	----	----	----	----
						Result	----	----	----	----
Sample Preparation										
Dissolved carbon filtration location	----	EP358/VA	-	-		field	----	----	----	----
Physical Tests										
Absorbance, UV (@ 254nm)	----	E404/VA	0.0050	AU/cm		0.0930	----	----	----	----
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		912	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		31.4	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		15.7	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		943	----	----	----	----
Colour, true	----	E329/VA	5.0	CU		<5.0	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm		1740	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L		129	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		127	----	----	----	----
pH	----	E108/VA	0.10	pH units		8.47	----	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L		1150	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU		42.2	----	----	----	----
Transmittance, UV (@ 254nm)	----	E404/VA	1.0	% T/cm		80.7	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		1.17	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L		<0.500 DLDS	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		37.1	----	----	----	----
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L		0.926	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: MW25-04 ----	----	----	----	----
					Client sampling date / time: 25-Nov-2025 13:25	----	----	----	----
					FJ2503634-001	----	----	----	----
					Result	----	----	----	----
Anions and Nutrients									
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0500 DLDS	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0100 DLDS	----	----	----	----
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L	1.37	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0883	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	28.2	----	----	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	<0.0050	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	3.86	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	4.89	----	----	----	----
Total Sulfides									
Sulfide, total (as H2S)	7783-06-4	E395-H/VA	0.011	mg/L	<0.011	----	----	----	----
Sulfide, total (as S)	18496-25-8	E395-H/VA	0.010	mg/L	<0.010	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	1.05	----	----	----	----
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00321	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0336	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.667	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L	<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L	<0.000100 DLA	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L	0.323	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:25	----	----	----	----
						FJ2503634-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		0.0000513	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		21.3	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000281	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		0.00166	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00125	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.00379	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		1.40	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.00122	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0126	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		18.0	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0469	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		0.0000073	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.0143	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00676	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		<0.100 DLA	----	----	----	----
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		2.81	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00325	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.00158	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		5.01	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		0.000026	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		381	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: MW25-04 ----	----	----	----	----
					Client sampling date / time: 25-Nov-2025 13:25	----	----	----	----
					FJ2503634-001	----	----	----	----
					Result	----	----	----	----
Total Metals									
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.387	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	11.3	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L	<0.00040 DLA	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L	0.000027	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	0.00025	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00020 DLA	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	<0.0186 DLM	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	<0.00020 DLA	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00276	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00348	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0072	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00050	----	----	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0046	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00370	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.0335	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.604	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L	<0.000100	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L	<0.000100 DLA	----	----	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L	0.344	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	<0.0000150 DLM	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:25	----	----	----	----
						FJ2503634-001	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		22.3	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		0.000080	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L		<0.00100 DLA	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L		0.00075	----	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L		0.00055	----	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		<0.020 DLA	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		<0.000100 DLA	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		0.0131	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		17.8	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.0339	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L		0.0159	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L		0.00502	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L		<0.100 DLA	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		2.80	----	----	----	----
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00199	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		0.00155	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		3.88	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L		<0.000020 DLA	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		418	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.420	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: MW25-04 ----	----	----	----	----
					Client sampling date / time: 25-Nov-2025 13:25	----	----	----	----
					FJ2503634-001	----	----	----	----
					Result	----	----	----	----
Dissolved Metals									
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L	12.2	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L	<0.00040 DLA	----	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L	<0.000020 DLA	----	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L	<0.00020 DLA	----	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L	<0.00020 DLA	----	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L	<0.00060 DLA	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	<0.00020 DLA	----	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00277	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L	<0.00100 DLA	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L	<0.0020 DLA	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00047	----	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-	Field	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-	Field	----	----	----	----
Dissolved Gases									
Methane	74-82-8	E614/WT	5.0	µg/L	<5.0	----	----	----	----
Volatile Organic Compounds									
Chlorobenzene	108-90-7	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Chloromethane	74-87-3	E611C/VA	5.0	µg/L	<5.0	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.50	µg/L	<0.50	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: MW25-04 ----	----	----	----	----
					Client sampling date / time: 25-Nov-2025 13:25	----	----	----	----
					FJ2503634-001	----	----	----	----
					Result	----	----	----	----
Volatile Organic Compounds									
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.75	µg/L	<0.75	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.20	µg/L	<0.20	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Trichlorofluoromethane	75-69-4	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Volatile Organic Compounds [Drycleaning]									
Carbon tetrachloride	56-23-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Chloroethane	75-00-3	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloroethane, 1,1-	75-34-3	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dichloromethane	75-09-2	E611C/VA	1.0	µg/L	<1.0	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Tetrachloroethylene	127-18-4	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611C/VA	0.40	µg/L	<0.40	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: MW25-04 ----	----	----	----	----
					Client sampling date / time: 25-Nov-2025 13:25	----	----	----	----
					FJ2503634-001	----	----	----	----
					Result	----	----	----	----
Volatile Organic Compounds [Fuels]									
Benzene	71-43-2	E611C/VA	0.50	µg/L	1.82	----	----	----	----
Ethylbenzene	100-41-4	E611C/VA	0.50	µg/L	1.86	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Styrene	100-42-5	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Toluene	108-88-3	E611C/VA	0.40	µg/L	17.2	----	----	----	----
Xylene, m+p-	179601-23-1	E611C/VA	0.40	µg/L	7.41	----	----	----	----
Xylene, o-	95-47-6	E611C/VA	0.30	µg/L	4.03	----	----	----	----
Xylenes, total	1330-20-7	E611C/VA	0.50	µg/L	11.4	----	----	----	----
Volatile Organic Compounds [THMs]									
Bromodichloromethane	75-27-4	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Bromoform	75-25-2	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Chloroform	67-66-3	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Dibromochloromethane	124-48-1	E611C/VA	0.50	µg/L	<0.50	----	----	----	----
Hydrocarbons									
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L	<100	----	----	----	----
VPHw	----	EC580A/VA	100	µg/L	<100	----	----	----	----
Hydrocarbons Surrogates									
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%	80.7	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611C/VA	1.0	%	86.7	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611C/VA	1.0	%	101	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:25	----	----	----	----
						FJ2503634-001	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		0.012	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.037 DLCI	----	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L		0.026	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L		0.044	----	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L		0.385	----	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L		0.031	----	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L		0.026	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L		<0.050	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

					Client sample ID	MW25-04 ----	----	----	----	----
					Client sampling date / time	25-Nov-2025 13:25	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FJ2503634-001	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/VA	0.1	%		103	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%		101	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%		106	----	----	----	----

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **FJ2503634**	Page	: 1 of 15
Client	: **Tetra Tech Canada Inc.**	Laboratory	: ALS Environmental - Fort St. John
Contact	: Carl Wu	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John, British Columbia Canada V1J 6P3
Telephone	: ----	Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02	Date Samples Received	: 25-Nov-2025 15:45
PO	: ----	Issue Date	: 02-Dec-2025 17:38
C-O-C number	: 20-965712		
Sampler	: Thom Kolb		
Site	: ----		
Quote number	: VA24-EBAE100-013		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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 Method Blank value outliers occur.
No Duplicate outliers occur.
No Matrix Spike outliers occur.
Laboratory Control Sample (LCS) 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

No Quality Control Sample Frequency Outliers occur.

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
Laboratory Control Sample (LCS) Recoveries								
Total Metals	QC-2361202-002	----	Uranium, total	7440-61-1	E420	121 % MES	80.0-120%	Recovery greater than upper control limit

Result Qualifiers

Qualifier	*Description*
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

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 : Analytical Method / 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) MW25-04	E298	25-Nov-2025	28-Nov-2025	28 days	3 days	✓	01-Dec-2025	28 days	3 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE MW25-04	E235.Br-L	25-Nov-2025	27-Nov-2025	28 days	2 days	✓	27-Nov-2025	28 days	2 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW25-04	E235.Cl	25-Nov-2025	27-Nov-2025	28 days	2 days	✓	27-Nov-2025	28 days	2 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW25-04	E235.F	25-Nov-2025	27-Nov-2025	28 days	2 days	✓	27-Nov-2025	28 days	2 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE MW25-04	E235.NO3-L	25-Nov-2025	27-Nov-2025	3 days	2 days	✓	27-Nov-2025	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE MW25-04	E235.NO2-L	25-Nov-2025	27-Nov-2025	3 days	2 days	✓	27-Nov-2025	3 days	2 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW25-04	E235.SO4	25-Nov-2025	27-Nov-2025	28 days	2 days	✓	27-Nov-2025	28 days	2 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / 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 Nitrogen by Colourimetry										
Amber glass total (sulfuric acid)										
MW25-04	E366	25-Nov-2025	28-Nov-2025	28 days	3 days	✓	29-Nov-2025	28 days	3 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid)										
MW25-04	E372-U	25-Nov-2025	28-Nov-2025	28 days	3 days	✓	28-Nov-2025	28 days	3 days	✓
Cyanides : Total Cyanide										
Opaque HDPE - total (sodium hydroxide)										
MW25-04	E333	25-Nov-2025	27-Nov-2025	14 days	2 days	✓	27-Nov-2025	14 days	2 days	✓
Dissolved Gases : Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MW25-04	E614	25-Nov-2025	----	----	----		02-Dec-2025	14 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved)										
MW25-04	E509	25-Nov-2025	29-Nov-2025	28 days	4 days	✓	29-Nov-2025	28 days	4 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved)										
MW25-04	E421	25-Nov-2025	29-Nov-2025	180 days	4 days	✓	30-Nov-2025	180 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate)										
MW25-04	E581.VH+F1	25-Nov-2025	27-Nov-2025	14 days	2 days	✓	28-Nov-2025	14 days	2 days	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass - dissolved (field filtered/sulfuric acid)										
MW25-04	E358-L	25-Nov-2025	28-Nov-2025	28 days	3 days	✓	28-Nov-2025	28 days	3 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid)										
MW25-04	E355-L	25-Nov-2025	28-Nov-2025	28 days	3 days	✓	28-Nov-2025	28 days	3 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / 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 : Alkalinity Species by Titration										
HDPE										
MW25-04	E290	25-Nov-2025	27-Nov-2025	14 days	2 days	✓	27-Nov-2025	14 days	2 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE										
MW25-04	E329	25-Nov-2025	27-Nov-2025	3 days	2 days	✓	27-Nov-2025	3 days	2 days	✓
Physical Tests : Conductivity in Water										
HDPE										
MW25-04	E100	25-Nov-2025	27-Nov-2025	28 days	2 days	✓	27-Nov-2025	28 days	2 days	✓
Physical Tests : pH by Meter										
HDPE										
MW25-04	E108	25-Nov-2025	27-Nov-2025	0.25 hrs	54 hrs	× EHTR-FM	27-Nov-2025	0.25 hrs	54 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry										
HDPE										
MW25-04	E162	25-Nov-2025	----	----	----		01-Dec-2025	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE										
MW25-04	E121	25-Nov-2025	----	----	----		28-Nov-2025	3 days	3 days	✓
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE										
MW25-04	E404	25-Nov-2025	----	----	----		28-Nov-2025	3 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate)										
MW25-04	E641A	25-Nov-2025	29-Nov-2025	14 days	4 days	✓	01-Dec-2025	40 days	2 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved)										
MW25-04	E508	25-Nov-2025	01-Dec-2025	28 days	6 days	✓	01-Dec-2025	28 days	6 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
MW25-04	E420	25-Nov-2025	29-Nov-2025	180 days	4 days	✓	30-Nov-2025	180 days	4 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
MW25-04	E395-H	25-Nov-2025	----	----	----		27-Nov-2025	7 days	2 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MW25-04	E611C	25-Nov-2025	27-Nov-2025	14 days	2 days	✓	28-Nov-2025	14 days	2 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

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)							
Conductivity in Water	E100	2359775	1	5	20.0	5.0	✓
pH by Meter	E108	2359773	1	5	20.0	5.0	✓
Turbidity by Nephelometry	E121	2360191	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2364011	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2359779	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	2359778	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	2359777	1	8	12.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2359781	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2359780	1	8	12.5	5.0	✓
Sulfate in Water by IC	E235.SO4	2359782	1	8	12.5	5.0	✓
Alkalinity Species by Titration	E290	2359774	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	2360320	1	20	5.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2359784	1	1	100.0	5.0	✓
Total Cyanide	E333	2359771	1	13	7.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2360317	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2360316	1	15	6.6	5.0	✓
Total Nitrogen by Colourimetry	E366	2360318	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2360319	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2359734	1	2	50.0	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	2360197	1	3	33.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2361202	1	18	5.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2361244	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	2364397	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2361818	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	2359945	1	5	20.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2359946	1	8	12.5	5.0	✓
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614	2364621	1	2	50.0	4.5	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2359775	1	5	20.0	5.0	✓
pH by Meter	E108	2359773	1	5	20.0	5.0	✓
Turbidity by Nephelometry	E121	2360191	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2364011	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2359779	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	2359778	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	2359777	1	8	12.5	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*
Laboratory Control Samples (LCS) - Continued							
Nitrite in Water by IC (Low Level)	E235.NO2-L	2359781	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2359780	1	8	12.5	5.0	✓
Sulfate in Water by IC	E235.SO4	2359782	1	8	12.5	5.0	✓
Alkalinity Species by Titration	E290	2359774	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	2360320	1	20	5.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2359784	1	1	100.0	5.0	✓
Total Cyanide	E333	2359771	1	13	7.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2360317	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2360316	1	15	6.6	5.0	✓
Total Nitrogen by Colourimetry	E366	2360318	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2360319	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2359734	1	2	50.0	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	2360197	1	3	33.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2361202	1	18	5.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2361244	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	2364397	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2361818	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	2359945	1	5	20.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2359946	1	8	12.5	5.0	✓
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614	2364621	1	2	50.0	4.5	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2361899	1	8	12.5	5.0	✓
Method Blanks (MB)							
Conductivity in Water	E100	2359775	1	5	20.0	5.0	✓
Turbidity by Nephelometry	E121	2360191	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2364011	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2359779	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	2359778	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	2359777	1	8	12.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2359781	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2359780	1	8	12.5	5.0	✓
Sulfate in Water by IC	E235.SO4	2359782	1	8	12.5	5.0	✓
Alkalinity Species by Titration	E290	2359774	1	5	20.0	5.0	✓
Ammonia by Fluorescence	E298	2360320	1	20	5.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2359784	1	1	100.0	5.0	✓
Total Cyanide	E333	2359771	1	13	7.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2360317	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2360316	1	15	6.6	5.0	✓
Total Nitrogen by Colourimetry	E366	2360318	1	8	12.5	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							
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2360319	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2359734	1	2	50.0	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	2360197	1	3	33.3	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2361202	1	18	5.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2361244	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	2364397	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2361818	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	2359945	1	5	20.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2359946	1	8	12.5	5.0	✓
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614	2364621	1	2	50.0	4.5	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2361899	1	8	12.5	5.0	✓
Matrix Spikes (MS)							
Bromide in Water by IC (Low Level)	E235.Br-L	2359779	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	2359778	1	8	12.5	5.0	✓
Fluoride in Water by IC	E235.F	2359777	1	8	12.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2359781	1	8	12.5	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2359780	1	8	12.5	5.0	✓
Sulfate in Water by IC	E235.SO4	2359782	1	8	12.5	5.0	✓
Ammonia by Fluorescence	E298	2360320	1	20	5.0	5.0	✓
Total Cyanide	E333	2359771	1	13	7.6	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2360317	1	15	6.6	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2360316	1	15	6.6	5.0	✓
Total Nitrogen by Colourimetry	E366	2360318	1	8	12.5	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2360319	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2359734	1	2	50.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2361202	1	18	5.5	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2361244	1	17	5.8	5.0	✓
Total Mercury in Water by CVAAS	E508	2364397	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2361818	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	2359945	1	5	20.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2359946	1	8	12.5	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TDS by Gravimetry	E162 ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Colour (True) by Spectrometer (5 CU)	E329 ALS Environmental - Vancouver	Water	APHA 2120 C (mod)	Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Cyanide	E333 ALS Environmental - Vancouver	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove carbonate-based Inorganic Carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. Forms of carbon associated with inorganic or organic molecules (e.g. SCN and CN) are included in NPOC if they are not removed by purging under acidic conditions. Notably, NPOC excludes most volatile organic compounds and free cyanide. For samples where the majority of Total Carbon is inorganic, this method provides greater accuracy and reliability versus the TOC by subtraction method (TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	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 Nitrogen by Colourimetry	E366 ALS Environmental - Vancouver	Water	Chinchilla Scientific Nitrate Method, 2011	Following digestion, total nitrogen is is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Sulfide by Colourimetry (Automated Flow)	E395-H ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methylene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulfide as (S2-) and reports it as Total Sulfide as (H2S)
UV Absorbance and Transmittance by Spectrometry	E404 ALS Environmental - Vancouver	Water	APHA 5910 B (mod)	UV Absorbance is determined by first filtering a sample through a 0.45 micron filter, followed by UV absorbance measurement in a quartz cell at 254 nm. The analysis is carried out without pH adjustment.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
VOCs (BC List) by Headspace GC-MS	E611C ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Total Xylenes is the sum of m,p-Xylene & o-Xylene. Total BTEX is the sum of Benzene, Toluene, Ethylbenzene, & Total Xylenes. Total BTEX+Styrene is the sum of Total BTEX & Styrene. Total Trihalomethanes [THMs] is the sum of Bromodichloromethane, Bromoform, Chloroform, & Dibromochloromethane.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614 ALS Environmental - Waterloo	Water	EPA Region 1, Natatten.WPD, Rev. 1	Dissolved Hydrocarbon gases are analyzed by static headspace GC/FID. Resulting concentrations are expressed as µg/L of dissolved gas in water.
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large-volume injection (LVI) GC-MS. Totals and sub-totals (e.g., PAH, low and high MW PAHs) are reported as the sum of the individual target compounds detected; the detection limit for any sum is calculated by the root-sum-of-squares (RSS) of the individual analyte limits (per CCME Vol. 4 Analytical Methods). Benzo[a]pyrene total potency equivalents (B[a]P-TEQ/TPEQ) are calculated in accordance with CCME using the published potency-equivalency factors; non-detects are assigned one-half of the limit of reporting (LOR) in the TEQ calculation.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in $CaCO_3$ 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 (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed as $CaCO_3$ 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 hardness is a property of water due to dissolved divalent cations. In non-turbid waters, Hardness from total Ca/Mg is normally comparable to Dissolved Hardness, but may be biased high if particulate forms of Ca or Mg are present.
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **FJ2503634**	Page	: 1 of 24
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Carl Wu	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John, British Columbia Canada V1J 6P3
Telephone	: ----	Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02	Date Samples Received	: 25-Nov-2025 15:45
PO	: ----	Date Analysis Commenced	: 27-Nov-2025
C-O-C number	: 20-965712	Issue Date	: 02-Dec-2025 17:38
Sampler	: Thom Kolb		
Site	: ----		
Quote number	: VA24-EBAE100-013		
No. of samples received	: 1		
No. of samples analysed	: 1		

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*
Dan Gebert	Supervisor - Metals Mercury & Speciation	Vancouver Metals, Burnaby, British Columbia
David Tremblett	VOC Section Supervisor	Waterloo Air Quality, Waterloo, Ontario
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Robert Nguyen	Analyst	Vancouver Metals, Burnaby, British Columbia
Ruth Wahyudi	Lab Assistant	Vancouver Metals, Burnaby, British Columbia

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

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: 2359773)											
FJ2503634-001	MW25-04	pH	----	E108	0.10	pH units	8.47	8.46	0.118%	4%	----
Physical Tests (QC Lot: 2359774)											
FJ2503634-001	MW25-04	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	912	916	0.492%	200%	----
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	31.4	31.2	0.639%	200%	----
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	----
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	15.7	15.6	0.639%	20%	----
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	943	948	0.455%	20%	----
Physical Tests (QC Lot: 2359775)											
FJ2503634-001	MW25-04	Conductivity	----	E100	2.0	µS/cm	1740	1740	0.0574%	10%	----
Physical Tests (QC Lot: 2359784)											
FJ2503634-001	MW25-04	Colour, true	----	E329	5.0	CU	<5.0	<5.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 2360191)											
FJ2503634-001	MW25-04	Turbidity	----	E121	0.10	NTU	42.2	42.1	0.237%	15%	----
Physical Tests (QC Lot: 2360197)											
FJ2503634-001	MW25-04	Absorbance, UV (@ 254nm)	----	E404	0.0050	AU/cm	0.0930	0.0930	0.00%	20%	----
Physical Tests (QC Lot: 2364011)											
FJ2503634-001	MW25-04	Solids, total dissolved [TDS]	----	E162	20	mg/L	1150	1030	10.9%	20%	----
Anions and Nutrients (QC Lot: 2359777)											
FJ2503634-001	MW25-04	Fluoride	16984-48-8	E235.F	0.200	mg/L	0.926	0.923	0.003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2359778)											
FJ2503634-001	MW25-04	Chloride	16887-00-6	E235.Cl	5.00	mg/L	37.1	37.0	0.19	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2359779)											
FJ2503634-001	MW25-04	Bromide	24959-67-9	E235.Br-L	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2359780)											
FJ2503634-001	MW25-04	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	<0.0500	<0.0500	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2359781)											
FJ2503634-001	MW25-04	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2359782)											
FJ2503634-001	MW25-04	Sulfate (as SO4)	14808-79-8	E235.SO4	3.00	mg/L	28.2	28.4	0.13	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: 2360318)											
FJ2503634-001	MW25-04	Nitrogen, total	7727-37-9	E366	0.030	mg/L	1.37	1.35	1.81%	20%	----
Anions and Nutrients (QC Lot: 2360319)											
FJ2503634-001	MW25-04	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0883	0.0884	0.0905%	20%	----
Anions and Nutrients (QC Lot: 2360320)											
FJ2503634-001	MW25-04	Ammonia, total (as N)	7664-41-7	E298	0.0250	mg/L	1.17	1.18	1.16%	20%	----
Cyanides (QC Lot: 2359771)											
FJ2503634-001	MW25-04	Cyanide, strong acid dissociable (Total)	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 2360316)											
FJ2503634-001	MW25-04	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	3.86	4.00	0.15	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 2360317)											
VA25D1669-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	1.08	1.12	0.05	Diff <2x LOR	----
Total Sulfides (QC Lot: 2359734)											
FJ2503634-001	MW25-04	Sulfide, total (as S)	18496-25-8	E395-H	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Total Metals (QC Lot: 2361202)											
FJ2503634-001	MW25-04	Aluminum, total	7429-90-5	E420	0.0060	mg/L	1.05	1.25	17.5%	20%	----
		Antimony, total	7440-36-0	E420	0.00020	mg/L	0.00321	0.00330	2.94%	20%	----
		Arsenic, total	7440-38-2	E420	0.00020	mg/L	0.0336	0.0359	6.65%	20%	----
		Barium, total	7440-39-3	E420	0.00020	mg/L	0.667	0.695	4.12%	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	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.020	mg/L	0.323	0.330	2.00%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	0.0000513	0.0000534	0.0000021	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.100	mg/L	21.3	21.1	1.18%	20%	----
		Cesium, total	7440-46-2	E420	0.000020	mg/L	0.000281	0.000315	11.2%	20%	----
		Chromium, total	7440-47-3	E420	0.00100	mg/L	0.00166	0.00195	0.00029	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00020	mg/L	0.00125	0.00133	0.00007	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00100	mg/L	0.00379	0.00419	0.00040	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.020	mg/L	1.40	1.45	3.42%	20%	----
		Lead, total	7439-92-1	E420	0.000100	mg/L	0.00122	0.00130	6.80%	20%	----
		Lithium, total	7439-93-2	E420	0.0020	mg/L	0.0126	0.0128	0.0003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0100	mg/L	18.0	18.6	3.07%	20%	----
		Manganese, total	7439-96-5	E420	0.00020	mg/L	0.0469	0.0490	4.40%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.0143	0.0151	5.37%	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: 2361202) - continued											
FJ2503634-001	MW25-04	Nickel, total	7440-02-0	E420	0.00100	mg/L	0.00676	0.00699	0.00022	Diff <2x LOR	----
		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	2.81	3.05	8.32%	20%	----
		Rubidium, total	7440-17-7	E420	0.00040	mg/L	0.00325	0.00382	0.00057	Diff <2x LOR	----
		Selenium, total	7782-49-2	E420	0.000100	mg/L	0.00158	0.00151	4.21%	20%	----
		Silicon, total	7440-21-3	E420	0.20	mg/L	5.01	5.73	13.5%	20%	----
		Silver, total	7440-22-4	E420	0.000020	mg/L	0.000026	0.000030	0.000004	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.100	mg/L	381	401	5.32%	20%	----
		Strontium, total	7440-24-6	E420	0.00040	mg/L	0.387	0.402	3.87%	20%	----
		Sulfur, total	7704-34-9	E420	1.00	mg/L	11.3	11.7	3.07%	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	0.000027	0.000030	0.000003	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00020	mg/L	0.00025	0.00029	0.00004	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	0.0243	mg/L	<0.0186	<0.0243	0.00570	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	0.00276	0.00292	5.61%	20%	----
		Vanadium, total	7440-62-2	E420	0.00100	mg/L	0.00348	0.00415	0.00067	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0060	mg/L	0.0072	0.0082	0.0010	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	0.00050	0.00091	0.00041	Diff <2x LOR	----
Total Metals (QC Lot: 2364397)											
FJ2503634-001	MW25-04	Mercury, total	7439-97-6	E508	0.0000050	mg/L	0.0000073	0.0000056	0.0000017	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2361244)											
FJ2503634-001	MW25-04	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.0046	0.0051	0.0005	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	0.00370	0.00383	3.46%	20%	----
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.0335	0.0339	1.31%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.604	0.609	0.861%	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	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.020	mg/L	0.344	0.356	3.70%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000150	mg/L	<0.0000150	<0.0000150	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.100	mg/L	22.3	22.3	0.0593%	20%	----
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.000080	0.000090	0.000010	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00100	mg/L	<0.00100	<0.00100	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: 2361244) - continued											
FJ2503634-001	MW25-04	Cobalt, dissolved	7440-48-4	E421	0.00020	mg/L	0.00075	0.00080	0.00005	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	0.00055	0.00056	0.000008	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	----
		Lithium, dissolved	7439-93-2	E421	0.0020	mg/L	0.0131	0.0133	0.0003	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	17.8	18.7	5.12%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	0.0339	0.0337	0.644%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.0159	0.0162	1.90%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	0.00502	0.00509	0.00007	Diff <2x LOR	----
		Phosphorus, dissolved	7723-14-0	E421	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	2.80	2.86	1.87%	20%	----
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.00199	0.00198	0.000004	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	0.00155	0.00140	10.4%	20%	----
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	3.88	3.89	0.128%	20%	----
		Silver, dissolved	7440-22-4	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	418	429	2.63%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	0.420	0.435	3.49%	20%	----
		Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	12.2	12.3	0.839%	20%	----
		Tellurium, dissolved	13494-80-9	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	----
		Thallium, dissolved	7440-28-0	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Thorium, dissolved	7440-29-1	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	----
		Tungsten, dissolved	7440-33-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.00277	0.00270	2.68%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0020	mg/L	<0.0020	0.0021	0.0001	Diff <2x LOR	----
		Zirconium, dissolved	7440-67-7	E421	0.00040	mg/L	0.00047	0.00046	0.000009	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2361818)											
FJ2503601-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Dissolved Gases (QC Lot: 2364621)											
FJ2503634-001	MW25-04	Methane	74-82-8	E614	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 2359946)											
FJ2503634-001	MW25-04	Benzene	71-43-2	E611C	0.50	µg/L	1.82	1.73	0.10	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*
Volatile Organic Compounds (QC Lot: 2359946) - continued											
FJ2503634-001	MW25-04	Bromodichloromethane	75-27-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroethane	75-00-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611C	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611C	0.50	µg/L	1.86	1.79	0.06	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611C	0.40	µg/L	17.2	16.7	2.95%	30%	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611C	0.40	µg/L	7.41	7.13	3.81%	30%	----
		Xylene, o-	95-47-6	E611C	0.30	µg/L	4.03	3.83	5.20%	30%	----

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*
Hydrocarbons (QC Lot: 2359945)											
FJ2503634-001	MW25-04	VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0%	30%	----

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: 2359774)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 2359775)						
Conductivity	----	E100	1	µS/cm	1.4	----
Physical Tests (QCLot: 2359784)						
Colour, true	----	E329	5	CU	<5.0	----
Physical Tests (QCLot: 2360191)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 2360197)						
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	<0.0050	----
Physical Tests (QCLot: 2364011)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Anions and Nutrients (QCLot: 2359777)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2359778)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2359779)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 2359780)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2359781)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2359782)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 2360318)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients (QCLot: 2360319)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2360320)						

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 2360320) - continued						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Cyanides (QCLot: 2359771)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon (QCLot: 2360316)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 2360317)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Sulfides (QCLot: 2359734)						
Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	<0.010	----
Total Metals (QCLot: 2361202)						
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	MBRR
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	MBRR
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 2361202) - continued						
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	MBRR
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	MBRR
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: 2364397)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 2361244)						
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	----
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	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 2361244) - continued						
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: 2361818)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Gases (QCLot: 2364621)						
Methane	74-82-8	E614	5	µg/L	<5.0	----
Volatile Organic Compounds (QCLot: 2359946)						
Benzene	71-43-2	E611C	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611C	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	<0.50	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611C	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611C	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611C	5	µg/L	<5.0	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 2359946) - continued						
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611C	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	<0.50	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	<0.20	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611C	0.4	µg/L	<0.40	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	<0.40	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 2359945)						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2361899)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2361899) - continued						
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

Qualifiers

Qualifier	Description
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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2359773)									
pH	----	E108	----	pH units	7 pH units	99.9	98.0	102	----
Physical Tests (QCLot: 2359774)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	93.2	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	101	85.0	115	----
Physical Tests (QCLot: 2359775)									
Conductivity	----	E100	1	µS/cm	147 µS/cm	98.0	90.0	110	----
Physical Tests (QCLot: 2359784)									
Colour, true	----	E329	5	CU	100 CU	103	85.0	115	----
Physical Tests (QCLot: 2360191)									
Turbidity	----	E121	0.1	NTU	200 NTU	100	85.0	115	----
Physical Tests (QCLot: 2360197)									
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	0.693 AU/cm	94.9	85.0	115	----
Transmittance, UV (@ 254nm)	----	E404	----	% T/cm	20.3 % T/cm	108	85.0	115	----
Physical Tests (QCLot: 2364011)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	98.1	85.0	115	----
Anions and Nutrients (QCLot: 2359777)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	96.8	90.0	110	----
Anions and Nutrients (QCLot: 2359778)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2359779)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	102	85.0	115	----
Anions and Nutrients (QCLot: 2359780)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2359781)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.8	90.0	110	----
Anions and Nutrients (QCLot: 2359782)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 2360318)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 2360319)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	98.8	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2360320)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	97.6	85.0	115	----
Cyanides (QCLot: 2359771)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	85.2	80.0	120	----
Organic / Inorganic Carbon (QCLot: 2360316)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	110	80.0	120	----
Organic / Inorganic Carbon (QCLot: 2360317)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	99.3	80.0	120	----
Total Sulfides (QCLot: 2359734)									
Sulfide, total (as H2S)	7783-06-4	E395-H	----	mg/L	0.085 mg/L	98.9	80.0	120	----
Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	0.08 mg/L	99.1	80.0	120	----
Total Metals (QCLot: 2361202)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	108	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	99.8	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	1 mg/L	107	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.25 mg/L	115	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	108	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	110	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	103	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	108	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	107	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	104	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	105	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	105	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	101	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	111	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	101	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	115	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	106	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.25 mg/L	106	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.5 mg/L	105	80.0	120	----
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	97.9	80.0	120	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 2361202) - continued									
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	109	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	110	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	100	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	108	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	98.8	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	103	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	109	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	108	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	103	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	110	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	115	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	103	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	101	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	110	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	# 121	80.0	120	MES
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	108	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	103	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Total Metals (QCLot: 2364397)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	92.8	80.0	120	----
Dissolved Metals (QCLot: 2361244)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	103	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	103	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	108	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	92.5	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	104	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	97.7	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	108	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	98.2	80.0	120	----
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	107	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	104	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	106	80.0	120	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 2361244) - continued									
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	107	80.0	120	----
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	93.5	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	102	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.25 mg/L	102	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.25 mg/L	107	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.5 mg/L	101	80.0	120	----
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	97.5	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	100	80.0	120	----
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	105	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	110	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	98.5	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	110	80.0	120	----
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	107	80.0	120	----
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	106	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	104	80.0	120	----
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	103	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	106	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	99.8	80.0	120	----
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	105	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	107	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	103	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	105	80.0	120	----
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	104	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	96.8	80.0	120	----
Dissolved Gases (QCLot: 2364621)									
Methane	74-82-8	E614	5	µg/L	104 µg/L	86.1	80.0	120	----
Volatile Organic Compounds (QCLot: 2359946)									
Benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	95.7	70.0	130	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	89.9	70.0	130	----
Bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	99.1	70.0	130	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	85.6	70.0	130	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	101	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 2359946) - continued									
Chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	96.6	60.0	140	----
Chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	93.1	70.0	130	----
Chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	86.8	60.0	140	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	94.7	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	99.9	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	100 µg/L	95.1	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	100 µg/L	95.7	70.0	130	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	98.8	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	98.5	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	88.7	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	92.1	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	93.3	70.0	130	----
Dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	93.3	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	101	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	89.2	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	88.9	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	90.9	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	113	70.0	130	----
Styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	94.0	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	92.5	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	91.3	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	87.0	70.0	130	----
Toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	92.5	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	89.5	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	98.3	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	85.2	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	96.0	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	84.0	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	99.2	70.0	130	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	96.3	70.0	130	----
Hydrocarbons (QCLot: 2359945)									
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	102	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2361899)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	106	60.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2361899) - continued									
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	108	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	101	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	94.2	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	92.1	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	91.5	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	130	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	116	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	114	60.0	130	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	113	60.0	130	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	107	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	117	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	104	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	111	60.0	130	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	109	50.0	130	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	107	60.0	130	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	110	60.0	130	----
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	103	60.0	130	----

Qualifiers

Qualifier	Description
MES	*Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).*

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: 2359777)										
FJ2503649-001	Anonymous	Fluoride	16984-48-8	E235.F	0.998 mg/L	1 mg/L	99.8	75.0	125	----
Anions and Nutrients (QCLot: 2359778)										
FJ2503649-001	Anonymous	Chloride	16887-00-6	E235.Cl	104 mg/L	100 mg/L	104	75.0	125	----
Anions and Nutrients (QCLot: 2359779)										
FJ2503649-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.529 mg/L	0.5 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 2359780)										
FJ2503649-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.62 mg/L	2.5 mg/L	105	75.0	125	----
Anions and Nutrients (QCLot: 2359781)										
FJ2503649-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.500 mg/L	0.5 mg/L	100	75.0	125	----
Anions and Nutrients (QCLot: 2359782)										
FJ2503649-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	103 mg/L	100 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 2360318)										
KS2504858-001	Anonymous	Nitrogen, total	7727-37-9	E366	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2360319)										
VA25D1645-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0500 mg/L	0.05 mg/L	99.9	70.0	130	----
Anions and Nutrients (QCLot: 2360320)										
KS2504858-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Cyanides (QCLot: 2359771)										
KS2504828-001	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.234 mg/L	0.25 mg/L	93.5	75.0	125	----
Organic / Inorganic Carbon (QCLot: 2360316)										
VA25D1645-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.07 mg/L	5 mg/L	101	70.0	130	----
Organic / Inorganic Carbon (QCLot: 2360317)										
VA25D1669-002	Anonymous	Carbon, total organic [TOC]	----	E355-L	4.86 mg/L	5 mg/L	97.2	70.0	130	----
Total Sulfides (QCLot: 2359734)										
VA25D1762-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395-H	1.74 mg/L	2 mg/L	87.2	75.0	125	----
Total Metals (QCLot: 2361202)										
KS2504828-001	Anonymous	Aluminum, total	7429-90-5	E420	0.196 mg/L	0.2 mg/L	98.0	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0189 mg/L	0.02 mg/L	94.3	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0203 mg/L	0.02 mg/L	101	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.0396 mg/L	0.04 mg/L	99.1	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: 2361202) - continued										
KS2504828-001	Anonymous	Bismuth, total	7440-69-9	E420	0.00991 mg/L	0.01 mg/L	99.1	70.0	130	----
		Boron, total	7440-42-8	E420	0.098 mg/L	0.1 mg/L	98.1	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00404 mg/L	0.004 mg/L	101	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00974 mg/L	0.01 mg/L	97.4	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0392 mg/L	0.04 mg/L	98.0	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0194 mg/L	0.02 mg/L	97.2	70.0	130	----
		Copper, total	7440-50-8	E420	0.0188 mg/L	0.02 mg/L	94.2	70.0	130	----
		Iron, total	7439-89-6	E420	1.95 mg/L	2 mg/L	97.3	70.0	130	----
		Lead, total	7439-92-1	E420	0.0193 mg/L	0.02 mg/L	96.7	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0940 mg/L	0.1 mg/L	94.0	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130	----
		Molybdenum, total	7439-98-7	E420	ND mg/L	----	ND	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0387 mg/L	0.04 mg/L	96.7	70.0	130	----
		Phosphorus, total	7723-14-0	E420	10.2 mg/L	10 mg/L	102	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0407 mg/L	0.04 mg/L	102	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00386 mg/L	0.004 mg/L	96.6	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.0405 mg/L	0.04 mg/L	101	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	0.0212 mg/L	0.02 mg/L	106	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	0.0392 mg/L	0.04 mg/L	98.1	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.0204 mg/L	0.02 mg/L	102	70.0	130	----
		Uranium, total	7440-61-1	E420	0.00417 mg/L	0.004 mg/L	104	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	----
		Zinc, total	7440-66-6	E420	0.375 mg/L	0.4 mg/L	93.8	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.0406 mg/L	0.04 mg/L	102	70.0	130	----
Total Metals (QCLot: 2364397)										
VA25D1459-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000893 mg/L	0 mg/L	89.3	70.0	130	----
Dissolved Metals (QCLot: 2361244)										
VA25D1668-024	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.195 mg/L	0.2 mg/L	97.3	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0208 mg/L	0.02 mg/L	104	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0207 mg/L	0.02 mg/L	104	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0346 mg/L	0.04 mg/L	86.6	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.00963 mg/L	0.01 mg/L	96.3	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: 2361244) - continued										
VA25D1668-024	Anonymous	Boron, dissolved	7440-42-8	E421	0.090 mg/L	0.1 mg/L	90.1	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00396 mg/L	0.004 mg/L	99.0	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND 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	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0187 mg/L	0.02 mg/L	93.6	70.0	130	----
		Iron, dissolved	7439-89-6	E421	1.91 mg/L	2 mg/L	95.6	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0195 mg/L	0.02 mg/L	97.3	70.0	130	----
		Lithium, dissolved	7439-93-2	E421	0.0827 mg/L	0.1 mg/L	82.7	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	ND mg/L	----	ND	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0370 mg/L	0.04 mg/L	92.4	70.0	130	----
		Phosphorus, dissolved	7723-14-0	E421	9.74 mg/L	10 mg/L	97.4	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Rubidium, dissolved	7440-17-7	E421	0.0188 mg/L	0.02 mg/L	94.0	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0428 mg/L	0.04 mg/L	107	70.0	130	----
		Silicon, dissolved	7440-21-3	E421	ND mg/L	----	ND	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00399 mg/L	0.004 mg/L	99.7	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Sulfur, dissolved	7704-34-9	E421	ND mg/L	----	ND	70.0	130	----
		Tellurium, dissolved	13494-80-9	E421	0.0413 mg/L	0.04 mg/L	103	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.00390 mg/L	0.004 mg/L	97.5	70.0	130	----
		Thorium, dissolved	7440-29-1	E421	0.0193 mg/L	0.02 mg/L	96.6	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0201 mg/L	0.02 mg/L	100	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0380 mg/L	0.04 mg/L	94.9	70.0	130	----
		Tungsten, dissolved	7440-33-7	E421	0.0199 mg/L	0.02 mg/L	99.5	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	ND mg/L	----	ND	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0976 mg/L	0.1 mg/L	97.6	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.395 mg/L	0.4 mg/L	98.9	70.0	130	----
		Zirconium, dissolved	7440-67-7	E421	0.0413 mg/L	0.04 mg/L	103	70.0	130	----
Dissolved Metals (QCLot: 2361818)										
FJ2503602-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000921 mg/L	0 mg/L	92.1	70.0	130	----
Volatile Organic Compounds (QCLot: 2359946)										
VA25D1705-001	Anonymous	Benzene	71-43-2	E611C	93.7 µg/L	100 µg/L	93.7	60.0	140	----
		Bromodichloromethane	75-27-4	E611C	90.0 µg/L	100 µg/L	90.0	60.0	140	----
		Bromoform	75-25-2	E611C	98.4 µg/L	100 µg/L	98.4	60.0	140	----
		Carbon tetrachloride	56-23-5	E611C	81.7 µg/L	100 µg/L	81.7	60.0	140	----
		Chlorobenzene	108-90-7	E611C	97.8 µg/L	100 µg/L	97.8	60.0	140	----
		Chloroethane	75-00-3	E611C	90.4 µg/L	100 µg/L	90.4	50.0	150	----
		Chloroform	67-66-3	E611C	91.7 µg/L	100 µg/L	91.7	60.0	140	----

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
Volatile Organic Compounds (QCLot: 2359946) - continued										
VA25D1705-001	Anonymous	Chloromethane	74-87-3	E611C	79.1 µg/L	100 µg/L	79.1	50.0	150	----
		Dibromochloromethane	124-48-1	E611C	95.7 µg/L	100 µg/L	95.7	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611C	96.8 µg/L	100 µg/L	96.8	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611C	89.1 µg/L	100 µg/L	89.1	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611C	90.1 µg/L	100 µg/L	90.1	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611C	96.2 µg/L	100 µg/L	96.2	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611C	100 µg/L	100 µg/L	100	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611C	82.7 µg/L	100 µg/L	82.7	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611C	90.9 µg/L	100 µg/L	90.9	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611C	86.7 µg/L	100 µg/L	86.7	60.0	140	----
		Dichloromethane	75-09-2	E611C	92.3 µg/L	100 µg/L	92.3	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611C	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	91.5 µg/L	100 µg/L	91.5	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	90.4 µg/L	100 µg/L	90.4	60.0	140	----
		Ethylbenzene	100-41-4	E611C	88.3 µg/L	100 µg/L	88.3	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	108 µg/L	100 µg/L	108	60.0	140	----
		Styrene	100-42-5	E611C	92.6 µg/L	100 µg/L	92.6	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	90.9 µg/L	100 µg/L	90.9	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	92.3 µg/L	100 µg/L	92.3	60.0	140	----
		Tetrachloroethylene	127-18-4	E611C	81.2 µg/L	100 µg/L	81.2	60.0	140	----
		Toluene	108-88-3	E611C	89.4 µg/L	100 µg/L	89.4	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611C	85.8 µg/L	100 µg/L	85.8	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611C	99.6 µg/L	100 µg/L	99.6	60.0	140	----
		Trichloroethylene	79-01-6	E611C	82.6 µg/L	100 µg/L	82.6	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611C	88.3 µg/L	100 µg/L	88.3	50.0	150	----
		Vinyl chloride	75-01-4	E611C	76.5 µg/L	100 µg/L	76.5	50.0	150	----
		Xylene, m+p-	179601-23-1	E611C	188 µg/L	200 µg/L	94.0	60.0	140	----
		Xylene, o-	95-47-6	E611C	93.8 µg/L	100 µg/L	93.8	60.0	140	----
Hydrocarbons (QCLot: 2359945)										
VA25D1484-004	Anonymous	VHw (C6-C10)	----	E581.VH+F1	5870 µg/L	6310 µg/L	93.1	60.0	140	----

Chain of Custody (COC) / Analytical Request Form

ALS www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 965712

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	TETRATECH CANADA INC.
Contact:	CARL WU
Phone:	403 723 1561
	Company address below will appear on the final report
Street:	(140) QUARRY PARK BLVD.
City/Province:	CALGARY, AB
Postal Code:	T2C 3G3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

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

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

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

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: carl.wu@tetratech.com

Email 2: thom.kolb@tetratech.com

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: carl.wu@tetratech.com

Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☑ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☑ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

AFFIX ALS BARCODE LABEL HERE (ALS use only)

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

For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information

ALS Account # / Quote #:

Job #: 704-GNW.GENW03704-02

PO / AFE:

LSD:

ALS Lab Work Order # (ALS use only):

Oil and Gas Required Fields (client use)

AFE/Cost Center: | PO#

Major/Minor Code: | Routing Code:

Requisitioner:

Location:

ALS Contact: | Sampler:

Analysis Request

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

ALS Sample # (ALS 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	TOTAL METALS + Hg	DISS. METALS + Hg (F)	DISSOLVED GASES	ROUTINE + ANIONS	VHW-10, BTEX'S	PAH, DOC	NUTRIENTS	PHYS. TEST + PDS056 + TRANSMIT 254nm	H2S	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW25-04	25-NOV-25	13:25	WATER	19	✓	✓	✓	✓	✓	✓	✓	✓	✓			

Environmental Division
Fort St. John
Work Order Reference
FJ2503634

Telephone : +1 250 261 5517

FJAE Shipping & Receiving
__ Call Out __ Expedite
__ Priority
1 # of Coolers ✓ Air
__ # of Carboys __ Ground

Rush Samples

Drinking Water (DW) S...

...ecify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Are samples taken from a Regulated DW System?

☐ YES ☐ NO

Are samples for human consumption/ use?

☐ YES ☐ NO

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C	FINAL COOLER TEMPERATURES °C
10.1	

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: TK [redacted]	Date: 11/25/2025	Time: 14:35	Received by: [redacted]	Date: Nov 25/25	Time: 2:45	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 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.

ALS www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 965712

Page 1 of 1

Report To	Contact and company name below will appear on the final report
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Contact:	CARL WU
Phone:	403 723 1561
	Company address below will appear on the final report
Street:	140 QUARRY PARK BLVD.
City/Province:	CALGARY, AB
Postal Code:	T2C 3G3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

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

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

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

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: carl.wu@tetratech.com

Email 2: thom.kolb@tetratech.com

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: carl.wu@tetratech.com

Email 2:

Turnaround Time (TAT) Requested

☐ Routine [R] if received by 3pm M-F - no surcharges apply

☑ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

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☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

AFFIX ALS BARCODE LABEL HERE (ALS use only)

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

For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information

ALS Account # / Quote #:

Job #: 704-ENW.GENV03704-02

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 # (ALS use only):

ALS Contact: | Sampler:

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

ALS Sample # (ALS 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	TOTAL METALS + HG	DISS. METALS + Hg (F)	DISSOLVED GASES	ROUTINE + ANIONS	VHW-10, BTEXS	PAH, WOC	NUTRIENTS	PHYS. TEST + PBSDRS + TRANSMIT 254 nm	H2S					SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW25-04	25-NOV-25	13:25	WATER	19	✓	✓	✓	✓	✓	✓	✓	✓	✓							

Environmental Division
Fort St. John
Work Order Reference
FJ2503634

Telephone : +1 250 261 5517

FJAE Shipping & Receiving

__ Call Out __ Expedite

__ Priority

1 # of Coolers ✓ Air

__ # of Carboys __ Ground

Rush Samples

Drinking Water (DW) S[amples]

Are samples taken from a Regulated DW System?

☐ YES ☐ NO

Are samples for human consumption/ use?

☐ YES ☐ NO

[Sp]ecify Limits for result evaluation by selecting from drop-down below (Excel COC only)

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☑ NO

Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☑ N/A

INITIAL COOLER TEMPERATURES °C: 10.1

FINAL COOLER TEMPERATURES °C: 10.9

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: TK [redacted]	Date: 11/25/2025	Time: 14:38	Received by: [redacted]	Date: Nov 25/25	Time: 2:45	Received by: JM	Date: 26/11/25	Time: 10:20 am

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION | WHITE - LABORATORY COPY | YELLOW - CLIENT COPY

AUG 2020 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.

CERTIFICATE OF ANALYSIS

Work Order	:	**FJ2600154**		
Client	:	**Tetra Tech Canada Inc.**	Laboratory	: ALS Environmental - Fort St. John
Contact	:	Carl Wu	Account Manager	: Brent Mack
Address	:	110, 140 Quarry Park Blvd SE Calgary Alberta Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John BC Canada V1J 6P3
Telephone	:	----	E-mail	: Brent.Mack@ALSGlobal.com
Project	:	ENW.GENV03704-02	Telephone	: 778-370-3279
PO	:	----	Date Samples Received	: 22-Jan-2026 11:25
C-O-C number	:	20-965766	Date Analysis Commenced	: 23-Jan-2026
Sampler	:	Thom Kolb	Issue Date	: 30-Jan-2026 17:08
Site	:	----		
Quote number	:	VA24-EBAE100-013		
No. of samples received	:	1		
No. of samples analysed	:	1		

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
- Surrogate Control Limits

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*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Air Quality, Waterloo, Ontario
Hdeep Kaur	Lab Assistant	Inorganics, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Inorganics, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Microbiology, Burnaby, British Columbia
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Monica Ko	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Robin Weeks	Supervisor - Organics Extractions	Organics, Burnaby, British Columbia
Ruth Wahyudi	Lab Assistant	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 units
% T/cm	% transmittance per centimetre
AU/cm	absorbance units per centimetre
CFU/mL	colony forming units per millilitre
CU	colour units (1 cu = 1 mg/l pt)
mg/L	milligrams per litre
MPN/100mL	most probable number per hundred millilitres
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: 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.

Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
						FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Sample Preparation										
Dissolved carbon filtration location	----	EP358/VA	-	-		field	----	----	----	----
Physical Tests										
Absorbance, UV (@ 254nm)	----	E404/VA	0.0050	AU/cm		0.0940	----	----	----	----
Alkalinity, bicarbonate (as CaCO3)	----	E290/VA	1.0	mg/L		927	----	----	----	----
Alkalinity, carbonate (as CaCO3)	----	E290/VA	1.0	mg/L		27.0	----	----	----	----
Alkalinity, hydroxide (as CaCO3)	----	E290/VA	1.0	mg/L		<1.0	----	----	----	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290/VA	1.0	mg/L		13.5	----	----	----	----
Alkalinity, total (as CaCO3)	----	E290/VA	1.0	mg/L		954	----	----	----	----
Colour, true	----	E329/VA	5.0	CU		<5.0	----	----	----	----
Conductivity	----	E100/VA	2.0	µS/cm		1860	----	----	----	----
Hardness (as CaCO3), dissolved	----	EC100/VA	0.60	mg/L		122	----	----	----	----
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/VA	0.60	mg/L		123	----	----	----	----
pH	----	E108/VA	0.10	pH units		8.44	----	----	----	----
Solids, total dissolved [TDS]	----	E162/VA	10	mg/L		1140	----	----	----	----
Solids, total suspended [TSS]	----	E160/VA	3.0	mg/L		<3.0	----	----	----	----
Turbidity	----	E121/VA	0.10	NTU		0.73	----	----	----	----
Transmittance, UV (@ 254nm)	----	E404/VA	1.0	% T/cm		80.5	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/VA	0.0050	mg/L		1.47	----	----	----	----
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L		<0.500 DLDS	----	----	----	----
Chloride	16887-00-6	E235.Cl/VA	0.50	mg/L		38.1	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: LOCATION 4 ----	----	----	----	----
					Client sampling date / time: 22-Jan-2026 10:00	----	----	----	----
					FJ2600154-001	----	----	----	----
					Result	----	----	----	----
Anions and Nutrients									
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.718	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3-L/VA	0.0050	mg/L	<0.0500 DLDS	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2-L/VA	0.0010	mg/L	<0.0100 DLDS	----	----	----	----
Nitrogen, total	7727-37-9	E366/VA	0.030	mg/L	1.52	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/VA	0.0020	mg/L	0.0685	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	50.4	----	----	----	----
Cyanides									
Cyanide, strong acid dissociable (Total)	----	E333/VA	0.0050	mg/L	<0.0050	----	----	----	----
Organic / Inorganic Carbon									
Carbon, dissolved organic [DOC]	----	E358-L/VA	0.50	mg/L	3.74	----	----	----	----
Carbon, total organic [TOC]	----	E355-L/VA	0.50	mg/L	3.76	----	----	----	----
Total Sulfides									
Sulfide, total (as H2S)	7783-06-4	E395-H/VA	0.011	mg/L	<0.011	----	----	----	----
Sulfide, total (as S)	18496-25-8	E395-H/VA	0.010	mg/L	<0.010	----	----	----	----
Microbiological Tests									
Coliforms, thermotolerant [fecal]	----	E010.FC/VA	1	MPN/100 mL	<1	----	----	----	----
Coliforms, total	----	E010/VA	1	MPN/100 mL	<1	----	----	----	----
Heterotrophic plate count [HPC]	----	E020/VA	1	CFU/mL	92	----	----	----	----
Coliforms, Escherichia coli [E. coli]	----	E010/VA	1	MPN/100 mL	<1	----	----	----	----
Total Metals									
Aluminum, total	7429-90-5	E420/VA	0.0030	mg/L	0.0067	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
						FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L		0.00011	----	----	----	----
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L		0.00285	----	----	----	----
Barium, total	7440-39-3	E420/VA	0.00010	mg/L		0.380	----	----	----	----
Beryllium, total	7440-41-7	E420/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, total	7440-69-9	E420/VA	0.000050	mg/L		<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/VA	0.010	mg/L		0.349	----	----	----	----
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Calcium, total	7440-70-2	E420/VA	0.050	mg/L		20.3	----	----	----	----
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L		0.000066	----	----	----	----
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L		0.00024	----	----	----	----
Copper, total	7440-50-8	E420/VA	0.00050	mg/L		0.0119	----	----	----	----
Iron, total	7439-89-6	E420/VA	0.010	mg/L		0.216	----	----	----	----
Lead, total	7439-92-1	E420/VA	0.000050	mg/L		0.00155	----	----	----	----
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L		0.0157	----	----	----	----
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L		17.6	----	----	----	----
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L		0.0217	----	----	----	----
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L		0.00672	----	----	----	----
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L		0.00089	----	----	----	----
Phosphorus, total	7723-14-0	E420/VA	0.050	mg/L		0.086	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
						FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Total Metals										
Potassium, total	7440-09-7	E420/VA	0.050	mg/L		2.57	----	----	----	----
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L		0.00172	----	----	----	----
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L		0.000079	----	----	----	----
Silicon, total	7440-21-3	E420/VA	0.10	mg/L		4.25	----	----	----	----
Silver, total	7440-22-4	E420/VA	0.000010	mg/L		0.000013	----	----	----	----
Sodium, total	7440-23-5	E420/VA	0.050	mg/L		422	----	----	----	----
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L		0.450	----	----	----	----
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L		19.7	----	----	----	----
Tellurium, total	13494-80-9	E420/VA	0.00020	mg/L		<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/VA	0.000010	mg/L		<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/VA	0.00010	mg/L		0.00047	----	----	----	----
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L		<0.00030	----	----	----	----
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L		<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L		0.000468	----	----	----	----
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L		<0.00050	----	----	----	----
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L		0.0512	----	----	----	----
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L		0.00043	----	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L		0.0039	----	----	----	----
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L		<0.00020 DLA	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
						FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L		0.00286	----	----	----	----
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L		0.388	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/VA	0.000100	mg/L		<0.000100	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/VA	0.000050	mg/L		<0.000100 DLA	----	----	----	----
Boron, dissolved	7440-42-8	E421/VA	0.010	mg/L		0.366	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L		<0.0000100 DLA	----	----	----	----
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L		20.8	----	----	----	----
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L		0.000064	----	----	----	----
Chromium, dissolved	7440-47-3	E421/VA	0.00050	mg/L		<0.00100 DLA	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/VA	0.00010	mg/L		0.00021	----	----	----	----
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L		0.00061	----	----	----	----
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L		0.080	----	----	----	----
Lead, dissolved	7439-92-1	E421/VA	0.000050	mg/L		<0.000100 DLA	----	----	----	----
Lithium, dissolved	7439-93-2	E421/VA	0.0010	mg/L		0.0176	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/VA	0.0050	mg/L		17.0	----	----	----	----
Manganese, dissolved	7439-96-5	E421/VA	0.00010	mg/L		0.0208	----	----	----	----
Mercury, dissolved	7439-97-6	E509/VA	0.0000050	mg/L		<0.0000050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/VA	0.000050	mg/L		0.00669	----	----	----	----
Nickel, dissolved	7440-02-0	E421/VA	0.00050	mg/L		<0.00100 DLA	----	----	----	----
Phosphorus, dissolved	7723-14-0	E421/VA	0.050	mg/L		<0.100 DLA	----	----	----	----
Potassium, dissolved	7440-09-7	E421/VA	0.050	mg/L		2.48	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
						FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Rubidium, dissolved	7440-17-7	E421/VA	0.00020	mg/L		0.00168	----	----	----	----
Selenium, dissolved	7782-49-2	E421/VA	0.000050	mg/L		<0.000100 DLA	----	----	----	----
Silicon, dissolved	7440-21-3	E421/VA	0.050	mg/L		4.38	----	----	----	----
Silver, dissolved	7440-22-4	E421/VA	0.000010	mg/L		<0.000020 DLA	----	----	----	----
Sodium, dissolved	7440-23-5	E421/VA	0.050	mg/L		423	----	----	----	----
Strontium, dissolved	7440-24-6	E421/VA	0.00020	mg/L		0.459	----	----	----	----
Sulfur, dissolved	7704-34-9	E421/VA	0.50	mg/L		19.8	----	----	----	----
Tellurium, dissolved	13494-80-9	E421/VA	0.00020	mg/L		<0.00040 DLA	----	----	----	----
Thallium, dissolved	7440-28-0	E421/VA	0.000010	mg/L		<0.000020 DLA	----	----	----	----
Thorium, dissolved	7440-29-1	E421/VA	0.00010	mg/L		<0.00020 DLA	----	----	----	----
Tin, dissolved	7440-31-5	E421/VA	0.00010	mg/L		<0.00020 DLA	----	----	----	----
Titanium, dissolved	7440-32-6	E421/VA	0.00030	mg/L		<0.00060 DLA	----	----	----	----
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L		<0.00020 DLA	----	----	----	----
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L		0.000470	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/VA	0.00050	mg/L		<0.00100 DLA	----	----	----	----
Zinc, dissolved	7440-66-6	E421/VA	0.0010	mg/L		0.0380	----	----	----	----
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L		<0.00040 DLA	----	----	----	----
Dissolved mercury filtration location	----	EP509/VA	-	-		Field	----	----	----	----
Dissolved metals filtration location	----	EP421/VA	-	-		Field	----	----	----	----
Dissolved Gases										
Methane	74-82-8	E614/WT	5.0	µg/L		1020	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
						FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds										
Chlorobenzene	108-90-7	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Chloromethane	74-87-3	E611C/VA	5.0	µg/L		<5.0	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611C/VA	0.75	µg/L		<0.75	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C/VA	0.20	µg/L		<0.20	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Trichlorofluoromethane	75-69-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Volatile Organic Compounds [Drycleaning]										
Carbon tetrachloride	56-23-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Chloroethane	75-00-3	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethane, 1,1-	75-34-3	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dichloromethane	75-09-2	E611C/VA	1.0	µg/L		<1.0	----	----	----	----

Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds [Drycleaning]										
Dichloropropylene, trans-1,3-	10061-02-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Tetrachloroethylene	127-18-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611C/VA	0.40	µg/L		<0.40	----	----	----	----
Volatile Organic Compounds [Fuels]										
Benzene	71-43-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Ethylbenzene	100-41-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Styrene	100-42-5	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Toluene	108-88-3	E611C/VA	0.40	µg/L		<0.40	----	----	----	----
Xylene, m+p-	179601-23-1	E611C/VA	0.40	µg/L		<0.40	----	----	----	----
Xylene, o-	95-47-6	E611C/VA	0.30	µg/L		<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Volatile Organic Compounds [THMs]										
Bromodichloromethane	75-27-4	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Bromoform	75-25-2	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Chloroform	67-66-3	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Dibromochloromethane	124-48-1	E611C/VA	0.50	µg/L		<0.50	----	----	----	----
Hydrocarbons										
VHw (C6-C10)	----	E581.VH+F1/VA	100	µg/L		<100	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	LOCATION 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 10:00	----	----	----	----
						FJ2600154-001	----	----	----	----
						Result	----	----	----	----
Hydrocarbons										
VPHw	----	EC580A/VA	100	µg/L		<100	----	----	----	----
Hydrocarbons Surrogates										
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1/VA	1.0	%		88.3	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611C/VA	1.0	%		89.9	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611C/VA	1.0	%		97.7	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Acridine	260-94-6	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Anthracene	120-12-7	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/VA	0.0050	µg/L		<0.0050	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(b+j+k)fluoranthene	n/a	E641A/VA	0.015	µg/L		<0.015	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Chrysene	218-01-9	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/VA	0.0050	µg/L		<0.0050	----	----	----	----
Fluoranthene	206-44-0	E641A/VA	0.010	µg/L		<0.010	----	----	----	----
Fluorene	86-73-7	E641A/VA	0.010	µg/L		<0.010	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID: LOCATION 4 ----	----	----	----	----
					Client sampling date / time: 22-Jan-2026 10:00	----	----	----	----
					FJ2600154-001	----	----	----	----
					Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons									
Indeno(1,2,3-cd)pyrene	193-39-5	E641A/VA	0.010	µg/L	<0.010	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/VA	0.010	µg/L	<0.010	----	----	----	----
Naphthalene	91-20-3	E641A/VA	0.050	µg/L	<0.050	----	----	----	----
Phenanthrene	85-01-8	E641A/VA	0.020	µg/L	<0.020	----	----	----	----
Pyrene	129-00-0	E641A/VA	0.010	µg/L	<0.010	----	----	----	----
Quinoline	91-22-5	E641A/VA	0.050	µg/L	<0.050	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates									
Chrysene-d12	1719-03-5	E641A/VA	0.1	%	101	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/VA	0.1	%	90.9	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/VA	0.1	%	101	----	----	----	----

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

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **FJ2600154**	Page	: 1 of 16
Client	: **Tetra Tech Canada Inc.**	Laboratory	: ALS Environmental - Fort St. John
Contact	: Carl Wu	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John, British Columbia Canada V1J 6P3
Telephone	: ----	Telephone	: 778-370-3279
Project	: ENW.GENV03704-02	Date Samples Received	: 22-Jan-2026 11:25
PO	: ----	Issue Date	: 30-Jan-2026 17:07
C-O-C number	: 20-965766		
Sampler	: Thom Kolb		
Site	: ----		
Quote number	: VA24-EBAE100-013		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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 Method Blank value outliers occur.
No Duplicate outliers occur.
No Laboratory Control Sample (LCS) outliers occur
No Matrix Spike outliers occur.
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

No Quality Control Sample Frequency Outliers occur.

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 : Analytical Method / 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) LOCATION 4	E298	22-Jan-2026	24-Jan-2026	28 days	2 days	✓	28-Jan-2026	28 days	2 days	✓
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE LOCATION 4	E235.Br-L	22-Jan-2026	25-Jan-2026	28 days	3 days	✓	25-Jan-2026	28 days	3 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE LOCATION 4	E235.Cl	22-Jan-2026	25-Jan-2026	28 days	3 days	✓	25-Jan-2026	28 days	3 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE LOCATION 4	E235.F	22-Jan-2026	25-Jan-2026	28 days	3 days	✓	25-Jan-2026	28 days	3 days	✓
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE LOCATION 4	E235.NO3-L	22-Jan-2026	25-Jan-2026	3 days	3 days	✓	25-Jan-2026	3 days	3 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE LOCATION 4	E235.NO2-L	22-Jan-2026	25-Jan-2026	3 days	3 days	✓	25-Jan-2026	3 days	3 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE LOCATION 4	E235.SO4	22-Jan-2026	25-Jan-2026	28 days	3 days	✓	25-Jan-2026	28 days	3 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / 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 Nitrogen by Colourimetry										
Amber glass total (sulfuric acid) LOCATION 4	E366	22-Jan-2026	24-Jan-2026	28 days	2 days	✓	25-Jan-2026	28 days	2 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) LOCATION 4	E372-U	22-Jan-2026	24-Jan-2026	28 days	2 days	✓	26-Jan-2026	28 days	2 days	✓
Cyanides : Total Cyanide										
Opaque HDPE - total (sodium hydroxide) LOCATION 4	E333	22-Jan-2026	23-Jan-2026	14 days	1 days	✓	23-Jan-2026	14 days	1 days	✓
Dissolved Gases : Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID										
Glass vial (sodium bisulfate) LOCATION 4	E614	22-Jan-2026	----	----	----		29-Jan-2026	14 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial - dissolved (lab preserved) LOCATION 4	E509	22-Jan-2026	27-Jan-2026	28 days	5 days	✓	27-Jan-2026	28 days	5 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE - dissolved (lab preserved) LOCATION 4	E421	22-Jan-2026	26-Jan-2026	180 days	4 days	✓	27-Jan-2026	180 days	4 days	✓
Hydrocarbons : VH and F1 by Headspace GC-FID										
Glass vial (sodium bisulfate) LOCATION 4	E581.VH+F1	22-Jan-2026	26-Jan-2026	14 days	4 days	✓	27-Jan-2026	14 days	4 days	✓
Microbiological Tests : Heterotrophic Plate Count (Pour Plate)										
Sterile HDPE (sodium thiosulfate) LOCATION 4	E020	22-Jan-2026	----	----	----		23-Jan-2026	24 hrs	29 hrs	× EHTL
Microbiological Tests : Thermotolerant (Fecal) Coliform (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) LOCATION 4	E010.FC	22-Jan-2026	----	----	----		23-Jan-2026	30 hrs	28 hrs	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / 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
Microbiological Tests : Total Coliforms and E. coli (Enzyme Substrate)										
Sterile HDPE (sodium thiosulfate) LOCATION 4	E010	22-Jan-2026	----	----	----		23-Jan-2026	30 hrs	28 hrs	✓
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass - dissolved (field filtered/sulfuric acid) LOCATION 4	E358-L	22-Jan-2026	24-Jan-2026	28 days	2 days	✓	24-Jan-2026	28 days	2 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) LOCATION 4	E355-L	22-Jan-2026	24-Jan-2026	28 days	2 days	✓	24-Jan-2026	28 days	2 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE LOCATION 4	E290	22-Jan-2026	25-Jan-2026	14 days	3 days	✓	25-Jan-2026	14 days	3 days	✓
Physical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE LOCATION 4	E329	22-Jan-2026	25-Jan-2026	3 days	3 days	✓	25-Jan-2026	3 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE LOCATION 4	E100	22-Jan-2026	25-Jan-2026	28 days	3 days	✓	25-Jan-2026	28 days	3 days	✓
Physical Tests : pH by Meter										
HDPE LOCATION 4	E108	22-Jan-2026	25-Jan-2026	0.25 hrs	74 hrs	× EHTR-FM	25-Jan-2026	0.25 hrs	74 hrs	× EHTR-FM
Physical Tests : TDS by Gravimetry										
HDPE LOCATION 4	E162	22-Jan-2026	----	----	----		29-Jan-2026	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE LOCATION 4	E160	22-Jan-2026	----	----	----		29-Jan-2026	7 days	7 days	✓

Matrix: **Water**

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

Analyte Group : Analytical Method / 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 : Turbidity by Nephelometry										
HDPE LOCATION 4	E121	22-Jan-2026	----	----	----		23-Jan-2026	3 days	1 days	✓
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE LOCATION 4	E404	22-Jan-2026	----	----	----		25-Jan-2026	3 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) LOCATION 4	E641A	22-Jan-2026	24-Jan-2026	14 days	2 days	✓	25-Jan-2026	40 days	1 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial - total (lab preserved) LOCATION 4	E508	22-Jan-2026	28-Jan-2026	28 days	6 days	✓	28-Jan-2026	28 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved) LOCATION 4	E420	22-Jan-2026	25-Jan-2026	180 days	3 days	✓	27-Jan-2026	180 days	3 days	✓
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide) LOCATION 4	E395-H	22-Jan-2026	----	----	----		25-Jan-2026	7 days	3 days	✓
Volatile Organic Compounds : VOCs (BC List) by Headspace GC-MS										
Glass vial (sodium bisulfate) LOCATION 4	E611C	22-Jan-2026	26-Jan-2026	14 days	4 days	✓	27-Jan-2026	14 days	4 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

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)							
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	2428429	1	3	33.3	10.0	✓
Total Coliforms and E. coli (Enzyme Substrate)	E010	2428424	1	6	16.6	10.0	✓
Heterotrophic Plate Count (Pour Plate)	E020	2428523	1	4	25.0	5.0	✓
Conductivity in Water	E100	2429716	1	15	6.6	5.0	✓
pH by Meter	E108	2429714	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	2428853	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2433860	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2433857	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2429719	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	2429718	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	2429717	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2429721	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2429720	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	2429722	1	20	5.0	5.0	✓
Alkalinity Species by Titration	E290	2429715	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2428995	1	20	5.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2429724	1	8	12.5	5.0	✓
Total Cyanide	E333	2428274	1	18	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2428998	1	9	11.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2428997	1	9	11.1	5.0	✓
Total Nitrogen by Colourimetry	E366	2428993	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2428994	1	12	8.3	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2429730	1	6	16.6	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	2429647	1	1	100.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2428441	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2428451	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2432487	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2431788	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	2430136	1	20	5.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2430137	1	14	7.1	5.0	✓
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614	2433976	1	1	100.0	4.5	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2429716	1	15	6.6	5.0	✓
pH by Meter	E108	2429714	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	2428853	1	20	5.0	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*
Laboratory Control Samples (LCS) - Continued							
TSS by Gravimetry	E160	2433860	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2433857	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2429719	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	2429718	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	2429717	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2429721	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2429720	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	2429722	1	20	5.0	5.0	✓
Alkalinity Species by Titration	E290	2429715	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2428995	1	20	5.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2429724	1	8	12.5	5.0	✓
Total Cyanide	E333	2428274	1	18	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2428998	1	9	11.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2428997	1	9	11.1	5.0	✓
Total Nitrogen by Colourimetry	E366	2428993	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2428994	1	12	8.3	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2429730	1	6	16.6	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	2429647	1	1	100.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2428441	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2428451	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2432487	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2431788	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	2430136	1	20	5.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2430137	1	14	7.1	5.0	✓
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614	2433976	1	1	100.0	4.5	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2428950	1	18	5.5	5.0	✓
Method Blanks (MB)							
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC	2428429	1	3	33.3	5.0	✓
Total Coliforms and E. coli (Enzyme Substrate)	E010	2428424	1	6	16.6	5.0	✓
Heterotrophic Plate Count (Pour Plate)	E020	2428523	1	4	25.0	5.0	✓
Conductivity in Water	E100	2429716	1	15	6.6	5.0	✓
Turbidity by Nephelometry	E121	2428853	1	20	5.0	5.0	✓
TSS by Gravimetry	E160	2433860	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	2433857	1	20	5.0	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	2429719	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	2429718	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	2429717	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2429721	1	20	5.0	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							
Nitrate in Water by IC (Low Level)	E235.NO3-L	2429720	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	2429722	1	20	5.0	5.0	✓
Alkalinity Species by Titration	E290	2429715	1	18	5.5	5.0	✓
Ammonia by Fluorescence	E298	2428995	1	20	5.0	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	2429724	1	8	12.5	5.0	✓
Total Cyanide	E333	2428274	1	18	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2428998	1	9	11.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2428997	1	9	11.1	5.0	✓
Total Nitrogen by Colourimetry	E366	2428993	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2428994	1	12	8.3	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2429730	1	6	16.6	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	2429647	1	1	100.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2428441	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2428451	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2432487	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2431788	1	20	5.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	2430136	1	20	5.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2430137	1	14	7.1	5.0	✓
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614	2433976	1	1	100.0	4.5	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2428950	1	18	5.5	5.0	✓
Matrix Spikes (MS)							
Bromide in Water by IC (Low Level)	E235.Br-L	2429719	1	19	5.2	5.0	✓
Chloride in Water by IC	E235.Cl	2429718	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	2429717	1	20	5.0	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	2429721	1	20	5.0	5.0	✓
Nitrate in Water by IC (Low Level)	E235.NO3-L	2429720	1	17	5.8	5.0	✓
Sulfate in Water by IC	E235.SO4	2429722	1	20	5.0	5.0	✓
Ammonia by Fluorescence	E298	2428995	1	20	5.0	5.0	✓
Total Cyanide	E333	2428274	1	18	5.5	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2428998	1	9	11.1	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2428997	1	9	11.1	5.0	✓
Total Nitrogen by Colourimetry	E366	2428993	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2428994	1	12	8.3	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	2429730	1	6	16.6	5.0	✓
Total Metals in Water by CRC ICPMS	E420	2428441	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2428451	1	20	5.0	5.0	✓
Total Mercury in Water by CVAAS	E508	2432487	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2431788	1	20	5.0	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*
Matrix Spikes (MS) - Continued							
VH and F1 by Headspace GC-FID	E581.VH+F1	2430136	1	20	5.0	5.0	✓
VOCs (BC List) by Headspace GC-MS	E611C	2430137	1	14	7.1	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
Total Coliforms and E. coli (Enzyme Substrate)	E010 ALS Environmental - Vancouver	Water	APHA 9223 (mod)	The enzyme substrate test simultaneously detects Total Coliforms and E. coli in a 100 mL sample after incubation at 35.0 ±0.5°C for either 18 or 24 hours (dependent on reagent used).
Thermotolerant (Fecal) Coliform (Enzyme Substrate)	E010.FC ALS Environmental - Vancouver	Water	APHA 9223 (mod)	The enzyme substrate test detects Thermotolerant Coliforms in a 100 mL sample after an 18 hour incubation at 44.5 ±0.2°C.
Heterotrophic Plate Count (Pour Plate)	E020 ALS Environmental - Vancouver	Water	APHA 9215B (mod)	Culture medium is poured into plates containing test portions, incubated at 35±0.5°C for 48 hours, after which the observed colonies are enumerated.
Conductivity in Water	E100 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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.
Turbidity by Nephelometry	E121 ALS Environmental - Vancouver	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry	E160 ALS Environmental - Vancouver	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at 104 ± 1°C, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry	E162 ALS Environmental - Vancouver	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight, with gravimetric measurement of the residue.
Bromide in Water by IC (Low Level)	E235.Br-L ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Chloride in Water by IC	E235.Cl ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Vancouver	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Vancouver	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Colour (True) by Spectrometer (5 CU)	E329 ALS Environmental - Vancouver	Water	APHA 2120 C (mod)	Colour (True Colour) is determined by filtering a sample through a 0.45 micron membrane filter followed by analysis of the filtrate using the platinum-cobalt colourimetric method. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Cyanide	E333 ALS Environmental - Vancouver	Water	ISO 14403 (mod)	Total or Strong Acid Dissociable (SAD) Cyanide is determined by Continuous Flow Analyzer (CFA) with in-line UV digestion followed by colourmetric analysis. Method Limitation: High levels of thiocyanate (SCN) may cause positive interference (up to 0.5% of SCN concentration).

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove carbonate-based Inorganic Carbon (IC). Analysis is by high temperature combustion with infrared detection of CO2. Forms of carbon associated with inorganic or organic molecules (e.g. SCN and CN) are included in NPOC if they are not removed by purging under acidic conditions. Notably, NPOC excludes most volatile organic compounds and free cyanide. For samples where the majority of Total Carbon is inorganic, this method provides greater accuracy and reliability versus the TOC by subtraction method (TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Vancouver	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 Nitrogen by Colourimetry	E366 ALS Environmental - Vancouver	Water	Chinchilla Scientific Nitrate Method, 2011	Following digestion, total nitrogen is is determined colourimetrically using a discrete analyzer utilizing the vanadium chloride reduction method. This method of analysis is approved under US EPA 40 CFR Part 136 (May 2021).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Total Sulfide by Colourimetry (Automated Flow)	E395-H ALS Environmental - Vancouver	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methylene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S concentration based on the total sulfide concentration in the sample. The H2S calculation converts Total Sulfide as (S2-) and reports it as Total Sulfide as (H2S)
UV Absorbance and Transmittance by Spectrometry	E404 ALS Environmental - Vancouver	Water	APHA 5910 B (mod)	UV Absorbance is determined by first filtering a sample through a 0.45 micron filter, followed by UV absorbance measurement in a quartz cell at 254 nm. The analysis is carried out without pH adjustment.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Mercury in Water by CVAAS	E508 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	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.
VH and F1 by Headspace GC-FID	E581.VH+F1 ALS Environmental - Vancouver	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier 1 (mod)	Volatile Hydrocarbons (VH and F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
VOCs (BC List) by Headspace GC-MS	E611C ALS Environmental - Vancouver	Water	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law. Total Xylenes is the sum of m,p-Xylene & o-Xylene. Total BTEX is the sum of Benzene, Toluene, Ethylbenzene, & Total Xylenes. Total BTEX+Styrene is the sum of Total BTEX & Styrene. Total Trihalomethanes [THMs] is the sum of Bromodichloromethane, Bromoform, Chloroform, & Dibromochloromethane.
Gas Alkanes (Methane to Pentane) & Alkene (Ethene & Propene) by Headspace GC-FID	E614 ALS Environmental - Waterloo	Water	EPA Region 1, Natatten.WPD, Rev. 1 (mod)	Dissolved Hydrocarbon gases are analyzed by static headspace GC/FID. Resulting concentrations are expressed as µg/L of dissolved gas in water.
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Vancouver	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large-volume injection (LVI) GC-MS. Totals and sub-totals (e.g., PAH, low and high MW PAHs) are reported as the sum of the individual target compounds detected; the detection limit for any sum is calculated by the root-sum-of-squares (RSS) of the individual analyte limits (per CCME Vol. 4 Analytical Methods). Benzo[a]pyrene total potency equivalents (B[a]P-TEQ/TPEQ) are calculated in accordance with CCME using the published potency-equivalency factors; non-detects are assigned one-half of the limit of reporting (LOR) in the TEQ calculation.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Vancouver	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 ALS Environmental - Vancouver	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed as $CaCO_3$ 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 hardness is a property of water due to dissolved divalent cations. In non-turbid waters, Hardness from total Ca/Mg is normally comparable to Dissolved Hardness, but may be biased high if particulate forms of Ca or Mg are present.
VPH: VH-BTEX-Styrene	EC580A ALS Environmental - Vancouver	Water	BC MOE Lab Manual (VPH in Water and Solids) (mod)	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and styrene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Vancouver	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Vancouver	Water		Preparation for Total Organic Carbon by Combustion
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Vancouver	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Digestion for Total Nitrogen in water	EP366 ALS Environmental - Vancouver	Water	APHA 4500-P J (mod)	Samples for total nitrogen analysis are digested using a heated persulfate digestion. Nitrogen compounds are converted to nitrate in this digestion.
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Vancouver	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO_3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Vancouver	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Vancouver	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Vancouver	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	:	**FJ2600154**			
Client	:	Tetra Tech Canada Inc.	Laboratory	:	ALS Environmental - Fort St. John
Contact	:	Carl Wu	Account Manager	:	Brent Mack
Address	:	110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	:	11007 Alaska Road Fort St. John British Columbia Canada V1J 6P3
Telephone	:	----	Telephone	:	778-370-3279
Project	:	ENW.GENV03704-02	Date Samples Received	:	22-Jan-2026 11:25
PO	:	----	Date Analysis Commenced	:	23-Jan-2026
C-O-C number	:	20-965766	Issue Date	:	30-Jan-2026 17:08
Sampler	:	Thom Kolb			
Site	:	----			
Quote number	:	VA24-EBAE100-013			
No. of samples received	:	1			
No. of samples analysed	:	1			

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*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo Air Quality, Waterloo, Ontario
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Ruth Wahyudi	Lab Assistant	Vancouver Metals, Burnaby, British Columbia

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

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: Effluent

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Microbiological Tests(QC Lot: 2428429)											
VA26A1596-001	Anonymous	Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	<1	0	Diff <2x LOR	---

Sub-Matrix: Freshwater

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: 2428993)											
FJ2600153-001	Anonymous	Nitrogen, total	7727-37-9	E366	0.300	mg/L	13.7	13.6	0.712 %	20%	---
Anions and Nutrients(QC Lot: 2428994)											
FJ2600153-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0397	0.0395	0.531 %	20%	---
Anions and Nutrients(QC Lot: 2428995)											
FJ2600153-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.154	0.156	1.17 %	20%	---

Sub-Matrix: Surface Water

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Cyanides(QC Lot: 2428274)											
VA26A1516-001	Anonymous	Cyanide, strong acid dissociable	----	E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	---
Total Metals(QC Lot: 2432487)											
FJ2600148-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---
Volatile Organic Compounds(QC Lot: 2430137)											
FJ2600148-001	Anonymous	Benzene	71-43-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromodichloromethane	75-27-4	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Bromoform	75-25-2	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Carbon tetrachloride	56-23-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Chlorobenzene	108-90-7	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Chloroethane	75-00-3	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Chloroform	67-66-3	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Chloromethane	74-87-3	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	---
		Dibromochloromethane	124-48-1	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---

Sub-Matrix: Surface 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
Volatile Organic Compounds(QC Lot: 2430137)											
		Dichlorobenzene, 1,2-	95-50-1	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,3-	541-73-1	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Dichlorobenzene, 1,4-	106-46-7	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Dichloroethane, 1,1-	75-34-3	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Dichloroethane, 1,2-	107-06-2	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Dichloroethylene, 1,1-	75-35-4	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Dichloroethylene, cis-1,2-	156-59-2	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, trans-1,2-	156-60-5	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Dichloromethane	75-09-2	E611C	5.0	µg/L	<5.0	<5.0	0	Diff <2x LOR	---
		Dichloropropane, 1,2-	78-87-5	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Ethylbenzene	100-41-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Styrene	100-42-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Tetrachloroethylene	127-18-4	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Toluene	108-88-3	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Trichloroethane, 1,1,1-	71-55-6	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethane, 1,1,2-	79-00-5	E611C	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethylene	79-01-6	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Trichlorofluoromethane	75-69-4	E611C	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	---
		Vinyl chloride	75-01-4	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Xylene, m+p-	179601-23-1	E611C	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Xylene, o-	95-47-6	E611C	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
Hydrocarbons(QC Lot: 2430136)											
FJ2600148-001	Anonymous	VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	<100	0.0 %	30%	---

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: 2428853)											
FJ2600154-001	LOCATION 4	Turbidity	----	E121	0.10	NTU	0.73	0.80	0.07	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
Physical Tests(QC Lot: 2429647)											
FJ2600154-001	LOCATION 4	Absorbance, UV (@ 254nm)	----	E404	0.0050	AU/cm	0.0940	0.0940	0.00 %	20%	---
Physical Tests(QC Lot: 2429714)											
FJ2600154-001	LOCATION 4	pH	----	E108	0.10	pH units	8.44	8.44	0.00 %	4%	---
Physical Tests(QC Lot: 2429715)											
FJ2600154-001	LOCATION 4	Alkalinity, bicarbonate (as CaCO3)	----	E290	1.0	mg/L	927	924	0.346 %	200%	---
		Alkalinity, carbonate (as CaCO3)	----	E290	1.0	mg/L	27.0	28.4	5.05 %	200%	---
		Alkalinity, hydroxide (as CaCO3)	----	E290	1.0	mg/L	<1.0	<1.0	0.00 %	200%	---
		Alkalinity, phenolphthalein (as CaCO3)	----	E290	1.0	mg/L	13.5	14.2	5.05 %	20%	---
		Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	954	952	0.189 %	20%	---
Physical Tests(QC Lot: 2429716)											
FJ2600154-001	LOCATION 4	Conductivity	----	E100	2.0	µS/cm	1860	1880	1.12 %	10%	---
Physical Tests(QC Lot: 2429724)											
KS2600211-001	Anonymous	Colour, true	----	E329	5.0	CU	<5.0	<5.0	0	Diff <2x LOR	---
Physical Tests(QC Lot: 2433857)											
FJ2600154-001	LOCATION 4	Solids, total dissolved [TDS]	----	E162	20	mg/L	1140	1160	1.39 %	20%	---
Physical Tests(QC Lot: 2433860)											
FJ2600154-001	LOCATION 4	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	---
Anions and Nutrients(QC Lot: 2429717)											
FJ2600154-001	LOCATION 4	Fluoride	16984-48-8	E235.F	0.200	mg/L	0.718	0.690	0.028	Diff <2x LOR	---
Anions and Nutrients(QC Lot: 2429718)											
FJ2600154-001	LOCATION 4	Chloride	16887-00-6	E235.Cl	5.00	mg/L	38.1	38.0	0.13	Diff <2x LOR	---
Anions and Nutrients(QC Lot: 2429719)											
FJ2600154-001	LOCATION 4	Bromide	24959-67-9	E235.Br-L	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	---
Anions and Nutrients(QC Lot: 2429720)											
FJ2600154-001	LOCATION 4	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	<0.0500	<0.0500	0	Diff <2x LOR	---
Anions and Nutrients(QC Lot: 2429721)											
FJ2600154-001	LOCATION 4	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	---
Anions and Nutrients(QC Lot: 2429722)											
FJ2600154-001	LOCATION 4	Sulfate (as SO4)	14808-79-8	E235.SO4	3.00	mg/L	50.4	49.9	0.991 %	20%	---
Organic / Inorganic Carbon(QC Lot: 2428997)											
FJ2600154-001	LOCATION 4	Carbon, dissolved organic [DOC]	----	E358-L	0.50	mg/L	3.74	4.12	0.38	Diff <2x LOR	---
Organic / Inorganic Carbon(QC Lot: 2428998)											
FJ2600154-001	LOCATION 4	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	3.76	4.18	0.42	Diff <2x LOR	---
Total Sulfides(QC Lot: 2429730)											
FJ2600154-001	LOCATION 4	Sulfide, total (as S)	18496-25-8	E395-H	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	---
Microbiological Tests(QC Lot: 2428424)											
VA26A1589-001	Anonymous	Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	---
		Coliforms, total	----	E010	1	MPN/100mL	<1	<1	0	Diff <2x LOR	---
Microbiological Tests(QC Lot: 2428523)											
FJ2600154-001	LOCATION 4	Heterotrophic plate count [HPC]	----	E020	1	CFU/mL	92	73	23.0 %	65%	---

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: 2428441)											
FJ2600154-001	LOCATION 4	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.0067	0.0064	0.0003	Diff <2x LOR	---
		Antimony, total	7440-36-0	E420	0.00010	mg/L	0.00011	0.00011	0.000003	Diff <2x LOR	---
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00285	0.00283	0.799 %	20%	---
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.380	0.387	2.01 %	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	0.349	0.374	6.94 %	20%	---
		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	20.3	21.2	4.42 %	20%	---
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000066	0.000068	0.000003	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	0.00024	0.00022	0.00001	Diff <2x LOR	---
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.0119	0.0117	1.15 %	20%	---
		Iron, total	7439-89-6	E420	0.010	mg/L	0.216	0.217	0.719 %	20%	---
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.00155	0.00155	0.0950 %	20%	---
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0157	0.0173	9.39 %	20%	---
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	17.6	18.1	2.66 %	20%	---
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0217	0.0216	0.511 %	20%	---
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.00672	0.00685	1.97 %	20%	---
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00089	0.00090	0.000004	Diff <2x LOR	---
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.086	0.089	0.003	Diff <2x LOR	---
		Potassium, total	7440-09-7	E420	0.050	mg/L	2.57	2.59	0.604 %	20%	---
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00172	0.00175	0.00004	Diff <2x LOR	---
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000079	0.000071	0.000008	Diff <2x LOR	---
		Silicon, total	7440-21-3	E420	0.10	mg/L	4.25	4.43	4.21 %	20%	---
		Silver, total	7440-22-4	E420	0.000010	mg/L	0.000013	0.000011	0.000002	Diff <2x LOR	---
		Sodium, total	7440-23-5	E420	0.050	mg/L	422	424	0.441 %	20%	---
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.450	0.455	1.15 %	20%	---
		Sulfur, total	7704-34-9	E420	0.50	mg/L	19.7	20.2	2.63 %	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	<0.000010	<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	0.00047	0.00046	0.000007	Diff <2x LOR	---
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	---
		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	0.000468	0.000466	0.305 %	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: 2428441)											
		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	0.0512	0.0515	0.712 %	20%	---
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00043	0.00044	0.00001	Diff <2x LOR	---
Dissolved Metals(QC Lot: 2428451)											
FJ2600154-001	LOCATION 4	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.0039	0.0027	0.0012	Diff <2x LOR	---
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.00286	0.00285	0.362 %	20%	---
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.388	0.388	0.00713 %	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	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	---
		Boron, dissolved	7440-42-8	E421	0.020	mg/L	0.366	0.387	5.64 %	20%	---
		Cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	<0.0000100	<0.0000100	0	Diff <2x LOR	---
		Calcium, dissolved	7440-70-2	E421	0.100	mg/L	20.8	21.1	1.45 %	20%	---
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.000064	0.000062	0.000002	Diff <2x LOR	---
		Chromium, dissolved	7440-47-3	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	---
		Cobalt, dissolved	7440-48-4	E421	0.00020	mg/L	0.00021	0.00021	0.000003	Diff <2x LOR	---
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	0.00061	0.00063	0.00002	Diff <2x LOR	---
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	0.080	0.079	0.001	Diff <2x LOR	---
		Lead, dissolved	7439-92-1	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	---
		Lithium, dissolved	7439-93-2	E421	0.0020	mg/L	0.0176	0.0177	0.0001	Diff <2x LOR	---
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	17.0	16.3	4.00 %	20%	---
		Manganese, dissolved	7439-96-5	E421	0.00020	mg/L	0.0208	0.0208	0.0751 %	20%	---
		Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.00669	0.00691	3.24 %	20%	---
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	---
		Phosphorus, dissolved	7723-14-0	E421	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	---
		Potassium, dissolved	7440-09-7	E421	0.100	mg/L	2.48	2.47	0.263 %	20%	---
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.00168	0.00179	0.00011	Diff <2x LOR	---
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	---
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	4.38	4.35	0.658 %	20%	---
		Silver, dissolved	7440-22-4	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	---
		Sodium, dissolved	7440-23-5	E421	0.100	mg/L	423	428	1.19 %	20%	---
		Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	0.459	0.449	2.17 %	20%	---
		Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	19.8	19.4	1.56 %	20%	---
		Tellurium, dissolved	13494-80-9	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	---
		Thallium, dissolved	7440-28-0	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	---
		Thorium, dissolved	7440-29-1	E421	0.00020	mg/L	<0.00020	<0.00020	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: 2428451)											
		Tin, dissolved	7440-31-5	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Titanium, dissolved	7440-32-6	E421	0.00060	mg/L	<0.00060	<0.00060	0	Diff <2x LOR	---
		Tungsten, dissolved	7440-33-7	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	---
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.000470	0.000484	2.81 %	20%	---
		Vanadium, dissolved	7440-62-2	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	---
		Zinc, dissolved	7440-66-6	E421	0.0020	mg/L	0.0380	0.0377	0.704 %	20%	---
		Zirconium, dissolved	7440-67-7	E421	0.00040	mg/L	<0.00040	<0.00040	0	Diff <2x LOR	---
Dissolved Metals(QC Lot: 2431788)											
FJ2600154-001	LOCATION 4	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---
Dissolved Gases(QC Lot: 2433976)											
FJ2600154-001	LOCATION 4	Methane	74-82-8	E614	114	µg/L	1020	996	2.39 %	30%	---

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(QC Lot: 2428853)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests(QC Lot: 2429647)						
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	<0.0050	----
Transmittance, UV (@ 254nm)	----	E404	----	% T/cm	----	----
Physical Tests(QC Lot: 2429714)						
pH	----	E108	----	pH units	----	----
Physical Tests(QC Lot: 2429715)						
Alkalinity, bicarbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, carbonate (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, hydroxide (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	<1.0	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests(QC Lot: 2429716)						
Conductivity	----	E100	1	µS/cm	1.4	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests(QC Lot: 2429724)						
Colour, true	----	E329	5	CU	<5.0	----
Physical Tests(QC Lot: 2433857)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests(QC Lot: 2433860)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Anions and Nutrients(QC Lot: 2428993)						
Nitrogen, total	7727-37-9	E366	0.03	mg/L	<0.030	----
Anions and Nutrients(QC Lot: 2428994)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients(QC Lot: 2428995)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients(QC Lot: 2429717)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients(QC Lot: 2429718)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients(QC Lot: 2429719)						
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	<0.050	----
Anions and Nutrients(QC Lot: 2429720)						
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	<0.0050	----
Anions and Nutrients(QC Lot: 2429721)						
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	<0.0010	----
Anions and Nutrients(QC Lot: 2429722)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Cyanides(QC Lot: 2428274)						
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	<0.0020	----
Organic / Inorganic Carbon(QC Lot: 2428997)						
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon(QC Lot: 2428998)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Sulfides(QC Lot: 2429730)						
Sulfide, total (as H2S)	7783-06-4	E395-H	----	mg/L	----	----
Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	<0.010	----
Microbiological Tests(QC Lot: 2428424)						
Coliforms, Escherichia coli [E. coli]	----	E010	1	MPN/100mL	<1	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Microbiological Tests(QC Lot: 2428424)						
Coliforms, total	----	E010	1	MPN/100mL	<1	----
Microbiological Tests(QC Lot: 2428429)						
Coliforms, thermotolerant [fecal]	----	E010.FC	1	MPN/100mL	<1	----
Microbiological Tests(QC Lot: 2428523)						
Heterotrophic plate count [HPC]	----	E020	1	CFU/mL	<1	----
Total Metals(QC Lot: 2428441)						
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	----
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	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals(QC Lot: 2428441)						
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(QC Lot: 2432487)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals(QC Lot: 2428451)						
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	----
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	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals(QC Lot: 2428451)						
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(QC Lot: 2431788)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Gases(QC Lot: 2433976)						
Methane	74-82-8	E614	5	µg/L	<5.0	----
Volatile Organic Compounds(QC Lot: 2430137)						
Benzene	71-43-2	E611C	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611C	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	<0.50	----
Chlorobenzene	108-90-7	E611C	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611C	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611C	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611C	5	µg/L	<5.0	----
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611C	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	<0.50	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	<0.50	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	<0.50	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds(QC Lot: 2430137)						
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	<0.20	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611C	0.4	µg/L	<0.40	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	<0.40	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	<0.30	----
Hydrocarbons(QC Lot: 2430136)						
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	<100	----
Polycyclic Aromatic Hydrocarbons(QC Lot: 2428950)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Acridine	260-94-6	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-cd)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Quinoline	91-22-5	E641A	0.05	µg/L	<0.050	----

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	Target Concentration	LCS	Low	High	Qualifier
Physical Tests(QC Lot: 2428853)									
Turbidity	----	E121	0.1	NTU	200 NTU	103	85.0	115	----
Physical Tests(QC Lot: 2429647)									
Absorbance, UV (@ 254nm)	----	E404	0.005	AU/cm	0.693 AU/cm	94.4	85.0	115	----
Transmittance, UV (@ 254nm)	----	E404	----	% T/cm	20.3 % T/cm	109	85.0	115	----
Physical Tests(QC Lot: 2429714)									
pH	----	E108	----	pH units	7 pH units	99.7	98.0	102	----
Physical Tests(QC Lot: 2429715)									
Alkalinity, phenolphthalein (as CaCO3)	----	E290	1	mg/L	229 mg/L	90.3	75.0	125	----
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	500 mg/L	98.4	85.0	115	----
Physical Tests(QC Lot: 2429716)									
Conductivity	----	E100	1	µS/cm	146.9 µS/cm	100	90.0	110	----
Physical Tests(QC Lot: 2429724)									
Colour, true	----	E329	5	CU	100 CU	104	85.0	115	----
Physical Tests(QC Lot: 2433857)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	103	85.0	115	----
Physical Tests(QC Lot: 2433860)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	90.3	85.0	115	----
Anions and Nutrients(QC Lot: 2428993)									
Nitrogen, total	7727-37-9	E366	0.03	mg/L	0.5 mg/L	102	75.0	125	----
Anions and Nutrients(QC Lot: 2428994)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.05 mg/L	114	80.0	120	----
Anions and Nutrients(QC Lot: 2428995)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	101	85.0	115	----
Anions and Nutrients(QC Lot: 2429717)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	98.9	90.0	110	----
Anions and Nutrients(QC Lot: 2429718)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients(QC Lot: 2429719)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	98.2	85.0	115	----
Anions and Nutrients(QC Lot: 2429720)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	102	90.0	110	----
Anions and Nutrients(QC Lot: 2429721)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	98.1	90.0	110	----
Anions and Nutrients(QC Lot: 2429722)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	103	90.0	110	----

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Cyanides(QC Lot: 2428274)									
Cyanide, strong acid dissociable (Total)	----	E333	0.002	mg/L	0.25 mg/L	98.4	80.0	120	----
Organic / Inorganic Carbon(QC Lot: 2428997)									
Carbon, dissolved organic [DOC]	----	E358-L	0.5	mg/L	8.57 mg/L	101	80.0	120	----
Organic / Inorganic Carbon(QC Lot: 2428998)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	103	80.0	120	----
Total Sulfides(QC Lot: 2429730)									
Sulfide, total (as H2S)	7783-06-4	E395-H	----	mg/L	0.085 mg/L	101	80.0	120	----
Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	0.08 mg/L	101	80.0	120	----
Total Metals(QC Lot: 2428441)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	2 mg/L	102	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	1 mg/L	104	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	94.9	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	95.7	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	90.9	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	98.0	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.1	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	103	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	104	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	98.0	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	94.3	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	95.2	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	104	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	97.7	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	111	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	102	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	97.4	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	104	80.0	120	----
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	90.3	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	50 mg/L	98.5	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	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	Target Concentration	LCS	Low	High	Qualifier
Total Metals(QC Lot: 2428441)									
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	97.1	80.0	120	---
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	97.7	80.0	120	---
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	97.2	80.0	120	---
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	91.5	80.0	120	---
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	98.8	80.0	120	---
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	101	80.0	120	---
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	95.6	80.0	120	---
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	98.6	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	101	80.0	120	---
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	96.5	80.0	120	---
Total Metals(QC Lot: 2432487)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0.0001 mg/L	102	80.0	120	---
Dissolved Metals(QC Lot: 2428451)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	102	80.0	120	---
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	105	80.0	120	---
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	102	80.0	120	---
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	104	80.0	120	---
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	98.1	80.0	120	---
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	107	80.0	120	---
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	94.6	80.0	120	---
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	96.4	80.0	120	---
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.8	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	101	80.0	120	---
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	98.0	80.0	120	---
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	97.3	80.0	120	---
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	94.4	80.0	120	---
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	106	80.0	120	---
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.25 mg/L	97.9	80.0	120	---
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	50 mg/L	103	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	94.6	80.0	120	---
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	98.9	80.0	120	---
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	96.2	80.0	120	---
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	103	80.0	120	---

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals(QC Lot: 2428451)									
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	99.4	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	95.5	80.0	120	---
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	104	80.0	120	---
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	106	80.0	120	---
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	98.6	80.0	120	---
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	104	80.0	120	---
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	106	80.0	120	---
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	104	80.0	120	---
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.8	80.0	120	---
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	97.8	80.0	120	---
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	104	80.0	120	---
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	102	80.0	120	---
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	100	80.0	120	---
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	98.6	80.0	120	---
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	99.7	80.0	120	---
Dissolved Metals(QC Lot: 2431788)									
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0.0001 mg/L	102	80.0	120	---
Dissolved Gases(QC Lot: 2433976)									
Methane	74-82-8	E614	5	µg/L	103.9 µg/L	103	80.0	120	---
Volatile Organic Compounds(QC Lot: 2430137)									
Benzene	71-43-2	E611C	0.5	µg/L	100 µg/L	83.6	70.0	130	---
Bromodichloromethane	75-27-4	E611C	0.5	µg/L	100 µg/L	82.4	70.0	130	---
Bromoform	75-25-2	E611C	0.5	µg/L	100 µg/L	96.4	70.0	130	---
Carbon tetrachloride	56-23-5	E611C	0.5	µg/L	100 µg/L	86.6	70.0	130	---
Chlorobenzene	108-90-7	E611C	0.5	µg/L	100 µg/L	76.6	70.0	130	---
Chloroethane	75-00-3	E611C	0.5	µg/L	100 µg/L	87.7	60.0	140	---
Chloroform	67-66-3	E611C	0.5	µg/L	100 µg/L	84.2	70.0	130	---
Chloromethane	74-87-3	E611C	5	µg/L	100 µg/L	86.9	60.0	140	---
Dibromochloromethane	124-48-1	E611C	0.5	µg/L	100 µg/L	87.1	70.0	130	---
Dichlorobenzene, 1,2-	95-50-1	E611C	0.5	µg/L	100 µg/L	86.0	70.0	130	---
Dichlorobenzene, 1,3-	541-73-1	E611C	0.5	µg/L	100 µg/L	86.4	70.0	130	---
Dichlorobenzene, 1,4-	106-46-7	E611C	0.5	µg/L	100 µg/L	86.6	70.0	130	---
Dichloroethane, 1,1-	75-34-3	E611C	0.5	µg/L	100 µg/L	86.9	70.0	130	---
Dichloroethane, 1,2-	107-06-2	E611C	0.5	µg/L	100 µg/L	77.3	70.0	130	---
Dichloroethylene, 1,1-	75-35-4	E611C	0.5	µg/L	100 µg/L	81.7	70.0	130	---
Dichloroethylene, cis-1,2-	156-59-2	E611C	0.5	µg/L	100 µg/L	82.2	70.0	130	---

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds(QC Lot: 2430137)									
Dichloroethylene, trans-1,2-	156-60-5	E611C	0.5	µg/L	100 µg/L	80.6	70.0	130	----
Dichloromethane	75-09-2	E611C	1	µg/L	100 µg/L	82.6	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611C	0.5	µg/L	100 µg/L	86.3	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611C	0.5	µg/L	100 µg/L	83.1	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611C	0.5	µg/L	100 µg/L	82.5	70.0	130	----
Ethylbenzene	100-41-4	E611C	0.5	µg/L	100 µg/L	82.6	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	0.5	µg/L	100 µg/L	85.3	70.0	130	----
Styrene	100-42-5	E611C	0.5	µg/L	100 µg/L	84.5	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	0.5	µg/L	100 µg/L	82.5	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	0.2	µg/L	100 µg/L	87.2	70.0	130	----
Tetrachloroethylene	127-18-4	E611C	0.5	µg/L	100 µg/L	80.0	70.0	130	----
Toluene	108-88-3	E611C	0.4	µg/L	100 µg/L	83.0	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611C	0.5	µg/L	100 µg/L	88.6	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611C	0.5	µg/L	100 µg/L	83.7	70.0	130	----
Trichloroethylene	79-01-6	E611C	0.5	µg/L	100 µg/L	81.4	70.0	130	----
Trichlorofluoromethane	75-69-4	E611C	0.5	µg/L	100 µg/L	93.3	60.0	140	----
Vinyl chloride	75-01-4	E611C	0.4	µg/L	100 µg/L	80.7	60.0	140	----
Xylene, m+p-	179601-23-1	E611C	0.4	µg/L	200 µg/L	82.7	70.0	130	----
Xylene, o-	95-47-6	E611C	0.3	µg/L	100 µg/L	83.7	70.0	130	----
Hydrocarbons(QC Lot: 2430136)									
VHw (C6-C10)	----	E581.VH+F1	100	µg/L	6310 µg/L	94.7	70.0	130	----
Hydrocarbons Surrogates(QC Lot: 2430136)									
Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1	1	µg/L	1000 µg/L	103	70	130	----
Volatile Organic Compounds Surrogates(QC Lot: 2430137)									
Bromofluorobenzene, 4-	460-00-4	E611C	1	µg/L	10 µg/L	96.3	70	130	----
Difluorobenzene, 1,4-	540-36-3	E611C	1	µg/L	10 µg/L	98.5	70	130	----
Polycyclic Aromatic Hydrocarbons(QC Lot: 2428950)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5 µg/L	93.1	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5 µg/L	95.0	60.0	130	----
Acridine	260-94-6	E641A	0.01	µg/L	0.5 µg/L	91.9	60.0	130	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5 µg/L	96.6	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5 µg/L	91.8	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5 µg/L	87.5	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5 µg/L	79.3	60.0	130	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5 µg/L	94.1	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5 µg/L	79.2	60.0	130	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5 µg/L	95.9	60.0	130	----

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons(QC Lot: 2428950)									
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5 µg/L	98.5	60.0	130	---
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5 µg/L	93.9	60.0	130	---
Fluorene	86-73-7	E641A	0.01	µg/L	0.5 µg/L	88.9	60.0	130	---
Indeno(1,2,3-cd)pyrene	193-39-5	E641A	0.01	µg/L	0.5 µg/L	102	60.0	130	---
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5 µg/L	84.9	60.0	130	---
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5 µg/L	93.5	60.0	130	---
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5 µg/L	85.8	50.0	130	---
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5 µg/L	96.0	60.0	130	---
Pyrene	129-00-0	E641A	0.01	µg/L	0.5 µg/L	93.1	60.0	130	---
Quinoline	91-22-5	E641A	0.05	µg/L	0.5 µg/L	97.1	60.0	130	---
Polycyclic Aromatic Hydrocarbons Surrogates(QC Lot: 2428950)									
Chrysene-d12	1719-03-5	E641A	0.1	µg/L	0.8421 µg/L	106	60	130	---
Naphthalene-d8	1146-65-2	E641A	0.1	µg/L	0.8421 µg/L	92.1	50	130	---
Phenanthrene-d10	1517-22-2	E641A	0.1	µg/L	0.8421 µg/L	105	60	130	---

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

Sub-Matrix: Grab Effluent

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Anions and Nutrients(QC Lot: 2428993)										
FJ2600153-002	Anonymous	Nitrogen, total	7727-37-9	E366	20.1 mg/L	20 mg/L	101	70.0	130	---
Anions and Nutrients(QC Lot: 2428994)										
FJ2600153-002	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0573 mg/L	0.05 mg/L	115	70.0	130	---
Anions and Nutrients(QC Lot: 2428995)										
FJ2600153-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	ND	----	ND	75.0	125	---
Anions and Nutrients(QC Lot: 2429717)										
FJ2600164-001	Anonymous	Fluoride	16984-48-8	E235.F	10.4 mg/L	10 mg/L	104	75.0	125	---
Anions and Nutrients(QC Lot: 2429718)										
FJ2600164-001	Anonymous	Chloride	16887-00-6	E235.Cl	1040 mg/L	1000 mg/L	104	75.0	125	---

Sub-Matrix: **Grab Effluent**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Anions and Nutrients(QC Lot: 2429719)										
FJ2600164-001	Anonymous	Bromide	24959-67-9	E235.Br-L	4.79 mg/L	5 mg/L	95.8	75.0	125	---
Anions and Nutrients(QC Lot: 2429720)										
FJ2600164-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	25.8 mg/L	25 mg/L	103	75.0	125	---
Anions and Nutrients(QC Lot: 2429721)										
FJ2600164-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	4.91 mg/L	5 mg/L	98.3	75.0	125	---
Anions and Nutrients(QC Lot: 2429722)										
FJ2600164-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1030 mg/L	1000 mg/L	103	75.0	125	---
Cyanides(QC Lot: 2428274)										
VA26A1516-002	Anonymous	Cyanide, strong acid dissociable (Total)	----	E333	0.484 mg/L	0.5 mg/L	96.9	75.0	125	---
Organic / Inorganic Carbon(QC Lot: 2428997)										
FJ2600160-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	5.66 mg/L	5 mg/L	113	70.0	130	---
Organic / Inorganic Carbon(QC Lot: 2428998)										
FJ2600160-001	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.12 mg/L	5 mg/L	102	70.0	130	---
Total Sulfides(QC Lot: 2429730)										
VA26A1434-002	Anonymous	Sulfide, total (as S)	18496-25-8	E395-H	0.959 mg/L	1 mg/L	95.9	75.0	125	---
Total Metals(QC Lot: 2428441)										
KS2600168-001	Anonymous	Aluminum, total	7429-90-5	E420	0.199 mg/L	0.2 mg/L	99.6	70.0	130	---
		Antimony, total	7440-36-0	E420	0.0191 mg/L	0.02 mg/L	95.3	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	----	ND	70.0	130	---
		Beryllium, total	7440-41-7	E420	0.0376 mg/L	0.04 mg/L	93.9	70.0	130	---
		Bismuth, total	7440-69-9	E420	0.00926 mg/L	0.01 mg/L	92.6	70.0	130	---
		Boron, total	7440-42-8	E420	0.087 mg/L	0.1 mg/L	86.5	70.0	130	---
		Cadmium, total	7440-43-9	E420	0.00392 mg/L	0.004 mg/L	97.9	70.0	130	---
		Calcium, total	7440-70-2	E420	ND	----	ND	70.0	130	---
		Cesium, total	7440-46-2	E420	0.00973 mg/L	0.01 mg/L	97.3	70.0	130	---
		Chromium, total	7440-47-3	E420	0.0389 mg/L	0.04 mg/L	97.3	70.0	130	---
		Cobalt, total	7440-48-4	E420	0.0193 mg/L	0.02 mg/L	96.5	70.0	130	---
		Copper, total	7440-50-8	E420	0.0187 mg/L	0.02 mg/L	93.7	70.0	130	---
		Iron, total	7439-89-6	E420	1.91 mg/L	2 mg/L	95.3	70.0	130	---
		Lead, total	7439-92-1	E420	0.0188 mg/L	0.02 mg/L	93.8	70.0	130	---
		Lithium, total	7439-93-2	E420	0.0955 mg/L	0.1 mg/L	95.5	70.0	130	---
		Magnesium, total	7439-95-4	E420	ND	----	ND	70.0	130	---
		Manganese, total	7439-96-5	E420	0.0192 mg/L	0.02 mg/L	96.2	70.0	130	---
		Molybdenum, total	7439-98-7	E420	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	---
		Nickel, total	7440-02-0	E420	0.0376 mg/L	0.04 mg/L	94.1	70.0	130	---
		Phosphorus, total	7723-14-0	E420	10.3 mg/L	10 mg/L	103	70.0	130	---

Sub-Matrix: Grab Effluent

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Total Metals(QC Lot: 2428441)										
		Potassium, total	7440-09-7	E420	4.10 mg/L	4 mg/L	102	70.0	130	---
		Rubidium, total	7440-17-7	E420	0.0189 mg/L	0.02 mg/L	94.5	70.0	130	---
		Selenium, total	7782-49-2	E420	0.0397 mg/L	0.04 mg/L	99.3	70.0	130	---
		Silicon, total	7440-21-3	E420	9.21 mg/L	10 mg/L	92.1	70.0	130	---
		Silver, total	7440-22-4	E420	0.00377 mg/L	0.004 mg/L	94.2	70.0	130	---
		Sodium, total	7440-23-5	E420	ND	----	ND	70.0	130	---
		Strontium, total	7440-24-6	E420	ND	----	ND	70.0	130	---
		Sulfur, total	7704-34-9	E420	ND	----	ND	70.0	130	---
		Tellurium, total	13494-80-9	E420	0.0360 mg/L	0.04 mg/L	89.9	70.0	130	---
		Thallium, total	7440-28-0	E420	0.00364 mg/L	0.004 mg/L	91.1	70.0	130	---
		Thorium, total	7440-29-1	E420	0.0195 mg/L	0.02 mg/L	97.3	70.0	130	---
		Tin, total	7440-31-5	E420	0.0185 mg/L	0.02 mg/L	92.5	70.0	130	---
		Titanium, total	7440-32-6	E420	0.0366 mg/L	0.04 mg/L	91.5	70.0	130	---
		Tungsten, total	7440-33-7	E420	0.0182 mg/L	0.02 mg/L	91.0	70.0	130	---
		Uranium, total	7440-61-1	E420	0.00386 mg/L	0.004 mg/L	96.5	70.0	130	---
		Vanadium, total	7440-62-2	E420	0.101 mg/L	0.1 mg/L	101	70.0	130	---
		Zinc, total	7440-66-6	E420	0.390 mg/L	0.4 mg/L	97.5	70.0	130	---
		Zirconium, total	7440-67-7	E420	0.0377 mg/L	0.04 mg/L	94.4	70.0	130	---
Total Metals(QC Lot: 2432487)										
FJ2600148-002	Anonymous	Mercury, total	7439-97-6	E508	0.0000978 mg/L	0.0001 mg/L	97.8	70.0	130	---
Dissolved Metals(QC Lot: 2428451)										
KS2600209-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.189 mg/L	0.2 mg/L	94.5	70.0	130	---
		Antimony, dissolved	7440-36-0	E421	0.0202 mg/L	0.02 mg/L	101	70.0	130	---
		Arsenic, dissolved	7440-38-2	E421	0.0190 mg/L	0.02 mg/L	95.1	70.0	130	---
		Barium, dissolved	7440-39-3	E421	ND	----	ND	70.0	130	---
		Beryllium, dissolved	7440-41-7	E421	0.0375 mg/L	0.04 mg/L	93.8	70.0	130	---
		Bismuth, dissolved	7440-69-9	E421	0.00966 mg/L	0.01 mg/L	96.6	70.0	130	---
		Boron, dissolved	7440-42-8	E421	0.089 mg/L	0.1 mg/L	88.5	70.0	130	---
		Cadmium, dissolved	7440-43-9	E421	0.00375 mg/L	0.004 mg/L	93.7	70.0	130	---
		Calcium, dissolved	7440-70-2	E421	ND	----	ND	70.0	130	---
		Cesium, dissolved	7440-46-2	E421	0.00965 mg/L	0.01 mg/L	96.5	70.0	130	---
		Chromium, dissolved	7440-47-3	E421	0.0368 mg/L	0.04 mg/L	91.9	70.0	130	---
		Cobalt, dissolved	7440-48-4	E421	0.0178 mg/L	0.02 mg/L	88.9	70.0	130	---
		Copper, dissolved	7440-50-8	E421	0.0178 mg/L	0.02 mg/L	88.9	70.0	130	---
		Iron, dissolved	7439-89-6	E421	1.83 mg/L	2 mg/L	91.7	70.0	130	---
		Lead, dissolved	7439-92-1	E421	0.0200 mg/L	0.02 mg/L	99.8	70.0	130	---
		Lithium, dissolved	7439-93-2	E421	0.0906 mg/L	0.1 mg/L	90.6	70.0	130	---

Sub-Matrix: **Grab Effluent**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Dissolved Metals(QC Lot: 2428451)										
		Magnesium, dissolved	7439-95-4	E421	ND	----	ND	70.0	130	---
		Manganese, dissolved	7439-96-5	E421	0.0183 mg/L	0.02 mg/L	91.7	70.0	130	---
		Molybdenum, dissolved	7439-98-7	E421	0.0192 mg/L	0.02 mg/L	95.9	70.0	130	---
		Nickel, dissolved	7440-02-0	E421	0.0346 mg/L	0.04 mg/L	86.4	70.0	130	---
		Phosphorus, dissolved	7723-14-0	E421	9.38 mg/L	10 mg/L	93.8	70.0	130	---
		Potassium, dissolved	7440-09-7	E421	3.83 mg/L	4 mg/L	95.7	70.0	130	---
		Rubidium, dissolved	7440-17-7	E421	0.0192 mg/L	0.02 mg/L	96.1	70.0	130	---
		Selenium, dissolved	7782-49-2	E421	0.0390 mg/L	0.04 mg/L	97.4	70.0	130	---
		Silicon, dissolved	7440-21-3	E421	ND	----	ND	70.0	130	---
		Silver, dissolved	7440-22-4	E421	0.00386 mg/L	0.004 mg/L	96.4	70.0	130	---
		Sodium, dissolved	7440-23-5	E421	ND	----	ND	70.0	130	---
		Strontium, dissolved	7440-24-6	E421	ND	----	ND	70.0	130	---
		Sulfur, dissolved	7704-34-9	E421	19.8 mg/L	20 mg/L	99.1	70.0	130	---
		Tellurium, dissolved	13494-80-9	E421	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	---
		Thallium, dissolved	7440-28-0	E421	0.00404 mg/L	0.004 mg/L	101	70.0	130	---
		Thorium, dissolved	7440-29-1	E421	0.0231 mg/L	0.02 mg/L	116	70.0	130	---
		Tin, dissolved	7440-31-5	E421	0.0186 mg/L	0.02 mg/L	93.2	70.0	130	---
		Titanium, dissolved	7440-32-6	E421	0.0365 mg/L	0.04 mg/L	91.2	70.0	130	---
		Tungsten, dissolved	7440-33-7	E421	0.0207 mg/L	0.02 mg/L	103	70.0	130	---
		Uranium, dissolved	7440-61-1	E421	0.00385 mg/L	0.004 mg/L	96.3	70.0	130	---
		Vanadium, dissolved	7440-62-2	E421	0.0929 mg/L	0.1 mg/L	92.9	70.0	130	---
		Zinc, dissolved	7440-66-6	E421	0.362 mg/L	0.4 mg/L	90.4	70.0	130	---
		Zirconium, dissolved	7440-67-7	E421	0.0400 mg/L	0.04 mg/L	100	70.0	130	---
Dissolved Metals(QC Lot: 2431788)										
FJ2600160-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000979 mg/L	0.0001 mg/L	97.9	70.0	130	---
Volatile Organic Compounds(QC Lot: 2430137)										
FJ2600148-002	Anonymous	Benzene	71-43-2	E611C	83.3 µg/L	100 µg/L	83.3	60.0	140	---
		Bromodichloromethane	75-27-4	E611C	84.2 µg/L	100 µg/L	84.2	60.0	140	---
		Bromoform	75-25-2	E611C	96.8 µg/L	100 µg/L	96.8	60.0	140	---
		Carbon tetrachloride	56-23-5	E611C	86.5 µg/L	100 µg/L	86.5	60.0	140	---
		Chlorobenzene	108-90-7	E611C	77.4 µg/L	100 µg/L	77.4	60.0	140	---
		Chloroethane	75-00-3	E611C	83.7 µg/L	100 µg/L	83.7	50.0	150	---
		Chloroform	67-66-3	E611C	85.4 µg/L	100 µg/L	85.4	60.0	140	---
		Chloromethane	74-87-3	E611C	76.2 µg/L	100 µg/L	76.2	50.0	150	---
		Dibromochloromethane	124-48-1	E611C	90.0 µg/L	100 µg/L	90.0	60.0	140	---
		Dichlorobenzene, 1,2-	95-50-1	E611C	86.2 µg/L	100 µg/L	86.2	60.0	140	---
		Dichlorobenzene, 1,3-	541-73-1	E611C	83.6 µg/L	100 µg/L	83.6	60.0	140	---

Sub-Matrix: **Grab Effluent**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Volatile Organic Compounds(QC Lot: 2430137)										
		Dichlorobenzene, 1,4-	106-46-7	E611C	84.1 µg/L	100 µg/L	84.1	60.0	140	---
		Dichloroethane, 1,1-	75-34-3	E611C	87.3 µg/L	100 µg/L	87.3	60.0	140	---
		Dichloroethane, 1,2-	107-06-2	E611C	79.7 µg/L	100 µg/L	79.7	60.0	140	---
		Dichloroethylene, 1,1-	75-35-4	E611C	78.9 µg/L	100 µg/L	78.9	60.0	140	---
		Dichloroethylene, cis-1,2-	156-59-2	E611C	82.4 µg/L	100 µg/L	82.4	60.0	140	---
		Dichloroethylene, trans-1,2-	156-60-5	E611C	77.6 µg/L	100 µg/L	77.6	60.0	140	---
		Dichloromethane	75-09-2	E611C	83.7 µg/L	100 µg/L	83.7	60.0	140	---
		Dichloropropane, 1,2-	78-87-5	E611C	87.1 µg/L	100 µg/L	87.1	60.0	140	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611C	83.6 µg/L	100 µg/L	83.6	60.0	140	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611C	82.2 µg/L	100 µg/L	82.2	60.0	140	---
		Ethylbenzene	100-41-4	E611C	80.8 µg/L	100 µg/L	80.8	60.0	140	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611C	86.9 µg/L	100 µg/L	86.9	60.0	140	---
		Styrene	100-42-5	E611C	81.4 µg/L	100 µg/L	81.4	60.0	140	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611C	84.7 µg/L	100 µg/L	84.7	60.0	140	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611C	91.4 µg/L	100 µg/L	91.4	60.0	140	---
		Tetrachloroethylene	127-18-4	E611C	78.1 µg/L	100 µg/L	78.1	60.0	140	---
		Toluene	108-88-3	E611C	81.9 µg/L	100 µg/L	81.9	60.0	140	---
		Trichloroethane, 1,1,1-	71-55-6	E611C	88.0 µg/L	100 µg/L	88.0	60.0	140	---
		Trichloroethane, 1,1,2-	79-00-5	E611C	86.6 µg/L	100 µg/L	86.6	60.0	140	---
		Trichloroethylene	79-01-6	E611C	80.4 µg/L	100 µg/L	80.4	60.0	140	---
		Trichlorofluoromethane	75-69-4	E611C	88.9 µg/L	100 µg/L	88.9	50.0	150	---
		Vinyl chloride	75-01-4	E611C	71.7 µg/L	100 µg/L	71.7	50.0	150	---
		Xylene, m+p-	179601-23-1	E611C	164 µg/L	200 µg/L	81.9	60.0	140	---
		Xylene, o-	95-47-6	E611C	82.8 µg/L	100 µg/L	82.8	60.0	140	---
Hydrocarbons(QC Lot: 2430136)										
FJ2600148-003	Anonymous	VHw (C6-C10)	----	E581.VH+F1	5620 µg/L	6310 µg/L	89.1	60.0	140	---
Hydrocarbons Surrogates(QC Lot: 2430136)										
		Dichlorotoluene, 3,4-	95-75-0	E581.VH+F1	994 µg/L	1000 µg/L	99.4	70.0	130	---
Volatile Organic Compounds Surrogates(QC Lot: 2430137)										
		Bromofluorobenzene, 4-	460-00-4	E611C	9.7 µg/L	10 µg/L	97.0	70.0	130	---
		Difluorobenzene, 1,4-	540-36-3	E611C	9.7 µg/L	10 µg/L	96.7	70.0	130	---

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 965766

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	TETRA TECH CANADA INC.
Contact:	CARL WU
Phone:	403 723 1561
Company address below will appear on the final report	
Street:	140 QUARRY PARK BLVD
City/Province:	CALGARY, AB
Postal Code:	T2C 3G3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	
Contact:	

Reports / Recipients

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

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

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

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: carl.wu@tetratech.com

Email 2: thom.kolb@tetratech.com

Email 3:

Invoice Recipients

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax:

Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

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

For all tests with rush TATs requested, please contact your AM to confirm availability.

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Project Information

ALS Account # / Quote #:	VAN24-EBAE100-013
Job #:	ENW-GENV03704-07
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 # (ALS use only):

ALS Contact:

Sampler:

Analysis Request

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

ALS Sample # (ALS 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	Dissolved Metals (F)	Total Metals + Hg	pH, Conductivity, Turbidity, TSS, TDS	Alkalinity, Speciated	Ammonia, Ammonium	Total Chloride	Colour, Dissolved Organic Carbon, Total	TOC (DOC)	Total Suspended, Total Phosphorous	VOC/VPH/PAH, BTEX	Methane	Total Nitrogen, Nitrate, Nitrite	Microbiological	H2S	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	LOCATION 4	22-JAN-26	10:00	WATER	17	/	/	/	/	/	/	/	/	/	/	/	/	/	/			

FJAE Shipping & Receiving

Call Out / Expedite / Priority / # of Coolers 1 / Air / # of Carboys / Ground

Environmental Division
Fort St. John
Work Order Reference
FJ2600154

Telephone : +1 250 261 5517

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

Notes / drop-down below

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
2.3							

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
TK	22/JAN/2026	10:10 AM

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
[redacted]	1/22/26	11:25

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 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

COC Number: 20 - 965766

ALS www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	TETRATECH CANADA INC.
Contact:	CARL WU
Phone:	403 723 1561
	Company address below will appear on the final report
Street:	140 QUARRY PARK BLVD
City/Province:	CALGARY, AB
Postal Code:	T2C 3G3
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

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

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

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

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: carl.wu@tetratech.com

Email 2: thom.kolb@tetratech.com

Email 3:

Invoice Recipients

Select Invoice Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax:

Email 2:

Turnaround Time (TAT) Requested

- ☑ Routine [R] if received by 3pm M-F - no surcharges apply
- ☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
- ☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
- ☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
- ☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
- ☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

AFFIX ALS BARCODE LABEL HERE (ALS use only)

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

For all tests with rush TATs requested, please contact your AM to confirm availability.

Project Information

ALS Account # / Quote #:	VA24-CBAE100-013
Job #:	ENW.GENV03704-02
PO / AFE:	-
LSD:	
ALS Lab Work Order # (ALS use only):	

Oil and Gas Required Fields (client use)

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

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

ALS Sample # (ALS 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	DISSOLVED METALS + Hg (F)	TOTAL METALS + Hg	pH, CONDUCTIVITY, TURBIDITY, TSS/TDS	ALKALINITY SPECIES	AMMONIA ANIONS	TOTAL CYANIDE	COLOUR, DISSOLVED/APPARENT	TOC / DOC (F)	TOTAL SULPHIDE, TOTAL PHOSPHORUS	VOC/VPH/PAH, BTEX	METHANOL	TOTAL NITROGEN, NITRATE, NITRITE	MICROBIAL	H2S	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	LOCATION 4	22-JAN-26	10:00	WATER	17	/	/	/	/	/	/	/	/	/	/	/	/	/	/			

FJAE Shipping & Receiving

___ Call Out ___ Expedite ___ Priority

1 # of Coolers ✓ Air

___ # of Carboys ___ Ground

Environmental Division
Fort St. John
Work Order Reference
FJ2600154

Telephone : +1 250 261 5517

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

Notes ... drop-down below

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☑ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C: 2.3

FINAL COOLER TEMPERATURES °C: 9.5, 4.6, 9.6

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: TK	Date: 22/JAN/2026	Time: 11:10 AM	Received by: [redacted]	Date: 1/22/26	Time: 11:25	Received by: DC	Date: 22 Jan 26	Time: 21:45

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION — WHITE - LABORATORY COPY — YELLOW - CLIENT COPY

AUG 2020 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.

CERTIFICATE OF ANALYSIS

Work Order	:	**FJ2600155**			
Client	:	**Tetra Tech Canada Inc.**	Laboratory	:	ALS Environmental - Fort St. John
Contact	:	Carl Wu	Account Manager	:	Brent Mack
Address	:	110, 140 Quarry Park Blvd SE Calgary Alberta Canada T2C 3G3	Address	:	11007 Alaska Road Fort St. John BC Canada V1J 6P3
Telephone	:	----	E-mail	:	Brent.Mack@ALSGlobal.com
Project	:	ENW.GENV03704-02	Telephone	:	778-370-3279
PO	:	----	Date Samples Received	:	22-Jan-2026 11:30
C-O-C number	:	----	Date Analysis Commenced	:	27-Jan-2026
Sampler	:	Thom Kolb	Issue Date	:	03-Feb-2026 10:08
Site	:	----			
Quote number	:	VA24-EBAE100-013			
No. of samples received	:	1			
No. of samples analysed	:	1			

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*
David Tremblett	VOC Section Supervisor	Air Quality, Waterloo, Ontario

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 units
%	percent
inches Hg	inches of mercury
ppbv	parts per billion (volume/volume)
µg/m³	micrograms per cubic metre

<: 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.

Analytical Results

Sub-Matrix: Soil Gas (Matrix: Air)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Location 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 09:30	----	----	----	----
						FJ2600155-001	----	----	----	----
						Result	----	----	----	----
Field Tests										
ID, batch proof	----	EF001/WT	-	-		251217.312	----	----	----	----
ID, canister	----	EF001/WT	-	-		01400-0418	----	----	----	----
ID, regulator	----	EF001/WT	-	-		G483	----	----	----	----
Pressure on receipt	----	EF001/WT	0.10	inches Hg		-4.91	----	----	----	----
Sulfur Compounds										
Carbon disulfide	75-15-0	E630/WT	2.0	ppbv		<2.0	----	----	----	----
Carbon disulfide	75-15-0	EC630/WT	6.2	µg/m³		<6.2	----	----	----	----
Carbonyl sulfide	463-58-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Carbonyl sulfide	463-58-1	EC630/WT	10	µg/m³		<10	----	----	----	----
Diethyl disulfide	110-81-6	E630/WT	2.0	ppbv		<2.0	----	----	----	----
Diethyl disulfide	110-81-6	EC630/WT	10	µg/m³		<10	----	----	----	----
Diethyl sulfide	352-93-2	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Diethyl sulfide	352-93-2	EC630/WT	15	µg/m³		<15	----	----	----	----
Dimethyl disulfide	624-92-0	E630/WT	2.0	ppbv		<2.0	----	----	----	----
Dimethyl disulfide	624-92-0	EC630/WT	7.7	µg/m³		<7.7	----	----	----	----
Dimethyl sulfide	75-18-3	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Dimethyl sulfide	75-18-3	EC630/WT	10	µg/m³		<10	----	----	----	----
Dimethylthiophene, 2,5-	638-02-8	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Dimethylthiophene, 2,5-	638-02-8	EC630/WT	18	µg/m³		<18	----	----	----	----
Ethyl mercaptan	75-08-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Ethyl mercaptan	75-08-1	EC630/WT	10	µg/m³		<10	----	----	----	----

Analytical Results

Sub-Matrix: Soil Gas
(Matrix: Air)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	Location 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 09:30	----	----	----	----
						FJ2600155-001	----	----	----	----
						Result	----	----	----	----
Sulfur Compounds										
Ethyl methyl sulfide	624-89-5	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Ethyl methyl sulfide	624-89-5	EC630/WT	12	µg/m³		<12	----	----	----	----
Ethylthiophene, 2-	872-55-9	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Ethylthiophene, 2-	872-55-9	EC630/WT	18	µg/m³		<18	----	----	----	----
Hydrogen sulfide	7783-06-4	E630/WT	4.0	ppbv		16.2	----	----	----	----
Hydrogen sulfide	7783-06-4	EC630/WT	5.6	µg/m³		22.6	----	----	----	----
Isobutyl mercaptan	513-44-0	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Isobutyl mercaptan	513-44-0	EC630/WT	15	µg/m³		<15	----	----	----	----
Isopropyl mercaptan	75-33-2	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Isopropyl mercaptan	75-33-2	EC630/WT	12	µg/m³		<12	----	----	----	----
Methyl mercaptan	74-93-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Methyl mercaptan	74-93-1	EC630/WT	7.9	µg/m³		<7.9	----	----	----	----
Methylthiophene, 2-	554-14-3	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Methylthiophene, 2-	554-14-3	EC630/WT	16	µg/m³		<16	----	----	----	----
Methylthiophene, 3-	616-44-4	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Methylthiophene, 3-	616-44-4	EC630/WT	16	µg/m³		<16	----	----	----	----
n-Butyl mercaptan	109-79-5	E630/WT	4.0	ppbv		<4.0	----	----	----	----
n-Butyl mercaptan	109-79-5	EC630/WT	15	µg/m³		<15	----	----	----	----
Propyl mercaptan	107-03-9	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Propyl mercaptan	107-03-9	EC630/WT	12	µg/m³		<12	----	----	----	----
sec-butyl mercaptan + thiophene	----	E630/WT	6.0	ppbv		<6.0	----	----	----	----

Analytical Results

Sub-Matrix: Soil Gas (Matrix: Air)					Client sample ID	Location 4 ----	----	----	----	----
					Client sampling date / time	22-Jan-2026 09:30	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		FJ2600155-001	----	----	----	----
						Result	----	----	----	----
Sulfur Compounds										
sec-butyl mercaptan + thiophene	----	EC630/WT	14	µg/m³		<21	----	----	----	----
t-Butyl mercaptan	75-66-1	E630/WT	4.0	ppbv		<4.0	----	----	----	----
t-Butyl mercaptan	75-66-1	EC630/WT	15	µg/m³		<15	----	----	----	----
Tetrahydrothiophene	110-01-0	E630/WT	4.0	ppbv		<4.0	----	----	----	----
Tetrahydrothiophene	110-01-0	EC630/WT	14	µg/m³		<14	----	----	----	----
Sulfur, total reduced (as H2S), 10 compounds	----	EC630/WT	16	µg/m³		23	----	----	----	----
Sulfur, total reduced (as H2S), 22 compounds	----	EC630/WT	25	µg/m³		<25	----	----	----	----
Sulfur, total reduced (as H2S), NPRI 6	----	EC630/WT	12	µg/m³		23	----	----	----	----
Sulfur, total reduced (as H2S), Ontario 4	----	EC630/WT	11	µg/m³		23	----	----	----	----
Permanent Gases										
Methane	74-82-8	E629B-H/WT	0.050	%		<0.050	----	----	----	----

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

ALS Canada Ltd.

right solutions. right partner.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **FJ2600155**	Page	: 1 of 5
Client	: **Tetra Tech Canada Inc.**	Laboratory	: ALS Environmental - Fort St. John
Contact	: Carl Wu	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	: 11007 Alaska Road Fort St. John, British Columbia Canada V1J 6P3
Telephone	: ----	Telephone	: 778-370-3279
Project	: ENW.GENV03704-02	Date Samples Received	: 22-Jan-2026 11:30
PO	: ----	Issue Date	: 03-Feb-2026 10:08
C-O-C number	: ----		
Sampler	: Thom Kolb		
Site	: ----		
Quote number	: VA24-EBAE100-013		
No. of samples received	: 1		
No. of samples analysed	: 1		

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

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 Method Blank value outliers occur.
No Duplicate outliers occur.
No Laboratory Control Sample (LCS) outliers occur
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)

No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

No Quality Control Sample Frequency Outliers occur.

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: **Air**

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

Analyte Group : Analytical Method / 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*
Field Tests : Air Canister Information										
Air Canister Location 4	EF001	22-Jan-2026	----	----	----		27-Jan-2026	----	----	
Permanent Gases : Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)										
Air Canister Location 4	E629B-H	22-Jan-2026	----	----	----		29-Jan-2026	30 days	7 days	✓
Sulfur Compounds : Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)										
Air Canister Location 4	E630	22-Jan-2026	----	----	----		28-Jan-2026	7 days	6 days	✓

Legend & Qualifier Definitions

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: **Air**

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)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	2434633	1	10	10.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	2432485	1	5	20.0	5.0	✓
Laboratory Control Samples (LCS)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	2434633	1	10	10.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	2432485	1	5	20.0	5.0	✓
Method Blanks (MB)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	2434633	1	10	10.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	2432485	1	5	20.0	5.0	✓
Air Canister Information	EF001	2431630	1	7	14.2	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
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H ALS Environmental - Waterloo	Air	EPA Method 3C & ASTM D1946 (mod)	This analysis is performed using procedures adapted from EPA Method 3C & ASTM D1946. Air samples are collected into cleaned evacuated canisters. A volume of air is removed from the canister and injected by means of a gas-sampling/backflush valve onto a series of packed GC columns and measured using a thermal conductivity detector (TCD). Oxygen is not separated from Argon. Canister samples will be retained for 7 calendar days after final report. If you require a longer canister storage time, please contact your account manager.
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630 ALS Environmental - Waterloo	Air	ASTM D5504 (mod)	This analysis is performed using procedures adapted from ASTM D5504. Air samples are collected into cleaned evacuated silica-coated canisters. By means of a loop system, a volume of air is transferred from the canister and cryofocused before determining the sulfur compounds by GC-SCD. Silica coated passivated canisters may allow for reliable sample analysis after 24 hours. In such cases, analysis is recommended within 7 days of collection. Canister samples will be retained for 7 calendar days after final report. If you require a longer canister storage time, please contact your Project Manager.
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ug/m3)	EC630 ALS Environmental - Waterloo	Air	ASTM D5504	convert ppbv to ug/m3
Air Canister Information	EF001 ALS Environmental - Waterloo	Air	In-house	Air canister information provided by client and recorded on ALS report may affect the validity of results.

QUALITY CONTROL REPORT

Work Order	:	**FJ2600155**			
Client	:	Tetra Tech Canada Inc.	Laboratory	:	ALS Environmental - Fort St. John
Contact	:	Carl Wu	Account Manager	:	Brent Mack
Address	:	110, 140 Quarry Park Blvd SE Calgary AB Canada T2C 3G3	Address	:	11007 Alaska Road Fort St. John British Columbia Canada V1J 6P3
Telephone	:	---	Telephone	:	778-370-3279
Project	:	ENW.GENV03704-02	Date Samples Received	:	22-Jan-2026 11:30
PO	:	---	Date Analysis Commenced	:	27-Jan-2026
C-O-C number	:	---	Issue Date	:	03-Feb-2026 10:08
Sampler	:	Thom Kolb			
Site	:	---			
Quote number	:	VA24-EBAE100-013			
No. of samples received	:	1			
No. of samples analysed	:	1			

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
- 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*
David Tremblett	VOC Section Supervisor	Waterloo Air Quality, Waterloo, Ontario

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

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: Soil Gas

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Laboratory Duplicate (DUP) Report						
					LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Sulfur Compounds(QC Lot: 2432485)											
FJ2600155-001	Location 4	Carbon disulfide	75-15-0	E630	2.0	ppbv	<2.0	<2.0	0	Diff <2x LOR	---
		Carbonyl sulfide	463-58-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Diethyl disulfide	110-81-6	E630	2.0	ppbv	<2.0	<2.0	0	Diff <2x LOR	---
		Diethyl sulfide	352-93-2	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Dimethyl disulfide	624-92-0	E630	2.0	ppbv	<2.0	<2.0	0	Diff <2x LOR	---
		Dimethyl sulfide	75-18-3	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Dimethylthiophene, 2,5-	638-02-8	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Ethyl mercaptan	75-08-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Ethyl methyl sulfide	624-89-5	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Ethylthiophene, 2-	872-55-9	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Hydrogen sulfide	7783-06-4	E630	4.0	ppbv	16.2	16.3	0.10	Diff <2x LOR	---
		Isobutyl mercaptan	513-44-0	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Isopropyl mercaptan	75-33-2	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Methyl mercaptan	74-93-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Methylthiophene, 2-	554-14-3	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Methylthiophene, 3-	616-44-4	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		n-Butyl mercaptan	109-79-5	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Propyl mercaptan	107-03-9	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		sec-butyl mercaptan + thiophene	---	E630	6.0	ppbv	<6.0	<6.0	0	Diff <2x LOR	---
		t-Butyl mercaptan	75-66-1	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
		Tetrahydrothiophene	110-01-0	E630	4.0	ppbv	<4.0	<4.0	0	Diff <2x LOR	---
Permanent Gases(QC Lot: 2434633)											
FJ2600155-001	Location 4	Methane	74-82-8	E629B-H	0.050	%	<0.050	<0.050	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: Air

Analyte	*CAS Number*	*Method*	*LOR*	*Unit*	*Result*	*Qualifier*
Field Tests(QC Lot: 2431630)						
ID, batch proof	---	EF001	---	-	260113.108	---
ID, canister	---	EF001	---	-	06000-0322	---
ID, regulator	---	EF001	---	-	NR	---
Pressure on receipt	---	EF001	0.1	inches Hg	-30.0	---
Sulfur Compounds(QC Lot: 2432485)						
Carbon disulfide	75-15-0	E630	2	ppbv	<2.0	---
Carbonyl sulfide	463-58-1	E630	4	ppbv	<4.0	---
Diethyl disulfide	110-81-6	E630	2	ppbv	<2.0	---
Diethyl sulfide	352-93-2	E630	4	ppbv	<4.0	---
Dimethyl disulfide	624-92-0	E630	2	ppbv	<2.0	---
Dimethyl sulfide	75-18-3	E630	4	ppbv	<4.0	---
Dimethylthiophene, 2,5-	638-02-8	E630	4	ppbv	<4.0	---
Ethyl mercaptan	75-08-1	E630	4	ppbv	<4.0	---
Ethyl methyl sulfide	624-89-5	E630	4	ppbv	<4.0	---
Ethylthiophene, 2-	872-55-9	E630	4	ppbv	<4.0	---
Hydrogen sulfide	7783-06-4	E630	4	ppbv	<4.0	---
Isobutyl mercaptan	513-44-0	E630	4	ppbv	<4.0	---
Isopropyl mercaptan	75-33-2	E630	4	ppbv	<4.0	---
Methyl mercaptan	74-93-1	E630	4	ppbv	<4.0	---
Methylthiophene, 2-	554-14-3	E630	4	ppbv	<4.0	---
Methylthiophene, 3-	616-44-4	E630	4	ppbv	<4.0	---
n-Butyl mercaptan	109-79-5	E630	4	ppbv	<4.0	---
Propyl mercaptan	107-03-9	E630	4	ppbv	<4.0	---
sec-butyl mercaptan + thiophene	---	E630	6	ppbv	<6.0	---
t-Butyl mercaptan	75-66-1	E630	4	ppbv	<4.0	---
Tetrahydrothiophene	110-01-0	E630	4	ppbv	<4.0	---
Permanent Gases(QC Lot: 2434633)						
Methane	74-82-8	E629B-H	0.05	%	<0.050	---

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: Air

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Sulfur Compounds(QC Lot: 2432485)									
Carbonyl sulfide	463-58-1	E630	4	ppbv	103.5 ppbv	95.6	60.0	140	--
Hydrogen sulfide	7783-06-4	E630	4	ppbv	111.7 ppbv	121	60.0	140	--
Methyl mercaptan	74-93-1	E630	4	ppbv	101.1 ppbv	118	60.0	140	--
Permanent Gases(QC Lot: 2434633)									
Methane	74-82-8	E629B-H	0.05	%	14.95 %	105	70.0	130	--

60 NORTHLAND ROAD, UNIT 1
WATERLOO, ON N2V 2B8
Phone: (519) 886-6910
Fax: (519) 886-9047
Toll Free: 1-800-668-9878

ALS Environmental

AIR QUALITY CHAIN OF CUSTODY FORM - Canister/Tube/Gas Bag

Page 1 of 1

Note: All TAT Quoted is in business days which exclude statutory holidays and weekends. TAT of samples received past 3:00 pm or Saturday / Sunday begin the next day.

DATE REQUIRED	SERVICE REQUESTED		Rush 3 day (100%)	☐
	10 day (regular)	☑	Rush 2 day (200%)	☐
	Rush 5 day (50%)	☐	Rush 1 day (300%) - Enquire	☐

All rush work requires lab approval before sample submission

COMPANY NAME	TETRA TECH
OFFICE	CALGARY
PROJECT MANAGER	CARL WU
PROJECT #	ENW.GENV03704-02
PHONE	FAX
ACCOUNT #	
QUOTATION #	VA24-CBAC-100-013
PO #	

REGULATION	
CRITERIA	
OTHER INFORMATION	

REPORT FORMAT/DISTRIBUTION
EMAIL ✓ FAX ___ BOTH ___
SELECT: PDF ✓ DIGITAL ✓ BOTH ✓
EMAIL 1 carl.wu@tetratech.com
EMAIL 2 thom.kolb@tetratech.com

SUBMISSION #:
ENTERED BY:
DATE/TIME ENTERED:
BIN #:

SAMPLING INFORMATION

ANALYSIS REQUEST: TUBE AIR VOLUME - L ☐ or m³ ☐; MC-THPNL 5629M; FULL SULPHUR SCAN/5630

Date (dd-mmm-yy)	Time (24hr) (hh:mm)	Canister or Tube ID# (e.g. 060000-XXXX or G0XXXXXXSVI)	Regulator Serial # CS1200-XXXX or GXX	Matrix Type	SAMPLE DESCRIPTION TO APPEAR ON REPORT	TUBE AIR VOLUME	MC-THPNL 5629M	FULL SULPHUR SCAN/5630	STARTING PRESSURE - Pre-Sampling ("Hg)	ENDING PRESSURE - Post Sampling ("Hg)	COLLECTION TIME (HRS) MIN	Field Conditions (Rain/Wind/Dust/Odour) Field PID Reading	LAB ID
22-JAN-26	10:30	01400-0418	4483	SG	LOCATION 4		✓	✓	30	5	5	COLD, SNOWY Ø PPM	

Environmental Division
Fort St. John
Work Order Reference
FJ2600155

Telephone : +1 250 261 5517

FJAE Shipping & Receiving
___ Call Out ___ Expedite
___ Priority
1 # of Coolers ✓ Air
___ # of Carboys ___ Ground

SPECIAL INSTRUCTIONS/COMMENTS

This Chain of Custody Form is only to be used for Air Quality Samples

Matrix Type: Soil Gas Vapour = SG; Ambient Air = AA; Indoor Air = IA; Industrial Hygiene = IH

7.3

SAMPLE CONDITION AS RECEIVED
FROZEN ☐
COLD ☐
COOLING INITIATED ☐
AMBIENT ☐
MEAN TEMP
OBSERVATIONS Yes ☐ No ☐
If yes add SIF
INIT

SAMPLED BY: TK
RELINQUISHED BY: DATE & TIME 1/22/2026 11:10 RECEIVED BY: [redacted] DATE & TIME 11:30 1/22/26
DATE & TIME RECEIVED AT LAB BY: DATE & TIME

Notes
1. Quote number must be provided to ensure proper pricing
2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.
3. Any known or suspected hazards relating to a sample must be noted on the chain of custody in comments section.
REV6-2015

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

Test Report

SRC Group # 2026-882

Feb 09, 2026

Tetra Tech Canada Inc.
140 Quarry Park BLVD.
Calgary, AB T2C 3G3
Attn: Carl Wu

Date Samples Received: Jan-26-2026 Client P.O.: 704-ENW.GFNV03704-02

All results have been reviewed and approved by a Qualified Person in accordance with the Saskatchewan Environmental Code, Corrective Action Plan Chapter, for the purposes of certifying a laboratory analysis

Results from Lab Section 4 approved by Philibert, Kelcey

Test methods and data are validated by the laboratory's Quality Assurance Program.

Routine methods follow recognized procedures from sources such as
-Standard Methods for the Examination of Water and Wastewater APHA AWWA WEF
-Environment Canada
-US EPA
-CANMET

The results reported relate only to the test samples as provided by the client. Results apply to the sample as received, unless otherwise indicated.

Data marked as "by Client" has been provided by the client and may affect the validity of results.

Samples will be kept for 30 days after the final report is sent. Please contact the lab if you have any special requirements.

Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Analytes denoted with * are accredited by CALA to ISO/IEC 17025:2017.

Additional information is available upon request.

This is a final report.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

Test Report

SRC Group # 2026-882

Feb 09, 2026

Tetra Tech Canada Inc.

140 Quarry Park BLVD.
Calgary, AB T2C 3G3
Attn: Carl Wu

Date Samples Received: Jan-26-2026

Client P.O.: 704-ENW.GFNV03704-02

4218 01/22/2026 10:00 LOCATION 4 *WATER*

Analyte	Units	4218
Lab Section 4		
Gross alpha*	Bq/L	<0.71
Gross beta*	Bq/L	0.47±0.10
Radium-226*	Bq/L	0.02
Radium-228*	Bq/L	<0.08

Symbol of "<" means "less than". This indicates that it was not detected at level stated above.

The temperature of the cooler was 0.8 °C upon receipt.

SASKATCHEWAN RESEARCH COUNCIL

Environmental Analytical Laboratories
143-111 Research Drive, Saskatoon, SK Canada S7N 3R2

T: 306-933-6932 **F:** 306-933-7922
Toll-free: 1-800-240-8808
E: analytical@src.sk.ca

www.src.sk.ca/analytical

Test Report

SRC Group # 2026-882

Feb 09, 2026

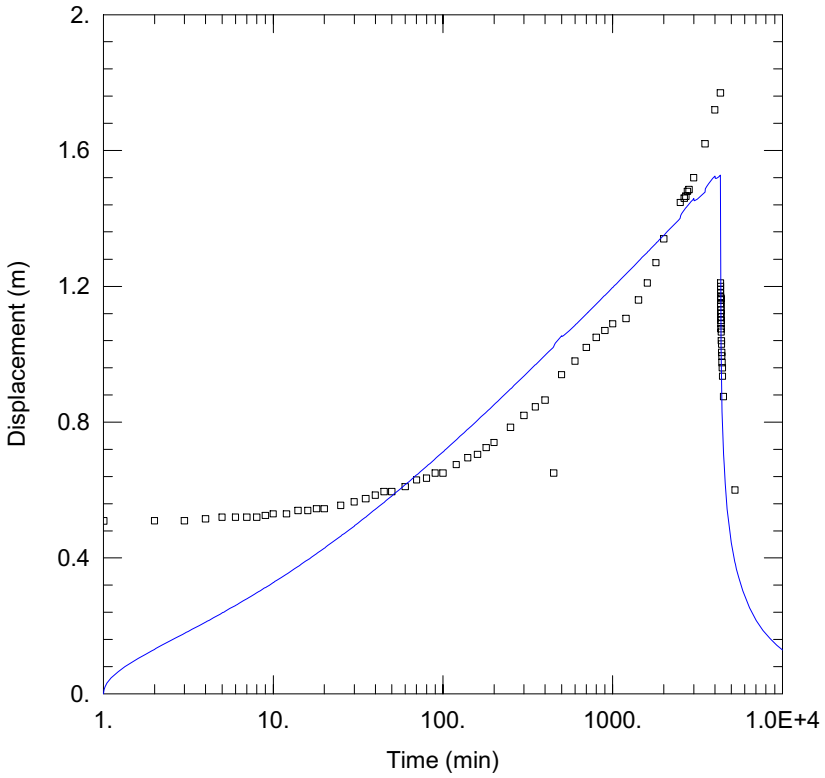
Tetra Tech Canada Inc.

Analyte Methods

Name	Units	Method
Gross alpha	Bq/L	Rad-110
Gross beta	Bq/L	Rad-110
Radium-226	Bq/L	Rad-105
Radium-228	Bq/L	Rad-114

APPENDIX D

STEP-RATE AND CONSTANT-RATE TEST ANALYTICAL SHEETS



WELL TEST ANALYSIS

Data Set: C:\...\72 hour pump Test - PW only DP.aqt
Date: 02/25/26 Time: 16:16:02

PROJECT INFORMATION

Company: Tetra Tech
Client: PRRD
Project: 704-ENW.GENV03704--02
Location: Rose Prairie, BC
Test Well: PW25-04
Test Date: 1/19/2026

AQUIFER DATA

Saturated Thickness: 42.72 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
PW25-04	0	0

Observation Wells

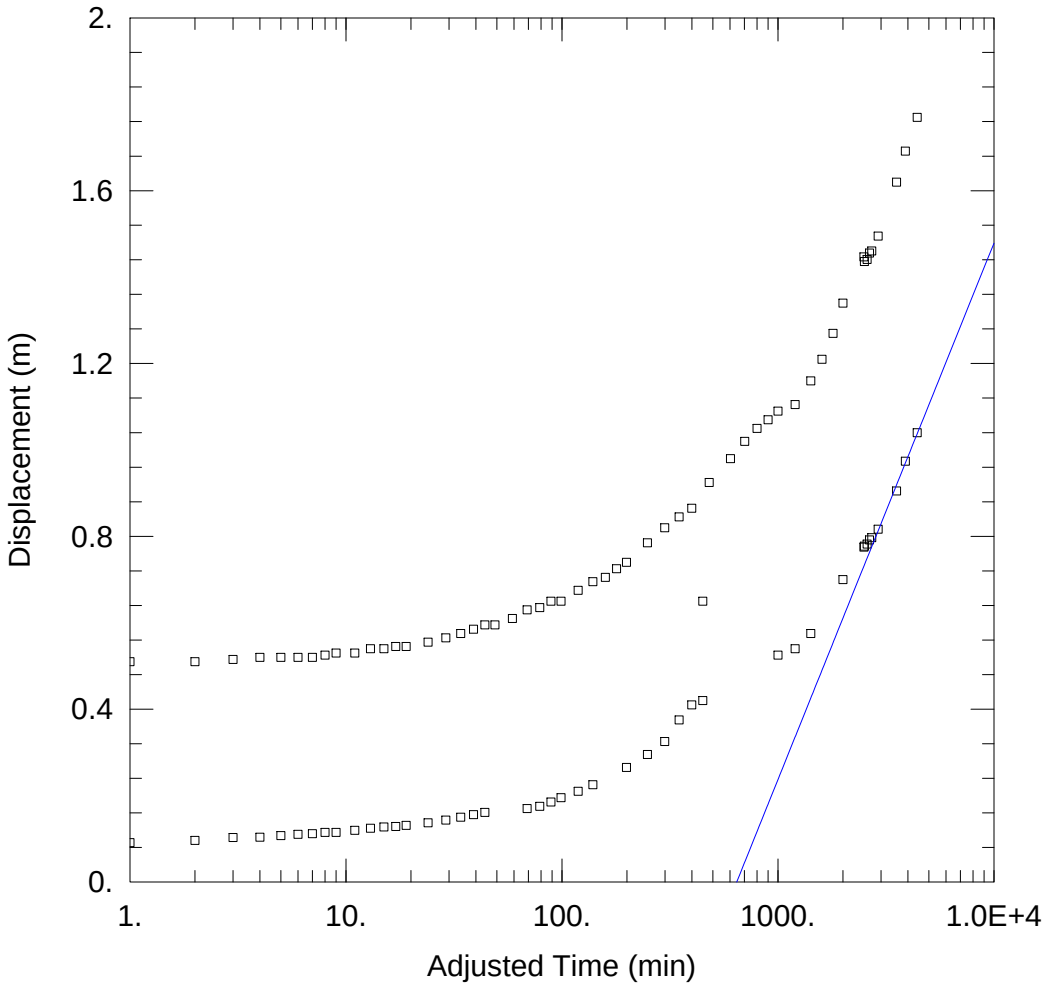
Well Name	X (m)	Y (m)
PW25-04	0	0

SOLUTION

Aquifer Model: Fractured
Solution Method: Barker

K = 2.683 m/day
K' = 0.4638 m/day
n = 2.
Sf = 0.
r(w) = 0.0762 m

Ss = 3.842
Ss' = 0.005407 m^{-1}
b = 42.72 m
Sw = 0.
r(c) = 0.0635 m



WELL TEST ANALYSIS

Data Set: C:\...\72 hour pump Test - obsv only CJ.aqt
Date: 02/25/26 Time: 16:12:46

PROJECT INFORMATION

Company: Tetra Tech
Client: PRRD
Project: 704-ENW.GENV03704--02
Location: Rose Prairie, BC
Test Well: PW25-04
Test Date: 1/19/2026

AQUIFER DATA

Saturated Thickness: 42.72 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
PW25-04	0	0

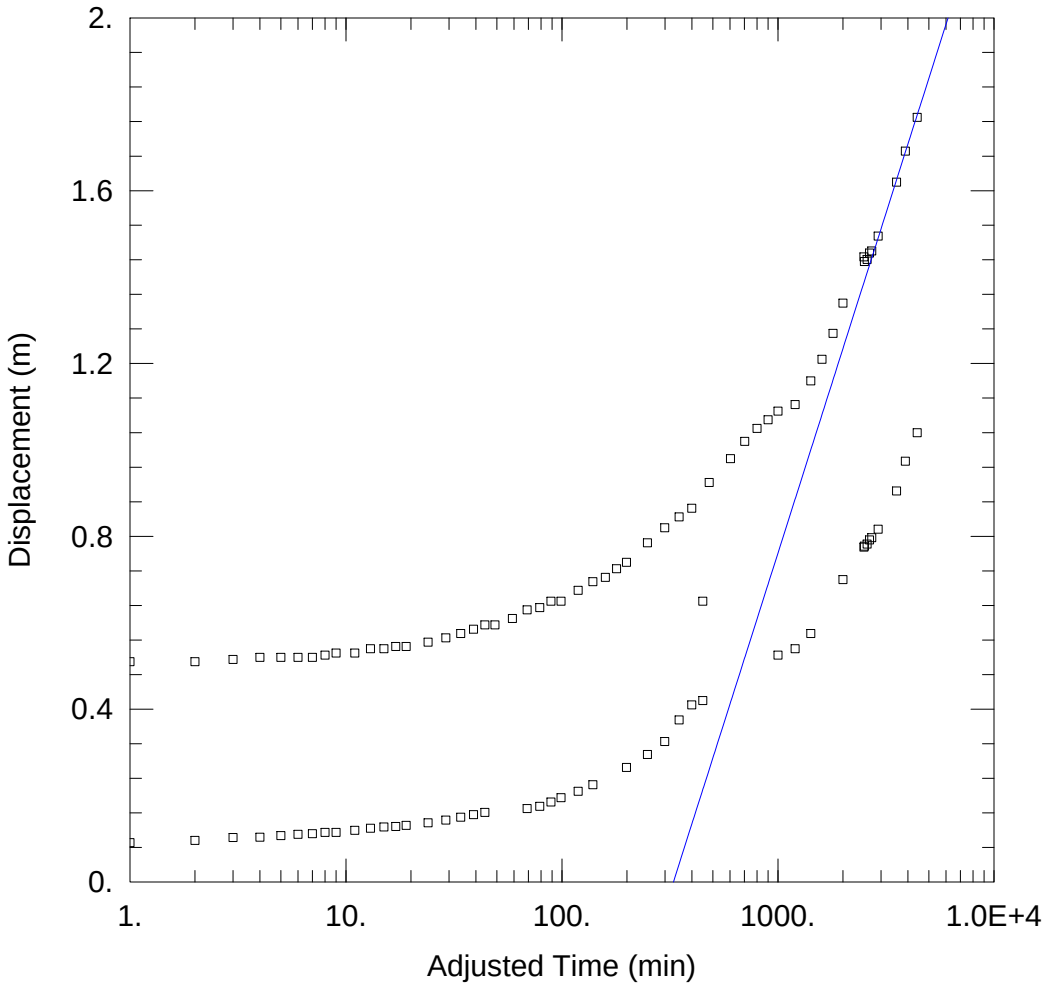
Observation Wells

Well Name	X (m)	Y (m)
PW25-04	0	0
MW25-03	0	17

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 48.26 m^2/day S = 0.1679



WELL TEST ANALYSIS

Data Set: C:\...\72 hour pump Test - PW only CJ.aqt
Date: 02/25/26 Time: 16:13:44

PROJECT INFORMATION

Company: Tetra Tech
Client: PRRD
Project: 704-ENW.GENV03704--02
Location: Rose Prairie, BC
Test Well: PW25-04
Test Date: 1/19/2026

AQUIFER DATA

Saturated Thickness: 42.72 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
PW25-04	0	0

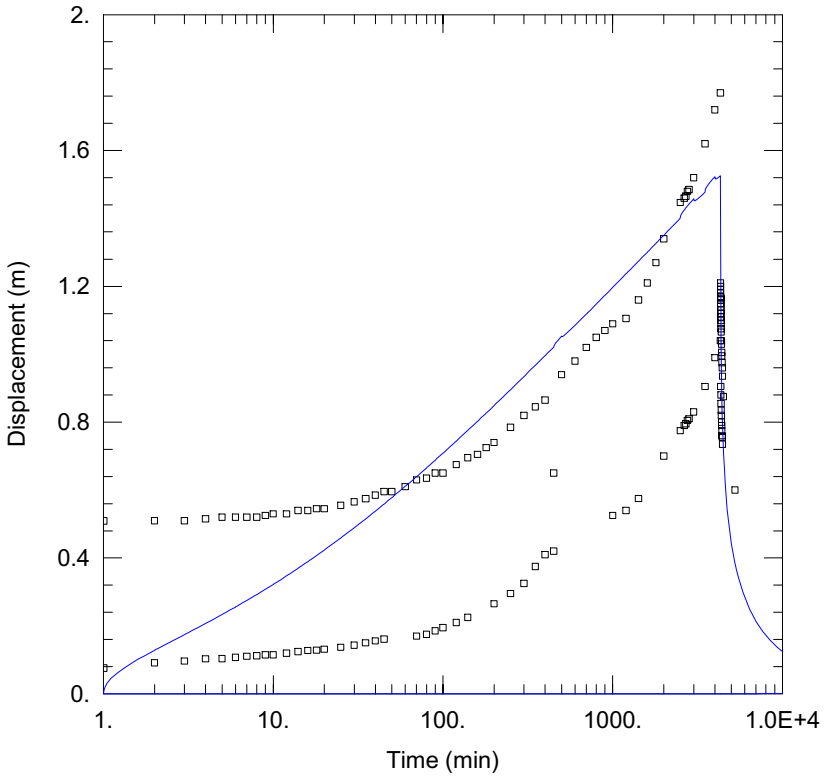
Observation Wells

Well Name	X (m)	Y (m)
PW25-04	0	0
MW25-03	0	17

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 38.09 m^2/day S = 3359.9



WELL TEST ANALYSIS

Data Set: C:\Users\thom.kolb\OneDrive - Tetra Tech, Inc\PRRD Pump Test\72 hour pump Test.aqt
Date: 02/25/26 Time: 16:22:20

PROJECT INFORMATION

Company: Tetra Tech
Client: PRRD
Project: 704-ENW.GENV03704--02
Location: Rose Prairie, BC
Test Well: PW25-04
Test Date: 1/19/2026

AQUIFER DATA

Saturated Thickness: 42.72 m Slab Block Thickness: 1. m

WELL DATA

Pumping Wells

Well Name	X (m)	Y (m)
PW25-04	0	0

Observation Wells

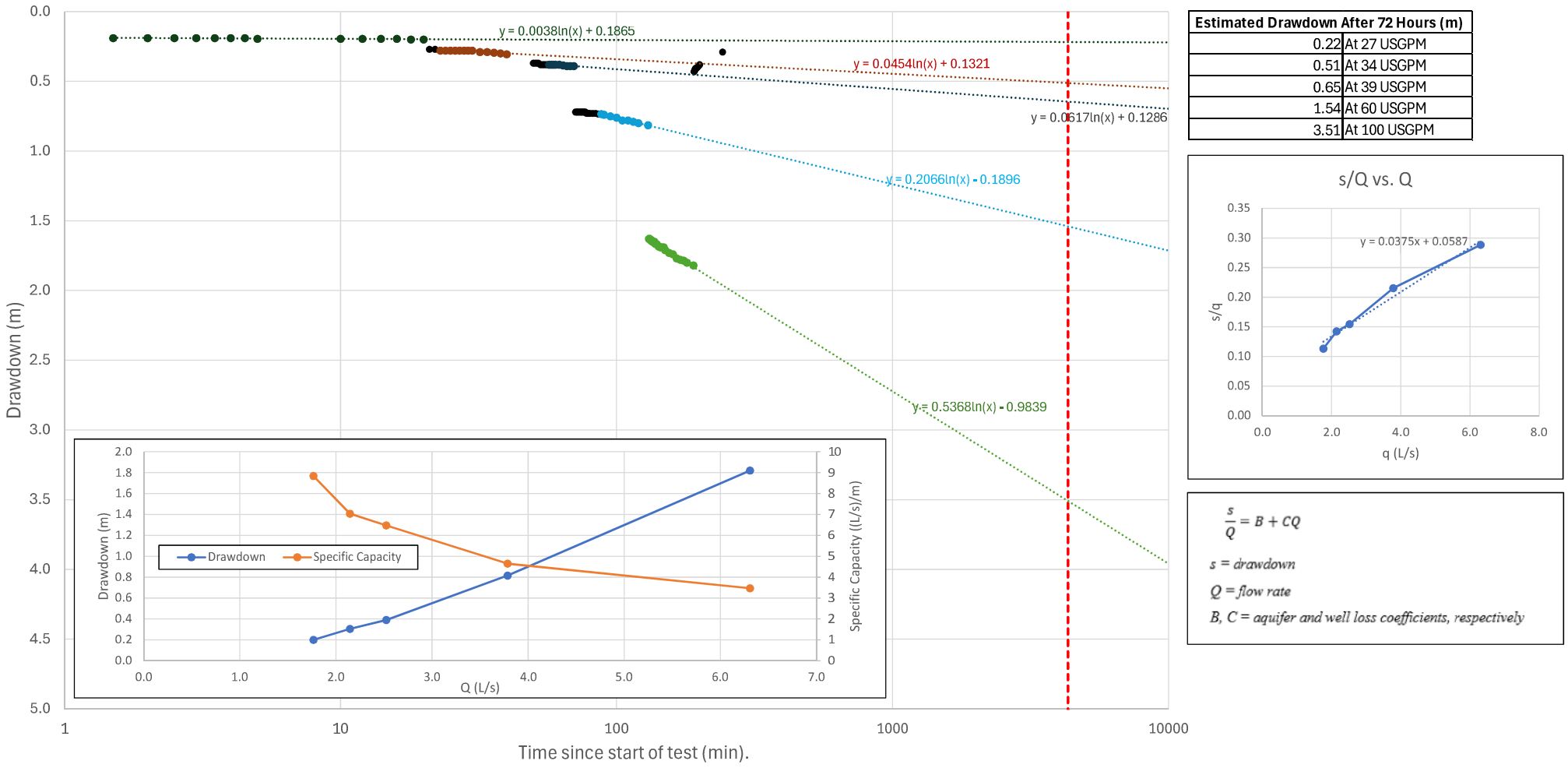
Well Name	X (m)	Y (m)
PW25-04	0	0
MW25-03	0	17

SOLUTION

Aquifer Model: Fractured
Solution Method: Moench w/slab blocks

K = 6.146 m/day
K' = 1.44E-7 m/day
Sw = 0.
r(w) = 0.0762 m

Ss = 9.833 m^{-1}
Ss' = 0.0002379 m^{-1}
Sf = 0.
r(c) = 0.0635 m



Estimated Drawdown After 72 Hours (m)	
0.22	At 27 USGPM
0.51	At 34 USGPM
0.65	At 39 USGPM
1.54	At 60 USGPM
3.51	At 100 USGPM

$$\frac{s}{Q} = B + CQ$$

s = *drawdown*

Q = *flow rate*

B, C = *aquifer and well loss coefficients, respectively*

LEGEND

- Pumping Well PW25-04
- End of Pump Test (72 hours)

NOTES

STATUS
ISSUE FOR REVIEW

CLIENT PRRD

TETRA TECH

2025 PHASE 2 FIELD PROGRAM SUMMARY

STEP-RATE TEST ANALYSIS

PROJECT NO.	DWN	CKD	REV
ENW.GENV03704-02	TK	SK	0

OFFICE: VANCOUVER
DATE: FEBRUARY 2026

APPENDIX D

APPENDIX E

ROSE PRARIE - PROCESS RECOMMENDATION MEMO

Area B, Rose Prairie Potable Water Facility
Process Memo

PRESENTED TO

Peace River Regional District

MARCH 16, 2026
ISSUED FOR INFORMATION

Tetra Tech Canada Inc.
Suite 1000 – 10th Floor, 885 Dunsmuir Street
Vancouver, BC V6C 1N5 CANADA
Tel 604.685.0275 Fax 604.684.6241

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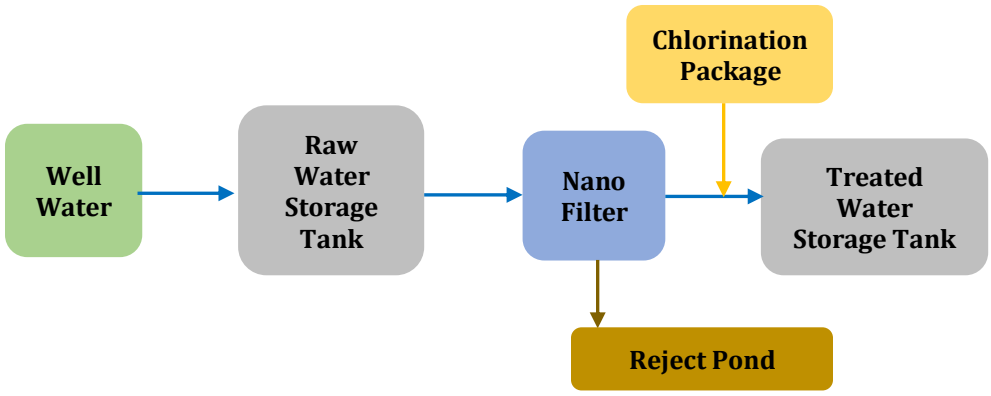
1.0 PURPOSE OF THIS MEMO

This Memo is to provide recommended path forward for water treatment process for well location 4 based on water and gas sample of well location 4, attached, and reviewing the existing water treatment process.

2.0 ANALYSIS AND EVALUATION

The following diagram shows the existing well facility to treat the current operating well.



Based on the water and gas sampling analyses and the required compliance with BC WQG and GCDWQ, the main constituents of concern for treatment at Well Location 4 and their expected removal by existing and recommended water treatment processes are listed below. Both the November 2025 and January 2026 sample analyses are considered because only a few constituents show substantial differences between those dates.

Constituent	Sample Data (2026-01-22 & 2025-11-25)	Target (BC WQG and GCDWQ)	Current Water Treatment Performance	Recommended Water Treatment Performance
Total dissolved solids (TDS):	1,140 mg/l	< 500 mg/l	Achievable	
Total Suspended solids (TSS)	< 3 mg/l	< 1 mg/l	Achievable, however there will be operational risk of NF membrane fouling.	Sand filter
Turbidity	0.7 mg/l	< 0.1 mg/l	There is an uncertainty and further study is required. SDI to be measured to confirm.	NF (TBC) RO

Constituent	Sample Data (2026-01-22 & 2025-11-25)	Target (BC WQG and GCDWQ)	Current Water Treatment Performance	Recommended Water Treatment Performance
Bromide	< 0.5 mg/l	< 0.01 mg/l	Limited Achievable. There is an uncertainty on the exact value of bromide in the sample and its removal efficiency by NF can't be guaranteed to meet the target value. **It is recommended to measure with higher accuracy below 0.5 mg/l**	RO
TOC	3.7 – 4.8 mg/l	< 4 mg/l	Partially Achievable. Further evaluation is required to ensure there is no hazardous disinfection byproducts due to the residual TOC.	GAC (Granular activated carbon filter) + NF GAC + RO
Arsenic	0.002 – 0.03 mg/l	< 0.01 mg/l	Achievable	
Sodium	423 mg/l	< 200 mg/l	Achievable (TBC)	RO
Lithium	0.018 mg/l	< 0.008 mg/l Per BC CSR DW	Achievable	
Iron (total)	0.2 – 1.4 mg/l	< 0.1 mg/l	It is Achievable for the measured dissolved iron, however, there will be operational risk of NF membrane fouling due to total iron. **It is recommended to do another sampling.**	Sand filter + NF Sand filter + RO
Manganese	0.02 – 0.04 mg/l	< 0.02 mg/l	Achievable	
Cobalt	0.0002 mg/l	< 0.001 mg/l	Achievable	
Methane	1 mg/l	No target	Not removed	Influent tank and agitator + GAC

According to above table, below are the recommended path forward and discussions:

1) **No evidence was found of dissolved hydrogen sulfide, sulfide, or methane concentrations exceeding permissible limits; therefore, an aeration tower is not required, however an agitation process (inline agitator) and GAC can reduce the dissolved methane.**

2) **The present analysis suggests that, if based solely on the current sample results, there is a risk of non-compliance when operating under the existing treatment (Option A). Consequently, we recommend either repeat sampling with improved analytical accuracy (if feasible) or adoption of an alternative treatment train — e.g., Particulate Filter + GAC + RO (Option B)**

3) Decommissioning the existing system – with a breakdown of the pros and cons of this option.

If Option B is selected, the existing system may be decommissioned. Below are the advantages and disadvantages.

Advantage:

- **Partial reuse of existing pumps, tanks, and chemical skids can reduce the capital cost of the new system.**

Disadvantages:

- **Reused equipment may require retrofitting or refurbishment depending on condition, increasing scope and cost.**
- **The existing system could be redeployed for other wells in the future; permanent decommissioning eliminates that flexibility.**

4) Evaluation of potential treatment system upgrades - including recommended additional sampling, and identification of any design considerations or investigations needed to confirm feasibility.

As noted above, repeat sampling may eliminate some constituents of concern because previous results showed a wide discrepancy in some parameters such as iron between the two sample sets. If Option B is chosen, the treatment train can be tailored to the confirmed water quality; possible alternatives include various pre-RO filtration schemes and, depending on contaminant loading, omission of GAC."

5) Additionally, based on the previous treatment design recommendations completed for Rose Prairie, would Tetra Tech be recommending aeration towers and GAC as part of the potential upgrade package?

As noted above, an aeration tower is not required. However, if operations continue with the current system (Option A), GAC is required should the new sampling justify its use. For a new treatment train (Option B), GAC may be omitted depending on the confirmatory sampling results and the selected RO membrane type, which will need to be evaluated."

Respectfully submitted,

[redacted]

Prepared by:
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