

PEACE RIVER REGIONAL DISTRICT

Electoral Area Directors Committee Meeting Agenda

February 13, 2025, 10:00 a.m. 1981 Alaska Avenue, Dawson Creek, BC

			Pages						
1.	CALL T	CALL TO ORDER							
2.	ADOPT	ADOPTION OF AGENDA							
3.	GALLEI	GALLERY COMMENTS OR QUESTIONS							
4.	ADOPTION OF MINUTES								
	4.1	Electoral Area Directors Committee Draft Meeting of January 24, 2025	3						
5.	BUSINI	ESS ARISING FROM THE MINUTES							
6.	DELEG	ATIONS							
	6.1	Peace River Forage Association Re: Expanding Crop Horizons	7						
		Nadia Mori - Coordinator, PRFA Harris Ford - Manager, South Peace Grain Cleaning							
7.	CORRE	SPONDENCE							
8.	REPOR	TS							
	8.1	Rose Prairie Water Well Drilling Program Update, ENV-EADC-041	18						
		That the Electoral Area Directors Committee defer the report titled "Rose Prairie Water Well Drilling Program Update, ENV-EADC–041" to the next EADC meeting and forward all relevant information on the Rose Prairie Water Well Drilling Program to Alternate Director Graham.							
9.	NEW B	USINESS							
10.	DIARY								
	10.1	EADC Diary	220						
11.	CONSENT CALENDAR								
	11.1	EADC Terms of Reference	221						
12.	NOTICE OF MOTION								
13.	RECESS	TO CLOSED SESSION							

14. ADJOURNMENT



PEACE RIVER REGIONAL DISTRICT

ELECTORAL AREA DIRECTORS COMMITTEE MINUTES

January 24, 2025, 1:00 p.m. 1981 Alaska Avenue, Dawson Creek, BC

Directors Present:	Chair Rose, Electoral Area E (via Zoom) Vice-Chair Sperling, Electoral Area C (Chaired the meeting) Director Hiebert, Electoral Area D Reid Graham, Alternate Director Electoral Area B (via Zoom)
Staff Present:	Shawn Dahlen, Chief Administrative Officer Tyra Henderson, Corporate Officer Roxanne Shepherd, Chief Financial Officer Joanne Caldecott, Deputy Corporate Officer Kari Bondaroff, General Manager of Environmental Services Kevin Clarkson, General Manager of Community Services Daris Gillis, Environmental Services Manager Gerritt Lacey, Solid Waste Services Manager Trevor Ouellette, IT Manager Katherine Lovino, Administrative Clerk/Recorder

1. CALL TO ORDER

Vice-Chair Sperling called the meeting to order at 1:00 p.m.

2. ADOPTION OF AGENDA

MOVED **Director Hiebert** SECONDED Chair Rose That the Electoral Area Directors Committee agenda for January 24, 2025, be adopted: **1. CALL TO ORDER** 2. ADOPTION OF AGENDA **3. GALLERY COMMENTS OR QUESTIONS 4. ADOPTION OF MINUTES** 4.1 Electoral Area Directors Committee Draft Meeting Minutes of December 12, 2024 **5. BUSINESS ARISING FROM THE MINUTES** 6. DELEGATIONS 7. CORRESPONDENCE 8. REPORTS 8.1 Rose Prairie Water Well Drilling Program Update, ENV-EADC-041 8.2 PRRD NDIT Grant Application – Grant Writing Services, ADM-EADC-059 9. NEW BUSINESS 10. DIARY 10.1 Diary Updates, ADM-EADC-060 10.2 EADC Diary

(Cont'd on next page)



11. CONSENT CALENDAR

11.1 EADC Terms of Reference12. NOTICE OF MOTION13. ADJOURNMENT

CARRIED

3. GALLERY COMMENTS OR QUESTIONS

4. ADOPTION OF MINUTES

4.1 Electoral Area Directors Committee Draft Meeting Minutes of December 12, 2024 MOVED Director Hiebert

SECONDED Alternate Director Graham That the Electoral Area Directors Committee Meeting Minutes of December 12, 2024 be adopted.

CARRIED

5. BUSINESS ARISING FROM THE MINUTES

6. DELEGATIONS

7. CORRESPONDENCE

8. REPORTS

8.1 Rose Prairie Water Well Drilling Program Update, ENV-EADC-041

MOVED Alternate Director Graham

SECONDED Director Hiebert

That the Electoral Area Directors Committee receive the report titled "Rose Prairie Water Well Drilling Program Update, ENV-EADC-041" for discussion.

CARRIED

Alternate Director Graham noted the close proximity of the proposed drilling for the fourth well being 50m away from the drilling site of the third well which had not been successful. He questioned incurring further expense when the chances of a successful outcome did not seem strong and indicated hesitance in approving the recommendation in light of the past outcomes for well drilling and ahead of the Area B by-election.

Staff provided background information on the Rose Prairie Water Well Drilling Program which included the following points:

- There was absolutely no guarantee that drilling the fourth well would be successful.
- During drilling of the third well, there were complications and the well collapsed on itself.
- During drilling of the third well, the samples obtained did not have any traces of H2S and/or methane, however the samples had traces of arsenic. Staff does not know whether the current water treatment facility will be able to remove arsenic.
- The well in existence can be used for observation in the future.



- The Engineering company recommended that the next well should be drilled within 50m of the third well to allow for accurate observation; the hope being to hit the same seam of water as the third well, however results are uncertain without full testing.
- No probability or level of confidence has been provided by the drilling company for the fourth well.
- The definition for an observation well is required by the ground water regulations.
- The station was originally equipped with a pilot granular activated carbon filtration system that needed to be upgraded however the cost of upgrading to a fully activated carbon treatment facility with aeration had risen to between \$2.8 and \$4.5 million resulting in the decision to seek an alternative water source.
- A survey was done to determine acceptable locations and the North Peace Regional Park well was chosen as the preferred site. Testing was done at the site however the water was deemed unsuitable, and Board direction was to move the station and drill three additional wells in the vicinity of the new location in the hopes of finding an alternative source of water. The first two wells did not have adequate flow rates, and water from the third well could not be treated due to the elements present.
- Costs of drilling to date total \$275,509 and the cost to drill the fourth well was estimated at \$60,000.
- Funding has been earmarked for this work and would be made available if necessary.

Staff noted that at the community meeting held with Rose Prairie residents and the former Electoral Area B Director, the desire for a water source in the area was made very clear. If the project was turned down, the next alternative would be to look for another water source; the existing site would have to be decommissioned with landowners given back access to piped water. However, financial considerations at the site must be considered. The Committee agreed that Alternate Director Graham would benefit from reviewing the past documentation on the program to help inform his decision.

MOVED Alternate Director Graham

SECONDED Director Hiebert

That the Electoral Area Directors Committee defer the report titled "Rose Prairie Water Well Drilling Program Update, ENV-EADC–041" to the next EADC meeting and forward all relevant information on the Rose Prairie Water Well Drilling Program to Alternate Director Graham.

8.2 PRRD NDIT Grant Application – Grant Writing Services, ADM-EADC-059

MOVED Director Hiebert

SECONDED Chair Rose

That the Electoral Area Directors Committee recommend that the Regional Board authorize the submission of a grant application to Northern Development Initiative Trust - Grant Writing Support for a grant of up to \$8,000 to be used for rural Grant Writing Services; further, that the Peace River Regional District commit to providing financial resources to fund grant writing services in excess of the grant amount and to cover expenses not eligible under the grant program; and finally, that funding for rural Grant Writing Services be included in the 2025 Financial Plan under Function 120 - Legislative Electoral Area.



9. NEW BUSINESS

10. DIARY

Directors discussed the report titled "Diary Updates – ADM-EADC-060" requesting that the Agriculture Advisory Committee be removed from the Electoral Area Directors Committee Diary. Staff noted that the Committee had comprehensively explored the issue as requested and, given that the requested information had been reported in November 2024 with no further direction to pursue a committee, removal of the item was recommended since the associated work had been completed. However, Director Hiebert requested that the item remain on the Diary until the new Electoral Area B Director has been elected.

MOVEDDirector HiebertSECONDEDAlternate Director GrahamThat the Electoral Area Directors Committee receive the January 24, 2024 Diary for information.

CARRIED Opposed: Chair Rose

11. CONSENT CALENDAR 11.1 EADC Terms of Reference

12. NOTICE OF MOTION

13. ADJOURNMENT

The Chair adjourned the meeting at 1:26 p.m.

CERTIFIED a true and correct copy of the Minutes of the Peace River Regional District's Electoral Area Directors Committee meeting held on January 24, 2025 in the PRRD Board Room, 1981 Alaska Avenue, Dawson Creek, BC.

Brad Sperling, Chair

Katherine Lovino, Administrative Clerk/Recorder



Expanding CropHorizons Supporting agricultural adaptation in the Peace

PRRD Electoral Area Director's Meeting Feb 13, 2025





ADOUT PRFA

A non-profit, producer-led organization dedicated to advancing sustainable and profitable agricultural systems through applied research, demonstration projects, and knowledge transfer.

Bringing over 30 years of experience

• Published over 100 Factsheets Over 160 Members and growing • Experienced in Project Management



- Hwy 49 when exiting DC on the east end.
- This will be the first year of a multi-year project.

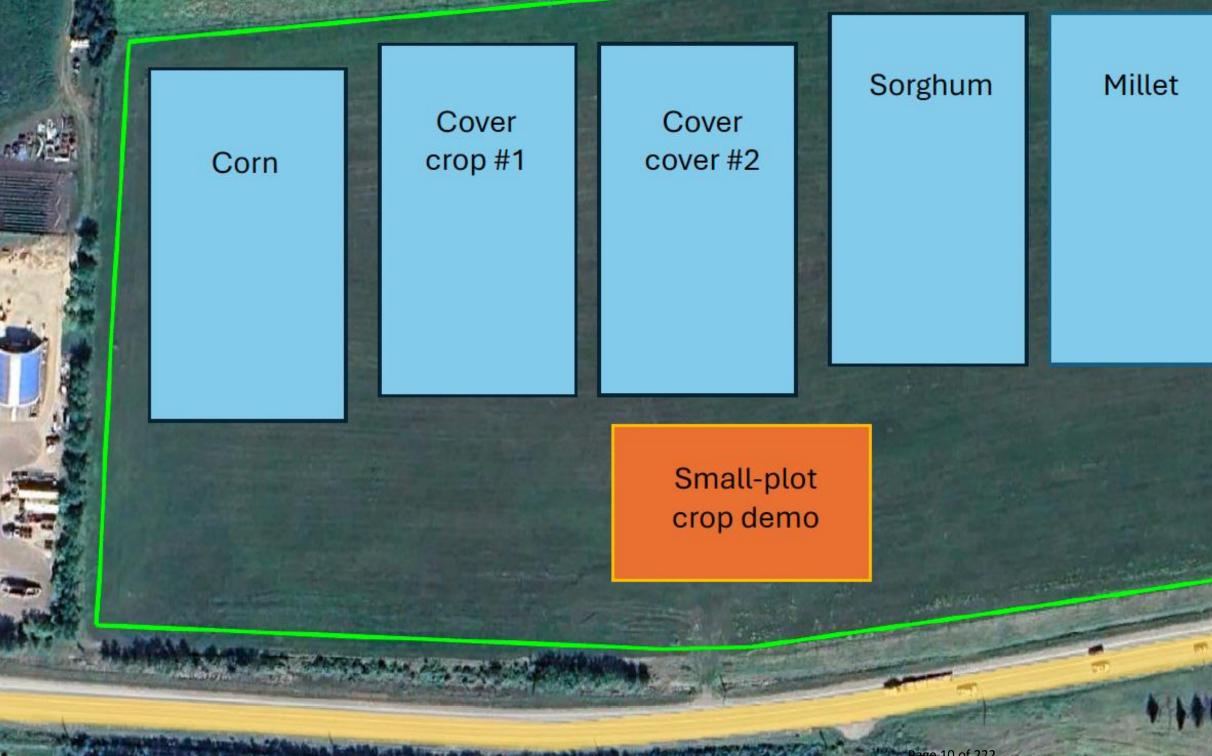
What we are Proposing

• The Northern Lights College in Dawson Creek currently has an under utilized plot of prime land located along

• PRFA of BC is proposing to take a lead on implementing crop demonstration plots to test feasibility and adaptability of diverse crop options in the Peace Region.







Native plants demo





...... Northern Lights College





A Collaborative Community Approach







A proud FLAMAN Rental Deale







Why Plot work is mportent

- Historically, small plot programs provided producers with critical data on crop adaptation and performance under region specific conditions
- Discontinuation of these programs has left a major gap in availability of such information, forcing producers to seek guidance from out of region
- Reliance on external data increases uncertainty and limits informed decision making

Regionally relevant information



Benefits to the Region

- Tangible support for agricultural producers
- Cross-commodity collaboration opportunities
- Broad range of knowledge sharing opportunities
- Hands-on learning opportunities for NLC students
- Indigenous Collaborations on native seed demo
- Promotional opportunities for local companies
- High visibility of project location







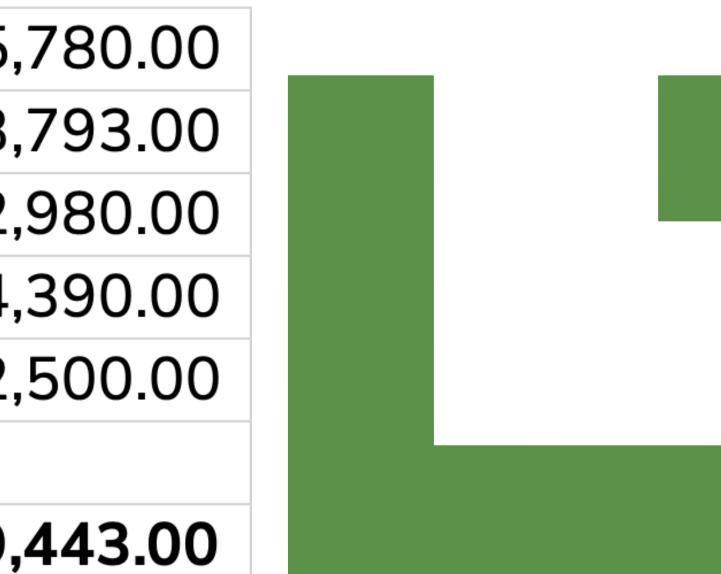




Project Budget

Project Costs

Total Project Cost	\$ 79,
Knowledge Transfer	\$ 22,
Travel	\$ 4,
Personnel	\$ 22,
Materials & Supplies	\$ 13,
Project Fees	\$ 15,



PRFA Admin & Overhead 8.5%

Project Funding

PRRD Funding Request	\$
Sutotal	\$
In-Kind Contributions	\$
Grain Industry Development Council Grant	\$
Youth Emloyment and Skills Program	\$



10,000.00 56,333.00 5,110.00 **71,443.00**

8,000.00



Questions

Thank you for the opportunity to share our exciting project

Harris Ford sales@spgrain.ca

Nadia Mori MSc, PAg coordinator@peaceforage.bc.ca



REPORT

To: Electoral Area Directors Committee

From: Environmental Services

Report Number: ENV-EADC-041

Date: January 24, 2025

Subject: Rose Prairie Water Well Drilling Program Update

RECOMMENDATION:

That the Electoral Area Directors Committee recommend that the Regional Board proceed with amending the Rose Prairie Drilling Authorization Agreement with the landowner, approve drilling a fourth well within 50m of the third drilling location, and continue with the testing and sampling program to determine suitability of the water for treatment at the existing Rose Prairie Water Station to be funded through Electoral Area B Peace River Agreement Funds committed on December 14, 2023 from Spending Item # 1 – Potable Water and Feasibility Studies.

BACKGROUND/RATIONALE:

The Rose Prairie Bulk Potable Water Station was constructed in 2018 along with four other water stations in Electoral Area B. The Rose Prairie Water Station has never opened to the public. The water station has experienced many obstacles to opening since construction as outlined below:

<u> 2018 – 2019</u>

- Rose Prairie Water Station was constructed and commissioned.
- Post commissioning treated water samples showed higher turbidity levels in the produced water than permitted by the Canadian Drinking Water Quality Guidelines (CDWQG) and by Northern Health standards. Proven reduction of turbidity was necessary before obtaining operating permits and licensing.
- The PRRD contracted Urban Systems to conduct a Granulated Activated Carbon (GAC) Pilot to assess turbidity reduction through GAC filtration to meet permitted levels. The pilot revealed that the selected filters were not viable in the long term due to high operational costs.
- The PRRD conducted a Phase 2 GAC Pilot with a modified filtration type to decrease turbidity and optimize operational costs. The outcomes demonstrate that the revised filtration type in Phase 2 successfully achieved the required turbidity levels in the produced water.

<u>2021</u>

- February 11/12 The PRRD received a Water License and Northern Health Operating Permit based on the Phase 2 GAC pilot results.
- February 22 The Rose Prairie Water Station was scheduled to open to the public.
- February 21 Unsafe levels of explosive gases were detected at the Rose Prairie Water Station during routine inspections by facility operators. The station remained closed for further investigation.
- March 11 The Regional Board officially closed the Rose Prairie Water Station and approved the investigation of an alternative water source and improved treatment options for the existing water source.

- <u>June</u> TetraTech was awarded the "RFP#28-2021 Feasibility Study Water Source Area B"" to identify alternative water sources and examine potential treatment options to remove dissolved gases from the Rose Prairie water source.
- <u>September</u> Results of the alternative water source study was presented to EADC and deferred until testing of the Rose Prairie water and well was completed.
- October TetraTech completed testing of the dissolved gases in the Rose Prairie water. Results indicated levels of methane and hydrogen sulfide dissolved in the water.
- December TetraTech proceeds with designing conceptual treatment options for gases and turbidity.

<u>2022</u>

- <u>February 17</u> A report outlining **conceptual** treatment options for the dissolved gases and turbidity issues including a Class D cost estimate of \$1,350,000 including a 40% contingency was provided to the EADC. Decisions to move forward were deferred until a public meeting could be held with the Rose Prairie residents to discuss costs and measure their support for necessary upgrades.
- March 31 A meeting was held with Rose Prairie residents outlining alternative sources, and estimated costs for treatment of the upgrades at the existing station. A survey was conducted at the same time for residents to state their level of support of alternative options and offer additional feedback. Results of the survey and the meeting indicate many residents are in support of the upgrades and the costs of the Rose Prairie Water Station.
- December Funds were allocated to the Area B Potable Water Budget to cover engineering and construction for the water treatment upgrades at the Rose Prairie Water Station.

<u>2023</u>

- April 27 Electoral Area Directors Committee recommends that construction design commences, and staff can procure a construction firm.
- July TetraTech inspects the Rose Prairie Water Station to collect details of the existing components of the station and systems.
- September Based on the information gathered during a site inspection and required changes to the conceptual design, TetraTech's estimate to complete the necessary safety and treatment upgrades is reported to cost from \$2.9 \$4.5 million with a +/- 40% contingency.

<u>2024</u>

- January 26 The Electoral Area Directors Committee recommends pursual of options for exploring a new well in the vicinity of the existing well to find aa better source of water using the existing preapproved Rose Prairie Water Station PRA Allocation.
- February Staff work with TetraTech Canada to conduct a hydrogeological assessment to determine
 potential drilling locations in proximity to the existing Rose Prairie Water Station and develop a drilling
 and testing program.
- July Staff procure Carbon Mountain Drilling to conduct the drilling and testing program for potential new well locations.
- August November Drilling and gas and water testing program occurs.
- December TetraTech analyzes drilling and sampling results and compiled the 2024 Field Program Summary Alternate Water Source Viability Testing for the Rose Prairie Area.

The drilling and testing program had minimum requirements for a new water well to meet the treatment design of the existing Rose Prairie Water Station. A new well must have a minimum of 20

gallons per minute flow rate and be free of any gases or substances that the existing treatment system could not remove.

Based on the drilling and testing program results, drilling locations one and two do not meet the minimum requirements and are not suitable for treatment with the existing Rose Prairie Water Station design. As drilling location three was not fully developed and tested as per the drilling and testing program plan, it is recommended to be used as an observation well for an additional fourth test well.

Based on the location three sampling results, the water contains elements that exceed the drinking water standards and may be treatable using the existing treatment system. Further, there is an additional risk that with further well development flow rates may reduce below the minimum 20 gal/min or elemental elements may be present in the new location. This may result in necessary treatment testing and capital upgrades, including the need for additional water storage.

ALTERNATIVE OPTIONS:

- That the Electoral Area Directors Committee recommend that the Regional Board proceed with decommissioning and reclamation of the existing Rose Prairie Water Station and affiliated assets, to be funded through Electoral Area B Peace River Agreement Funds committed on December 14, 2023, from Spending Item # 1 – Potable Water and Feasibility Studies.
- 2. That the Electoral Area Directors Committee provide further direction.

STRATEGIC PLAN RELEVANCE:

Asset and Infrastructure Management

FINANCIAL CONSIDERATION(S):

The available capital budget for the Rose Prairie Water project is \$651,831. Previously committed Electoral Area B Peace River Agreement Funds and Electoral Area B Gas Tax Funds are funding the capital project.

Table 1: Project Expenses

Project Expense	Expenses to Date		
Drilling	\$ 97,370.00		
Sampling	\$ 63,423.00		
Engineering	\$ 114,716.00		
Total Project Expenses	\$ 275,509.00		

Table 2: Project Funding Commitments

Grant Source	Original Funding			end To Date	Remaining	
		Commitment			Commitment	
Electoral Area B Peace River Agreement	\$	409,470.00	\$	275,509.00	\$ 133,961.00	
Electoral Area B Gas Tax	\$	407,000.00	\$	0.00	\$ 407,000.00	
Total Project Funding	\$	816,470.00	\$	275,509.00	\$ 540,961.00	

COMMUNICATIONS CONSIDERATION(S):

Staff will work to develop a communications strategy to inform the public of the final Regional Board decision.

OTHER CONSIDERATION(S):

Staff will modify contracts in alignment with the PRRD Purchasing Policy to allow for a contract Or extension and an increase to the sampling contract, as well as a contract extension for the drilling program. onn

Attachments:

e for the R heed the number of the second Area Direction of the second Ar 1. 2024 Field Program Summary – Alternate Water Source Viability Testing for the Rose Prairie Area



January 15, 2025

ISSUED FOR USE 704-ENW.GENV03704-02 Via Email: Daris.Gillis@prrd.bc.ca

Peace River Regional District Box 810, 1981 Alaska Highway Avenue Dawson Creek, BC V1G 4H8

Attention: Daris Gillis, Environmental Services Manager

Subject: 2024 Field Program Summary Alternate Water Source Viability Testing Rose Prairie Area

1.0 INTRODUCTION

The Peace River Regional District (PRRD) retained Tetra Tech Canada Inc. (Tetra Tech) for the provision of environmental consulting services. These services entail conducting a desktop hydrogeological assessment (Phase 1), and drilling exploratory boreholes, installing water source and observation wells, and conducting aquifer testing to support a groundwater licence application (Phase 2) at 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, 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 2024a).

During Phase 2 fieldwork, Tetra Tech oversaw the exploratory drilling of the three proposed drilling locations as shown on Figure 1. A prolific water bearing zone was observed at Location 3 and the core pipe was left in-place to allow for a future installation of a monitoring well if the Regional Board approves the drilling and installation of another well in the vicinity of Location 3. Locations 1 and 2 were deemed capable of producing insufficient quantity of water and are planned to be reclaimed.

This report provides methods and results of the Phase 2 fieldwork conducted until December 2024, including a summary of the exploratory drilling at Location 1 to Location 3, and core pipe installation, development, and groundwater and gas sampling at Location 3.

1.1 Objective

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.

2.0 SCOPE OF WORK

To achieve the project objective, the following scope of work was proposed:

- 1. Exploratory Borehole Drilling
- 2. Well Installation
- 3. Well Development
- 4. Groundwater and Gas Sampling
- 5. Aquifer Testing

Aquifer Testing was not completed as the water source well at Location 3 has not been installed. The details of the methods and results for the completed scope of work are provided in Sections 3.0 and 4.0, respectively. Conclusions and recommendations are provided in Sections 5.0 and 6.0, respectively.

3.0 METHODS

3.1 Exploratory Borehole Drilling

During the site visit and underground utility survey on August 12, 2024, Tetra Tech confirmed the proposed drilling locations with PRRD. From August 12 to 19, 2024 and September 6 to 7, 2024, Tetra Tech supervised the exploratory drilling of the three proposed locations (Location 1 to Location 3) as shown on Figure 1. Carbon Mountain Drilling (Carbon Drilling), based out of Fort St. John, BC, drilled at these locations using an air rotary drill rig. A 152 mm (6-inch) diameter exploratory borehole was advanced, and lithology was observed and logged at each location. During drilling, Tetra Tech personnel logged the drill cuttings to record the observed lithologies. Any other notable observations were also recorded, along with the associated depths.

A prolific water bearing zone was observed at Location 3 from about 140 to 159 m below grade. Locations 1 and 2 were deemed capable of producing insufficient quantity of water. The core pipe was installed at Location 3 to facilitate the collection of representative gas and groundwater samples.

The boreholes drilled at Locations 1 and 2 will need to be abandoned and backfilled with bentonite chips and/or drill cuttings following the regulatory requirements as per Part 3 – Well Construction, of the British Columbia Water Sustainability Act, Groundwater Protection Regulation B.C. Reg. 39/2016 (Government of B.C. 2022).

3.2 Initial Sampling from Borehole and Well Installation

Prior to installation of the the core pipe, gas and groundwater samples were collected from the open borehole at Location 3 on September 9, 2024. The collected gas samples were analyzed for methane (CH_4), and sulphur compounds including hydrogen sulphide (H_2S). The collected groundwater samples were analyzed for the following:

- Dissolved gases (CH₄, H₂S)
- Routine (Turbidity, Electrical Conductivity (EC), Total Dissolved Solids (TDS), Color, total Hardness, pH, total Alkalinity)



- Anions (chloride, Sulfate, Fluoride, Nitrate, Nitrite, Sulphide as S, Sulphide as H₂S, hydroxide, carbonate, bicarbonate)
- Physical test (UV absorbance 254 mm, UV transmittance)
- H₂S
- Dissolved metals
- Total metals (including mercury and cyanide)
- Dissolved Organic Carbon / Total Organic Carbon

The purpose of collecting and analyzing these samples was to confirm the presence or absence of gases or hydrocarbons. Table 1 and Table 2 summarize groundwater and gas sample results, respectively, and the laboratory reports are included in Appendix B. These results did not show detection of dissolved gases or soil vapour gases, and therefore, the core pipe was installed in the borehole at Location 3 to facilitate collection of groundwater and gas samples after the well development and to further confirm presence or absence of hydrocarbons and gases prior to drilling and installing a water source well.

Carbon Drilling completed the core pipe installation. Tetra Tech provided the well design and technical support during the installation. An initial well diagram based on the meeting held between Carbon Drilling, PRRD, and Tetra Tech on November 5, 2024, and the field observations made during the drilling of Location 3 was provided to Carbon Drilling on November 12, 2024 (Tetra Tech 2024b). A monitoring well was planned due to sloughing in the open borehole which restricted the open diameter, making it unable to install a pumping well.

3.3 Well Development

Following the core pipe installation at Location 3, 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 at the top of the screen, working downwards in 6-inch depth increments. Development continued until produced water had less than 5 mL of fines (silt) in a 20 L pail.

The unsuccessful boreholes at Locations 1 and 2 were not developed.

3.4 Groundwater and Gas Sampling

Based on PRRD's request, a groundwater and gas sample were collected from the open borehole at Location 2 on August 20, 2024.

Following well development at Location 3 as described above, and further purging of the well for approximately three wellbore volumes, Carbon Drilling collected another set of groundwater and gas samples on November 20, 2024. Results of the groundwater and gas sample analytical results are summarized in Tables 1 and 2, respectively. The laboratory reports for the analytical results are available in Appendix B.

During sampling, nitrile gloves were worn to prevent cross-contamination during sample collection. Combustible headspace vapour/hydrogen sulfide readings were measured using an RKI Eagle at the surface casing immediately after opening the well and before sample collection.



The collected gas and groundwater samples were analyzed for the same analytical suite as presented in Section 3.2. Groundwater 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 under standard chain-of-custody (CoC) procedures.

An ambient gas sample was collected by Carbon Drilling at the well head at time of groundwater sampling. The gas sample cannister was positioned at the opening of the well head, the valve was opened for 4 minutes and then closed and submitted for methane and hydrogen sulfide gas analysis to ALS Laboratory of Fort St. John under standard CoC procedures (completion of CoC).

4.0 RESULTS

Three exploratory borehole locations were advanced to total depths ranging from 152.4 m below grade (mbg) to 170.7 mbg. The observed lithology consisted of clay or silt units to depth ranging between approximately 45.5 mbg and 83.0 mbg overlying sandstone, shale or siltstone bedrock units to the maximum drilling depth. The borehole logs for the exploratory boreholes drilled at Locations 1 to 3 are included in Appendix A. Flow testing was recorded at Location 3 to range from 10 gpm at 122 mbg to 27 gpm at 152 mbg.

The core pipe was left in-place to allow for a future installation of a monitoring well if the Regional Board approves the drilling and installation of another well in the vicinity of Location 3. Based on the gas and groundwater sampling results for Location 3, there is no indication as to the presence of $H_2S CH_4$ gases at this location (Tables 1 and 2), hence this location may be viable for installation and testing of a 152 mm (6-inch) diameter pumping well within a 50 m vicinity of the existing location as per the regulations.

5.0 CONCLUSIONS

The following conclusions can be made based on the collected data from the 2024 Field Program:

- Locations 1 and 2 were deemed capable of producing insufficient quantity and water quality of groundwater and are planned to be abandoned following the regulatory requirements.
- Preliminary estimated flow rates support a productive water well only at Location 3.
- Gas and groundwater samples were collected from the Location 3 borehole and no hydrocarbon and gases were observed.
- The core pipe was left in ground at Location 3 and developed to facilitate the collection of representative gas and groundwater samples and to further confirm presence or absence of hydrocarbons and gases.
- Water quality at Location 3 following well development reported no dissolved H₂S in the groundwater sample. Additionally, there were no sulphur compounds, including H₂S, or methane detected in the soil vapour sample collected. There were a few parameters, which exceeded the Contaminated Sites Regulation drinking water standards (CSR-DW) including dissolved antimony, dissolved lithium and dissolved sodium, and a few total metals. Total and dissolved antimony and total arsenic also exceeded the Guidelines for Canadian Drinking Water Quality (GCDWQ) maximum allowable concentrations, and total aluminum, dissolved and total iron, dissolved and total manganese, and dissolved and total sodium exceeded the aesthetic objectives or operational guidance values of the GCDWQ.



6.0 **RECOMMENDATIONS**

The analytical results of the gas and groundwater samples did not show presence of gases or hydrocarbons at Location 3. However, it can not be guaranteed that the gases or hydrocarbons will not be observed during long-term pumping at this location.

Based on the findings to date, if PRRD decides to install a water source well at Location 3, Tetra Tech, as described in the Phase 2 plan, recommends aquifer testing in the form of a pumping test to estimate hydraulic parameters of the aquifer. It is recommended that the water source well be drilled within about 50 m of the planned monitoring well borehole and the aquifer testing be comprised of a step rate test, a 72-hour constant-rate pumping test, and testing for groundwater quality. A monitoring well is recommended to be installed in the current borehole with core pipe left in ground.

The water quality should be tested again near the end of the 72-hour constant rate pumping test. The identified exceedances of the water sample collected after well development on November 20, 2024, indicate that the well water would have to be treated at minimum for arsenic and antimony which both exceeded the maximum allowable concentrations of the GCDWQ. Additional water treatment may be required for the parameters that exceeded the aesthetic objectives or operational guidance values of the GCDWQ and CSR-DW standards.

Tetra Tech also recommends abandoning the boreholes drilled at Locations 1 and 2 by backfilling with bentonite chips and/or drill cuttings following the regulatory requirements.

7.0 LIMITATIONS OF REPORT

This report and its contents are intended for the sole use of Peace River Regional District 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 Peace River Regional District, 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 Appendix C or Contractual Terms and Conditions executed by both parties.



8.0 CLOSURE

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

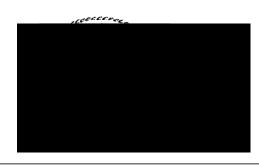
Respectfully submitted, Tetra Tech Canada Inc.



Prepared by: Thom Kolb, B.Sc., P.Geo. Hydrogeologist Environment & Water Practice Direct Line: 236.983.0195 Thom.Kolb@tetratech.com

/jmt

Attachments:



Reviewed by: Aziz Shaikh, M.Sc., P.Eng. Principal Hydrogeologist Environment & Water Practice Direct Line: 403.899.7064 Aziz.Shaikh@tetratech.com

Tables (2) Figure (1) Appendix A – Borehole Logs Appendix B – Laboratory Reports Appendix C – Tetra Tech's Limitations on the Use of this Document

> PERMIT TO PRACTICE TETRA TECH CANADA INC.

PERMIT NUMBER: 1001972



REFERENCES

- Government of British Columbia (Government of B.C.) 2022, Water Sustainability Act, Groundwater Protection Regulation, B.C. Reg 39/2016. Deposited and effective February 29, 2016. Last amended December 1, 2022 by B.C. Reg 253/2022. Consolidation current to Many 23, 2023.
- Tetra Tech Canada Inc (Tetra Tech) 2024a. Hydrogeological Desktop Assessment. Submitted to Peace River Regional District April 30, 2024.
- Tetra Tech Canada Inc (Tetra Tech) 2024b. 2024 Well Completion Work Plan. Submitted to Peace River Regional District November 12, 2024.



TABLES

- Table 1Groundwater Analytical Results
- Table 2Soil Vapor Analytical Results



Table 1: Groundwater Analytical Results

Partial Control Interview	Table 1: Groundwater Analytical Res	Suits			Location Code	Location 2	Locat	ion 3
International problem in the series of the series					_			
Image in the stand of the st								
ParameterParamet								
Decision problemDecision of the prob								FJ2403536-001
Physical ProgramPhysical ProgramPhys	Parameter	Unit		-	CSR - DW			
Bachen Conscience (C)plp1039Construction (Construction (Con	Physical Parameters		MAC	00				
indjackindjackindjack			-	7 - 10.5	-			
TixAtry HP1 ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·< ·<				-				
Faceware ox/SO. ppL P//BD 207/BD 200/BC 201/BC Machine (Seres). (ppL) .			1					
Beams and SCOD_(Hinney ppt . <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td>			1					
Axiahily protectionusitSI 00066.00064.000Axiahily protectionusit81.00085.00085.00085.000Axiahily protectionusit81.00085.00085.000Axiahily protectionusit42.0085.00085.00085.000Browsky protectionusit<								
skelling par COD_0ygl91.0093.0083.00Altaing factoriands at CAC_0ygl91.0083.0083.0083.00Altaing factoriands at CAC_0ygl91.0083.0083.00Altaing factoriands at CAC_0ygl1.0								
Akalling (Sachors as CACD)apLNAME81.00081.00081.000Atamin (International CACD)apL41.00011.000Atamin (International CACD)apL41.00011.000Atamin (International CACD)apL41.000110.000100.000 <td< td=""><td></td><td></td><td>-</td><td>-</td><td>-</td><td></td><td></td><td></td></td<>			-	-	-			
Akaing (updamate a CeCo.) 194. - - - -<			-	-	-			
Binne IPIL I I I I </td <td>Alkalinity (Carbonate as CaCO₃)</td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>20,800</td> <td></td>	Alkalinity (Carbonate as CaCO ₃)		-	-	-		20,800	
Chandejugh3/23/21000190.000199.000199.000199.000BindesJugh1.5001.5001.5001.5001.7001.20.000BindesJugh1.001.001.001.20.0001.20.0001.20.0001.20.000BindesJugh1.001.001.001.001.001.001.001.00Conur InaColular1.001.001.001.001.001.001.001.00Conur InaMalyon1.001.001.001.001.001.001.001.001.00Conur InaMalyon1.001.0	Alkalinity (Hydroxide) as CaCO ₃	µg/L	-	-	-	<1,000		
Namenpd100.100047.0047.0007.0007.00Salphanpd.00.00000.00010.00010.00000.00000.00000.000Salphanpd0.00.035.0410410410410Salphanpd0.00.010.010.0410410410410Salphanpd1.01.7.21.0.0 <t< td=""><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td></t<>			-					
Skiptedejpil-900.000900.000920.00<				250,000				
Signing ight - - - - 300 410 419 Gorun Tun Gorun Tun Gorun Tun - 10 - 1,1 -0.02 -0.03 Granu Tun Aburn - - 1,1 -0.02 6.03 -0.03 Basend Ogane Carbon (DOC) Ight - - - 12.00 3.03 4.00 Tale Gorun Carbon (DOC) Ight - - 2.00 - 2.00 - - 2.00 - - 2.00 - - 0.05 - - 0.05 - - 0.05 - - 0.05 - - 0.05 - - 0.05 - 0.05 - 0.05 - 0.05 - 0.05 - 0.05 - 0.05 - 0.05 - 0.05 - 0.05 - 0.05 0.05 - - 0.05 0.05 0.05 0.05				-				
Subjects of 15.0: upit - 00 90 922 <11 <11 OVA brockno (6, 20 hm ALUrn - 15 - 6.8 6.50 6.50 OVA brockno (6, 20 hm AUrn - - 0.141 0.902 0.893 Transmumer, (0, 100) ygt - - 27.50 1.702 4.000 Table Open (Cator) (FOC) ygt - - 1.91.090 2.50 <5.5			1	500,000	500,000			
Codur, The Codur,			-	-	-			
MAssense © 234m Altern · · 0.141 0.052 0.063 Carbon · · 72.3 86.7 82.6 Carbon · · 12.3 86.7 82.6 Carbon · · 128.0 3.370 4.005 Taid Organic Carbon (TOC) ·pg.1 · · 128.0 3.370 4.374 Carbon Data · · · 100.5 <								
Transmittone, UV (g2 Shrap)% Tran <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
Garbon Seconder Gargenic Carlon (TOC) pg/L 4.003 - 7.17.500 3.370 4.000 Chander Gargenic Carlon (TOC) pg/L 2000 - 2000 r.50 7.500 3.370 4.000 Cynalds pg/L 2000 - 2000 r.50 r.50 - Openator pg/L 0.000 - 10.53 c.50 - Metarue pg/L 10.000 - 10.000 41.2 - - Metarue pg/L 10.000 - 10.000 41.2 < - <t< td=""><td><u> </u></td><td></td><td>1</td><td>-</td><td></td><td></td><td></td><td></td></t<>	<u> </u>		1	-				
Disasver Organic Carbon (FOC) μpt . <		70 17011			-	12.0	00.1	02.0
Total Cogna μgL 4.000 . 101000 7.280 8.400 Cyanola Conto μgL 200 - 200 <8.0		μg/L	-	-	-	27,500	3,370	4,000
Gyaniso Unit 200 - 200 <5.0 <5.0 <5.0 Gates - - - 10.5 <5.0 <5.0 Methins μpt - - - 10.00 - 10.00 -			4,000	-	-			
General ppnv - - 10.5 4.5.0. - Mathum ppnv - - 4.000 - - Mathum ppl. 10.000 - 0.000 4.12 <50.0	Cyanide				· · ·			
Matheme ppd - - - 43.005 - - Nutrike (as N) j.pd. 10.00 - 10.000 412.0 550.0 Nutrike (as N) j.pd. 10.00 - 10.00 412.0 550.0 Disolved Mathema 100.0 - 10.00 510.0 7.8 2.7 Aminum j.pd. 2.000 100.0 5.00 410.0 6.20 6.0		μg/L	200	-	200	<5.0	<5.0	<5.0
Methanian prpmv . <				1				
Nutries view			-	-	-		<5.0	-
Name µgL 10.000 - 10,000 41.2 45.00 45.00 Dissolved Metals Aurinum µgL 2.000 100 9.500 126 7.8 2.7 Ardinory µgL 6 - 6 2.06 0.91 6.71 Arenico µgL 10 - 10 1.14 0.9 6.23 Barium µgL 2.000 - 1.000 352 46.3 418 Baryllum µgL - - 8 -0.100 -0.100 -0.100 Baron µgL 5.000 - 5.600 2.80 -371 352 Contam µgL 7 - 5 -0.0167 0.901 -0.00 -0.007 0.903 0.007 Contam µgL - - 1 0.42 0.48 1/4 Contam µgL - - 1 0.40 0.50 -1 0.007		ppmv	-	-	-	43,600	-	-
Nome up1. 1.000 - 1.000 9.6 to 9.6 to. 9.6 to. Aluminum µg4. 2.600 100 9.800 33g 7.8 2.7 Austanony µg4. 6.6 . 8.6 2.06 0.91 8.2.7 Arisenko µg4. 10 . 10.00 3.82 4.8.3 4.8 Bardam µg4. 2.000 . 1.000 3.82 4.8.3 4.8 Bergdim µg4. 0.0054 0.0054 0.0014 0.010 40.100 40.001 40.001 40.00 . 0.0014 0.0124 0.80 0.0734 0.022 0.80 0.0736 0.0178 0.003 0.073 0.0078 0.0178 0.003 0.073 0.0078 0.0178 0.003 0.0178 0.003 0.0178 0.001 1.000 1.000 1.000 1.000 1.000 1.001 1.010 0.0178 0.001 <td></td> <td></td> <td>10.000</td> <td></td> <td>10.000</td> <td>44.0</td> <td>-50.0</td> <td>~50.0</td>			10.000		10.000	44.0	-50.0	~50.0
Dissover Metals Numbur UppL 2.200 100 9.500 118 7.8 2.7 Aminory µgL 6 - 6 2.08 0.91 5.71 Aminory µgL 6 - 6.8 4.010 4.13 0.9 6.23 Barum µgL 2.000 - 1.000 3.52 4.8.3 4.18 Born µgL 5.00 - 5.000 2.000 40.100 40.100 Born µgL 7 - 5 0.018 0.0534 0.0734 Cadium µgL 7 - 50 42.50 3.8,900 1.00 5.00 7.00.53 0.0734 0.053 0.0734 0.053 0.0734 0.061 0.027 0.053 0.0734 0.061 0.027 0.053 0.0734 0.061 0.027 0.053 0.0734 0.061 0.027 0.053 0.0734 0.061 0.027 0.050 0.026 0.00				-				
Aurmen μgh 2.90 100 9.00 132 7.8 2.7 Araeno μgh 0 - 10 1.14 0.9 6.23 Barlum μgh 2.00 - 1.00 3.52 4.8.3 4.18 Berylum μgh - - 8 <0.100		ug/L	1,000	-	1,000	-5.0	<10.0	<10.0
Artenory μgL 6 - 6 2.06 0.91 5.21 Barlum μgL 10 - 100 1.14 0.9 6.33 Barlum μgL - - 8 40.100 40.100 40.100 Barnum μgL - - 8 40.100 40.100 40.100 Barnum μgL 5.000 2.000 5.000 2.00 40.301 40.331 6.33 Cadmum μgL 7 - 5 0.0166 0.0334 0.0731 Cadsum μgL 50 - 10 0.42 0.48 174 Casau μgL - - 1 0.42 0.48 174 Casau μgL - - 10 0.073 40.50 40.100 Casau μgL - - 10 0.073 40.50 41.100 11.1 75 11 0.0050 40.0050		ua/l	2,900	100	9,500	136	7.8	27
Arsenic μgL 10 - 10 1.14 0.0 6.23 Barlum μgL 2.000 - 1.000 352 46.3 418 Barylum μgL - - 8 40.100 40.100 40.100 Borndm μgL 5.000 - 5.000 40.000 40.100 Cardinum μgL 5.00 - 5.000 40.500 40.500 Cardinum μgL 5.0 - 5.00 40.500 40.500 Cardinum μgL 5.0 - 1.002 0.053 40.20 4.000 Cardinum μgL - - 1 0.42 0.48 1.74 Coper μgL - - 1 0.057 0.053 40.20 0.55 Irin μgL - - 10 0.073 40.050 40.050 40.050 40.050 40.050 40.050 40.050 40.050 40								
Barlum µpL 2.000 . 1.000 352 48.3 418 Berylham µpL . . . 8 <0.100				-				
Berylium μgA - - 8 -0.100 <0.100 <0.100 Bronth μgA 5,000 - 5,000 240 371 328 Cadnium μgA 7 - 5 0.0186 0.03341 0.07341 Cadnium μgA 7 - 50 47.000 38.900 Cadnium μgA 50 - 7.000 62.800 39.900 Cabiat μgA - - 1 0.042 0.053 47.00 Cabiat μgA - - 1 0.042 0.053 40.20 1.500 Ion μgA - 3000 6,500 17.41 178 787 Laad μgA 1 - 18 6.8 20.6 14.11 Marganese μgA 120 20 1.500 141 110 112 Marganese μgA - - 5.300 4.0005				-				
Boron yg/L 5.000 - 5.00 240 371 329 Cadnum yg/L 7 - 5 0.0168 0.0344 0.0734 Cadnum yg/L 50 - 50 50.0186 0.0344 0.0734 Candum yg/L 50 - 50.0 50.0 30.00 0.053 0.0736 Cabat yg/L 2.000 1.000 15.00 0.53 40.26 0.955 Condum yg/L 2.000 1.000 15.00 0.53 40.26 40.86 Cabat pg/L 5 - 10 0.073 40.86 40.10 Linhum pg/L 5 - 11 0.073 40.86 40.200 Marganese pg/L 1 - 1 40.050 40.000 40.000 40.0000 40.0000 40.0000 40.0000 40.0000 40.0000 40.0000 40.0000 40.0000 40.0000 40.0000<	Beryllium		-	-	8	<0.100	<0.100	<0.100
Cadmium µg/L 7 - 5 0.0188 0.0394 0.0734 Calbum µg/L 50 - 50 40.60 42.600 38.800 Cronnum µg/L 50 - 50 40.60 40.60 38.800 Cobalt µg/L - - 0.877 0.083 40.20 0.55 Cobalt µg/L 2.000 1.000 1.500 0.38 40.20 0.55 Iron µg/L - - 10 0.073 <0.050	Bismuth	μg/L	-	-	-			
Catolum μg/L - - 7.600 62.800 38.900 Chromum μg/L 50 - 50 - 50 < 0.657 0.0633 0.078 Cebult μg/L 2 - 1 0.42 0.433 <0.078 Copper μg/L 2.000 1.000 1.500 0.633 <0.078 Copper μg/L 2.000 1.000 1.500 0.650 <0.073 <0.050 <0.100 Unham μg/L - - 8 6.80 20.66 <0.100 Magnesum μg/L 1 - 1 0 0.73 <0.905 <0.100 Magnesum μg/L - - 8 6.80 20.66 41.10 112 Magnesum μg/L 1 - 1 0.0073 4.005 4.005 Magnesum μg/L - - 1.00 0.141 110 112 Macass <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td>				-				
Chromium µgl. 50 - 50 <0.50 <0.50 <0.50 <0.50 Cebuit µgl. - - 0.057 0.063 0.073 Cobuit µgl. 2.000 1.000 1.500 0.53 <0.20			7	-	5			
Coslum µg/L - - 1 0.057 0.063 0.078 Cobalt µg/L - - 1 0.42 0.48 1.74 Copper µg/L 2.000 1.000 1.500 0.53 <0.20				-				
Cabalt jpl - 1 0.42 0.43 1.74 Copper jpjL 2,000 1,000 1,500 0.53 0.20 0.55 Iran jpjL - 300 6,500 1.74 178 787 Laad jpjL - - 8 6.8 20.60 40.10 Magnessim jpjL - - 5.590 47,700 34.200 Marganese jpjL 10 - 1 <0.0050								
Copper µg/L 2.000 1.000 1.500 0.53 40.20 0.55 ten µg/L 5 - 10 0.073 <0.050			1					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $					-			
Lead μg/L 5 - 10 0.073 <0.050 <0.003 Lithium μg/L - - 8 6.8 20.6 14.1 Marganese μg/L 120 20 1.500 141 112 141 112 Marganese μg/L 12 20 1.500 141 112 3.92 30.4 Malydohum μg/L - - 80 3.47 1.52 11.1 Phosphorus μg/L - - 80 3.47 1.52 11.1 Phosphorus μg/L - - - 5.160 4.400 3.390 Rubidum μg/L - - - 1.88 2.4 2.38 Selonium μg/L - - - 2.040 4.860 4.070 Silcon μg/L - - - 2.040 4.860 4.070 Silchum μg/L -								
Lithum $\mu gl.$ - - 8 6.8 20.6 14.1 Magnesium $\mu gl.$ 1 - 5.390 47.700 34.200 Manganese $\mu gl.$ 120 20 1.500 111 110 112 Mercury $\mu gl.$ 1 - 1 <0.050								
Magnesim μg/L - - 5.390 47.700 5342.00 Manganese μg/L 120 20 1,500 141 110 121 Mergary μg/L 1 - 1 <0.0050	Lithium			-	8		20.6	14.1
Mercury μg/L 1 - 1 <0.0050 <0.0050 <0.0050 Molydenum μg/L - - 250 19.2 3.32 30.4 Nickel μg/L - - 80 3.47 1.52 11.1 Phosphorus μg/L - - - 5.180 4.400 3.390 Rubidium μg/L - - 1 1.88 2.4 2.38 Selenium μg/L - - 1.0 0.941 1.76 3.01 Silcon μg/L - - 2.040 4.860 4.070 Silcon μg/L - - 2.010 <0.010	Magnesium		-	-	-	5,390	47,700	34,200
Molybdenum μg/L - 250 11.2 3.32 30.4 Nickel μg/L - - 80 3.47 1.52 11.1 Phosphorus μg/L - - 80 3.47 1.52 11.1 Phosphorus μg/L - - 80 3.47 1.52 11.1 Phosphorus μg/L - - 5.180 4.400 3.390 Rubidum μg/L 50 - 10 0.941 1.76 3.01 Siloar μg/L 50 - 10 0.941 4.660 4.070 Silver μg/L - - 20 <0.010	Manganese	μg/L	120	20	1,500	<u>141</u>	<u>110</u>	<u>112</u>
Nickel $\mu g L$ - - 80 3.47 1.52 11.1 Phosphorus $\mu g L$ - - - <			1	-				
Phosphorus μg/L - - - 550 <50 <100 Potassium μg/L - - 5,180 4,400 3,390 Rubidium μg/L - - 5,180 4,400 3,390 Selenium μg/L - - 10 0.941 1.76 3,01 Silicon μg/L - - 2,040 4,860 4,070 Silicon μg/L - 20 <0,010	-		-	-				
Potassium μg/L · · · 5,180 4,400 3,390 Rubidium μg/L · · · · 1.88 2.4 2.38 Selenium μg/L 50 · 10 0.941 1.76 3.01 Silcon μg/L · · · 2.040 4.860 4.070 Silver μg/L · · 2.0000 200.000 244.000 360.000 401.000 Storthum μg/L · 20 <0.010			1	-				
Rubidium μg/L - - 1.88 2.4 2.38 Selenium μg/L 50 - 10 0.941 1.76 3.01 Silicon μg/L - - 2.040 4.860 4.070 Silver μg/L - 20 <0.010				-				
Selenium µg/L 50 . 10 0.941 1.76 3.01 Silicon µg/L - - 2.040 4.860 4.070 Silicor µg/L - - 20 <0.010								
Silicon μg/L - - 2,040 4,860 4,070 Silver μg/L - - 20 <0.010								
Silver µg/L - 20 <0.010 <0.020 Sodium µg/L - 200,000 204,000 360,000 401,000 Stontium µg/L 7,000 - 2,500 150 994 598 Sulphur µg/L - - - 11,000 51,000 42,800 Tellurium µg/L - - - 40,010 <0,202								
Sodium μg/L - 200,000 200,000 244.000 360.000 401.000 Strontium μg/L 7,000 - 2,500 150 994 598 Sulphur μg/L - - - 11,000 51,000 42,800 Tellurium μg/L - - - 40,20 <0,20			1	-				
Strontium μg/L 7,000 - 2,500 150 994 598 Sulphur μg/L - - - 11,000 51,000 42,800 Tellurium μg/L - - - <0.20				200,000				
Sulphur $\mu g/L$ - - 11,000 51,000 42,800 Tellurium $\mu g/L$ - - <0.20			7,000					
Tellurium $\mu g/L$ <0.20<0.20<0.40Thallium $\mu g/L$ <0.010	Sulphur			-				
Thorium μg/L - - - <		µg/L	-	-	-			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				-	-			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			1					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			-	-				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $								
Vanadium μg/L - - 20 0.59 <0.50 <1.00 Zinc μg/L - 5,000 3,000 2 2.2 4.3 Zirconium μg/L - - - <0.20								
Zincμg/L-5,0003,00022.24.3Zirconiumμg/L<								
Zirconiumμg/L<<<<0.350.41Total MetalsAluminumμg/L2,9001009,50072,3003.140165Antimonyμg/L6-61.680.996.96Arsenicμg/L10-1032.53.6221.4Bariumμg/L2,000-1,0009,270206467Berylliumμg/L85.830.213<0.100								
Total Metals μg/L 2,900 100 9,500 72,300 3,140 165 Aluminum μg/L 6 - 6 1.68 0.99 6.96 Antimony μg/L 10 - 10 32.5 3.62 21.4 Barium μg/L 2,000 - 1,000 9.270 206 467 Beryllium μg/L - - 8 5.83 0.213 <0.100			1					
Aluminumμg/L2,9001009,50072,3003,140165Antimonyμg/L6-61.680.996.96Arsenicμg/L10-1032.53.6221.4Bariumμg/L2,000-1,0009,270206467Berylliumμg/L85.830.213<0.100		F-9 [,] =	<u>ı</u>	1	<u> </u>		#	
Antimony μg/L 6 - 6 1.68 0.99 6.96 Arsenic μg/L 10 - 10 32.5 3.62 21.4 Barium μg/L 2,000 - 1,000 9.270 206 467 Beryllium μg/L - - 8 5.83 0.213 <0.100		µg/L	2,900	100	9,500	<u>72,300</u>	<u>3,14</u> 0	<u>165</u>
Arsenic μg/L 10 - 10 32.5 3.62 21.4 Barium μg/L 2,000 - 1,000 9,270 206 467 Beryllium μg/L - - 8 5.83 0.213 <0.100								
Barium μg/L 2,000 - 1,000 9,270 206 467 Beryllium μg/L - - 8 5.83 0.213 <0.100	Arsenic			-			3.62	
Bismuth μg/L - - 1.36 <0.100 <0.100 Boron μg/L 5,000 - 5,000 284 319 352 Cadmium μg/L 7 - 5 14.7 0.318 0.116 Calcium μg/L - - - 32,500 55,300 41,000		µg/L	2,000	-				
Boron µg/L 5,000 - 5,000 284 319 352 Cadmium µg/L 7 - 5 14.7 0.318 0.116 Calcium µg/L - - - 32,500 55,300 41,000	, , , , , , , , , , , , , , , , , , ,	µg/L	-	-	8			
Cadmium µg/L 7 - 5 14.7 0.318 0.116 Calcium µg/L - - - 32,500 55,300 41,000				-				
Calcium µg/L 32,500 55,300 41,000								
				-				
Chromium μg/L 50 - 50 <u>194</u> 8.17 <1.00								



Table 1: Groundwater Analytical Results

				Location Code	Location 2	Loca	tion 3
				Field ID	Location 2	Location 3	Location 3
				Date	20 Aug 2024	09 Sep 2024	20 Nov 2024
				Lab Report Number	FJ2402491	FJ2402712	FJ2403536
				Sample Code	FJ2402491-001	FJ2402712-001	FJ2403536-001
Parameter	Unit	GC	DWQ	CSR - DW			
Farameter	Onit	MAC	OV	CSR - DW			
Cesium	µg/L	-	-	-	16.1	1.53	0.125
Cobalt	μg/L	-	-	1	89.1	3.41	1.9
Copper	μg/L	2,000	1,000	1,500	295	13.4	2.64
ron	μg/L	-	300	6,500	<u>274000</u>	<u>18,800</u>	<u>3,170</u>
Lead	µg/L	5	-	10	<u>102</u>	5.62	0.556
Lithium	µg/L	-	-	8	119	22.8	15.4
Magnesium	µg/L	-	-	-	35,500	51,400	36,200
Vanganese	μg/L	120	20	1,500	4,590	251	115
Mercury	μg/L	1	-	1	1.43	0.0608	< 0.0050
Molybdenum	μg/L	-	-	250	9.22	3.97	33.5
Nickel	μg/L	-	-	80	328	12	11.9
Phosphorus	μg/L	-	-	-	4,070	140	<100
Potassium	μg/L	-	-	-	14,400	4,600	3,390
Rubidium	μg/L	-	-	-	97.2	9.91	2.7
Selenium	μg/L	50	-	10	4.38	1.9	3.15
Silicon	μg/L	-	-	-	87,200	10,000	4,680
Silver	μg/L	-		20	3.59	0.122	<0.020
Sodium	μg/L	_	200,000	200,000	232,000	362,000	395,000
Strontium	μ <u>g</u> /L	7,000	-	2,500	528	1,040	665
Sulphur	μg/L	-	-	-	14,000	57,800	48,800
Tellurium	μg/L	-		-	<1.00	<0.40	<0.40
Thallium	μg/L	-	-	-	1.35	0.088	0.028
Thorium	μg/L	-	-		34.8	1.5	<0.20
Tin	μg/L	-	-	2,500	<0.50	<0.20	<0.20
Titanium	μg/L	-	-	-	107	18.7	5.54
Tungsten	μg/L	-	-	3	<0.50	<0.20	0.33
Uranium		20	-	20	10.7	1.79	6.95
	μg/L		-	20	233	11.8	1.27
Vanadium	μg/L	-	-				
Zinc	μg/L	-	5,000	3,000	1,030	76.7	9.2
	µg/L	-	-	-	<1.00	<0.40	0.64
BTEXS & MTBE				r .		-0.50	
Benzene	µg/L	5	-	5	-	<0.50	-
	µg/L	60	24	60	-	<0.50	-
Ethylbenzene	µg/L	140	1.6	140	-	< 0.50	-
Xylenes (m & p)	μg/L	-	-	-	-	<0.40	-
Xylene (o)	μg/L	-	-	-	-	< 0.30	-
Xylenes Total	μg/L	90	20	90	-	<0.50	-
Styrene	µg/L	-	-	800	-	<0.50	-
Methyl t-butyl ether (MTBE)	μg/L	-	15	95	-	<0.50	-
Hydrocarbons							1
=1 (C ₆ -C ₁₀)	μg/L	-	-	-	-	<100	-
F1 (C ₆ -C ₁₀) less BTEX	μg/L	-	-	-	-	<100	-
/olatile Hydrocarbons						Π	Γ
VHs (C ₆ -C ₁₀)	ug/L	-	-	-	-	<100	-
/PHw	μg/L	-	-	-	-	<100	-
Notes:							
CSR				nated Sites Regulation			
Con			ng amendments u	p to B.C. Reg. 133/202	2, effective March 1	I, 2023). Schedule 3	3.2
DW	Drinking Water Sta	ndards					
GCDWQ	Health Canada. 20	22. Guidelines for (Canadian Drinking	Water Quality Summa	ry Table.		
MAC	Maximum Allowabl		-				

MAC Maximum Allowable Concentration. OV Other Value refers to the aesthetic objectives of operational guidance values according to the GCDWQ criteria. Bold underlined indicates an exceedance of one or more GCDWQ standards. Bold Underlined Shaded

Shaded indicates an exceedance of the applicable CSR DW standards.



Table 2: Soil Vapour Analytical Results

		Location Code	Location 2	Loca	ion 3
		Field ID	Location 2	Location 3	Location 3
		Date	23 Aug 2024	09 Sep 2024	20 Nov 2024
		Lab Report Number	FJ2402552	FJ2402713	FJ2403535
		Sample Code	FJ2402552-001	FJ2402713-001	FJ2403535-00 ⁻
Parameter	Unit	CSR - RL			
Physical Parameters					
Pressure on receipt	Inches Hg	-	-8.17	-2.05	-6.13
Gases	•				
Methane	%	-	<0.050	<0.050	<0.050
Sulfur Compounds/Volatile Organic Compound	ls (VOCs)				
I-Butyl mercaptan	ppbv	-	<4.0	<4.0	<4.0
	µg/m3	-	<15	<15	<15
Carbon disulfide	ppbv	- 700	45.7 142	<2.0 <6.2	<2.0 <6.2
	µg/m3 ppbv	-	247	9.6	<0.2
Carbonyl Sulphide	μg/m3		607	24	<10
	ug/m3	-	<10	<10	<10
Diethyl Disulfide	ppbv	-	<2.0	<2.0	<2.0
	ppbv	-	<4.0	<4.0	<4.0
Diethyl sulphide	μg/m3	-	<15	<15	<15
Dimethyl Disulphide	ppbv	-	<2.0	<2.0	<2.0
	mg/m3	-	<0.0077	<0.0077	<0.0077
Dimethyl Sulfide	ppbv	-	<4.0	<4.0	<4.0
	µg/m3	-	<10	<10	<10
Dimethylthiophene, 2,5-	ppbv	-	<4.0	<4.0	<4.0
· · ·	ug/m3	-	<18	<18	<18
Ethyl Mercaptan	ppbv	-	<4.0 <10	<4.0 <10	<4.0 <10
	μg/m3 ug/m3	-	<10	<10	<10
Ethyl Methyl Sulfide	ppbv	-	<4.0	<4.0	<4.0
	ppbv	-	<4.0	<4.0	<4.0
Ethylthiophene, 2-	ug/m3	-	<18	<18	<18
	ppbv	-	13.5	<4.0	<4.0
Hydrogen sulfide	μg/m3	-	18.8	<5.6	<5.6
so-Butyl mercaptan	ppbv	-	<4.0	<12	<4.0
	ug/m3	-	<15	<4.0	<15
sopropyl Mercaptan	ug/m3	-	<12	<4.0	<12
	ppbv	-	<4.0	<15	<4.0
Methyl Mercaptan	ppbv	-	<4.0	<4.0	<4.0
	µg/m3	2	<7.9	<7.9	<7.9
I-Propanethiol	ppbv µg/m3	-	<4.0 <12	<4.0 <12	<4.0 <12
	ppbv	-	<4.0	<4.0	<4.0
Methylthiophene, 2-	ug/m3	-	<16	<16	<16
	ppbv	-	<4.0	<4.0	<4.0
Methylthiophene, 3-	ug/m3	-	<16	<16	<16
see Butyl Mercanton + Thionhono	ppbv	-	<6.0	<6.0	<6.0
sec-Butyl Mercaptan + Thiophene	ug/m3	-	<21	<21	<21
Sulfur, total reduced (as H2S), 10 compounds	ug/m3	-	427	<16	<16
Sulfur, total reduced (as H2S), 22 compounds	ug/m3	-	427	<25	<25
Sulfur, total reduced (as H2S), NPRI 6	ug/m3	-	427	13	<12
Sulfur, total reduced (as H2S), Ontario 4	ug/m3	-	19	<11	<11
	ppbv	-	<4.0	<4.0	<4.0
-Butyl mercaptan	ug/m3	-	<15	<15	<15
etrahydrothiophene	ppbv	-	<4.0	<4.0	<4.0
	µg/m3	-	<14	<14	<14
Notes: CSR	375/96, deposited B.C. Reg. 133/202	nagement Act (EMA). 1996/12/16, O.C. 148 22, effective March 1, 2	0/96, effective 1997	/04/01 (including am	
RL	Residential Land I				
Shaded	Shaded indicates attenuation factors	an exceedance of the S.	CSR Schedule stan	dards prior to applyi	ng applicable

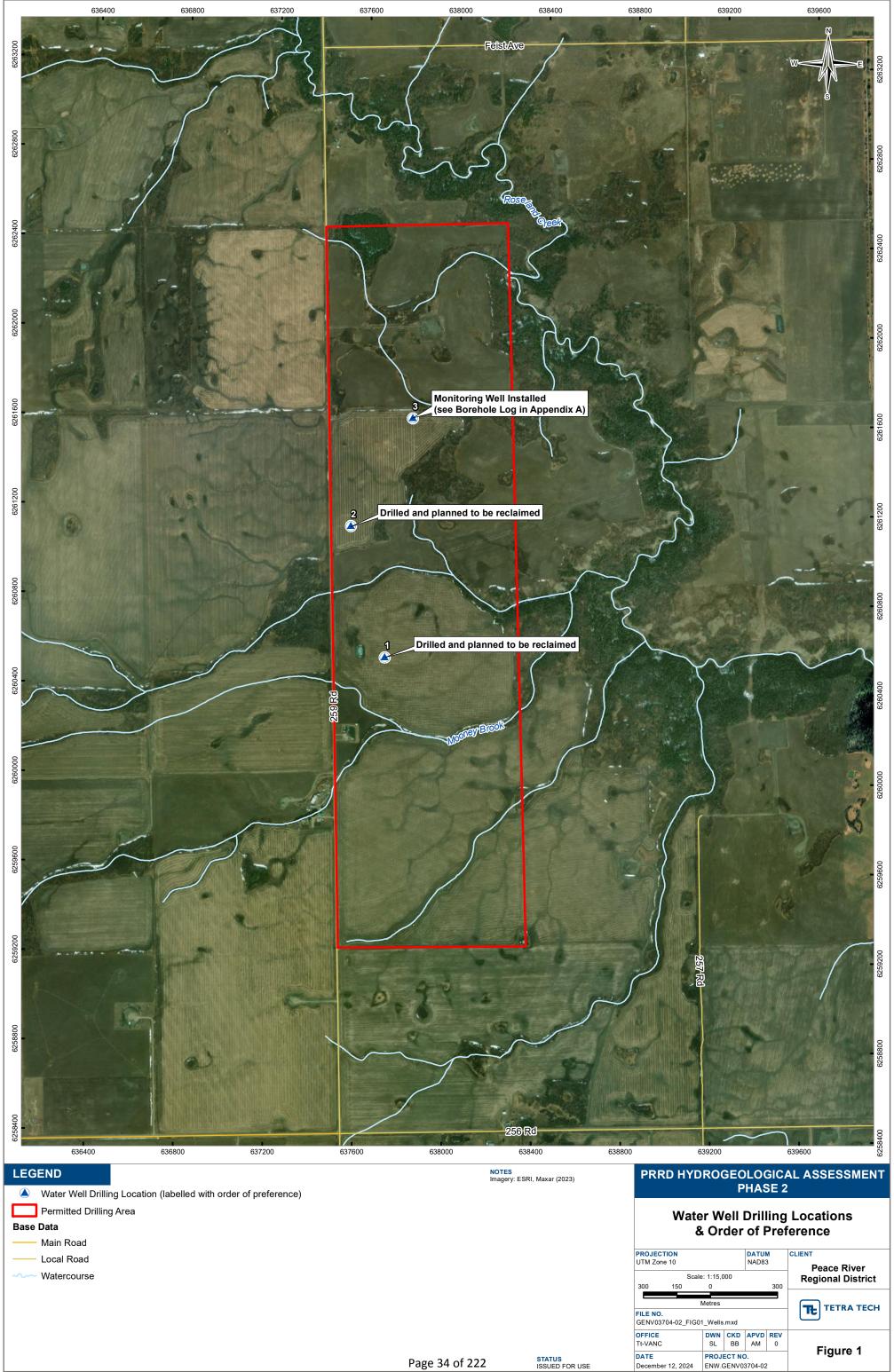


FIGURES

Figure 1 Water Well Drilling Locations & Order of Preference



G:\ENVIRONMENTAL\GENV\GENV03704-02\GIS\Maps\GENV03704-02_FIG01_Wells.mxd modified 12/12/2024 by Stephanie.Leusink



APPENDIX A

BOREHOLE LOGS



		and Diver Degional	Borehole No: Location 1					
	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test	Project No: EN	W.GENV03704-02			
		District	Location:	,				
			Rose Prairie, British Columbia					
ے ا	po		Soil		Notes and	٩		
Depth (m)	leth		Description		Comments	(ft)		
	~		2000.000		Commente			
0	-	CLAY - massive, dry, firm, low plastic, dark grey, some	iron oxidation			0		
E								
E						10		
- 5								
E						20		
F								
E						30		
- 10		- trace gravel, angular gravel to 5 mm diameter						
E								
F						40		
Ē.								
- 15 -		SILT - clayey, trace to some gravel, angular gravel to 5	mm diameter, massive, sticky, dry, firm, low plastic, grey, trace iron	oxides		50		
E								
E		CLAY - trace gravel, angular gravel to 10 mm diameter,	, massive, very sticky, moist, medium plastic, grey, 2 mm thick brow	nish yellow clay		60		
- 20		lenses						
Ē						70		
E								
E	tary					80		
- 25 -	Air rotary	- some gravel, sticky, firm				0 10 10 10 10 10 10 10 10 10 1		
E	A					00		
F						30		
E 30								
F		- trace gravel				100		
E								
						110		
- 35								
F		- dry, low plastic, dark grey				120		
F								
E 40						130		
F								
E		- homogeneous, gravel to 5 mm diameter, dense				140		
E		- nonogeneous, graver to 5 min diameter, dense						
45						90 1100 1100 1100 1100 1100 1100 1100 1		
Ē		SANDSTONE (BEDROCK) - coarse grained sandstone	. dark arev					
F			, 5 -)			160		
 50			1					
			Contractor: Carbon Mountain Drilling	Completion De				
		TETRA TECH	Equipment Type: Truck mounted RC	Start Date: 20	•			
'	U	•]	Logged By: FN		ate: 2024 August 19			
			Reviewed Bage 36 of 222	Page 1 of 4				

			Borehole No: Locatio	on 1		
'	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test	Project No: E	NW.GENV03704-02	
		District	Location:			
			Rose Prairie, British Columbia			
Depth (m)	Method		Soil Description		Notes and Comments	Depth (ft)
50	+	+				
		SHALE (BEDROCK) - brittle, hard, black, interbedded y	yellowish brown sand			1170 1170 1170 1170 1170 1170 1170 1170
55						180
E						
E						190
60						
Ē						200
Ē		cottor, dad gravich brown, no visible inclusions				210
65		- softer, dark greyish brown, no visible inclusions				
Ē			1 - 10 - 10 - 10 - 1 - 1 - 1 - 1			220
F		SANDSTONE (BEDROCK) - soft, brownish yellow, inte	rmixed with clay - sticky, low plastic, grey			
- 70						230
E						
E						240
E	iary	SHALE (BEDROCK) - trace sand, coarse grained white sandstone - loose, yellowish brown	e sand, brittle, black, intermixed with siltstone - firm, hard, grey, inter	mixed with		240
- 75 -	Air rotary					
E	Ă					
F						
80		SILTSTONE (BEDROCK) - firm to hard, dense, dark gre	ey, intermixed with clay - sticky, soft			260
F						
E						2001 101 101 101 101 101 101 101 101 101
E						
- 85 -		SHALE (BEDROCK) - brittle, hard, dark grey, intermixed	ad with sticky clay			280
Ē						
						290
- - 90						
Ē						300
E						
E						310
95		SANDSTONE (BEDROCK) - soft, light brown, intermixe	ed with shale - brittle, platy, firm to hard, dark greyish black			510
E						
F		- fine grained sandstone, very hard, grey, no visible in	ıtermix			320
- 100			1			
			Contractor: Carbon Mountain Drilling		Depth: 170.7 m	
17	6	TETRA TECH	Equipment Type: Truck mounted RC		024 August 12	
			Logged By: FN	-	Date: 2024 August 19	
	· · · · · ·		Reviewed Bage 37 of 222	Page 2 of 4		

			Borehole No: Locatio	on 1		
	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test		ENW.GENV03704-02	
		District	Location:			
			Rose Prairie, British Columbia			
(m)	Method		Soil		Notes and	Depth (ft)
۵°	Re		Description		Comments	ă
100						
E						330
E						
E		- dark grey				340
105						
E						350
		SAND - trace gravel, coarse grained sand, subangular g	aroual to 10 mm diameter, day loose, grou		-	
- 110		SAND - trace graver, coarse grained sand, subangular g	ji aver to 10 mini diameter, dry, ioose, grey			360
E						
F						370
E		SHALE (BEDROCK) - brittle, firm, dark grey				
115						
E		SANDSTONE (BEDROCK) - stiff, compacted, dark grey	1			330 340 340 350 350 360 370 370 370 370 400 400 400 400
-						
Ē.						390
- 120		SHALE (BEDROCK) - brittle, platy, firm, dark greyish bl.	ack			
E						400
E	≥					
- 125	Air rotary	SANDSTONE (BEDROCK) - broken to subrounded chu	nks to 10 mm diameter, very stiff to hard, dark grey		-	410
F	Air					
F						420
 130						
- 130 -						430
E						
E						140
- 135						440
-		SHALE (BEDROCK) - brittle, platy, sticky, firm, dark gre	eyish black			450
Ē						
- 140 -		- compact, very hard				460
E						
E						470
- 145		SANDSTONE (BEDROCK) - coarse grained sandstone	, extremely hard, light grey, salt and pepper (white, grey and black)		-	
F			·····			480
Ē						
 150						420 440 440 440 440 440 440 440 440 440
150	-		Contractor: Carbon Mountain Drilling	Completion	Depth: 170.7 m	
		TETRA TECH	Equipment Type: Truck mounted RC		2024 August 12	
			Logged By: FN		Date: 2024 August 19	
			Reviewed Bage 38 of 222	Page 3 of 4		

			Borehole No: Locatio	on 1		
	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test	Project No: I	ENW.GENV03704-02	
		District	Location:	,		
			Rose Prairie, British Columbia			
				-1		
÷.	ро		Soil		Notes and	÷
(m)	Method		Description		Comments	(ff)
	2		,			
<u> 150 </u>		- fine grained sandstone, dark grey				
Ē						500
		SHALE (BEDROCK) - brittle, platy, soft, dark grey				500
- 155						
= "						510
-						
_	2					520
160	Air rotary	SHALE AND SANDSTONE (BEDROCK) - intermixed, h	arder		-	
E	Air					530
E		SANDSTONE - trace soft shale, fine grained sandstone	arithy soft light arou		-	
-			, gnuy, son, light groy			540
- 165 -						
		- hard, limited recovery				550
Ē						550
- 170						
Ē		END OF BOREHOLE (170.7 metres)				560
Ē						
E-						570
- 175 -						
E						580
F						
 180						590
-						
Ē						600
- 185 -						610
È.						
F						
- - 190						620
E						630
È.						
- 195						640
E						650
						650
 200						
		<u></u>	Contractor: Carbon Mountain Drilling	-	Depth: 170.7 m	
	ſ	TETRA TECH	Equipment Type: Truck mounted RC		2024 August 12	
	U		Logged By: FN		Date: 2024 August 19	
			Reviewed Bage 39 of 222	Page 4 of 4		

		and Biver Degional	Borehole No: Locatio	on 2		
	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test	Project No: I	ENW.GENV03704-02	
		District	Location:			
			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 or	rides, trace white fine grained material			
E						10
È.						
5						
Ē						20
E .a						30
= 10 =						
E		- angular gravel to 10 mm diameter, sticky				40
E						
- 15						50
-		- hard boulder approximately 300 mm thick, gravel to	50 mm diameter			
Ē						
E		- some gravel, angular gravel to 10 mm dimeter, mois	t, firm, intermixed with dark brown sand lenses			60
- 20						
Ē						70
E	_					
- 25	otar	- gravel to 5 mm diameter, medium plastic				80
- 20	Air rotary					
F						
- 30		and to deally define and				100
		- sandy, low plastic, dark brown sand				
E						110
- 25						
 40		- trace sand, soft				120=
E						
- 40						130
 45		- silty, sandy, medium plastic				140
45 		SAND secret grained and wat loss intermined of	h day, trace gravel law electic			150
E		SAND - coarse grained sand, wet, loose, intermixed wit	n day - trace graver, iow plastic			
F						90 ¹ 11011111111111111111111111111111111
 50		CLAY - trace gravel, moist, dense, low plastic, dark gre				100
			Contractor: Carbon Mountain Drilling		Depth: 152.4 m	
	1	TETRA TECH	Equipment Type: Truck mounted RC		2024 August 15	
		•]	Logged By: FN		Date: 2024 August 17	
			Reviewed Bage 40 of 222	Page 1 of 4		

	_		Borehole No: Locatio	on 2		
	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test		ENW.GENV03704-02	
		District	Location:			
			Rose Prairie, British Columbia			
<u> </u>						
Depth (m)	Method		Soil Description		Notes and Comments	Depth (ft)
50						
						1100 1100 1100 1100 1100 1100 1100 110
-						
- 55		SHALE (BEDROCK) - fissile, soft, low plastic, dark grey	to black dark brown sand lavers			180
F						
E						190
Ē						
E 60		dru var danas dad may navisible sand sitter m				200
E		- dry, very dense, dark grey, no visible sand, silt or gra	1001			
E						210
65						
E						220
E						
70						230
E		 - angular gravel to 20 mm diameter for 300 mm - trace sand, trace gravel, coarse grained sand, grave 	l to 5 mm diameter, sticky, dark grey to black			230
E						
E	tary					240
75 	Air rotary					
E	◄					250
E						
80						260
E						
-						270
- 85						
_ 00						280
E						
<u> </u>						290
= 90						
E						300
<u> </u>		SANDSTONE (BEDROCK) - angular gravel to 7 mm dia SHALE (BEDROCK) - angular gravel to 7 mm diameter	ameter, hard, dark grey . fissile. drv. verv dense. dark grev	/		
95		SANDSTONE (BEDROCK) - coarse grained sandstone.			-	260 401 401 401 401 401 401 401 401 401 40
F						
Ē		SHALE (BEDROCK) - fissile, dry, very dense, low plast	c, dark grey to black, intermixed with fine grained brown sand		-	320
- - 100						
	1		Contractor: Carbon Mountain Drilling	Completion	Depth: 152.4 m	
		TETRA TECH	Equipment Type: Truck mounted RC	-	2024 August 15	
	U		Logged By: FN	-	Date: 2024 August 17	
			Reviewed Bage 41 of 222	Page 2 of 4		_

			Borehole No: Locatio	on 2		
	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test		ENW.GENV03704-02	
		District	Location:		EINW.GEINV03704-02	
			Rose Prairie, British Columbia			1
Depth (m)	Method		Soil Description		Notes and Comments	Depth (ft)
100						
E		SANDSTONE (BEDROCK) - well graded, hard, grey			-	330
		SHALE (BEDROCK) - sticky, hard, low plastic, dark grey	y to dark brown, intermixed with dark brown sand			3401
105						
		SANDSTONE (BEDROCK) - hard, dark brown			-	350
- - 110						360
						370
- 115 -						380
					Note: Circulation lost, stratigraphy estimated based of Driller	390
- 120					interpretation	
	Z					400
125	Air rotary					330 340 350 350 350 350 350 350 350 350 350 35
						420
 130						
		- non sticky, soft				430
 135						440
 140		- harder				450
 						460
						400
						420 101111111111111111111111111111111111
- 145 - -						480
_ 150			Contractor: Carbon Mountain Drilling	Completion	 Depth: 152.4 m	490
			Equipment Type: Truck mounted RC		2024 August 15	
17	ſ	TETRA TECH	Logged By: FN		Date: 2024 August 17	
			Reviewed Bage 42 of 222	Page 3 of 4		

			Borehole No: Locatio	on 2		
	Pe	eace River Regional	Project: Rose Prairie Water Well Drilling & Pump Test	Project No: I	ENW.GENV03704-02	
		District	Location:	,		
			Rose Prairie, British Columbia			
				•		
ے ب ا	por		Soil		Notes and	Ę_
Depth (m)	Meth		Description		Comments	Depth (ft)
150						
E						500
F		END OF BOREHOLE (152.4 metres)				000
155						
F						510
E						
E						520
- 160 -						
E						530
F						
165						540
E						
E						550
E						
- 170						560
E						
F						570
175						5/0
E						
E						580
 180						
- 180						590
E						
 						600
- 185						
						610
E						620
= 190						
E						630
E						
- 195						
F 193						040
F						
E						$= 500 \\ 51$
200			Contractor: Carbon Mountain Drilling	Completion	l Depth: 152.4 m	
			Equipment Type: Truck mounted RC		2024 August 15	
17	ſ	TETRA TECH	Logged By: FN	-	Date: 2024 August 17	
	_		Reviewed Bage 43 of 222	Page 4 of 4		

			Boreho	le	e No	o: L	_0	cat	ion 3				
	Pe	eace River Regional	Project: Rose Prairie	e Wa	ater Wel	l Drilling	& Pun	np Test	Project No: ENW.GE	NV03	3704	-02	
		District	Location:						,				
			Rose Prairie, British	l Col	umbia								
				be					·	=	Monitoring well		
Depth (m)	Method	Soil Description		Sample Type	5	●V00 10		20	Notes and Comments		Mon		Depth (ft)
					1	■H2S 2	3	4			7	10	0
		CLAY - trace organics, trace gravel, homogeneous, sub mm diameter, moist, firm, medium plastic, light brow	angular gravel to 20				<u> </u>	-	51 mm diameter PVC pipe	╶╫┤	4	— 1.0 m stickup	0
		- boulder											лититититититититититититититититититит
- 15 		- no visible organics, soft to firm, grey		•	F								10000000000000000000000000000000000000
 25	Air rotary	- fine to coarse grained gravel											70 70 80 80 80 80 80
- - - - - - - - - - - - - - - - - - -		- firm											90 100 100
- 30 - 35 - 40 - 45		- trace to some gravel, trace silt, high plastic			•							100	900 1000 1100 1100 1100 1100 1100 1100
45 45 		- increased silt, medium plastic										— 168 mm steel drill casing	140 150 150 160 160
			Contractor: Carbon	Mou	ntain Di	rilling			Completion Depth: 1				
		TETRA TECH	Equipment Type: Tr	uck	mounte	dRC			Start Date: 2024 Sep				
	U		Logged By: TK		_				Completion Date: 202	24 Se	epter	nber 7	
			Reviewed Bage 4	4 o	f 222				Page 1 of 4				

	Dc	and River Perional	Borehol	e	No: Locati	on 3			
	Γt	eace River Regional	Project: Rose Prairie	Wa	ter Well Drilling & Pump Test	Project No: ENW.GE	V0370	4-02	
		District	Location:						
			Rose Prairie, British C	Colu	umbia				
05 Depth (m)	Method	Soil Description	Land C	Sample Lype		Notes and Comments	Monitoring well		Depth (ft)
					· · · · · · · · · · · · · · · · · · ·				
	Air rotary	- no visible gravel							170 110 110 110 110 110 110 110 110 110
		SANDSTONE (BEDROCK) - fine to medium grained sa SHALE (BEDROCK) - weak, brown SANDSTONE AND SHALE (BEDROCK) - interlayered sandstone						 84.4 m, bottom of steel drill casing 	260 270 280 290 290 300 310 310 310
_ 100			Controptory Carbor M		toin Drilling	Completion Death 45	0 5		
			Contractor: Carbon M			Completion Depth: 15		1	
	[-	TETRA TECH	Equipment Type: True	UKI		Start Date: 2024 Sept Completion Date: 202			
		C C	Logged By: TK Reviewed Bage 45	0	5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Page 2 of 4	- Sept		
			I Revieweu By ge 45	0	∠∠∠	raye 2 01 4			

			Boreho	e	No: Locati	on 3			
	-6	eace River Regional			ater Well Drilling & Pump Test	Project No: ENW.GEN	IV03704	1-02	
		District	Location:		· · · · ·				
			Rose Prairie, British	Col	umbia				
Depth (m)	Method	Soil Description		Sample Type	●VOC● 5 10 15 20 ■ ^{H2S} ■ 1 2 3 4	Notes and Comments	Monitoring well		Depth (ft)
									330
		- weak, brownish grey	-						330 340 350 350 350 350 350 350 350 350 350 35
- 115									380
120	Air rotary	SANDSTONE (BEDROCK) - greyish black, some shale							
E		SHALE (BEDROCK) - weak, grey					<u>. – .</u>	 128.0 m, shale trap 	420
									430 440
135		SANDSTONE (BEDROCK) - medium to coarse grained	sandstone						
 140		- harder SHALE (BEDROCK) - weak, dark grey, intermixed fine of	grained sandstone	•				Filter pack 0.020" slot size (20 slot)	450 460 460
145 145 		- some fine grained sandstone, dense						 146.3 m, shale trap 	420111111111111111111111111111111111111
			Contractor: Carbon N			Completion Depth: 15			
		TETRA TECH	Equipment Type: Tru	ıck ı	mounted RC	Start Date: 2024 Septe			
		•]	Logged By: TK		(Completion Date: 202	4 Septe	mber 7	
			Reviewed Bage 46	0 0	t 222	Page 3 of 4			

			Borehol	е	No: Locat	io	n 3			
	26	eace River Regional	Project: Rose Prairie	Wa	ter Well Drilling & Pump Test		Project No: ENW.GEN	V03704	-02	
		District	Location:							
			Rose Prairie, British (Colu	ımbia					
Uepth Depth 150	Method	Soil Description	F	Sample Lype	● VOC ● 5 10 15 20 ■H2S■ 1 2 3 4		Notes and Comments	Monitoring well		Depth (ft)
-										hhh
	Air rotary								← Pea gravel	500 510 510
Ē		END OF BOREHOLE (158.5 metres)							 − 158.5 m 	520
		END OF BOREHOLE (158.5 metres) Monitoring well installed to 146.3 metres							← 138.5 m	500 510 520 530 540 550 560 570 560 600 610 610
										610
 190 										620 630 630
195										640
										6501111
200			Contractor: Carbon M	loui	ntain Drilling		Completion Depth: 158	3.5 m		
		TETRA TECH	Equipment Type: True				Start Date: 2024 Septe			
			Logged By: TK				Completion Date: 2024	Septer	mber 7	
			Reviewed Bage 47	of	· 777		Page 4 of 4			

APPENDIX B

LABORATORY REPORTS



ALS Canada Ltd.



	CER	TIFICATE OF ANALYSIS		
Work Order	: FJ2402491	Page	: 1 of 7	
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John	
Contact	: Andrea McMillan	Account Manager	: Wendy Sears	
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road	
	Calgary AB Canada T2C 3G3		Fort St. John BC Canada V1J 6P3	
Telephone	:	Telephone	: +1 250 261 5517	
Project	: 704.ENV.GENV 03704-02	Date Samples Received	: 21-Aug-2024 09:00	
PO	:	Date Analysis Commenced	: 22-Aug-2024	
C-O-C number	: 20-964332	Issue Date	: 26-Aug-2024 18:23	
Sampler	: Fahim Nazari			
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
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Air Quality, Waterloo, Ontario
Angela Ren	Team Leader - Metals	Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Metals, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Manpreet Cheema	Lab Assistant	Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Owen Cheng		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
µg/L	micrograms per litre
μS/cm	microsiemens 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
ppmv	parts per million (volume/volume)

<: 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.
DTMF	Dissolved concentration exceeds total for field-filtered metals sample. Metallic contaminants may have been introduced to dissolved sample during field filtration.



Sub-Matrix: Water		Clie	ent sample ID	Location 2	 	
(Matrix: Water)						
		Client sampli	ing date / time	20-Aug-2024 17:00	 	
Analyte	CAS Number Method/La	b LOR	Unit	FJ2402491-001	 	
				Result	 	
Physical Tests						
Absorbance, UV (@ 254nm)	E404/VA	0.0050	AU/cm	0.141	 	
Alkalinity, bicarbonate (as CaCO3)	E290/VA	1.0	mg/L	534	 	
Alkalinity, carbonate (as CaCO3)	E290/VA	1.0	mg/L	<1.0	 	
Alkalinity, hydroxide (as CaCO3)	E290/VA	1.0	mg/L	<1.0	 	
Alkalinity, phenolphthalein (as CaCO3)	E290/VA	1.0	mg/L	<1.0	 	
Alkalinity, total (as CaCO3)	E290/VA	1.0	mg/L	534	 	
Colour, true	E329/VA	5.0	CU	5.8	 	
Conductivity	E100/VA	2.0	µS/cm	975	 	
Hardness (as CaCO3), dissolved	EC100/VA	0.60	mg/L	41.2	 	
Hardness (as CaCO3), from total Ca/Mg	EC100A/VA	0.60	mg/L	227	 	
pH	E108/VA	0.10	pH units	7.99	 	
Solids, total dissolved [TDS]	E162/VA	10	mg/L	906	 	
Turbidity	E121/VA	0.10	NTU	>4000	 	
Transmittance, UV (@ 254nm)	E404/VA	1.0	% T/cm	72.3	 	
Anions and Nutrients						
Bromide	24959-67-9 E235.Br-L/VA	0.050	mg/L	<0.250 DLDS	 	
Chloride	16887-00-6 E235.CI/VA	0.50	mg/L	19.0	 	
Fluoride	16984-48-8 E235.F/VA	0.020	mg/L	0.478	 	
Nitrate (as N)	14797-55-8 E235.NO3-L/V	0.0050	mg/L	0.0412	 	
Nitrite (as N)	A 14797-65-0 E235.NO2-L/V	0.0010	mg/L	<0.0050 ^{dlds}	 	
Sulfate (as SO4)	14808-79-8 E235.SO4/VA	0.30	mg/L	12.7	 	
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	27.5	 	
Carbon, total organic [TOC]	E355-L/VA	0.50	mg/L	101	 	
Total Sulfides						
Sulfide, total (as H2S)	7783-06-4 E395-H/VA	0.011	mg/L	0.372	 	
	•	, Dar	ze 51 of 22))		



Sub-Matrix: Water		Cl	ient sample ID	Location 2	 	
(Matrix: Water)						
		Client samp	ling date / time	20-Aug-2024 17:00	 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402491-001	 	
				Result	 	
Total Sulfides		0.010		0.250		
Sulfide, total (as S)	18496-25-8 E395-H/VA	0.010	mg/L	0.350	 	
Total Metals		0.0000		70.0		
Aluminum, total	7429-90-5 E420/VA	0.0030	mg/L	72.3	 	
Antimony, total	7440-36-0 E420/VA	0.00010	mg/L	0.00168	 	
Arsenic, total	7440-38-2 E420/VA	0.00010	mg/L	0.0325	 	
Barium, total	7440-39-3 E420/VA	0.00010	mg/L	9.27	 	
Beryllium, total	7440-41-7 E420/VA	0.000100	mg/L	0.00583	 	
Bismuth, total	7440-69-9 E420/VA	0.000050	mg/L	0.00136	 	
Boron, total	7440-42-8 E420/VA	0.010	mg/L	0.284	 	
Cadmium, total	7440-43-9 E420/VA	0.0000050	mg/L	0.0147	 	
Calcium, total	7440-70-2 E420/VA	0.050	mg/L	32.5	 	
Cesium, total	7440-46-2 E420/VA	0.000010	mg/L	0.0161	 	
Chromium, total	7440-47-3 E420/VA	0.00050	mg/L	0.194	 	
Cobalt, total	7440-48-4 E420/VA	0.00010	mg/L	0.0891	 	
Copper, total	7440-50-8 E420/VA	0.00050	mg/L	0.295	 	
Iron, total	7439-89-6 E420/VA	0.010	mg/L	274	 	
Lead, total	7439-92-1 E420/VA	0.000050	mg/L	0.102	 	
Lithium, total	7439-93-2 E420/VA	0.0010	mg/L	0.119	 	
Magnesium, total	7439-95-4 E420/VA	0.0050	mg/L	35.5	 	
Manganese, total	7439-96-5 E420/VA	0.00010	mg/L	4.59	 	
Mercury, total	7439-97-6 E508/VA	0.0000050	mg/L	0.00143	 	
Molybdenum, total	7439-98-7 E420/VA	0.000050	mg/L	0.00922	 	
Nickel, total	7440-02-0 E420/VA	0.00050	mg/L	0.328	 	
Phosphorus, total	7723-14-0 E420/VA	0.050	mg/L	4.07	 	
Potassium, total	7440-09-7 E420/VA	0.050	mg/L	14.4	 	
Rubidium, total	7440-17-7 E420/VA	0.00020	mg/L	0.0972	 	
Selenium, total	7782-49-2 E420/VA	0.000050	mg/L	0.00438	 	
Silicon, total	7440-21-3 E420/VA	0.10	mg/L	87.2	 	
Silver, total	7440-22-4 E420/VA	0.000010	mg/L	0.00359	 	
Sodium, total	7440-23-5 E420/VA	0.050	mg/L	232	 	
	7440-23-3 - 20, 17	0.000	iiig/L	202		



Sub-Matrix: Water		Cl	lient sample ID	Location 2	 	
(Matrix: Water)						
		Client samp	ling date / time	20-Aug-2024 17:00	 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402491-001	 	
				Result	 	
Total Metals						
Strontium, total	7440-24-6 E420/VA	0.00020	mg/L	0.528	 	
Sulfur, total	7704-34-9 E420/VA	0.50	mg/L	14.0	 	
Tellurium, total	13494-80-9 E420/VA	0.00020	mg/L	<0.00100 DLA	 	
Thallium, total	7440-28-0 E420/VA	0.000010	mg/L	0.00135	 	
Thorium, total	7440-29-1 E420/VA	0.00010	mg/L	0.0348	 	
Tin, total	7440-31-5 E420/VA	0.00010	mg/L	<0.00050 ^{dla}	 	
Titanium, total	7440-32-6 E420/VA	0.00030	mg/L	0.107	 	
Tungsten, total	7440-33-7 E420/VA	0.00010	mg/L	<0.00050 ^{dla}	 	
Uranium, total	7440-61-1 E420/VA	0.000010	mg/L	0.0107	 	
Vanadium, total	7440-62-2 E420/VA	0.00050	mg/L	0.233	 	
Zinc, total	7440-66-6 E420/VA	0.0030	mg/L	1.03	 	
Zirconium, total	7440-67-7 E420/VA	0.00020	mg/L	<0.00100 DLA	 	
Dissolved Metals						
Aluminum, dissolved	7429-90-5 E421/VA	0.0010	mg/L	0.136	 	
Antimony, dissolved	7440-36-0 E421/VA	0.00010	mg/L	0.00206	 	
Arsenic, dissolved	7440-38-2 E421/VA	0.00010	mg/L	0.00114	 	
Barium, dissolved	7440-39-3 E421/VA	0.00010	mg/L	0.352	 	
Beryllium, dissolved	7440-41-7 E421/VA	0.000100	mg/L	<0.000100	 	
Bismuth, dissolved	7440-69-9 E421/VA	0.000050	mg/L	<0.000050	 	
Boron, dissolved	7440-42-8 E421/VA	0.010	mg/L	0.240	 	
Cadmium, dissolved	7440-43-9 E421/VA	0.0000050	mg/L	0.0000186	 	
Calcium, dissolved	7440-70-2 E421/VA	0.050	mg/L	7.60	 	
Cesium, dissolved	7440-46-2 E421/VA	0.000010	mg/L	0.000057	 	
Chromium, dissolved	7440-47-3 E421/VA	0.00050	mg/L	<0.00050	 	
Cobalt, dissolved	7440-48-4 E421/VA	0.00010	mg/L	0.00042	 	
Copper, dissolved	7440-50-8 E421/VA	0.00020	mg/L	0.00053	 	
Iron, dissolved	7439-89-6 E421/VA	0.010	mg/L	0.174	 	
Lead, dissolved	7439-92-1 E421/VA	0.000050	mg/L	0.000073	 	
Lithium, dissolved	7439-93-2 E421/VA	0.0010	mg/L	0.0068	 	
Magnesium, dissolved	7439-95-2 E 12 // VA	0.0050	mg/L	5.39	 	
magnesium, uissoiveu	1408-80-4	0.0000	iiig/∟	0.00	 	



Sub-Matrix: Water		Cl	ient sample ID	Location 2	 	
(Matrix: Water)						
		Client samp	ling date / time	20-Aug-2024 17:00	 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402491-001	 	
				Result	 	
Dissolved Metals Manganese, dissolved	7439-96-5 E421/VA	0.00010	mg/L	0.141	 	
Mercury, dissolved	7439-96-3 E+2 // VA 7439-97-6 E509/VA	0.0000050	mg/L	<0.0000050	 	
Molybdenum, dissolved	7439-98-7 E421/VA	0.0000050	-	<0.00000000 0.0192 ^{D™F}	 	
Nickel, dissolved		0.00050	mg/L	0.00347		
,	7440-02-0 E421/VA		mg/L			
Phosphorus, dissolved	7723-14-0 E421/VA	0.050	mg/L	<0.050 5.18	 	
Potassium, dissolved	7440-09-7 E421/VA	0.050	mg/L		 	
Rubidium, dissolved	7440-17-7 E421/VA	0.00020	mg/L	0.00188	 	
Selenium, dissolved	7782-49-2 E421/VA	0.000050	mg/L	0.000941	 	
Silicon, dissolved	7440-21-3 E421/VA	0.050	mg/L	2.04	 	
Silver, dissolved	7440-22-4 E421/VA	0.000010	mg/L	<0.000010	 	
Sodium, dissolved	7440-23-5 E421/VA	0.050	mg/L	244	 	
Strontium, dissolved	7440-24-6 E421/VA	0.00020	mg/L	0.150	 	
Sulfur, dissolved	7704-34-9 E421/VA	0.50	mg/L	11.0	 	
Tellurium, dissolved	13494-80-9 E421/VA	0.00020	mg/L	<0.00020	 	
Thallium, dissolved	7440-28-0 E421/VA	0.000010	mg/L	<0.000010	 	
Thorium, dissolved	7440-29-1 E421/VA	0.00010	mg/L	<0.00010	 	
Tin, dissolved	7440-31-5 E421/VA	0.00010	mg/L	<0.00010	 	
Titanium, dissolved	7440-32-6 E421/VA	0.00030	mg/L	0.00527	 	
Tungsten, dissolved	7440-33-7 E421/VA	0.00010	mg/L	<0.00010	 	
Uranium, dissolved	7440-61-1 E421/VA	0.000010	mg/L	0.00263	 	
Vanadium, dissolved	7440-62-2 E421/VA	0.00050	mg/L	0.00059	 	
Zinc, dissolved	7440-66-6 E421/VA	0.0010	mg/L	0.0020	 	
Zirconium, dissolved	7440-67-7 E421/VA	0.00020	mg/L	<0.00020	 	
Dissolved mercury filtration location	EP509/VA	-	-	Field	 	
Dissolved metals filtration location	EP421/VA	-	-	Field	 	
Dissolved Gases						
Methane	74-82-8 EC614B/WT	5.0	µg/L	10.5	 	
Methane	74-82-8 E614B/WT	20.8	ppmv	43.6	 	



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

Please refer to the Accreditation section for an explanation of analyte accreditations.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	FJ2402491	Page	: 1 of 12
Client	Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Wendy Sears
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: +1 250 261 5517
Project	:704.ENV.GENV 03704-02	Date Samples Received	: 21-Aug-2024 09:00
PO	:	Issue Date	: 26-Aug-2024 18:23
C-O-C number	: 20-964332		
Sampler	: Fahim Nazari		
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

- <u>No</u> Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- <u>No</u> Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

• No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

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



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					E١	aluation: × =	Holding time exce	edance ; 🔹	<pre>< = Within</pre>	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pr	eparation			Analys	is	
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	Times	Eval
			Date	Rec	Actual			Rec	Actual	
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
Location 2	E235.Br-L	20-Aug-2024	22-Aug-2024	28	2 days	1	22-Aug-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Chloride in Water by IC										
HDPE										
Location 2	E235.CI	20-Aug-2024	22-Aug-2024	28	2 days	1	22-Aug-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Fluoride in Water by IC										
HDPE										
Location 2	E235.F	20-Aug-2024	22-Aug-2024	28	2 days	✓	22-Aug-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE						_				
Location 2	E235.NO3-L	20-Aug-2024	22-Aug-2024	3 days	2 days	✓	22-Aug-2024	3 days	2 days	1
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE	FRAGNICAL					,				,
Location 2	E235.NO2-L	20-Aug-2024	22-Aug-2024	3 days	2 days	1	22-Aug-2024	3 days	2 days	1
Anions and Nutrients : Sulfate in Water by IC										
HDPE	5005.001	00.4000.1	00.4		0.1		00.4			
Location 2	E235.SO4	20-Aug-2024	22-Aug-2024	28	2 days	1	22-Aug-2024	28 days	2 days	~
				days						
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide)	E000	00 4.47 0004	00.4		0.1		00.4	44.1.		,
Location 2	E333	20-Aug-2024	22-Aug-2024	14	2 days	1	22-Aug-2024	14 days	2 days	1
				days						

Page	:	4 of 12
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Analyte Group : Analytical Method	Method	Sampling Date	Ext	raction / Pi	reparation			Analys	sis	
Container / Client Sample ID(s)	Molliou	Sampling Date	Preparation Date		g Times Actual	Eval	Analysis Date		g Times Actual	Eval
issolved Gases : Methane, Ethane, & Ethene by Headspace GC-FID										
Glass vial (sodium bisulfate) Location 2	E614B	20-Aug-2024					26-Aug-2024	14 days	6 days	~
issolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) Location 2	E509	20-Aug-2024	22-Aug-2024	28 days	2 days	1	22-Aug-2024	28 days	2 days	4
issolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) Location 2	E421	20-Aug-2024	22-Aug-2024	180 days	2 days	4	22-Aug-2024	180 days	2 days	4
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Lev	el)									
Amber glass dissolved (sulfuric acid) Location 2	E358-L	20-Aug-2024	22-Aug-2024	28 days	2 days	¥	22-Aug-2024	28 days	2 days	1
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combusti	on (Low Level)									
Amber glass total (sulfuric acid) Location 2	E355-L	20-Aug-2024	22-Aug-2024	28 days	2 days	4	22-Aug-2024	28 days	2 days	1
hysical Tests : Alkalinity Species by Titration										
HDPE Location 2	E290	20-Aug-2024	22-Aug-2024	14 days	2 days	4	22-Aug-2024	14 days	2 days	4
hysical Tests : Colour (True) by Spectrometer (5 CU)										
HDPE Location 2	E329	20-Aug-2024	22-Aug-2024	3 days	2 days	4	22-Aug-2024	3 days	2 days	~
hysical Tests : Conductivity in Water										
HDPE Location 2	E100	20-Aug-2024	22-Aug-2024	28 days	2 days	4	22-Aug-2024	28 days	2 days	1
Physical Tests : pH by Meter										
HDPE Location 2	E108	20-Aug-2024	22-Aug-2024	0.25 hrs	42 hrs	¥ EHTR-FM	22-Aug-2024	0.25 hrs	43 hrs	¥ EHTR-I

Page	:	5 of 12
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Matrix: Water					E٧	aluation: × =	Holding time exce	edance ; ง	= Within	Holding Tim
Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pi	reparation		Analysis			
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry										
HDPE										
Location 2	E162	20-Aug-2024					22-Aug-2024	7 days	2 days	~
Physical Tests : Turbidity by Nephelometry										
HDPE										
Location 2	E121	20-Aug-2024					23-Aug-2024	3 days	3 days	~
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE										
Location 2	E404	20-Aug-2024					22-Aug-2024	3 days	2 days	~
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid)										
Location 2	E508	20-Aug-2024	23-Aug-2024	28	2 days	1	23-Aug-2024	28 days	2 days	1
				days						
Total Metals : Total Metals in Water by CRC ICPMS				-						
HDPE total (nitric acid)						,				,
Location 2	E420	20-Aug-2024	22-Aug-2024	180 days	2 days	1	23-Aug-2024	180 days	3 days	~
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)								-	<u> </u>	
HDPE total (zinc acetate+sodium hydroxide)										
Location 2	E395-H	20-Aug-2024					22-Aug-2024	7 days	2 days	1

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).

Page Work Order	:	6 of 12 FJ2402491
Client Project	:	Tetra Tech Canada Inc. 704.ENV.GENV 03704-02



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		Evaluati	on: × = QC freque		ecification; 🗸 = (
Quality Control Sample Type				ount		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)								
Alkalinity Species by Titration	E290	1610252	1	6	16.6	5.0	✓	
Bromide in Water by IC (Low Level)	E235.Br-L	1610256	1	1	100.0	5.0	1	
Chloride in Water by IC	E235.Cl	1610255	1	1	100.0	5.0	~	
Colour (True) by Spectrometer (5 CU)	E329	1610265	1	1	100.0	5.0	✓	
Conductivity in Water	E100	1610253	1	6	16.6	5.0	~	
Dissolved Mercury in Water by CVAAS	E509	1610588	1	20	5.0	5.0	✓	
Dissolved Metals in Water by CRC ICPMS	E421	1609547	1	11	9.0	5.0	~	
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1610145	1	13	7.6	5.0	1	
Fluoride in Water by IC	E235.F	1610254	1	1	100.0	5.0	✓	
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	1615772	1	16	6.2	4.5	✓	
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610257	1	1	100.0	5.0		
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610258	1	6	16.6	5.0		
pH by Meter	E108	1610251	1	6	16.6	5.0	1	
Sulfate in Water by IC	E235.SO4	1610259	1	1	100.0	5.0	~	
TDS by Gravimetry	E162	1610230	1	20	5.0	5.0	~	
Total Cyanide	E333	1610563	1	1	100.0	5.0	✓	
Total Mercury in Water by CVAAS	E508	1611944	1	20	5.0	5.0	1	
Total Metals in Water by CRC ICPMS	E420	1609548	1	17	5.8	5.0	1	
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1610140	1	20	5.0	5.0	~	
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1611320	1	19	5.2	5.0	1	
Turbidity by Nephelometry	E121	1612240	1	20	5.0	5.0	1	
UV Absorbance and Transmittance by Spectrometry	E404	1609793	1	4	25.0	5.0	~	
Laboratory Control Samples (LCS)								
Alkalinity Species by Titration	E290	1610252	1	6	16.6	5.0	1	
Bromide in Water by IC (Low Level)	E235.Br-L	1610256	1	1	100.0	5.0	~	
Chloride in Water by IC	E235.Cl	1610255	1	1	100.0	5.0	1	
Colour (True) by Spectrometer (5 CU)	E329	1610265	1	1	100.0	5.0	~	
Conductivity in Water	E100	1610253	1	6	16.6	5.0	~	
Dissolved Mercury in Water by CVAAS	E509	1610588	1	20	5.0	5.0	✓	
Dissolved Metals in Water by CRC ICPMS	E421	1609547	1	11	9.0	5.0	✓	
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1610145	1	13	7.6	5.0	✓	
Fluoride in Water by IC	E235.F	1610254	1	1	100.0	5.0	✓	
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	1615772	1	16	6.2	4.5	✓	
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610257	1	1	100.0	5.0	✓	
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610258	1	6	16.6	5.0	✓	
pH by Meter	E108	1610251	1	6	16.6	5.0	<u> </u>	

alsglobal.com

Page	:	7 of 12
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Matrix: Water Quality Control Sample Type			luation: × = QC frequency outside specification; Count			Frequency (%)	
Analytical Methods	Method	Method QC Lot #		Regular	Actual	Expected	Evaluation
	inici loc	QO LOL #	QC	riogunai	Hotadi	Expedied	
Laboratory Control Samples (LCS) - Continued	5005.004	4040050	4	1	100.0	5.0	
Sulfate in Water by IC	E235.SO4	1610259	1	1	100.0	5.0	<u> </u>
TDS by Gravimetry	E162	1610230	1	20	5.0	5.0	<u> </u>
Total Cyanide	E333	1610563	1	1	100.0	5.0	<u>√</u>
Total Mercury in Water by CVAAS	E508	1611944	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1609548	1	17	5.8	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1610140	1	20	5.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1611320	1	19	5.2	5.0	✓
Turbidity by Nephelometry	E121	1612240	1	20	5.0	5.0	✓
UV Absorbance and Transmittance by Spectrometry	E404	1609793	1	4	25.0	5.0	✓
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1610252	1	6	16.6	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1610256	1	1	100.0	5.0	1
Chloride in Water by IC	E235.Cl	1610255	1	1	100.0	5.0	 ✓
Colour (True) by Spectrometer (5 CU)	E329	1610265	1	1	100.0	5.0	<u> </u>
Conductivity in Water	E100	1610253	1	6	16.6	5.0	
Dissolved Mercury in Water by CVAAS	E509	1610588	1	20	5.0	5.0	
Dissolved Metals in Water by CRC ICPMS	E421	1609547	1	11	9.0	5.0	
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1610145	1	13	7.6	5.0	<u> </u>
Fluoride in Water by IC	E235.F	1610254	1	1	100.0	5.0	
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	1615772	1	16	6.2	4.5	
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610257	1	1	100.0	5.0	
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610258	1	6	16.6	5.0	
Sulfate in Water by IC	E235.SO4	1610259	1	1	100.0	5.0	
TDS by Gravimetry	E235.304 E162	1610230	1	20	5.0	5.0	
Total Cyanide	E333	1610563	1	1	100.0	5.0	
Total Mercury in Water by CVAAS	E508	1611944	1	20	5.0	5.0	
Total Metals in Water by CRC ICPMS		1609548	1	17	5.8	5.0	
	E420	1610140	1	20	5.0	5.0	
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level) Total Sulfide by Colourimetry (Automated Flow)	E355-L		1	19	5.0	5.0	<u> </u>
	E395-H	1611320					<u> </u>
Turbidity by Nephelometry	E121	1612240	1	20	5.0	5.0	<u> </u>
UV Absorbance and Transmittance by Spectrometry	E404	1609793	1	4	25.0	5.0	✓
Matrix Spikes (MS)					-		
Bromide in Water by IC (Low Level)	E235.Br-L	1610256	0	1	0.0	5.0	×
Chloride in Water by IC	E235.Cl	1610255	0	1	0.0	5.0	x
Dissolved Mercury in Water by CVAAS	E509	1610588	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1609547	1	11	9.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1610145	1	13	7.6	5.0	✓
Fluoride in Water by IC	E235.F	1610254	0	1	0.0	5.0	×
Nitrate in Water by IC (Low Level)	E235.NO3-L	1610257	0	1	0.0	5.0	×

Page	:	8 of 12
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Matrix: Water		Evaluatio	on: × = QC freque	ency outside sp	ecification; 🗸 =	QC frequency wit	nın specificatio
Quality Control Sample Type			Co	ount	Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Matrix Spikes (MS) - Continued							
Nitrite in Water by IC (Low Level)	E235.NO2-L	1610258	1	6	16.6	5.0	✓
Sulfate in Water by IC	E235.SO4	1610259	0	1	0.0	5.0	×
Total Cyanide	E333	1610563	0	1	0.0	5.0	×
Total Mercury in Water by CVAAS	E508	1611944	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1609548	1	17	5.8	5.0	~
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1610140	1	20	5.0	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1611320	1	19	5.2	5.0	1



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	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
	ALS Environmental -			sample. Conductivity measurements are temperature-compensated to 25°C.
	Vancouver			
pH by Meter	E108	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,
	ALS Environmental -			pH should be measured in the field within the recommended 15 minute hold time.
	Vancouver			
Turbidity by Nephelometry	E121	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
	ALS Environmental -			
	Vancouver			
TDS by Gravimetry	E162	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 $180 \pm 2^{\circ}C$ for 16 hours or to constant weight,
	ALS Environmental -			with gravimetric measurement of the residue.
	Vancouver			
Bromide in Water by IC (Low Level)	E235.Br-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver			
Chloride in Water by IC	E235.CI	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver			
Fluoride in Water by IC	E235.F	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver			
Nitrite in Water by IC (Low Level)	E235.NO2-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver			
Nitrate in Water by IC (Low Level)	E235.NO3-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver			
Sulfate in Water by IC	E235.SO4	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver			
	· · · ·		Page 64 of 22	· · · · · · · · · · · · · · · · · · ·

Page	:	10 of 12
Work Order	1	FJ2402491
Client	1	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Alkalinity Species by Titration	E290 ALS Environmental -	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.
	Vancouver			
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 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 total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. 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 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 methlyene 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 Sulphide as (S2-) and reports it as Total Sulphide 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.

Page	:	11 of 12
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals in Water by CRC ICPMS	E421	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
	ALS Environmental -			
	Vancouver			Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered
				by this method.
Total Mercury in Water by CVAAS	E508	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
	ALS Environmental -			
	Vancouver			
Dissolved Mercury in Water by CVAAS	E509	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
	ALS Environmental -			CVAAS.
	Vancouver			
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	Water	EPA REGION 1, NATATTEN.WPD, REV.	Volatile hydrocarbons are analyzed by static headspace GC/FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing
	ALS Environmental -		1	the analyte(s) to partition between the aqueous phase and the headspace in
	Waterloo			accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100	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
	ALS Environmental -			to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially
	Vancouver			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	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers
	ALS Environmental -			to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially
	Vancouver			calculated from dissolved Calcium and Magnesium concentrations, because it is a
				property of water due to dissolved divalent cations. Hardness from total Ca/Mg is
				normally comparable to Dissolved Hardness in non-turbid waters.
Methane, Ethane, & Ethene by Headspace GC-FID	EC614B	Water	Unit Conversion	Convert ppmV to ug/L
	ALS Environmental -			
	Waterloo			
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355	Water		Preparation for Total Organic Carbon by Combustion
-	ALS Environmental -			
	Vancouver			
Preparation for Dissolved Organic Carbon for Combustion	EP358	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Compastion	ALS Environmental -			
	Vancouver			
Dissolved Metals Water Filtration	EP421	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.

Page	:	12 of 12
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental -			
	Vancouver			
Dissolved Mercury Water Filtration	EP509	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCI.
	ALS Environmental -			
	Vancouver			

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order	FJ2402491	Page	: 1 of 17
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Wendy Sears
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: +1 250 261 5517
Project	: 704.ENV.GENV 03704-02	Date Samples Received	: 21-Aug-2024 09:00
PO	:	Date Analysis Commenced	: 22-Aug-2024
C-O-C number	: 20-964332	Issue Date	: 26-Aug-2024 18:23
Sampler	: Fahim Nazari		
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
Angela Ren	Team Leader - Metals	Vancouver Metals, Burnaby, British Columbia
Ilnaz Badbezanchi	Supervisor - Metals Prep & Mercury	Vancouver Metals, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Manpreet Cheema	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Owen Cheng		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.

Page	:	3 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



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).

ub-Matrix: Water	Matrix: Water					Laboratory Duplicate (DUP) Report						
aboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier	
Physical Tests (QC												
FJ2402491-001	Location 2	Absorbance, UV (@ 254nm)		E404	0.0050	AU/cm	0.141	0.141	0.00%	20%		
Physical Tests (QC	Lot: 1610230)											
KS2403260-001	Anonymous	Solids, total dissolved [TDS]		E162	13	mg/L	56	55	1	Diff <2x LOR		
Physical Tests (QC	Lot: 1610251)							17102215				
VA24C1137-003	Anonymous	рН		E108	0.10	pH units	5.53	5.48	0.908%	4%		
Physical Tests (QC	Lot: 1610252)											
/A24C1137-003	Anonymous	Alkalinity, bicarbonate (as CaCO3)		E290	1.0	mg/L	<1.0	<1.0	0.00%	200%		
		Alkalinity, carbonate (as CaCO3)		E290	1.0	mg/L	<1.0	<1.0	0.00%	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	<1.0	<1.0	0	Diff <2x LOR			
		Alkalinity, total (as CaCO3)		E290	2.0	mg/L	<2.0	<2.0	0	Diff <2x LOR		
hysical Tests (QC	Lot: 1610253)											
/A24C1137-003	Anonymous	Conductivity		E100	1.0	μS/cm	1.0	<1.0	0.05	Diff <2x LOR		
Physical Tests (QC	Lot: 1610265)											
=J2402491-001	Location 2	Colour, true		E329	5.0	CU	5.8	5.9	0.1	Diff <2x LOR		
Physical Tests (QC	Lot: 1612240)											
KS2403379-001	Anonymous	Turbidity		E121	0.10	NTU	0.90	1.01	0.11	Diff <2x LOR		
Anions and Nutrien	ts (QC Lot: 1610254)											
FJ2402491-001	Location 2	Fluoride	16984-48-8	E235.F	0.100	mg/L	0.478	0.475	0.002	Diff <2x LOR		
Anions and Nutrien	ts (QC Lot: 1610255)											
J2402491-001	Location 2	Chloride	16887-00-6	E235.CI	2.50	mg/L	19.0	19.0	0.06	Diff <2x LOR		
Anions and Nutrien	ts (QC Lot: 1610256)											
J2402491-001	Location 2	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	<0.250	<0.250	0	Diff <2x LOR		
Anions and Nutrien	ts (QC Lot: 1610257)											
-J2402491-001	Location 2	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	0.0412	0.0415	0.0003	Diff <2x LOR		
nions and Nutrien	ts (QC Lot: 1610258)											
=J2402491-001	Location 2	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR		
nions and Nutrien	ts (QC Lot: 1610259)											
-J2402491-001	Location 2	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	12.7	12.5	0.16	Diff <2x LOR		

Page	:	4 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Sub-Matrix: Water							Labora	atory Duplicate (D	UP) Report		
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:	1610563)										
FJ2402491-001	Location 2	Cyanide, strong acid dissociable (Total)		E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	
	Carbon (QC Lot: 16	10140)									
FJ2402449-003	Anonymous	Carbon, total organic [TOC]		E355-L	0.50	mg/L	2.61	2.74	0.13	Diff <2x LOR	
Organic / Inorganic	Carbon (QC Lot: 16	10145)									
FJ2402450-001	Anonymous	Carbon, dissolved organic [DOC]		E358-L	0.50	mg/L	2.84	2.99	0.15	Diff <2x LOR	
Total Sulfides (QC	Lot: 1611320)										
FJ2402451-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395-H	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	
Total Metals (QC Lo	ot: 1609548)										
FJ2402491-001	Location 2	Aluminum, total	7429-90-5	E420	0.0150	mg/L	72.3	74.5	3.08%	20%	
		Antimony, total	7440-36-0	E420	0.00050	mg/L	0.00168	0.00176	0.00007	Diff <2x LOR	
		Arsenic, total	7440-38-2	E420	0.00050	mg/L	0.0325	0.0354	8.46%	20%	
		Barium, total	7440-39-3	E420	0.00050	mg/L	9.27	9.52	2.71%	20%	
		Beryllium, total	7440-41-7	E420	0.000100	mg/L	0.00583	0.00606	3.80%	20%	
		Bismuth, total	7440-69-9	E420	0.000250	mg/L	0.00136	0.00137	0.000016	Diff <2x LOR	
		Boron, total	7440-42-8	E420	0.050	mg/L	0.284	0.294	0.010	Diff <2x LOR	
		Cadmium, total	7440-43-9	E420	0.0000250	mg/L	0.0147	0.0147	0.0129%	20%	
		Calcium, total	7440-70-2	E420	0.250	mg/L	32.5	33.2	2.17%	20%	
		Cesium, total	7440-46-2	E420	0.000050	mg/L	0.0161	0.0158	1.33%	20%	
		Chromium, total	7440-47-3	E420	0.00250	mg/L	0.194	0.198	2.37%	20%	
		Cobalt, total	7440-48-4	E420	0.00050	mg/L	0.0891	0.0909	1.96%	20%	
		Copper, total	7440-50-8	E420	0.00250	mg/L	0.295	0.299	1.33%	20%	
		Iron, total	7439-89-6	E420	0.050	mg/L	274	287	4.42%	20%	
		Lead, total	7439-92-1	E420	0.000250	mg/L	0.102	0.100	1.13%	20%	
		Lithium, total	7439-93-2	E420	0.0050	mg/L	0.119	0.127	6.33%	20%	
		Magnesium, total	7439-95-4	E420	0.0250	mg/L	35.5	35.7	0.636%	20%	
		Manganese, total	7439-96-5	E420	0.00050	mg/L	4.59	4.70	2.39%	20%	
		Molybdenum, total	7439-98-7	E420	0.000250	mg/L	0.00922	0.0106	13.9%	20%	
		Nickel, total	7440-02-0	E420	0.00250	mg/L	0.328	0.332	1.07%	20%	
		Phosphorus, total	7723-14-0	E420	0.250	mg/L	4.07	3.86	5.44%	20%	
		Potassium, total	7440-09-7	E420	0.250	mg/L	14.4	14.7	1.90%	20%	
		Rubidium, total	7440-17-7	E420	0.00100	mg/L	0.0972	0.0986	1.42%	20%	
		Selenium, total	7782-49-2	E420	0.000250	mg/L	0.00438	0.00529	18.9%	20%	
		Silicon, total	7440-21-3	E420	0.50	mg/L	87.2	92.8	6.19%	20%	
		Silver, total	7440-22-4	E420	0.000050	mg/L	0.00359	0.00347	3.58%	20%	

Page	:	5 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Sub-Matrix: Water	b-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	Qualifie	
Total Metals (QC Lo	ot: 1609548) - continue	ed										
=J2402491-001	Location 2	Sodium, total	7440-23-5	E420	0.250	mg/L	232	233	0.703%	20%		
	Strontium, total	7440-24-6	E420	0.00100	mg/L	0.528	0.505	4.33%	20%			
		Sulfur, total	7704-34-9	E420	2.50	mg/L	14.0	13.7	0.29	Diff <2x LOR		
		Tellurium, total	13494-80-9	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR		
		Thallium, total	7440-28-0	E420	0.000050	mg/L	0.00135	0.00133	1.57%	20%		
		Thorium, total	7440-29-1	E420	0.00050	mg/L	0.0348	0.0353	1.24%	20%		
		Tin, total	7440-31-5	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR		
		Titanium, total	7440-32-6	E420	0.00150	mg/L	0.107	0.115	6.95%	20%		
		Tungsten, total	7440-33-7	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR		
		Uranium, total	7440-61-1	E420	0.000050	mg/L	0.0107	0.0106	1.09%	20%		
		Vanadium, total	7440-62-2	E420	0.00250	mg/L	0.233	0.242	3.68%	20%		
		Zinc, total	7440-66-6	E420	0.0150	mg/L	1.03	1.04	0.726%	20%		
		Zirconium, total	7440-67-7	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR		
Total Metals (QC Lo												
FJ2402413-003	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR		
Dissolved Metals(C												
FJ2402491-001	Location 2	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.136	0.145	6.22%	20%		
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00206	0.00208	1.08%	20%		
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00114	0.00114	0.258%	20%		
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.352	0.370	4.89%	20%		
		Beryllium, dissolved	7440-41-7	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR		
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR		
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.240	0.234	2.50%	20%		
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.0000186	0.0000186	0.00000001	Diff <2x LOR		
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	7.60	7.49	1.52%	20%		
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000057	0.000062	0.000005	Diff <2x LOR		
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR		
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00042	0.00042	0.000003	Diff <2x LOR		
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00053	0.00052	0.000009	Diff <2x LOR		
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	0.174	0.173	0.954%	20%		
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.000073	0.000074	0.0000005	Diff <2x LOR		
		Lithium, dissolved	7439-93-2	E421	0.0010	mg/L	0.0068	0.0068	0.00003	Diff <2x LOR		
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	5.39	5.19	3.78%	20%		

Page	:	6 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



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: 1609547) - cor	ntinued									
FJ2402491-001	Location 2	Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.0192	0.0197	2.72%	20%	
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00347	0.00354	0.00006	Diff <2x LOR	
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	5.18	5.29	2.23%	20%	
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00188	0.00195	0.00007	Diff <2x LOR	
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000941	0.000890	5.60%	20%	
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	2.04	1.95	4.65%	20%	
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	244	239	1.80%	20%	
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.150	0.149	0.394%	20%	
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	11.0	10.6	3.68%	20%	
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	
		Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	0.00527	0.00468	11.7%	20%	
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00263	0.00264	0.380%	20%	
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	0.00059	0.00058	0.00001	Diff <2x LOR	
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0020	0.0018	0.0001	Diff <2x LOR	
		Zirconium, dissolved	7440-67-7	E421	0.00020	mg/L	<0.00020	0.00032	0.00012	Diff <2x LOR	
Dissolved Metals (QC Lot: 1610588)										
FJ2402491-001	Location 2	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	
Dissolved Gases (G			74.00 0	50445	00.0		10.0	10.0		D''' 10 1 0 2	
FJ2402491-001	Location 2	Methane	74-82-8	E614B	20.8	ppmv	43.6	43.6	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.

Analyte	CAS Number Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1609793)					
Absorbance, UV (@ 254nm)	E404	0.005	AU/cm	<0.0050	
Physical Tests (QCLot: 1610230)					
Solids, total dissolved [TDS]	E162	10	mg/L	<10	
Physical Tests (QCLot: 1610252)					
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: 1610253)					
Conductivity	E100	1	μS/cm	1.1	
Physical Tests (QCLot: 1610265)					
Colour, true	E329	5	CU	<5.0	
Physical Tests (QCLot: 1612240)					
Turbidity	E121	0.1	NTU	<0.10	
Anions and Nutrients (QCLot: 1610254)					
Fluoride	16984-48-8 E235.F	0.02	mg/L	<0.020	
Anions and Nutrients (QCLot: 1610255)					
Chloride	16887-00-6 E235.Cl	0.5	mg/L	<0.50	
Anions and Nutrients (QCLot: 1610256)					
Bromide	24959-67-9 E235.Br-L	0.05	mg/L	<0.050	
Anions and Nutrients (QCLot: 1610257)					
Nitrate (as N)	14797-55-8 E235.NO3-L	0.005	mg/L	<0.0050	
Anions and Nutrients (QCLot: 1610258)					
Nitrite (as N)	14797-65-0 E235.NO2-L	0.001	mg/L	<0.0010	
Anions and Nutrients (QCLot: 1610259)					
Sulfate (as SO4)	14808-79-8 E235.SO4	0.3	mg/L	<0.30	
yanides (QCLot: 1610563)					
Cyanide, strong acid dissociable (Total)	E333	0.002	mg/L	<0.0020	
Organic / Inorganic Carbon (QCLot: 161014					
Carbon, total organic [TOC]	E355-L	0.5	mg/L	<0.50	

Page	:	8 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Sub-Matrix: Water

Analyte	CAS Number	r Method	 LOR	Unit	Result	Qualifier
Organic / Inorganic Carbon (QCLot:						
Carbon, dissolved organic [DOC]		E358-L	0.5	mg/L	<0.50	
Total Sulfides (QCLot: 1611320)						
Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	<0.010	
Total Metals (QCLot: 1609548)						
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	<0.000050	
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	

Page	:	9 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Sub-Matrix: Water

Diral Metals QCL01: 1609449, -continued	Analyte	CAS Number	r Method	LOR	Unit	Result	Qualifier
The balaT440-318F200.0001mpl.4.00010	Total Metals (QCLot: 1609548) - co	ntinued					
Tankun, talal740-328200.0003mgl.4.00000Tungin, talal740-3578200.0001mgl.4.00010Vanadum, talal740-4618200.0005mgl.4.00030Yanadum, talal740-4628200.0005mgl.4.00030Zinc, tulal740-4628200.0005mgl.4.00030Zinc, tulal740-4628200.0005mgl.4.00006Desoted GCL01:1994808210.001mgl.4.00000Atamony, diasolved Ind CCL01:740-3628210.001mgl.4.00010Atamony, diasolved Ind CCL01:740-3628210.001mgl.4.00010Atamony, diasolved Ind CL01:740-3628210.001mgl.4.00010Atamony, diasolved Ind CL01:740-3628210.0001mgl.4.00010Barlin, disolved Ind CL01:740-3628210.0005mgl.4.00010Barlin, disolved Ind Ind Ind Ind Ind Ind Ind Ind Ind In	Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	
Turgsten, total7440-337£230.0001mgt.4.00001	Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	
Unrun, total7440-5154200.00001mgl.4.000010	Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	
Variadium, total7440-626400.0005mgl.4.0.0005	Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	
Zinc, totalY404680Za00.003mgL4.0030	Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	
Zironium total 7440477 F420 0.0002 mgt. 4.00020 Total Yaber76 E08 0.00005 mgt. <0.00050	Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	
Total Motals COCLOI: 1611944) Mercury, Itabil 7439-97-8 E508 0.00005 mgl. <0.000050	Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	
Mercury, total 7439-97-6 E508 0.000005 mgL <0.0000050 Aluminum, dissolved 7429-90-5 E421 0.001 mgL <0.0010	Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	
Mercury, total 7439-97-6 E508 0.000005 mgL <0.0000050 Aluminum, dissolved 7429-90-5 E421 0.001 mgL <0.0010	Total Metals (QCLot: 1611944)						
Aluminum, dissolved 7429-06 E421 0.001 mg/L <0.0010 Antimory, dissolved 740-360 E421 0.0001 mg/L <0.00010		7439-97-6	E508	0.000005	mg/L	<0.000050	
Aluminum, dissolved 7429-06 E421 0.001 mg/L <0.0010 Antimory, dissolved 740-360 E421 0.0001 mg/L <0.00010	Dissolved Metals (QCLot: 1609547)						
Arsenic, dissolved 7440-38-2 E421 0.0001 mgL 4.0.0010 Barium, dissolved 7440-38-3 E421 0.0001 mgL 4.0.0010 Berglium, dissolved 7440-38-3 E421 0.0002 mgL 4.0.0002 Bismuth, dissolved 7440-48-4 E421 0.0005 mgL 4.0.0000 Cadmium, dissolved 7440-48-2 E421 0.0005 mgL 4.0.0000 Cadinum, dissolved 7440-48-2 E421 0.0001 mgL 4.0.0001 Cadinum, dissolved 7440-48-2 E421 0.0001 mgL 4.0.0001 Chromium, dissolved 7440-48-2 E421 0.0002 mgL 4.0.0001 Cobalt, dissolved 7440-48-4 E421 0.0002 mgL 4.0.0001 Cobalt, dissolved 7440-48-4 E421 0.001 mgL -0.0001 Inon, dissolved 7440-48-4		7429-90-5	E421	0.001	mg/L	<0.0010	
Barium, dissolved 740-39-3 R21 0.0001 mgl. 0.00010 0.00002 Beryllium, dissolved 7404-07 F21 0.00005 mgl. 0.000050 0.000050 Bismuth, dissolved 7404-089 F21 0.00005 mgl. 0.000050 0.000050 Boro, dissolved 7404-02 F21 0.00000 mgl. 0.000050 0.000050 Cadmium, dissolved 7404-02 F21 0.00000 mgl. 0.00001 0.000050 Cadium, dissolved 7404-02 F21 0.00001 mgl. 0.00001 0.00001 Cadium, dissolved 7404-02 F21 0.0001 mgl. 0.00001 0.00001 Cadium, dissolved 7404-02 F21 0.00001 mgl. 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.00001 0.000001 0.00001 0.000	Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	
Berlium, dissolved Y440-419 F21 0.00002 mgL 4.000020 m Bismuth, dissolved 7440-689 F421 0.00005 mgL 4.000050 m Boron, dissolved 7440-428 F421 0.01 mgL 4.000050 m Cadmium, dissolved 7440-428 F421 0.00005 mgL <0.000050	Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	
Binut, dissolved 7440-69-9 E41 0.00005 mg/L <0.000050 Boron, dissolved 7440-42-8 E421 0.01 mg/L <0.000050	Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	
Boron, dissolved 7440428 E421 0.01 mg/L <0.010 Cadmium, dissolved 7440439 E421 0.000005 mg/L <0.000050	Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	
Cadmium, dissolved Y440439 E41 0.00005 mg/L <0.000050 mg/L Calcium, dissolved 7440702 E41 0.05 mg/L <0.050	Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	
Calcium, dissolved T40-702 E42 D.05 mg/L < 0.050 mg/L < 0.050 mg/L < 0.050 mg/L < 0.050 mg/L < 0.0001 mg/	Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	
Cesium, dissolved 7440-62 E41 0.0001 mg/L 0-0.0010 Chomium, dissolved 7440-47 E41 0.0005 mg/L 0-0.0050 Cobalt, dissolved 7440-48 E41 0.0001 mg/L 0-0.0020 Copper, dissolved 7440-50 E41 0.001 mg/L 0-0.0020 Iron, dissolved 7439-59 E41 0.001 mg/L 0-0.0050 Lead, dissolved 7439-59 E41 0.001 mg/L -0.0010 Magnesium, dissolved 7439-52 E41 0.001 mg/L -0.0010 Magnesium, dissolved 7439-52 E41 0.001 mg/L -0.0010 Magnesium, dissolved 7439-54 E41 0.001 mg/L -0.0010 Molybenum, dissolved 7439-54 E41 0.001 mg/L -0.0050 Nickel, dissolved 740-02 E41 0.005<	Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.000050	
Chronium, dissolved 7440-73 Ed1 0.0005 mg/L <0.00050 Cobalt, dissolved 7440-84 Ed1 0.0001 mg/L <0.00010	Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	
Cobalt, dissolved 7440-48 E421 0.0001 mg/L <0.0010 mg/L Copper, dissolved 7440-508 E421 0.0002 mg/L <0.0020	Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	
Copper, dissolved 7440-50-8 E421 0.0002 mg/L <0.00020	Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	
Inn. Inn. <th< td=""><td>Cobalt, dissolved</td><td>7440-48-4</td><td>E421</td><td>0.0001</td><td>mg/L</td><td><0.00010</td><td></td></th<>	Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	
Lead, dissolved 7439-92 E421 0.00005 mg/L <0.000500 mg/L <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 <0.000500 </td <td>Copper, dissolved</td> <td>7440-50-8</td> <td>E421</td> <td>0.0002</td> <td>mg/L</td> <td><0.00020</td> <td></td>	Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	
Lithium, dissolved 7439-93-2 E421 0.001 mg/L <0.0010 Magnesium, dissolved 7439-954 E421 0.005 ng/L <0.0050	Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	
Magnesium, dissolved 7439-954 E421 0.005 mg/L <0.0050 Manganese, dissolved 7439-965 E421 0.0001 mg/L <0.00010	Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	
Manganese, dissolved 7439-96-5 E421 0.0001 mg/L <0.00010 Molybdenum, dissolved 7439-96-5 E421 0.0005 mg/L <0.00050	Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	
Molybdenum, dissolved 7439-98-7 E421 0.00005 mg/L <0.00050 Nickel, dissolved 7440-02-0 E421 0.0005 mg/L <0.00050	Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	
Nickel, dissolved 7440-02-0 E421 0.0005 mg/L <0.00050 Phosphorus, dissolved 7723-14-0 E421 0.05 mg/L <0.050	Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	
Phosphorus, dissolved 7723-14-0 E421 0.05 mg/L <0.050 Potassium, dissolved 7440-09-7 E421 0.05 mg/L <0.050	Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	
Potassium, dissolved 7440-09-7 E421 0.05 mg/L <0.050 Rubidium, dissolved 7440-17-7 E421 0.0002 mg/L <0.00020	Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	
Rubidium, dissolved 7440-17-7 E421 0.0002 mg/L <0.00020	Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	
Rubidium, dissolved 7440-17-7 E421 0.0002 mg/L <0.00020	Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	
	Rubidium, dissolved	7440-17-7	E421	0.0002		<0.00020	
		7782-49-2	E421	0.00005	-	<0.000050	

Page :	10 of 17
Work Order :	FJ2402491
Client :	Tetra Tech Canada Inc.
Project :	704.ENV.GENV 03704-02



Sub-Matrix: Water

Analyte	CAS Number	Method		LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 16095	47) - continued						
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: 16105	88)				1		
Mercury, dissolved	7439-97-6	E509	(0.000005	mg/L	<0.000050	
Dissolved Gases (QCLot: 16157)	72)						
Methane	74-82-8	E614B		20.77	ppmv	<20.8	



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	r Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1609793)								
Absorbance, UV (@ 254nm)	E404	0.005	AU/cm	0.693 AU/cm	93.9	85.0	115	
Transmittance, UV (@ 254nm)	E404		% T/cm	20.3 % T/cm	110	85.0	115	
Physical Tests (QCLot: 1610230)								
Solids, total dissolved [TDS]	E162	10	mg/L	1000 mg/L	102	85.0	115	
Physical Tests (QCLot: 1610251)								
рН	E108		pH units	7 pH units	100	98.0	102	
Physical Tests (QCLot: 1610252)								
Alkalinity, phenolphthalein (as CaCO3)	E290	1	mg/L	229 mg/L	94.9	75.0	125	
Alkalinity, total (as CaCO3)	E290	1	mg/L	500 mg/L	104	85.0	115	
Physical Tests (QCLot: 1610253)								
Conductivity	E100	1	μS/cm	147 µS/cm	97.6	90.0	110	
Physical Tests (QCLot: 1610265)								
Colour, true	E329	5	CU	100 CU	105	85.0	115	
Physical Tests (QCLot: 1612240)								
Turbidity	E121	0.1	NTU	200 NTU	96.5	85.0	115	
Anions and Nutrients (QCLot: 1610254)					101			1
Fluoride 16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	
Anions and Nutrients (QCLot: 1610255) Chloride 16887-00-6	E005 01	0.5		400	400	00.0	110	
-	E235.CI	0.5	mg/L	100 mg/L	102	90.0	110	
Anions and Nutrients (QCLot: 1610256) Bromide 24959-67-9	E025 Bril	0.05		0.5 mg/l	102	95.0	115	1
	E235.Br-L	0.05	mg/L	0.5 mg/L	103	85.0	115	
Anions and Nutrients (QCLot: 1610257)	E235.NO3-L	0.005		0.5 mm/l	400	00.0	110	
	E235.NU3-L	0.005	mg/L	2.5 mg/L	102	90.0	110	
Anions and Nutrients (QCLot: 1610258) Nitrite (as N) 14797-65-0	E235.NO2-L	0.001	ma/l	0.5 mg/l	102	90.0	110	
	E235.NO2-L	0.001	mg/L	0.5 mg/L	102	90.0	110	
Anions and Nutrients (QCLot: 1610259)	E235.SO4	0.3	m~//	100 ~~~//	102	00.0	110	
Sulfate (as SO4) 14808-79-8	E200.804	0.3	mg/L	100 mg/L	103	90.0	110	
Cyanides (QCLot: 1610563) Cyanide, strong acid dissociable (Total)	E333	0.002	mg/L	0.25 mg/L	96.7	80.0	120	
שישיש איז	2000	0.002	y/∟	0.20 mg/L	50.7	00.0	120	
	I			I				

Page	:	12 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Sub-Matrix: Water				Laboratory Control Sample (LCS) Report						
					Spike	Recovery (%)	Recovery	Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
Organic / Inorganic Carbon (QCLot: 161	0140)									
Carbon, total organic [TOC]		E355-L	0.5	mg/L	8.57 mg/L	99.6	80.0	120		
Organic / Inorganic Carbon (QCLot: 161	0145)									
Carbon, dissolved organic [DOC]		E358-L	0.5	mg/L	8.57 mg/L	96.2	80.0	120		
Total Sulfides (QCLot: 1611320)										
Sulfide, total (as H2S)	7783-06-4	E395-H		mg/L	0.085 mg/L	106	80.0	120		
Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	0.08 mg/L	107	80.0	120		
Total Metals (QCLot: 1609548)								100	1	
Aluminum, total	7429-90-5		0.003	mg/L	2 mg/L	99.2	80.0	120		
Antimony, total	7440-36-0		0.0001	mg/L	1 mg/L	107	80.0	120		
Arsenic, total	7440-38-2		0.0001	mg/L	1 mg/L	106	80.0	120		
Barium, total	7440-39-3		0.0001	mg/L	0.25 mg/L	108	80.0	120		
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.1 mg/L	98.9	80.0	120		
Bismuth, total	7440-69-9	E420	0.00005	mg/L	1 mg/L	97.9	80.0	120		
Boron, total	7440-42-8	E420	0.01	mg/L	1 mg/L	94.4	80.0	120		
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.1 mg/L	99.8	80.0	120		
Calcium, total	7440-70-2	E420	0.05	mg/L	50 mg/L	99.1	80.0	120		
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.05 mg/L	99.5	80.0	120		
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.25 mg/L	99.6	80.0	120		
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.25 mg/L	98.7	80.0	120		
Copper, total	7440-50-8	E420	0.0005	mg/L	0.25 mg/L	97.4	80.0	120		
Iron, total	7439-89-6	E420	0.01	mg/L	1 mg/L	95.6	80.0	120		
Lead, total	7439-92-1	E420	0.00005	mg/L	0.5 mg/L	97.0	80.0	120		
Lithium, total	7439-93-2	E420	0.001	mg/L	0.25 mg/L	95.0	80.0	120		
Magnesium, total	7439-95-4	E420	0.005	mg/L	50 mg/L	96.3	80.0	120		
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.25 mg/L	100	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	99.0	80.0	120		
Phosphorus, total	7723-14-0	E420	0.05	mg/L	10 mg/L	102	80.0	120		
Potassium, total	7440-09-7	E420	0.05	mg/L	50 mg/L	100	80.0	120		
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.1 mg/L	99.7	80.0	120		
Selenium, total	7782-49-2	E420	0.00005	mg/L	1 mg/L	105	80.0	120		
Silicon, total	7440-21-3	E420	0.1	mg/L	10 mg/L	115	80.0	120		
Silver, total	7440-22-4	E420	0.00001	mg/L	0.1 mg/L	95.4	80.0	120		
Sodium, total	7440-23-5		0.05	mg/L	50 mg/L	106	80.0	120		

Page	:	13 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report						
					Spike	Spike Recovery (%) Recovery Limits (%)					
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier		
Total Metals (QCLot: 1609548) - continued											
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	107	80.0	120			
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	92.1	80.0	120			
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120			
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	99.8	80.0	120			
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	92.6	80.0	120			
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	100	80.0	120			
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	93.4	80.0	120			
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	97.0	80.0	120			
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	91.8	80.0	120			
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	101	80.0	120			
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	99.4	80.0	120			
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	102	80.0	120			
Total Metals (QCLot: 1611944)											
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	99.3	80.0	120			
Dissolved Metals (QCLot: 1609547)											
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	95.4	80.0	120			
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	98.3	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	105	80.0	120			
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	96.3	80.0	120			
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	95.1	80.0	120			
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	91.7	80.0	120			
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	98.0	80.0	120			
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	100	80.0	120			
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	95.8	80.0	120			
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.25 mg/L	98.8	80.0	120			
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.25 mg/L	95.3	80.0	120			
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.25 mg/L	95.4	80.0	120			
Iron, dissolved	7439-89-6	E421	0.01	mg/L	1 mg/L	88.9	80.0	120			
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.5 mg/L	97.8	80.0	120			
Lithium, dissolved	7439-93-2		0.001	mg/L	0.25 mg/L	92.2	80.0	120			
Magnesium, dissolved	7439-95-4		0.005	mg/L	50 mg/L	94.6	80.0	120			
Manganese, dissolved	7439-96-5		0.0001	mg/L	0.25 mg/L	97.4	80.0	120			
Molybdenum, dissolved	7439-98-7		0.00005	mg/L	0.25 mg/L	104	80.0	120			
Nickel, dissolved	7440-02-0		0.0005	mg/L	0.5 mg/L	98.4	80.0	120			
		I = · = ·	0.0000		0.0		00.0	.20			

Page	:	14 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



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 (QCLot: 1609547) - c	ontinued											
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	108	80.0	120				
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	98.2	80.0	120				
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	100	80.0	120				
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	96.7	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	93.6	80.0	120				
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	98.9	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	97.4	80.0	120				
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	99.7	80.0	120				
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	1 mg/L	100	80.0	120				
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	94.5	80.0	120				
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.5 mg/L	97.6	80.0	120				
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.25 mg/L	92.5	80.0	120				
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	0.1 mg/L	99.5	80.0	120				
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.005 mg/L	92.9	80.0	120				
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.5 mg/L	99.5	80.0	120				
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.5 mg/L	93.1	80.0	120				
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.1 mg/L	97.9	80.0	120				
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	96.9	80.0	120				
Dissolved Gases (QCLot: 1615772)												
Methane	74-82-8	E614B	20.77	ppmv	432 ppmv	95.2	80.0	120				



Matrix Spike (MS) Report

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

ub-Matrix: Water						Matrix Spike (MS) Report								
					Spi	ke	Recovery (%)	Recovery	Limits (%)					
aboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier				
nions and Nutrie	ents (QCLot: 16102	58)												
/A24C1137-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.510 mg/L	0.5 mg/L	102	75.0	125					
organic / Inorgan	ic Carbon (QCLot:	1610140)												
J2402449-004	Anonymous	Carbon, total organic [TOC]		E355-L	4.74 mg/L	5 mg/L	94.8	70.0	130					
rganic / Inorgan	ic Carbon (QCLot:	1610145)												
J2402450-002	Anonymous	Carbon, dissolved organic [DOC]		E358-L	4.66 mg/L	5 mg/L	93.2	70.0	130					
otal Sulfides (Q	CLot: 1611320)													
J2402451-002	Anonymous	Sulfide, total (as S)	18496-25-8	E395-H	0.956 mg/L	1 mg/L	95.6	75.0	125					
otal Metals (QCI	Lot: 1609548)													
/A24C0978-001	Anonymous	Aluminum, total	7429-90-5	E420	0.186 mg/L	0.2 mg/L	92.8	70.0	130					
		Antimony, total	7440-36-0	E420	0.0192 mg/L	0.02 mg/L	96.2	70.0	130					
		Arsenic, total	7440-38-2	E420	0.0194 mg/L	0.02 mg/L	96.9	70.0	130					
		Barium, total	7440-39-3	E420	ND mg/L		ND	70.0	130					
		Beryllium, total	7440-41-7	E420	0.0390 mg/L	0.04 mg/L	97.6	70.0	130					
		Bismuth, total	7440-69-9	E420	0.00927 mg/L	0.01 mg/L	92.7	70.0	130					
		Boron, total	7440-42-8	E420	0.093 mg/L	0.1 mg/L	93.4	70.0	130					
		Cadmium, total	7440-43-9	E420	0.00385 mg/L	0.004 mg/L	96.2	70.0	130					
		Calcium, total	7440-70-2	E420	ND mg/L		ND	70.0	130					
		Cesium, total	7440-46-2	E420	0.00990 mg/L	0.01 mg/L	99.0	70.0	130					
		Chromium, total	7440-47-3	E420	0.0381 mg/L	0.04 mg/L	95.3	70.0	130					
		Cobalt, total	7440-48-4	E420	0.0186 mg/L	0.02 mg/L	92.8	70.0	130					
		Copper, total	7440-50-8	E420	0.0188 mg/L	0.02 mg/L	93.9	70.0	130					
		Iron, total	7439-89-6	E420	1.89 mg/L	2 mg/L	94.6	70.0	130					
		Lead, total	7439-92-1	E420	0.0189 mg/L	0.02 mg/L	94.0 94.5	70.0	130					
		Lithium, total	7439-93-2	E420	0.0919 mg/L	0.02 mg/L 0.1 mg/L	94.5 91.9	70.0	130					
		Magnesium, total	7439-95-4	E420	ND mg/L		ND	70.0	130					
		Magnese, total	7439-96-5	E420	ND mg/L		ND	70.0	130					
		Molybdenum, total	7439-98-7	E420	0.0209 mg/L	0.02 mg/L	104	70.0	130					
		Nickel, total	7440-02-0	E420	0.0375 mg/L	0.04 mg/L	93.8	70.0	130					
		Phosphorus, total	7723-14-0	E420	9.37 mg/L	10 mg/L	93.7	70.0	130					
		Potassium, total	7440-09-7	E420	3.65 mg/L	4 mg/L	91.2	70.0	130					
		Rubidium, total	7440-09-7	E420 E420	0.0188 mg/L	4 mg/L 0.02 mg/L	91.2 94.1	70.0	130					
		Selenium, total	7782-49-2	E420 E420	0.0417 mg/L	0.02 mg/L 0.04 mg/L	104	70.0	130					
		Silicon, total	7782-49-2 7440-21-3	E420 E420	9.12 mg/L	10 mg/L	91.2	70.0	130					
		Silicon, total Silver, total	7440-21-3	E420 E420	9.12 mg/L 0.00416 mg/L	•	91.2 104	70.0	130					
			7440-22-4 7440-23-5		, e	0.004 mg/L								
		Sodium, total		E420	ND mg/L		ND	70.0	130					
		Strontium, total Sulfur, total	7440-24-6 7704-34-9	E420 E420	ND mg/L ND mg/L		ND ND	70.0 70.0	130 130					

Page	:	16 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



Matrix Spike (MS) Report Sub-Matrix: Water Recovery (%) Recovery Limits (%) Spike Laboratory sample ID Client sample ID Analyte **CAS Number** Method Concentration Target MS Low High Qualifier Total Metals (QCLot: 1609548) - continued VA24C0978-001 Tellurium, total 13494-80-9 E420 0.0415 mg/L Anonymous 0.04 mg/L 104 70.0 130 ----Thallium, total 7440-28-0 E420 0.00378 mg/L 0.004 mg/L 94.5 70.0 130 ----Thorium, total 7440-29-1 E420 0.0155 ma/L 0.02 ma/L 77.3 70.0 130 ----Tin. total E420 7440-31-5 0.0193 mg/L 0.02 mg/L 96.4 70.0 130 ----Titanium, total E420 7440-32-6 0.0345 mg/L 0.04 mg/L 86.2 70.0 130 ----0.0197 mg/L Tungsten, total 7440-33-7 E420 0.02 mg/L 98.6 70.0 130 ----Uranium, total 7440-61-1 E420 0.00376 mg/L 0.004 mg/L 93.9 70.0 130 ----Vanadium, total 7440-62-2 E420 0.0962 ma/L 0.1 mg/L 96.2 70.0 130 ----Zinc. total 7440-66-6 E420 0.361 mg/L 0.4 mg/L 90.3 70.0 130 ----Zirconium, total 7440-67-7 E420 0.0426 mg/L 70.0 0.04 mg/L 106 130 Total Metals (QCLot: 1611944) FJ2402413-004 Anonymous Mercury, total 7439-97-6 E508 0.000101 mg/L 0 mg/L 101 70.0 130 ----Dissolved Metals (QCLot: 1609547) VA24C1257-001 Anonymous Aluminum, dissolved 7429-90-5 E421 0.192 mg/L 0.2 mg/L 95.8 70.0 130 ----Antimony, dissolved 7440-36-0 E421 0.0194 mg/L 0.02 mg/L 130 97.2 70.0 ----Arsenic, dissolved 7440-38-2 E421 0.0201 mg/L 0.02 mg/L 70.0 130 100 Barium, dissolved 7440-39-3 E421 ND mg/L ND 70.0 130 --------Bervllium, dissolved 7440-41-7 E421 0.0384 ma/L 0.04 ma/L 96.1 70.0 130 ----Bismuth, dissolved 7440-69-9 E421 0.00891 mg/L 0.01 mg/L 89.1 70.0 130 ----Boron, dissolved 7440-42-8 E421 0.099 mg/L 0.1 mg/L 99.4 70.0 130 Cadmium dissolved 7440-43-9 F421 0.00389 mg/L 70.0 130 0.004 mg/L 97.2 ----Calcium, dissolved 7440-70-2 E421 ND mg/L ----ND 70.0 130 ----Cesium, dissolved 7440-46-2 E421 0.0100 mg/L 0.01 mg/L 100 70.0 130 ----Chromium, dissolved 7440-47-3 E421 0.0381 mg/L 0.04 mg/L 95.3 70.0 130 ----Cobalt, dissolved 7440-48-4 E421 0.0181 mg/L 0.02 mg/L 90.6 70.0 130 Copper, dissolved 7440-50-8 E421 0.0180 ma/L 0.02 ma/L 89.9 70.0 130 ----Iron. dissolved 7439-89-6 E421 1.91 ma/L 2 mg/L 95.4 70.0 130 ----Lead, dissolved E421 7439-92-1 0.0182 mg/L 0.02 mg/L 91.1 70.0 130 Lithium, dissolved 7439-93-2 E421 0.0925 mg/L 0.1 mg/L 92.5 70.0 130 ----Magnesium, dissolved 7439-95-4 F421 70.0 ND mg/L ----ND 130 ----E421 0.0188 mg/L Manganese, dissolved 7439-96-5 0.02 mg/L 93.9 70.0 130 ----Molybdenum, dissolved 7439-98-7 E421 0.0209 mg/L 0.02 mg/L 105 70.0 130 ----Nickel, dissolved 7440-02-0 E421 0.0371 mg/L 0.04 mg/L 92.7 70.0 130 Phosphorus, dissolved 7723-14-0 E421 9.64 mg/L 10 mg/L 96.4 70.0 130 Potassium, dissolved 7440-09-7 E421 4.00 mg/L 4 mg/L 100 70.0 130 ----Rubidium, dissolved 7440-17-7 E421 0.0189 ma/L 130 0.02 ma/L 94.7 70.0 ----Selenium, dissolved E421 0.0408 mg/L 7782-49-2 0.04 mg/L 102 70.0 130 ----Silicon, dissolved E421 7440-21-3 ND mg/L ----ND 70.0 130 ----Silver, dissolved 7440-22-4 F421 0.00402 mg/L 0.004 mg/L 100 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

Page	:	17 of 17
Work Order	:	FJ2402491
Client	:	Tetra Tech Canada Inc.
Project	:	704.ENV.GENV 03704-02



ub-Matrix: Water							Matrix Spik	e (MS) Report		
					Spi	ke	Recovery (%)	Recovery		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Concentration Target		Low	High	Qualifier
Dissolved Metals	(QCLot: 1609547) - c	ontinued								
VA24C1257-001	Anonymous	Thallium, dissolved	7440-28-0	E421	0.00364 mg/L	0.004 mg/L	91.0	70.0	130	
		Thorium, dissolved	7440-29-1	E421	0.0168 mg/L	0.02 mg/L	83.9	70.0	130	
		Tin, dissolved	7440-31-5	E421	0.0195 mg/L	0.02 mg/L	97.4	70.0	130	
		Titanium, dissolved	7440-32-6	E421	0.0358 mg/L	0.04 mg/L	89.6	70.0	130	
		Tungsten, dissolved	7440-33-7	E421	0.0191 mg/L	0.02 mg/L	95.5	70.0	130	
		Uranium, dissolved	7440-61-1	E421	0.00352 mg/L	0.004 mg/L	88.0	70.0	130	
		Vanadium, dissolved	7440-62-2	E421	0.0964 mg/L	0.1 mg/L	96.4	70.0	130	
		Zinc, dissolved	7440-66-6	E421	0.365 mg/L	0.4 mg/L	91.2	70.0	130	
		Zirconium, dissolved	7440-67-7	E421	0.0411 mg/L	0.04 mg/L	103	70.0	130	
issolved Metals	(QCLot: 1610588)									
KS2403294-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000974 mg/L	0 mg/L	97.4	70.0	130	

www.alsolobal.com

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 - 964332

Canada Toli Free: 1 800 668 9878

1 ... Page

ALS)	www.alsglobal.com					1									1	Envir	ronm	ental	Divis	sion	
Report To	Contect and company name below will as	peer on the final report		Reports /	Recipients				Turner	round T	ime (T/	AT) Rec	uested		Fort St. John					1	
Company:	Tetro Tech	S	elact Report Fo	ormat: DPP		DD (DIGITAL)		outine (R) H	received	by 3pm 1	M-F · no	o surchar	rges appl	,	Work Order Reference						
Contact:	And Pa Mc Hillay		Merge QC/QC	Reports with COA	YES D N	IO INA	4 day (P4) If received by 3pm M-F - 20% rush surcharge minim 3 day (P3) If received by 3pm M-F - 25% rush surcharge minim 2 day (P2) If received by 3pm M-F - 50% rush surcharge minim 31 day (E) If received by 3pm M-F - 100% rush surcharge minim					FJ2402491									
Phone:	403-203-3155		Compare Resu	its to Criteria on Report -	provide details below i	f box checked															
1	Company address below will appear on the fi	nal report S	elect Distributio	on: 🖸 EMAIL	MAIL D	FAX							1		21110	Wite!					
Street:	190 GUGWA Park	Blud	mail 1 or Fax	Indreama	Millon OTE	tro Tal Com												310	10.7		1
City/Province:	Calgan AB		Email 2 Eba. Labolata @ Tetra Tech. com				1 m	Seme day [E2] If received by 10am M-S - 200% rush surcharge. Ad may apply to rush requests on weekends, statutory holidays and non-					ind non-i				6 W) 7	WW.		1	
Postal Code:	T2C 363	E	mall 3 AZi-	Lashaikha	O TELina Tel	ch. Com		Date and	Time Req	uired for	all E&P	TAT:					111 101	282	100		
nvolce To	Same as Report To YES	ON D	Invoice Recipients							For all tes	te with ru	ush TATe	requests	d, plesse				CINE	1.11		
10.2	Copy of Involce with Report TYES	NO S	Select Invoice Distribution: BMAIL MAIL FAX					1			Anal	ysis Re	Telephone : + 1 250 261 5517								
Company:		E	mail 1 or Fax				5	-	Indic	ate Filter	ed (F), F	Preserve	d (P) or F	litered an					1 10		
Contact:	10 10 10 10 10 10 10 10 10 10 10 10 10 1	E	mail 2	2. J	1		16	S				F10		F/	0	1	TT			No.	ofe
	Project Information		(Oil and Gas Require	d Fields (client u	160)	1 S I	E,				5	1	T	1	5				8	e a
ALS Account #	/ Quote #	A	FE/Cost Center:		PO#		1Ê I	\$				eda	+		13	3			19	E E	(se
lob #: 704-	- FNW. Genu 03704-	02 M	ajar/Minor Code:		Routing Code:		CONTAINERS	C.H.		-0		M	7						НОГД	B	2
PO / AFE:	8	R	lequisitioner:					5		2		-	4	4	1.5	M			z	RA	N
SD:		L	ocation:				5	10 00 1 1 1 1 1			0	1 5	P			NO		HA			
ALS Lab Wor	S Lab Work Order # (ALS use only):		LS Contact:	1.1.1	Sampler: X Date Time mmm-yy) (hh:mm)			2014	1/2	3 C	0 -	-			LES		CIED				
ALS Sample # (ALS use only)		on and/or Coordinates		Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER	Dista	Kan	phus	CH.	Distal	Tat	31	-1	LC1			SAMPLES	EXTENDED	SUSPECTED HAZARD (see notes
	Location 2			20-4-09-24	16:00	GW	12	LL	- ~	V	V	~		- 1	V	-				1	-
				100										-	1				-		-
14 10 101					1				-				-		-	-			+		-
121					-	-	-	-	+	-	-	-	-	+	+	+			+		-
					-	-	-	_	-	-			-10		_	1-	+	-	+-		-
				-	-	-	-											_			
Et										Rus	h So	amp	les						-		
1. 1.4						-						-							100		
				1		1000										1					
14							Τ.									. 1			-	1	
	11															+	-	-	-	-	-
					-			-	-		-	-	-		-	-			+-	+	-
			_			-		-	-	-	_	-	-	-	-	-	-	-	-		
				1							-							-			100
Drinkin	g Water (DW) Samples ¹ (client use)	Notes / Specify L		evaluation by selectin	ng from drop-down	below	-						and the second second	-	_	.8 uzo	only)		_		-
re semples teke	n from a Regulated DW System?	C. A.		Excel COC only)	11.11	6	And in case of	Metho		NONE				PACKS				COOL	and the second second second	ATED	
		- Coulting Anci	lysis L	noter Anda	rea McMi	illan		lasion Oc		-					10-10-10-10-10-10-10-10-10-10-10-10-10-1		01		NO NO		
	human consumption/ use?	GONTE	Canada I				Coole	r Custod	AL COOL					Sal	mple C		Scale in				N/A
		- GOAT Fo	rmert				13		HE WILL	I TENE	- ERMIN	-C		-+-		FINDAL	LOULA	TEMPERA	UNED	Ť	
	ES NO SHIPMENT RELEASE (client us)	1		INITIAL SHIPMEN	PECEPTION	I f unn sinhd	115	M	-	-	_	Piki 4 P	aume	This are	-	011111		-		1	
Released	Date:	Time:		SHURTEN	Date:	the use only	Tima	D	eceived	by:	-	TINAL	and the second s	ENT RE	GEPTI	ON (A)	LS use	Duty)	Time		
	A01-20	-2024 17:45			A1921	124	Tima:	00		-											
EFER TO BACK	PAGE FOR ALS LOCATIONS AND SAMPLING I			WH	ITE - LABORATOR	COPY YELLOW		NT COPY	1	-	-	-	-					-	-	AUG ET	THE PROPERTY

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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 eamples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.
Page 85 of 222

ALS Canada Ltd.



CERTIFICATE OF ANALYSIS					
Work Order	FJ2402552	Page	: 1 of 4		
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John		
Contact	: Andrea McMillan	Account Manager	: Brent Mack		
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road		
	Calgary AB Canada T2C 3G3		Fort St. John BC Canada V1J 6P3		
Telephone	:	Telephone	: 778-370-3279		
Project	: 704-ENW.GENV03704-02	Date Samples Received	: 23-Aug-2024 13:00		
PO	:	Date Analysis Commenced	: 03-Sep-2024		
C-O-C number	:	Issue Date	05-Sep-2024 09:46		
Sampler	: Fahim Nazari				
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
Sarah Birch	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).

Description
no units
percent
micrograms per cubic metre
inches of mercury
parts per billion (volume/volume)

<: 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
НТА	Analytical holding time was exceeded.



Sub-Matrix: Canister			С	lient sample ID	LOCATION 2	 	
(Matrix: Air)					AIR		
Client sampling date / time				23-Aug-2024 11:48	 	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2402552-001	 	
					Result	 	
Field Tests							
ID, batch proof		EF001/WT	-	-	240702.225	 	
ID, canister		EF001/WT	-	-	01400-0339	 	
ID, regulator		EF001/WT	-	-	G165	 	
Pressure on receipt		EF001/WT	0.10	Inches Hg	-8.17	 	
Sulfur Compounds							
Carbon disulfide		EC630/WT	6.2	µg/m³	142	 	
Carbon disulfide	75-15-0		2.0	ppbv	45.7 ^{hta}	 	
Carbonyl sulfide	463-58-1	EC630/WT	10	µg/m³	607	 	
Carbonyl sulfide	463-58-1	E630/WT	4.0	ppbv	247 ^{hta}	 	
Diethyl disulfide	110-81-6	EC630/WT	10	µg/m³	<10	 	
Diethyl disulfide	110-81-6	E630/WT	2.0	ppbv	<2.0 ^{hta}	 	
Diethyl sulfide	352-93-2	EC630/WT	15	µg/m³	<15	 	
Diethyl sulfide	352-93-2	E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Dimethyl disulfide	624-92-0	EC630/WT	7.7	µg/m³	<7.7	 	
Dimethyl disulfide	624-92-0	E630/WT	2.0	ppbv	<2.0 ^{hta}	 	
Dimethyl sulfide	75-18-3	EC630/WT	10	µg/m³	<10	 	
Dimethyl sulfide	75-18-3	E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Dimethylthiophene, 2,5-	638-02-8	EC630/WT	18	µg/m³	<18	 	
Dimethylthiophene, 2,5-	638-02-8	E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Ethyl mercaptan	75-08-1	EC630/WT	10	µg/m³	<10	 	
Ethyl mercaptan	75-08-1	E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Ethyl methyl sulfide	624-89-5	EC630/WT	12	µg/m³	<12	 	
Ethyl methyl sulfide	624-89-5		4.0	ppbv	<4.0 ^{hta}	 	
Ethylthiophene, 2-	872-55-9		18	µg/m³	<18	 	
Ethylthiophene, 2-	872-55-9		4.0	ppbv	<4.0 ^{hta}	 	
Hydrogen sulfide	7783-06-4		5.6	µg/m³	18.8	 	
Hydrogen sulfide	7783-06-4	E630/WT	4.0	ppbv	13.5 ^{hta}	 	
Isobutyl mercaptan	513-44-0		15	µg/m³	<15	 	
Isobutyl mercaptan	513-44-0		4.0	ppbv	<4.0 ^{hta}	 	



Sub-Matrix: Canister		Ci	ient sample ID	LOCATION 2	 	
(Matrix: Air)				AIR		
		Client samp	ling date / time	23-Aug-2024 11:48	 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402552-001	 	
				Result	 	
Sulfur Compounds						
Isopropyl mercaptan	75-33-2 EC630/WT	12	µg/m³	<12	 	
Isopropyl mercaptan	75-33-2 E630/WT	4.0	ppbv	<4.0 ^{HTA}	 	
Methyl mercaptan	74-93-1 EC630/WT	7.9	µg/m³	<7.9	 	
Methyl mercaptan	74-93-1 E630/WT	4.0	ppbv	<4.0 ^{HTA}	 	
Methylthiophene, 2-	554-14-3 EC630/WT	16	µg/m³	<16	 	
Methylthiophene, 2-	554-14-3 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Methylthiophene, 3-	616-44-4 EC630/WT	16	µg/m³	<16	 	
Methylthiophene, 3-	616-44-4 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
n-Butyl mercaptan	109-79-5 EC630/WT	15	µg/m³	<15	 	
n-Butyl mercaptan	109-79-5 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Propyl mercaptan	107-03-9 EC630/WT	12	µg/m³	<12	 	
Propyl mercaptan	107-03-9 E630/WT	4.0	ppbv	<4.0 ^{HTA}	 	
sec-butyl mercaptan + thiophene	EC630/WT	14	µg/m³	<21	 	
sec-butyl mercaptan + thiophene	E630/WT	6.0	ppbv	<6.0 ^{hta}	 	
t-Butyl mercaptan	75-66-1 EC630/WT	15	µg/m³	<15	 	
t-Butyl mercaptan	75-66-1 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Tetrahydrothiophene	110-01-0 EC630/WT	14	µg/m³	<14	 	
Tetrahydrothiophene	110-01-0 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Sulfur, total reduced (as H2S), 10 compounds	EC630/WT	16	µg/m³	427	 	
Sulfur, total reduced (as H2S), 22 compounds	EC630/WT	25	µg/m³	427	 	
Sulfur, total reduced (as H2S), NPRI 6	EC630/WT	12	µg/m³	427	 	
Sulfur, total reduced (as H2S), Ontario 4	EC630/WT	11	µg/m³	19	 	
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 result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: FJ2402552	Page	: 1 of 5
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: 778-370-3279
Project	:704-ENW.GENV03704-02	Date Samples Received	: 23-Aug-2024 13:00
PO	:	Issue Date	: 05-Sep-2024 09:46
C-O-C number	:		
Sampler	: Fahim Nazari		
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

• <u>No</u> Method Blank value outliers occur.

- No Duplicate outliers occur.
- <u>No</u> Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

• <u>No</u> 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: Air					Ev	/aluation: × =	Holding time excee	edance ; ง	= Within	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Field Tests : Air Canister Information										
Canister LOCATION 2 AIR	EF001	23-Aug-2024					03-Sep-2024		11 days	
Permanent Gases : Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Rout	ine Level, %)									
Canister LOCATION 2 AIR	E629B-H	23-Aug-2024					04-Sep-2024	30 days	12 days	~
Sulfur Compounds : Reduced Sulfur Compounds in Passivated Canisters by GC-S	CD (All List) (ppbV	')								
Canister LOCATION 2 AIR	E630	23-Aug-2024					04-Sep-2024	7 days	11 days	¥ EHT

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

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



Quality Control Parameter Frequency Compliance

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

Matrix: Air		Evaluati	on: × = QC frequ	ency outside sp	ecification; 🗸 =	QC frequency wit	hin specificatio
Quality Control Sample Type	C	ount		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	1631955	1	1	100.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1631263	1	1	100.0	5.0	✓
Laboratory Control Samples (LCS)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	1631955	1	1	100.0	5.0	~
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1631263	1	1	100.0	5.0	1
Method Blanks (MB)							
Air Canister Information	EF001	1629916	1	9	11.1	5.0	✓
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	1631955	1	1	100.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1631263	1	1	100.0	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	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.

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order	FJ2402552	Page	: 1 of 5
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone		Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02	Date Samples Received	: 23-Aug-2024 13:00
PO	:	Date Analysis Commenced	:03-Sep-2024
C-O-C number	:	Issue Date	:05-Sep-2024 09:46
Sampler	: Fahim Nazari		
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
Sarah Birch	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.

Page	:	3 of 5
Work Order	:	FJ2402552
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02



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).

ub-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: 1631263)										
FJ2402552-001	LOCATION 2 AIR	Carbon disulfide	75-15-0	E630	2.0	ppbv	45.7	45.9	0.389%	30%	
		Carbonyl sulfide	463-58-1	E630	4.0	ppbv	247	248	0.451%	30%	
		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	13.5	12.3	1.2	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	
ermanent Gases ((QC Lot: 163195 <u>5)</u>										
J2402552-001	LOCATION 2 AIR	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 CAS Number Method LOR Unit Qualifier Analyte Result Field Tests (QCLot: 1629916) Pressure on receipt ---- EF001 0.1 Inches Hg -30.0 Sulfur Compounds (QCLot: 1631263) Carbon disulfide 75-15-0 E630 <2.0 2 ppbv ----463-58-1 E630 4 <4.0 Carbonyl sulfide ppbv 110-81-6 E630 Diethyl disulfide 2 ppbv <2.0 Diethyl sulfide 352-93-2 E630 4 ppbv <4.0 624-92-0 E630 2 <2.0 Dimethyl disulfide ppbv ----75-18-3 E630 <4.0 Dimethyl sulfide 4 ppbv ----638-02-8 E630 Dimethylthiophene, 2,5-4 ppbv <4.0 75-08-1 E630 Ethyl mercaptan 4 ppbv <4.0 Ethyl methyl sulfide 624-89-5 E630 4 ppbv <4.0 ----872-55-9 E630 <4.0 Ethylthiophene, 2-4 ppbv ----Hydrogen sulfide 7783-06-4 E630 4 ppbv <4.0 Isobutyl mercaptan 513-44-0 E630 4 ppbv <4.0 75-33-2 E630 <4.0 Isopropyl mercaptan 4 ppbv ----Methyl mercaptan 74-93-1 E630 4 ppbv <4.0 554-14-3 E630 Methylthiophene, 2-4 ppbv <4.0 616-44-4 E630 Methylthiophene, 3-4 ppbv <4.0 n-Butyl mercaptan 109-79-5 E630 <4.0 4 ppbv ----107-03-9 E630 Propyl mercaptan 4 ppbv <4.0 sec-butyl mercaptan + thiophene ---- E630 6 ppbv <6.0 t-Butyl mercaptan 75-66-1 E630 4 ppbv <4.0 110-01-0 E630 4 <4.0 Tetrahydrothiophene ppbv ----Permanent Gases (QCLot: 1631955) 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: 1631263)											
Carbonyl sulfide	463-58-1	E630	4	ppbv	104 ppbv	110	60.0	140			
Hydrogen sulfide	7783-06-4	E630	4	ppbv	112 ppbv	77.9	60.0	140			
Methyl mercaptan	74-93-1	E630	4	ppbv	101 ppbv	103	60.0	140			
Permanent Gases (QCLot: 1631955)											
Methane	74-82-8	E629B-H	0.05	%	15 %	104	70.0	130			

AIR QUALITY CHAIN OF CUSTODY FORM - Canister/Tube/Gas Bag **60 NORTHLAND ROAD, UNIT 1** WATERLOO, ON N2V 2B8 1 Rush 3 day (100%) SERVICE REQUESTED Phone: (519) 886-6910 DATE enuranmental Note: All TAT Quoted is in business days which exclude REQUIRED Rush 2 day (200%) statutory holidays and weekends. TAT of samples received past 10 day (regular) Fax: (519) 886-9047 3:00 pm or Saturday / Sunday begin the next day. Toll Free: 1-800-668-9878 Rush 5 day (50%) Rush 1 day (300%) - Enquire COMPANY NAME ANALYSIS REQUEST REGULATION All rush work requires lab approval before sample submission CRITERIA OFFICE Calaci SUBMISSION # PROJECT MANAGER STARTING PRESSURE - Pre-Sampling ("Hg) ENDING PRESSURE - Post Sampling ("Hg) OTHER O HOH INFORMATION E PROIECT # PHONE ENTERED BY FAX **REPORT FORMAT/DISTRIBUTION** 50 102 -202 DATE/TIME ENTERED: ACCOUNT # aver EMAIL FAX BOTH (HRS) -QUOTATION # PO # 707-ENW. Gen 03704-02 SELECT: PDF DIGITAL BOTH __ neticstalue TUBE AIR VOLUME -TIME EMAIL 1 BIN #: SAMPLING INFORMATION EMAIL 2 5 Sample Date/Time COLLECTION Type. Regulator Canister or Tube ID# **Field Conditions** Serial # Time (e.g. 060000-XXXX Matrix (Rain/Wind/Dust/Odour) LAB ID CS1200-XXXX SAMPLE DESCRIPTION TO APPEAR ON REPORT Date (dd-mmm-yy) (24hr) or GOXXXXXXXVI) Field PID Reading or GXX (hh:mm) 4min * 28 7 777 Ax 01400-0339 Location ? : Aug-24 10:48 Air norma Environmental Division Fort St. John Work Order Reference FJAE Shipping & Receiving FJ2402552 Expedite Call Out Priority # of Coolers Air # of Carboys __ Ground Telephone : +1 250 261 5517 SPECIAL INSTRUCTIONS/COMMENTS: This Chain of Custody Form is only to be used for Air Quality Samples filled to 7Hg pressure CHIGE LAS Matrix Type Soil Gas Vapour = SG Indoor Air = IA COLD Start Pressure 28 Hg Η COOLING INITIATED Ambient Air = AA Industrial Hygiene = IH -> Fill. 4 min. AMBIENT INIT SAMPLED BY: DATE & TIME RECEIVED BY: DATE & TIME OBSERVATIONS atari AQ-23-2-2-24 nin Yes 🗌 Na 🗌 DATE & TIME DATE & UM RECEIVED AT LAS BY: RELINQUISHED BY If yes add SIF Notes 3. Any known or suspected hazards relating to a sample must be noted on the 2. TAT may vary dependent on complexity of analysis and lab workload at time of 1. Quote number must be pro-REV6-2015 submission. Please contact the lab to confirm TATs. chain of custody in comments section.

AUY 23/24 - 12:00Pm.

Page of

60 NORTHLAND ROAD, UNIT 1 WATERLOO, ON N2V 2B8



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

Page of

Phone: (519) 886-6910			Note: All TAT Quoted is in busines	e desse adotate :			DATE	SERVICE REQUESTED			ED	Rush 3 day (100%)			
Fax: (519) 886-9047		003342356287	8282X089726,608 6	1.1	statutory holidays and weekends. TA		a second a	st	REQUIRED	10 day	(regula	r)		Rush 2 day (200%)	
Toll Free: 1-800-668	9878				3:00 pm or Saturday / Sunday begin	n the next day.		1	-	Rush 5	day (50	1%)		Rush 1 day (300%) - Enquire	
COMPANY NAME	Te	tra Tech	G	laci	REGULATION CRITERIA				ANALYSIS	REQUEST	T			All rush work requires lab before sample submis	
	140	QUEVEN Pork	Blurk	. Je.	CRITERIA			3	- T T	1.1					
PROJECT MANAGER	And	trea MC	Hillan		OTHER			methane	2		(gH")	(6H,		SUBMISSION #	
PROJECT #	704	- ENW. Gen	103704-0	20			Ë	9	7	11	bui) Bu			
PHONE 403-203-	3355	FAX			REPORT FORMAT/DISTRIBU	ITION	ů	M	11		PRESSURE - Pre-Sampling ("Hg)	PRESSURE - Post Sampling ("Hg)		ENTERED BY:	
ACCOUNT #					EMAIL FAX BOTH			3	-		Pre-	st S		DATE/TIME ENTERED:	
QUOTATION #		PO# 709-ENW. (benv 0370	4-02	SELECT: PDFDIGITALB EMAIL 1	OTH		boulow	عساملكت	11	URE -	E - Po	E (HRS)	bia	
	SAMPLING	INFORMATION			EMAIL 2		MN	8	2		ESS	SUR	TIME	BIN #:	
Sample Date/Ti	me 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 -	Undis	Under		STARTING PR	ENDING PRES	COLLECTION	Field Conditions (Rain/Wind/Dust/Odour) Field PID Reading	LABID
23. Aug-24	10:48	01400-0339	277	Air	Location 2	Air	*	V	V		28	-	41	hin narmal	
		UCTIONS/COMMENTS			This Chain of	Custody Form 1	s only to be	Ca	JAE Ship 11 Out 12 Coolers 14 Coolers 14 Coolers 14 Coolers	Exp Pric Air s Gro	edite ority	ving		Environmental D Fort St. John Work Order Refer FJ2402	552
the -> folled t Start PM -> Folled		lg pressure 28 Hg 1 min.		Matrix Type	Soil Gas Vapour = SG Ambient Air = AA		Indoor A Industria		ane = IH					COLING INITIATED	
RELINQUISHED BY	ihn	Natari		DATE	A TIME RECEIVED BY:	×				DATE &	L TIME			OBSERVATIONS Yes No I If yes add SIF	INIT
Notes				-											and on the

1. Quote number must be provided to

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

409 23/24 - 12 :ofm

Fture of the second conduction of the second c

	F	10	ŧ.	afed			
--	---	----	----	------	--	--	--

THARADA OT IL	10.0812 - 29AD & 99UT	AIDEN REPL	ACEMENT COS	W begende to teol effekt. ST: 385 - THE LOCE TOOL SET - 195. AND - 200 000 - ANT - 751000 00 GRA	ad lin	AACUUM GAUGE	240.00 5) BOTTLEVAG	TSINAD C	00'SELS - 83
	3	ISINGO WINE	Canister Reut	al is 2 WEEKS ONLY. Must line I	e antij	el letres tenolitibb	Alde	-	
SINEWIC									
	nother ALS location		000						
	\$50, TD tube prepirer bour notice, not inclu		09\$						
		(05\$:181							
SUBMITTING) Bags (contact the lab	pe6ind 9#\$-			+					
emule Sets - Sets - Set per lab	-\$28 nubnubeq			1					
a yer 82 - sta 2 atree,	-Fength per section	00		-					
Tubing - \$3 per toot	-Total length (ft)	(#)							
vaptor for Soil Vapou			an inner						
te Sampler - \$45 cani	the second se			THE CHENCE START STUDIES	-				
	saliqqu2 aldse		Quantity	Methane :\$100, Sulfurs \$2	0 670	XEEK 2WEEK	2012 Isto		
vapplor for Soll Vapou				COWWENTS:	-	Other (specify)			
shands a					H	Probe/Well	Crawlspace		In the second
1001					F	NA trieidmA	lippued [-	Residential
a6neg a.		L.	bG28	Curden una una vonue	H	TIA TOODAI	delS-duS	-	Comparcial
Other Sampling	seudding	Guantity	#01	Check all that apply:		12 1		and a local division of the second se	Industrial
ion Tube for SVI (yea/n			# 41	1990 1	enoiti	2. S. noitsmootol I	A to anotioutent lisio	siseups: I	
soduT IV2 sedut IV2			-		-			1	
sde) e				Line Process	-			-	
e CarboPak X Tubes			4		-			-	
er of Carlisters	unine du l				-	and the second			
	Trip Blank				-				
	No Restrictor				-		-	12.2	
	suim 8		1		-				
Bottle Vacs	suim 7				-	-			
	sum et							1	
er of Canisters	sum 04				-			1-	-
t anataine) to ad	Anal8 gnT				-			1	
	No Restrictor							1	
	20im A							1	
1.4L Canistor	ຣບາມ 01		100						
	soim 05		and the second	0630	-			1	
	soim 09		Methane. 5	ress milus lin 7, Meson		01400-0339	7.85-		910
er of Canisters	AnsiB dhT				-			1	
	14 G.O					-		1 2	
	74.1	-			-			122	
6L Canister	4 hr							1.5	
	3 th				-				
	15 41				-			1	
	54 PL								
ster Size/Tube	Regulator Times	Regulator Quantity	Param	seboo toubor Product		eduTveseineD # noitsofftneb	Initial Pressure/ initial Pressure/		Controller Identification
e provide a list of compo interved caniater interve will be addine on	etimil gnihoqey bns ebnu Semit gnifqmes Vilsoftigegs seering bellij-	beniu per sedi tedi ada tedi sedi sedi wolod betseuper nat is Listen e	T Toteluger a T Toteluger T	voled xoli noisematini lenc Actisti, teli teges & noiseli esomi teupereibemie.stwen liemi	6s ¥@4	942A mos.ledol			
				tion of all Sections is Ma	-	λ ιο			
(T)	sieving SJA o		(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)						
	• Location:	1		1 [O	A/N o			
3	o Pickup at ALS				Q	o Other			
	einuo3 lemetx3 o				Q	SqU o		-	
(Select one)	o RUSH(Client will be confirm with Account		acpard tereor B		0	° DHC			
:bortseM gniqq	o Regular (ALS will co			Shipping Company:	0	o FedEx	Tracking Number:		
(linsme ebuloni) O	Dnellimorn.senbris	mos:dostetistet	AT 10 100 100					1 :	42-60A-12
HONE NUMBER:	1211-008-289					101	DEER REVIEWER:	1	
:01 YA		ela 50011 ,08	ka Road, Fon	St John , BC, V1J 6P3 for c	i meilo	nra	סאסבא אוררבה אל		٩X
	TetraTech MSA			- ALC				VIE	42-004-65
(viotebnem) ;# :		Duild					AM REVIEWER:	1	VNTSAT20
BROJECT/PO:	mes WD bne sed						Contraction of the second second		
. PROJECT/PO: CONTACT:	nelliMoM centra					a a second a d	STAG NEGRO	4	51-Aug-24
BROJECT/PO:	TetreTech Andrea McMillan			JA of OUAES vieviled tof OUAEs VAC	1-13-			4	

мяоя тезиозя Аюзигаха

ALS Environmental 60 Northland Drive, Unit 1 Waterloo, ON N2V 288

ALS Canada Ltd.



	CERTIFICATE OF ANALYSIS										
Work Order	: FJ2402712	Page	: 1 of 9								
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John								
Contact	: Andrea McMillan	Account Manager	: Brent Mack								
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road								
	Calgary AB Canada T2C 3G3		Fort St. John BC Canada V1J 6P3								
Telephone	:	Telephone	: 778-370-3279								
Project	: 704-ENW.GENV03704-02- Rose Prairie	Date Samples Received	: 09-Sep-2024 13:10								
PO	:	Date Analysis Commenced	: 11-Sep-2024								
C-O-C number	:	Issue Date	: 17-Sep-2024 16:02								
Sampler	: Thomas 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 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
Daniel Shabestani	Lab Assistant	Metals, Burnaby, British Columbia
David Tremblett	VOC Section Supervisor	Air Quality, Waterloo, Ontario
Elke Tabora	Lab Analyst	Inorganics, Calgary, Alberta
Janice Leung	Supervisor - Organics Instrumentation	Organics, 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
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Leon Yang	Analyst	Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Walt Kippenhuck	Supervisor - Inorganic	Inorganics, 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
% T/cm	% transmittance per centimetre
µg/L	micrograms per litre
μS/cm	microsiemens 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
ppmv	parts per million (volume/volume)

<: less than.

>: greater than.

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

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

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

Workorder Comments

No container received for F2 analysis, but requested on Chain of Custody / analytical request form; subsample cannot be obtained from other containers to meet request. The requested analysis cannot be performed.

Qualifiers

Qualifier	Description
DLA	Detection Limit adjusted for required dilution.

Page Work Order Client Project	:	4 of 9 FJ2402712 Tetra Tech Canada Inc. 704-ENW.GENV03704-02- Rose Prairie	ALS
DLDS		Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.	



Sub-Matrix: Water			Cl	ient sample ID	LOCATION 3	 	
(Matrix: Water)							
			Client samp	ling date / time	09-Sep-2024 11:07	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2402712-001	 	
					Result	 	
Physical Tests							
Absorbance, UV (@ 254nm)		E404/VA	0.0050	AU/cm	0.0620	 	
Alkalinity, bicarbonate (as CaCO3)		E290/VA	1.0	mg/L	861	 	
Alkalinity, carbonate (as CaCO3)		E290/VA	1.0	mg/L	20.8	 	
Alkalinity, hydroxide (as CaCO3)		E290/VA	1.0	mg/L	<1.0	 	
Alkalinity, phenolphthalein (as CaCO3)		E290/VA	1.0	mg/L	10.4	 	
Alkalinity, total (as CaCO3)		E290/VA	1.0	mg/L	882	 	
Colour, true		E329/VA	5.0	CU	<5.0	 	
Conductivity		E100/VA	2.0	μS/cm	1800	 	
Hardness (as CaCO3), dissolved		EC100/VA	0.60	mg/L	353	 	
Hardness (as CaCO3), from total Ca/Mg		EC100A/VA	0.60	mg/L	350	 	
рН		E108/VA	0.10	pH units	8.39	 	
Solids, total dissolved [TDS]		E162/VA	10	mg/L	1340	 	
Turbidity		E121/VA	0.10	NTU	316	 	
Transmittance, UV (@ 254nm)		E404/VA	1.0	% T/cm	86.7	 	
Anions and Nutrients							
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.500 DLDS	 	
Chloride	16887-00-6	E235.CI/VA	0.50	mg/L	38.8	 	
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	<0.200 DLDS	 	
Nitrate (as N)	14797-55-8	E235.NO3-L/V	0.0050	mg/L	<0.0500 DLDS	 	
Nitrite (as N)	14797-65-0	A E235.NO2-L/V A	0.0010	mg/L	<0.0100 DLDS	 	
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	136	 	
Cyanides							
Cyanide, strong acid dissociable (Total)		E333/WT	0.0050	mg/L	<0.0050	 	
Organic / Inorganic Carbon							
Carbon, dissolved organic [DOC]		E358-L/CG	0.50	mg/L	3.37	 	
Carbon, total organic [TOC]		E355-L/CG	0.50	mg/L	7.25	 	
Total Sulfides							
Sulfide, total (as H2S)	7783-06-4	E395-H/VA	0.011	mg/L	<0.011	 	
			Da	ge 106 of 22))		



Sub-Matrix: Water		Cl	ient sample ID	LOCATION 3	 	
(Matrix: Water)						
		Client samp	ling date / time	09-Sep-2024 11:07	 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402712-001	 	
				Result	 	
Total Sulfides	5005 UN/A	0.010		-0.010		
Sulfide, total (as S)	18496-25-8 E395-H/VA	0.010	mg/L	<0.010	 	
Total Metals		0.0000		0.11		
Aluminum, total	7429-90-5 E420/VA	0.0030	mg/L	3.14	 	
Antimony, total	7440-36-0 E420/VA	0.00010	mg/L	0.00099	 	
Arsenic, total	7440-38-2 E420/VA	0.00010	mg/L	0.00362	 	
Barium, total	7440-39-3 E420/VA	0.00010	mg/L	0.206	 	
Beryllium, total	7440-41-7 E420/VA	0.000100	mg/L	0.000213	 	
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	0.319	 	
Cadmium, total	7440-43-9 E420/VA	0.0000050	mg/L	0.000318	 	
Calcium, total	7440-70-2 E420/VA	0.050	mg/L	55.3	 	
Cesium, total	7440-46-2 E420/VA	0.000010	mg/L	0.00153	 	
Chromium, total	7440-47-3 E420/VA	0.00050	mg/L	0.00817	 	
Cobalt, total	7440-48-4 E420/VA	0.00010	mg/L	0.00341	 	
Copper, total	7440-50-8 E420/VA	0.00050	mg/L	0.0134	 	
Iron, total	7439-89-6 E420/VA	0.010	mg/L	18.8	 	
Lead, total	7439-92-1 E420/VA	0.000050	mg/L	0.00562	 	
Lithium, total	7439-93-2 E420/VA	0.0010	mg/L	0.0228	 	
Magnesium, total	7439-95-4 E420/VA	0.0050	mg/L	51.4	 	
Manganese, total	7439-96-5 E420/VA	0.00010	mg/L	0.251	 	
Mercury, total	7439-97-6 E508/VA	0.0000050	mg/L	0.0000608	 	
Molybdenum, total	7439-98-7 E420/VA	0.000050	mg/L	0.00397	 	
Nickel, total	7440-02-0 E420/VA	0.00050	mg/L	0.0120	 	
Phosphorus, total	7723-14-0 E420/VA	0.050	mg/L	0.140	 	
Potassium, total	7440-09-7 E420/VA	0.050	mg/L	4.60	 	
Rubidium, total	7440-17-7 E420/VA	0.00020	mg/L	0.00991	 	
Selenium, total	7782-49-2 E420/VA	0.000050	mg/L	0.00190	 	
Silicon, total	7440-21-3 E420/VA	0.10	mg/L	10.0	 	
Silver, total	7440-22-4 E420/VA	0.000010	mg/L	0.000122	 	
Sodium, total	7440-22-4 E+20/VA	0.050	mg/L	362	 	
oourum, totai	1440-23-3	0.000	mg/∟	502	 	



Sub-Matrix: Water		CI	ient sample ID	LOCATION 3		 	
(Matrix: Water)							
		Client samp	ling date / time	09-Sep-2024 11:07		 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402712-001		 	
				Result		 	
Total Metals							
Strontium, total	7440-24-6 E420/VA	0.00020	mg/L	1.04		 	
Sulfur, total	7704-34-9 E420/VA	0.50	mg/L	57.8		 	
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	0.000088		 	
Thorium, total	7440-29-1 E420/VA	0.00010	mg/L	0.00150		 	
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	0.0187		 	
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	0.00179		 	
Vanadium, total	7440-62-2 E420/VA	0.00050	mg/L	0.0118		 	
Zinc, total	7440-66-6 E420/VA	0.0030	mg/L	0.0767		 	
Zirconium, total	7440-67-7 E420/VA	0.00020	mg/L	<0.00040 DLA		 	
Dissolved Metals							
Aluminum, dissolved	7429-90-5 E421/VA	0.0010	mg/L	0.0078		 	
Antimony, dissolved	7440-36-0 E421/VA	0.00010	mg/L	0.00091		 	
Arsenic, dissolved	7440-38-2 E421/VA	0.00010	mg/L	0.00090		 	
Barium, dissolved	7440-39-3 E421/VA	0.00010	mg/L	0.0483		 	
Beryllium, dissolved	7440-41-7 E421/VA	0.000100	mg/L	<0.000100		 	
Bismuth, dissolved	7440-69-9 E421/VA	0.000050	mg/L	<0.000050		 	
Boron, dissolved	7440-42-8 E421/VA	0.010	mg/L	0.371		 	
Cadmium, dissolved	7440-43-9 E421/VA	0.0000050	mg/L	0.0000304		 	
Calcium, dissolved	7440-70-2 E421/VA	0.050	mg/L	62.6		 	
Cesium, dissolved	7440-46-2 E421/VA	0.000010	mg/L	0.000053		 	
Chromium, dissolved	7440-47-3 E421/VA	0.00050	mg/L	<0.00050		 	
Cobalt, dissolved	7440-48-4 E421/VA	0.00010	mg/L	0.00048		 	
Copper, dissolved	7440-50-8 E421/VA	0.00020	mg/L	<0.00020		 	
Iron, dissolved	7439-89-6 E421/VA	0.010	mg/L	0.178		 	
Lead, dissolved	7439-92-1 E421/VA	0.000050	mg/L	<0.000050		 	
Lithium, dissolved	7439-93-2 E421/VA	0.0010	mg/L	0.0206		 	
Magnesium, dissolved	7439-95-4 E421/VA	0.0050	mg/L	47.7		 	
in groot and, allooor ou	1+03-33-4	0.0000				l	l i i i i i i i i i i i i i i i i i i i



Analytical Results

Sub-Matrix: Water		Cli	ent sample ID	LOCATION 3	 		
(Matrix: Water)							
		Client samp	ling date / time	09-Sep-2024 11:07	 		
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402712-001	 		
				Result	 		
Dissolved Metals							
Manganese, dissolved	7439-96-5 E421/VA	0.00010	mg/L	0.110	 		
Mercury, dissolved	7439-97-6 E509/VA	0.0000050	mg/L	<0.000050	 		
Molybdenum, dissolved	7439-98-7 E421/VA	0.000050	mg/L	0.00392	 		
Nickel, dissolved	7440-02-0 E421/VA	0.00050	mg/L	0.00152	 		
Phosphorus, dissolved	7723-14-0 E421/VA	0.050	mg/L	<0.050	 		
Potassium, dissolved	7440-09-7 E421/VA	0.050	mg/L	4.40	 		
Rubidium, dissolved	7440-17-7 E421/VA	0.00020	mg/L	0.00240	 		
Selenium, dissolved	7782-49-2 E421/VA	0.000050	mg/L	0.00176	 		
Silicon, dissolved	7440-21-3 E421/VA	0.050	mg/L	4.86	 		
Silver, dissolved	7440-22-4 E421/VA	0.000010	mg/L	<0.000010	 		
Sodium, dissolved	7440-23-5 E421/VA	0.050	mg/L	360	 		
Strontium, dissolved	7440-24-6 E421/VA	0.00020	mg/L	0.994	 		
Sulfur, dissolved	7704-34-9 E421/VA	0.50	mg/L	51.0	 		
Tellurium, dissolved	13494-80-9 E421/VA	0.00020	mg/L	<0.00020	 		
Thallium, dissolved	7440-28-0 E421/VA	0.000010	mg/L	<0.000010	 		
Thorium, dissolved	7440-29-1 E421/VA	0.00010	mg/L	<0.00010	 		
Tin, dissolved	7440-31-5 E421/VA	0.00010	mg/L	<0.00010	 		
Titanium, dissolved	7440-32-6 E421/VA	0.00030	mg/L	<0.00030	 		
Tungsten, dissolved	7440-33-7 E421/VA	0.00010	mg/L	<0.00010	 		
Uranium, dissolved	7440-61-1 E421/VA	0.000010	mg/L	0.00141	 		
Vanadium, dissolved	7440-62-2 E421/VA	0.00050	mg/L	<0.00050	 		
Zinc, dissolved	7440-66-6 E421/VA	0.0010	mg/L	0.0022	 		
Zirconium, dissolved	7440-67-7 E421/VA	0.00020	mg/L	0.00035	 		
Dissolved mercury filtration location	EP509/VA	-	-	Field	 		
Dissolved metals filtration location	EP421/VA	-	-	Field	 		
Dissolved Gases							
Methane	74-82-8 EC614B/WT	5.0	µg/L	<5.0	 		
Methane	74-82-8 E614B/WT	20.8	ppmv	<20.8	 		
Volatile Organic Compounds [Fuels]							
Benzene	71-43-2 E611A/VA	0.50	µg/L	<0.50	 		
1	I		$100 \text{ of } 2^{\circ}$			I	1



Analytical Results

Sub-Matrix: Water		C	lient sample ID	LOCATION 3	 	
(Matrix: Water)						
		Client samp	ling date / time	09-Sep-2024 11:07	 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402712-001	 	
				Result	 	
Volatile Organic Compounds [Fuels]						
Ethylbenzene	100-41-4 E611A/VA	0.50	µg/L	<0.50	 	
Methyl-tert-butyl ether [MTBE]	1634-04-4 E611A/VA	0.50	µg/L	<0.50	 	
Styrene	100-42-5 E611A/VA	0.50	µg/L	<0.50	 	
Toluene	108-88-3 E611A/VA	0.50	µg/L	<0.50	 	
Xylene, m+p-	179601-23-1 E611A/VA	0.40	µg/L	<0.40	 	
Xylene, o-	95-47-6 E611A/VA	0.30	µg/L	< 0.30	 	
Xylenes, total	1330-20-7 E611A/VA	0.50	µg/L	<0.50	 	
Hydrocarbons						
VHw (C6-C10)	E581.VH+F1/ VA	100	µg/L	<100	 	
F1-BTEX	EC580/VA	100	µg/L	<100	 	
VPHw	EC580A/VA	100	µg/L	<100	 	
F1 (C6-C10)	E581.VH+F1/ VA	100	µg/L	<100	 	
Hydrocarbons Surrogates						
Dichlorotoluene, 3,4-	95-75-0 E581.VH+F1/ VA	1.0	%	73.2	 	
Volatile Organic Compounds Surrogates						
Bromofluorobenzene, 4-	460-00-4 E611A/VA	1.0	%	83.7	 	
Difluorobenzene, 1,4-	540-36-3 E611A/VA	1.0	%	116	 	

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

Please refer to the Accreditation section for an explanation of analyte accreditations.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	FJ2402712	Page	: 1 of 13
Client	E Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02- Rose Prairie	Date Samples Received	: 09-Sep-2024 13:10
PO	:	Issue Date	: 17-Sep-2024 16:02
C-O-C number			
Sampler	: Thomas 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

- <u>No</u> Method Blank value outliers occur.
- <u>No</u> Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike 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

• <u>No</u> 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
Matrix Spike (MS) Recoveries								
Dissolved Metals	FJ2402712-001	LOCATION 3	Silver, dissolved	7440-22-4	E421	62.2 % MES	70.0-130%	Recovery less than lower
								data quality objective
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					Ev	/aluation: × =	Holding time exce	edance ; •	= Within	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pr	reparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
LOCATION 3	E235.Br-L	09-Sep-2024	11-Sep-2024	28	2 days	1	11-Sep-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Chloride in Water by IC										
HDPE										
LOCATION 3	E235.Cl	09-Sep-2024	11-Sep-2024	28	2 days	1	11-Sep-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Fluoride in Water by IC										
HDPE										
LOCATION 3	E235.F	09-Sep-2024	11-Sep-2024	28	2 days	1	11-Sep-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
LOCATION 3	E235.NO3-L	09-Sep-2024	11-Sep-2024	3 days	2 days	1	11-Sep-2024	3 days	2 days	1
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE	5005 1100 1									,
LOCATION 3	E235.NO2-L	09-Sep-2024	11-Sep-2024	3 days	2 days	1	11-Sep-2024	3 days	2 days	1
Anions and Nutrients : Sulfate in Water by IC							-			
HDPE	5005.004	00.0	44.0		0.1		44.0	00.1		,
LOCATION 3	E235.SO4	09-Sep-2024	11-Sep-2024	28	2 days	1	11-Sep-2024	28 days	2 days	1
				days						
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide)	E 222	00 5 cm 2024	10.0 0001		0 days		40.0 0004	44 -	0 days	
LOCATION 3	E333	09-Sep-2024	12-Sep-2024	14	3 days	1	12-Sep-2024	14 days	3 days	1
				days						



latrix: Water					E١	valuation: × =	Holding time exce	edance ; 🔹	= Within	Holding T
Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pr	reparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Dissolved Gases : Methane, Ethane, & Ethene by Headspace GC-FID										
Glass vial (sodium bisulfate)										
LOCATION 3	E614B	09-Sep-2024					13-Sep-2024	14 days	4 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
LOCATION 3	E509	09-Sep-2024	16-Sep-2024	28	8 days	1	16-Sep-2024	28 days	8 days	✓
				days						
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS									1 1	
HDPE dissolved (nitric acid)										
LOCATION 3	E421	09-Sep-2024	14-Sep-2024	180	5 days	1	16-Sep-2024	180	7 days	✓
				days				days		
lydrocarbons : VH and F1 by Headspace GC-FID				-						
Glass vial (sodium bisulfate)										
LOCATION 3	E581.VH+F1	09-Sep-2024	13-Sep-2024	14	4 days	1	13-Sep-2024	14 days	4 days	1
			·	days	,		· ·			
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low L	0/(0])									
Amber glass dissolved (sulfuric acid)										
LOCATION 3	E358-L	09-Sep-2024	15-Sep-2024	28	6 days	1	16-Sep-2024	28 days	7 days	1
	2000 2	00 000 2021	10 000 2021	days	o aayo		10 000 2021	20 44,0	. aaje	
				aayo						
Drganic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combu Amber glass total (sulfuric acid)	Stion (Low Level)									
LOCATION 3	E355-L	09-Sep-2024	15-Sep-2024	28	6 days	1	16-Sep-2024	28 days	7 days	1
LOOATION 3	2000 2	00 000 2021	10-000-2024	days	0 days		10-000-2024	20 0035	7 days	
				days						
Physical Tests : Alkalinity Species by Titration								-		
HDPE LOCATION 3	E290	09-Sep-2024	11-Sep-2024		2 days	1	13-Sep-2024	14 days	4 days	1
LOCATION 3	E290	09-3ep-2024	11-3ep-2024	14	2 uays	•	13-3ep-2024	14 uays	4 uays	•
				days						
Physical Tests : Colour (True) by Spectrometer (5 CU)								_		
HDPE LOCATION 3	E329	09-Sep-2024	11-Sep-2024	2 dava	2 days	1	11-Sep-2024	3 days	2 days	~
LUCATION 3	E329	09-3ep-2024	11-Sep-2024	3 days	∠ uays	•	11-Sep-2024	ა uays	∠ uays	v
Physical Tests : Conductivity in Water										
HDPE	F100	00 5 m 2024	44.0-= 0004		Older	1	10.0-= 0004		4	1
LOCATION 3	E100	09-Sep-2024	11-Sep-2024	28	2 days	*	13-Sep-2024	28 days	4 days	*
				days						



Matrix: Water					E	valuation: × =	Holding time exce	edance ; 🔹	= Withir	Holding Tim
Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pi	reparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE										
LOCATION 3	E108	09-Sep-2024	11-Sep-2024	0.25	42 hrs	*	13-Sep-2024	0.25	98 hrs	*
				hrs		EHTR-FM		hrs		EHTR-FM
Physical Tests : TDS by Gravimetry				-	-					
HDPE										
LOCATION 3	E162	09-Sep-2024					15-Sep-2024	7 days	6 days	1
Physical Tests : Turbidity by Nephelometry										
HDPE	E 404	00.0					10.0	0.1	0.1	1
LOCATION 3	E121	09-Sep-2024					12-Sep-2024	3 days	3 days	*
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE	E404	09-Sep-2024					10 Sam 2024	2 days	3 days	1
LOCATION 3	E404	09-3ep-2024					12-Sep-2024	3 days	5 days	•
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) LOCATION 3	E508	09-Sep-2024	16-Sep-2024	28	7 days	1	16-Sep-2024	28 days	7 days	1
	2000	00-00p-2024	10-000-2024	days	7 duys		10-000-2024	20 0035	/ duy5	·
				days						
Total Metals : Total Metals in Water by CRC ICPMS HDPE total (nitric acid)										
LOCATION 3	E420	09-Sep-2024	13-Sep-2024	180	4 days	1	15-Sep-2024	180	6 days	1
	2.20	00 000 2021	10 000 2021	days	1 duyo		10 000 2021	days	o dayo	· ·
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)				aayo				uajo		
HDPE total (zinc acetate+sodium hydroxide)										
LOCATION 3	E395-H	09-Sep-2024					12-Sep-2024	7 days	3 days	1
200,										
Volatile Organic Compounds : BTEX by Headspace GC-MS										
Glass vial (sodium bisulfate)										
LOCATION 3	E611A	09-Sep-2024	13-Sep-2024	14	4 days	1	13-Sep-2024	14 days	4 days	1
			-	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.

Quality Control Sample Type			C	ount			
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1644011	1	18	5.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1644017	1	13	7.6	5.0	✓
BTEX by Headspace GC-MS	E611A	1648980	1	14	7.1	5.0	✓
Chloride in Water by IC	E235.Cl	1644016	1	15	6.6	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1644020	1	1	100.0	5.0	~
Conductivity in Water	E100	1644009	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1654684	1	20	5.0	5.0	1
Dissolved Metals in Water by CRC ICPMS	E421	1645007	1	20	5.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1652740	1	15	6.6	5.0	~
Fluoride in Water by IC	E235.F	1644015	1	13	7.6	5.0	✓
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	1649070	1	11	9.0	4.5	
Nitrate in Water by IC (Low Level)	E235.NO3-L	1644013	1	18	5.5	5.0	
Nitrite in Water by IC (Low Level)	E235.NO2-L	1644014	1	15	6.6	5.0	- -
pH by Meter	E108	1644010	1	20	5.0	5.0	1
Sulfate in Water by IC	E235.SO4	1644012	1	15	6.6	5.0	✓
TDS by Gravimetry	E162	1652612	1	19	5.2	5.0	- -
Total Cyanide	E333	1648080	1	20	5.0	5.0	1
Total Mercury in Water by CVAAS	E508	1654017	1	20	5.0	5.0	 Image: A start of the start of
Total Metals in Water by CRC ICPMS	E420	1647732	1	20	5.0	5.0	1
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1652739	1	15	6.6	5.0	 Image: A start of the start of
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1647389	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1646854	1	20	5.0	5.0	
UV Absorbance and Transmittance by Spectrometry	E404	1646857	1	2	50.0	5.0	 ✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1648981	1	11	9.0	5.0	<u> </u>
Laboratory Control Samples (LCS)							_
Alkalinity Species by Titration	E290	1644011	1	18	5.5	5.0	1
Bromide in Water by IC (Low Level)	E235.Br-L	1644017	1	13	7.6	5.0	
BTEX by Headspace GC-MS	E611A	1648980	1	14	7.1	5.0	
Chloride in Water by IC	E235.Cl	1644016	1	15	6.6	5.0	· ·
Colour (True) by Spectrometer (5 CU)	E329	1644020	1	1	100.0	5.0	· ·
Conductivity in Water	E100	1644009	1	20	5.0	5.0	
Dissolved Mercury in Water by CVAAS	E509	1654684	1	20	5.0	5.0	
Dissolved Metals in Water by CRC ICPMS	E421	1645007	1	20	5.0	5.0	
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1652740	1	15	6.6	5.0	
Fluoride in Water by IC	E235.F	1644015	1	13	7.6	5.0	
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	1649070	1	11	9.0	4.5	



Quality Control Sample Type			Co	ount)	
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Frequency (%)	Evaluation
Laboratory Control Samples (LCS) - Continued							
Nitrate in Water by IC (Low Level)	E235.NO3-L	1644013	1	18	5.5	5.0	1
Nitrite in Water by IC (Low Level)	E235.NO2-L	1644014	1	15	6.6	5.0	
pH by Meter	E108	1644010	1	20	5.0	5.0	
Sulfate in Water by IC	E235.SO4	1644012	1	15	6.6	5.0	
TDS by Gravimetry	E162	1652612	1	19	5.2	5.0	
Total Cyanide	E333	1648080	1	20	5.0	5.0	
Total Mercury in Water by CVAAS	E508	1654017	1	20	5.0	5.0	
Total Metals in Water by CRC ICPMS	E420	1647732	1	20	5.0	5.0	
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1652739	1	15	6.6	5.0	
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1647389	1	8	12.5	5.0	
Turbidity by Nephelometry	E121	1646854	1	20	5.0	5.0	
UV Absorbance and Transmittance by Spectrometry	E404	1646857	1	2	50.0	5.0	
VH and F1 by Headspace GC-FID	E581.VH+F1	1648981	1	11	9.0	5.0	
Method Blanks (MB)							-
Alkalinity Species by Titration	E290	1644011	1	18	5.5	5.0	1
Bromide in Water by IC (Low Level)	E235.Br-L	1644017	1	13	7.6	5.0	
BTEX by Headspace GC-MS	E611A	1648980	1	14	7.1	5.0	
Chloride in Water by IC	E235.Cl	1644016	1	15	6.6	5.0	
Colour (True) by Spectrometer (5 CU)	E329	1644020	1	1	100.0	5.0	<u> </u>
Conductivity in Water	E100	1644009	1	20	5.0	5.0	- -
Dissolved Mercury in Water by CVAAS	E509	1654684	1	20	5.0	5.0	<u> </u>
Dissolved Metals in Water by CRC ICPMS	E421	1645007	1	20	5.0	5.0	~
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1652740	1	15	6.6	5.0	1
Fluoride in Water by IC	E235.F	1644015	1	13	7.6	5.0	1
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	1649070	1	11	9.0	4.5	~
Nitrate in Water by IC (Low Level)	E235.NO3-L	1644013	1	18	5.5	5.0	✓
Nitrite in Water by IC (Low Level)	E235.NO2-L	1644014	1	15	6.6	5.0	~
Sulfate in Water by IC	E235.SO4	1644012	1	15	6.6	5.0	✓
TDS by Gravimetry	E162	1652612	1	19	5.2	5.0	~
Total Cyanide	E333	1648080	1	20	5.0	5.0	1
Total Mercury in Water by CVAAS	E508	1654017	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1647732	1	20	5.0	5.0	~
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1652739	1	15	6.6	5.0	✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1647389	1	8	12.5	5.0	✓
Turbidity by Nephelometry	E121	1646854	1	20	5.0	5.0	√
UV Absorbance and Transmittance by Spectrometry	E404	1646857	1	2	50.0	5.0	✓
VH and F1 by Headspace GC-FID	E581.VH+F1	1648981	1	11	9.0	5.0	
Matrix Spikes (MS)							
Bromide in Water by IC (Low Level)	E235.Br-L	1644017	1	13	7.6	5.0	1



trix: Water Evaluation: × = QC frequency outside specification; ✓ = QC frequency within s								
Quality Control Sample Type			C	ount	Frequency (%)			
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation	
Matrix Spikes (MS) - Continued								
BTEX by Headspace GC-MS	E611A	1648980	1	14	7.1	5.0	1	
Chloride in Water by IC	E235.Cl	1644016	1	15	6.6	5.0	✓	
Dissolved Mercury in Water by CVAAS	E509	1654684	1	20	5.0	5.0	✓	
Dissolved Metals in Water by CRC ICPMS	E421	1645007	1	20	5.0	5.0	✓	
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1652740	1	15	6.6	5.0	✓	
Fluoride in Water by IC	E235.F	1644015	1	13	7.6	5.0	✓	
Nitrate in Water by IC (Low Level)	E235.NO3-L	1644013	1	18	5.5	5.0	✓	
Nitrite in Water by IC (Low Level)	E235.NO2-L	1644014	1	15	6.6	5.0	✓	
Sulfate in Water by IC	E235.SO4	1644012	1	15	6.6	5.0	✓	
Total Cyanide	E333	1648080	1	20	5.0	5.0	✓	
Total Mercury in Water by CVAAS	E508	1654017	1	20	5.0	5.0	✓	
Total Metals in Water by CRC ICPMS	E420	1647732	1	20	5.0	5.0	✓	
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1652739	1	15	6.6	5.0	✓	
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1647389	1	8	12.5	5.0	✓	
VH and F1 by Headspace GC-FID	E581.VH+F1	1648981	1	11	9.0	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	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
	ALS Environmental - Vancouver			sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108	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,
	ALS Environmental -			pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	Vancouver	Water	APHA 2130 B (mod)	
Turbidity by Nephelometry	E121	water	APHA 2150 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
	ALS Environmental -			
	Vancouver			
TDS by Gravimetry	E162	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 $180 \pm 2^{\circ}$ C for 16 hours or to constant weight,
	ALS Environmental -			with gravimetric measurement of the residue.
Descrida in Water by IO (Law Laws)	Vancouver	10/-+		
Bromide in Water by IC (Low Level)	E235.Br-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
Chloride in Water by IC	Vancouver E235.Cl	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV
		Water		detection.
	ALS Environmental -			
Fluoride in Water by IC	Vancouver E235.F	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV
	L200.1	Wator		detection.
	ALS Environmental -			
	Vancouver			
Nitrite in Water by IC (Low Level)	E235.NO2-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver	147.1		
Nitrate in Water by IC (Low Level)	E235.NO3-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
Culfete in Weter build	Vancouver	10/ - 4		
Sulfate in Water by IC	E235.SO4	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver		Page 120 of 2	



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.
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 - Waterloo	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 - Calgary	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 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 total carbon (TC) is comprised of IC (which is common), this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Calgary	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 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 methlyene 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 Sulphide as (S2-) and reports it as Total Sulphide 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.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals in Water by CRC ICPMS	E421	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
	ALS Environmental -			
	Vancouver			Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
	ALS Environmental - Vancouver			
Dissolved Mercury in Water by CVAAS	E509	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
	ALS Environmental - Vancouver			CVAAS.
VH and F1 by Headspace GC-FID	E581.VH+F1	Water	BC MOE Lab Manual / CCME PHC in Soil - Tier	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
	ALS Environmental - Vancouver		1 (mod)	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.
BTEX by Headspace GC-MS	E611A	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
	ALS Environmental -			headspace autosampler, causing VOCs to partition between the aqueous phase and
	Vancouver			the headspace in accordance with Henry's law.
Methane, Ethane, & Ethene by Headspace GC-FID	E614B	Water	EPA REGION 1, NATATTEN.WPD, REV.	Volatile hydrocarbons are analyzed by static headspace GC/FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing
	ALS Environmental -		1	the analyte(s) to partition between the aqueous phase and the headspace in
	Waterloo			accordance with Henry's law.
Dissolved Hardness (Calculated)	EC100	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
	ALS Environmental -			to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially
	Vancouver			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	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers
	ALS Environmental -			to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially
	Vancouver			calculated from dissolved Calcium and Magnesium concentrations, because it is a
				property of water due to dissolved divalent cations. Hardness from total Ca/Mg is
				normally comparable to Dissolved Hardness in non-turbid waters.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
F1-BTEX	EC580	Water	CCME PHC in Soil - Tier	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene,
			1	ethylbenzene and xylenes (BTEX).
	ALS Environmental -			
	Vancouver			
VPH: VH-BTEX-Styrene	EC580A	Water	BC MOE Lab Manual	Volatile Petroleum Hydrocarbons (VPH) is calculated as follows: VPHw = Volatile
			(VPH in Water and	Hydrocarbons (VH C6-C10) minus benzene, toluene, ethylbenzene, xylenes (BTEX) and
	ALS Environmental -		Solids) (mod)	styrene.
	Vancouver			
Methane, Ethane, & Ethene by Headspace	EC614B	Water	Unit Conversion	Convert ppmV to ug/L
GC-FID				
	ALS Environmental -			
	Waterloo			
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by	EP355	Water		Preparation for Total Organic Carbon by Combustion
Combustion	EI 333	i i dito.		
Compustion	ALS Environmental -			
	Calgary			
Preparation for Dissolved Organic Carbon for	EP358	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
Combustion	EI 330	i i dito.		
Combustion	ALS Environmental -			
	Calgary			
Dissolved Metals Water Filtration	EP421	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
	EF421	Water	/ (
	ALS Environmental -			
	Vancouver			
Dissolved Mercury Water Filtration	EP509	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCI.
Dissolved Mercury Water Fillration	EP509	Water		
	ALS Environmental -			
	ALS Environmental - Vancouver			
VOCs Preparation for Headspace Analysis	EP581	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the
VOUS Freparation for Freadspace Analysis	EM001	vvalci		Samples are prepared in neadspace vials and are neated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
	ALS Environmental -			
	Vancouver			

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order	FJ2402712	Page	: 1 of 20
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone		Telephone	: 778-370-3279
Project	704-ENW.GENV03704-02- Rose Prairie	Date Samples Received	:09-Sep-2024 13:10
PO	:	Date Analysis Commenced	: 11-Sep-2024
C-O-C number	:	Issue Date	: 17-Sep-2024 16:02
Sampler	: Thomas 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
Daniel Shabestani	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
David Tremblett	VOC Section Supervisor	Waterloo Air Quality, Waterloo, Ontario
Elke Tabora	Lab Analyst	Calgary Inorganics, Calgary, Alberta
Janice Leung	Supervisor - Organics Instrumentation	Vancouver Organics, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Kevin Duarte	Supervisor - Metals ICP Instrumentation	Vancouver Metals, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Inorganics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Leon Yang	Analyst	Vancouver Inorganics, Burnaby, British Columbia
Maya Urquhart	Lab Analyst	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, 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).

ub-Matrix: Water							Labora	atory Duplicate (D	UP) Report		
aboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifie
Physical Tests (QC	Lot: 1644009)										
FJ2402707-027	Anonymous	Conductivity		E100	2.0	µS/cm	994	987	0.707%	10%	
Physical Tests (QC	Lot: 1644010)							17 10 22 1			
FJ2402707-027	Anonymous	рН		E108	0.10	pH units	8.51	8.51	0.00%	4%	
Physical Tests (QC	Lot: 1644011)										
FJ2402707-027	Anonymous	Alkalinity, bicarbonate (as CaCO3)		E290	1.0	mg/L	159	158	0.379%	200%	
		Alkalinity, carbonate (as CaCO3)		E290	1.0	mg/L	10.8	10.8	0.00%	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	5.4	5.4	0	Diff <2x LOR	
		Alkalinity, total (as CaCO3)		E290	1.0	mg/L	170	169	0.355%	20%	
Physical Tests (QC FJ2402712-001	Lot: 1644020)	Colour, true		E329	5.0	CU	<5.0	<5.0	0	Diff <2x LOR	
Physical Tests (QC	Lot: 1646854)							12007210			
FJ2402712-001	LOCATION 3	Turbidity		E121	0.10	NTU	316	311	1.60%	15%	
Physical Tests (QC	Lot: 1646857)										
FJ2402712-001	LOCATION 3	Absorbance, UV (@ 254nm)		E404	0.0050	AU/cm	0.0620	0.0630	1.60%	20%	
Physical Tests (QC	Lot: 1652612)										
FJ2402712-001	LOCATION 3	Solids, total dissolved [TDS]		E162	20	mg/L	1340	1340	0.0374%	20%	
Anions and Nutrien	ts (QC Lot: 1644012)				·						
FJ2402707-027	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	402	402	0.0187%	20%	
Anions and Nutrien	ts (QC Lot: 1644013)										
FJ2402707-027	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0250	mg/L	0.713	0.714	0.138%	20%	
Anions and Nutrien	ts (QC Lot: 1644014)										
FJ2402707-027	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1644015)										
FJ2402707-027	Anonymous	Fluoride	16984-48-8	E235.F	0.140	mg/L	<0.142	<0.140	0.002	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1644016)										
FJ2402707-027	Anonymous	Chloride	16887-00-6	E235.CI	2.50	mg/L	<2.50	<2.50	0	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1644017)										
FJ2402707-027	Anonymous	Bromide	24959-67-9	E235.Br-L	0.250	mg/L	<0.250	< 0.250	0	Diff <2x LOR	

Page :	4 of 20
Work Order :	FJ2402712
Client :	Tetra Tech Canada Inc.
Project :	704-ENW.GENV03704-02- Rose Prairie



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
Cyanides (QC Lot: '	1648080)										
VA24C3606-001	Anonymous	Cyanide, strong acid dissociable (Total)		E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	
Organic / Inorganic	Carbon (QC Lot: 16527	39)						17 10 1221 14			
FJ2402699-001	Anonymous	Carbon, total organic [TOC]		E355-L	0.50	mg/L	5.60	5.71	1.82%	20%	
Organic / Inorganic	Carbon (QC Lot: 16527	40)									
FJ2402699-001	Anonymous	Carbon, dissolved organic [DOC]		E358-L	0.50	mg/L	0.71	0.84	0.12	Diff <2x LOR	
Total Sulfides (QC I	Lot: 1647389)										
FJ2402712-001	LOCATION 3	Sulfide, total (as S)	18496-25-8	E395-H	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	
Total Metals (QC Lo	ot: 1647732)										
FJ2402701-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00015	0.00015	0.0000004	Diff <2x LOR	
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.331	0.328	0.921%	20%	
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	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	0.101	0.098	0.003	Diff <2x LOR	
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	
		Calcium, total	7440-70-2	E420	0.050	mg/L	61.7	57.8	6.57%	20%	
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000020	0.000019	0.0000001	Diff <2x LOR	
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		Copper, total	7440-50-8	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	
		Iron, total	7439-89-6	E420	0.010	mg/L	2.94	2.89	1.71%	20%	
		Lead, total	7439-92-1	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.178	0.178	0.137%	20%	
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	29.2	30.1	3.09%	20%	
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.229	0.232	1.29%	20%	
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000075	0.000071	0.000004	Diff <2x LOR	
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	
		Phosphorus, total	7723-14-0	E420	0.050	mg/L	0.139	0.130	0.009	Diff <2x LOR	
		Potassium, total	7440-09-7	E420	0.050	mg/L	2.35	2.38	1.34%	20%	
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00270	0.00278	2.80%	20%	
		Selenium, total	7782-49-2	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	
		Silicon, total	7440-21-3	E420	0.10	mg/L	3.88	3.90	0.468%	20%	
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	

alsglobal.com

Page 127 of 222

Page	:	5 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



ub-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	Qualifie
Total Metals (QC Lo	ot: 1647732) - continue	d									
FJ2402701-001	Anonymous	Sodium, total	7440-23-5	E420	0.050	mg/L	250	255	1.73%	20%	
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.582	0.571	1.90%	20%	
		Sulfur, total	7704-34-9	E420	0.50	mg/L	1.61	1.77	0.16	Diff <2x LOR	
		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	<0.00010	<0.00010	0	Diff <2x LOR	
		Titanium, total	7440-32-6	E420	0.00030	mg/L	<0.00030	0.00032	0.00002	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	0.000093	0.000096	0.000003	Diff <2x LOR	
		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	0.0623	0.0622	0.120%	20%	
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	0.00027	0.00027	0.000003	Diff <2x LOR	
Total Metals (QC Lo	ot: 1654017)										
-J2402701-001	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	
Dissolved Metals (QC Lot: 1645007)										
FJ2402699-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0013	0.0014	0.0001	Diff <2x LOR	
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00015	0.00014	0.000005	Diff <2x LOR	
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00282	0.00279	0.971%	20%	
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	1.92	1.88	2.34%	20%	
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.165	0.163	1.23%	20%	
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	89.8	87.5	2.53%	20%	
		Cesium, dissolved	7440-46-2	E421	0.000010	mg/L	0.000028	0.000029	0.0000006	Diff <2x LOR	
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00153	0.00154	0.516%	20%	
				E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	
		Copper, dissolved	7440-50-8			0			1		
		Copper, dissolved			0.010	mg/L	10.6	10.6	0.540%	20%	
		Iron, dissolved	7439-89-6	E421		mg/L mg/L			0.540% 0		
		Iron, dissolved Lead, dissolved	7439-89-6 7439-92-1	E421 E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	
		Iron, dissolved	7439-89-6	E421		-					

Page	:	6 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



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	Qualifie
	QC Lot: 1645007) - coi	ntinued									
FJ2402699-001	Anonymous	Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00122	0.00117	3.69%	20%	
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00184	0.00186	0.00002	Diff <2x LOR	
		Phosphorus, dissolved	7723-14-0	E421	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	1.95	1.92	2.06%	20%	
		Rubidium, dissolved	7440-17-7	E421	0.00020	mg/L	0.00352	0.00359	2.01%	20%	
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	
		Silicon, dissolved	7440-21-3	E421	0.050	mg/L	3.63	3.68	1.36%	20%	
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	7.98	8.14	1.96%	20%	
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.279	0.277	0.540%	20%	
		Sulfur, dissolved	7704-34-9	E421	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	
		Tellurium, dissolved	13494-80-9	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	
	Thorium, dissolved	7440-29-1	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR		
	Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR		
	Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR		
		Tungsten, dissolved	7440-33-7	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000131	0.000135	3.08%	20%	
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0020	0.0018	0.0002	Diff <2x LOR	
		Zirconium, dissolved	7440-67-7	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	
Dissolved Metals (QC Lot: 1654684)										
FJ2402704-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	
Dissolved Gases (C	QC Lot: 1649070)										
WT2426524-001	Anonymous	Methane	74-82-8	E614B	218	ppmv	3630	3530	2.78%	30%	
/olatile Organic Co	mpounds (QC Lot: 16	48980)									
FJ2402701-001	Anonymous	Benzene	71-43-2	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		Ethylbenzene	100-41-4	E611A	0.50	μg/L	<0.50	<0.50	0	Diff <2x LOR	
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	
		Styrene	100-42-5	E611A	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	
		Toluene	108-88-3	E611A	0.50	µg/L	0.71	0.74	0.03	Diff <2x LOR	
		Xylene, m+p-	179601-23-1	E611A	0.40	μg/L	<0.40	<0.40	0	Diff <2x LOR	
		Xylene, o-	95-47-6	E611A	0.30	µg/L	<0.30	< 0.30	0	Diff <2x LOR	

Page :	7 of 20
Work Order :	FJ2402712
Client :	Tetra Tech Canada Inc.
Project :	704-ENW.GENV03704-02- Rose Prairie



Sub-Matrix: Water	p-Matrix: Water						Labora	tory Duplicate (DU	JP) Report	t					
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier				
Hydrocarbons (QC I	Hydrocarbons (QC Lot: 1648981) - continued														
FJ2402712-001	LOCATION 3	F1 (C6-C10)		E581.VH+F1	100	µg/L	<100	<100	0.0%	30%					
		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.

nalyte	CAS Number Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1644009)					
Conductivity	E100	1	μS/cm	1.2	
hysical Tests (QCLot: 1644011)					
Alkalinity, bicarbonate (as CaCO3)	E290	1	mg/L	1.8	
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	1.8	
hysical Tests (QCLot: 1644020)					
Colour, true	E329	5	CU	<5.0	
hysical Tests (QCLot: 1646854)			1		
Turbidity	E121	0.1	NTU	<0.10	
hysical Tests (QCLot: 1646857)					
Absorbance, UV (@ 254nm)	E404	0.005	AU/cm	<0.0050	
hysical Tests (QCLot: 1652612)					
Solids, total dissolved [TDS]	E162	10	mg/L	<10	
nions and Nutrients (QCLot: 1644012)					
Sulfate (as SO4)	14808-79-8 E235.SO4	0.3	mg/L	<0.30	
nions and Nutrients (QCLot: 1644013)					
Nitrate (as N)	14797-55-8 E235.NO3-L	0.005	mg/L	<0.0050	
nions and Nutrients (QCLot: 1644014)					
Nitrite (as N)	14797-65-0 E235.NO2-L	0.001	mg/L	<0.0010	
nions and Nutrients (QCLot: 1644015)					
Fluoride	16984-48-8 E235.F	0.02	mg/L	<0.020	
nions and Nutrients (QCLot: 1644016)					
Chloride	16887-00-6 E235.CI	0.5	mg/L	<0.50	
nions and Nutrients (QCLot: 1644017)					
Bromide	24959-67-9 E235.Br-L	0.05	mg/L	<0.050	
yanides (QCLot: 1648080)					
Cyanide, strong acid dissociable (Total)	E333	0.002	mg/L	<0.0020	
Organic / Inorganic Carbon (QCLot: 165273	9)				
Carbon, total organic [TOC]	E355-L	0.5	mg/L	<0.50	

Page	:	9 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



Sub-Matrix: Water

Sulfide, total (as S) 18496-25-8 E395-H 0.01 mg/L <0.010	Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
All Sulfidos (OCL.ot: 147389) Barlos 0.01 mgl. 0.010 mgl. 0.010 mgl. Sulfa, total (as S) 1849525 250-14 0.01 mgl. 0.0001 mgl. 0.0000 mgl. 0.00000	Organic / Inorganic Carbon (QCLot	: 1652740) - continued					
Sainta, Josephala (as 6) 18499-28 B36-H 0.01 mgL 9.010 9.011 ctal Mateia (CCL01: 1647722)	Carbon, dissolved organic [DOC]		E358-L	0.5	mg/L	<0.50	
Adamtary, total 7429-905 E420 0.003 mgL <0.0030 mgL <0.0030 mgL <0.0031	Total Sulfides (QCLot: 1647389)						
Aumanu, total 7429-05 F420 0.003 mgL 4.00001 Animory, total 740-380 F420 0.001 mgL 40.0010 Barenic, total 740-382 F420 0.0001 mgL 40.0010 Baryllum, total 740-393 F420 0.0002 mgL 40.0000 Beryllum, total 740-439 F420 0.00002 mgL 40.00050 Born, total 740-428 F420 0.00005 mgL 40.00050 Cacharm, total 740-428 F420 0.00005 mgL 40.00050 Cacharm, total 740-428 F420 0.0001 mgL 40.0000 Cacharm, total 740-428 F420 0.0005 mgL 40.0000 Cobalt, total 740-483 F420 0.0005 mgL 40.0000 Cobalt, total 740-483 F420 0.0005 mgL <td< td=""><td>Sulfide, total (as S)</td><td>18496-25-8</td><td>E395-H</td><td>0.01</td><td>mg/L</td><td><0.010</td><td></td></td<>	Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	<0.010	
Artenory, total7440.80F406.000mgL4.00010Arsenic, total7440.82F400.00010.00100.00000.00000.0000Brairun, total7440.83F400.000020.00000.00000.00000.0000Brairun, total7440.43F400.000050.00000.00000.00000.00000.0000Caricun, total7440.43F400.000050.0000	otal Metals (QCLot: 1647732)						
Arser, balT40432F200.0001mgL4.00010	Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	
NumberNumberNumberNumberNumberNumberNumberBeryliner, total74404.07[4200.00002mgL4.000020Birm, total74404.02[4200.00005mgL4.000050Cadman, total74404.22[4200.00005mgL4.000000Cadman, total74404.22[4200.00005mgL4.00000Cadman, total7440.42[4200.00005mgL4.00000Cobat, total7404.42[4200.0001mgL4.00000Cobat, total7404.42[4200.0001mgL4.00000Cobat, total7404.42[4200.0001mgL4.00000Cobat, total7404.42[4200.0001mgL4.00000Lin, total7494.42[4200.0001mgL4.00000Lin, total7494.42[4200.0001mgL4.00000Lin, total7494.42[4200.0001mgL4.00000Magnesit, total7494.42[4200.0001mgL4.00000Magnesit, total7494.42[4200.0001mgL4.00000Magnesit, total7494.42[4200.0001mgL4.00000Nick, total7404.42[4200.0001mgL4.00000Nick, total7404.42[4	Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	
Berylium, totalT4404.17E4200.00020mgL0.4000200.400050Birord, totalT4404.89E4200.00005MgL0.40000MgL0.40100MgLCachim, totalT4404.82E4200.00000MgL0.40000MgL0.40000MgLCachim, totalT4404.82E4200.00000MgL0.40000MgL0.40000MgLCobin, totalT4404.82E4200.0000MgL0.40000MgL0.40000MgLCobin, totalT4404.82E4200.0000MgL0.40000MgLMgLMgLCobin, totalT4404.82E4200.0005MgL0.40000MgLMgLMgLCope, totalT4404.82E4200.0005MgL0.40000MgL	Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	
Barnt, YanYahoayaEdo000005mgl	Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	
Bern, tial7404282420.00.0mg/.4.0.00Calumiun, tola7404045420.000050.000050.00000.000050.0000	Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	
Admin totalTeleRel0000000Rel0.00000000	Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	
CalculationAdd ConstraintAdd Cons	Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	
Casum Description Description Description Chromium, total 74404-2 420 0.0005 mgl. <0.0005	Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.000050	
Norm Norm Norm Norm Norm Norm Cobalt, total 744043 E420 0.0001 mg/L 0.0005 0.0001 0.0005 0.0001 0.0005 0.0001 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0005 0.0011 0.00051 0.0011 0.00051	Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	
Coalt, Colat,	Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	
Coper, total T440005 E20 0.0005 mg/L 0.00050	Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	
The function The function<	Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	
Lead, totalTA999-01Fe200.00005mg/L0.000050mg/L0.000050mg/L0.000050mg/L0.000050mg/L0.00010mg/L0.00010mg/L0.00010mg/L0.00010mg/L0.00010mg/L0.00010mg/L0.000050mg/Lmg/L0.000050mg/Lm	Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	
Human data Magnesim	Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	
Magnesium, totalT493996Falo0.005mg/L<0.0050<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<0.0010<	Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	
Maganese, total T439-965 E420 0.0001 mg/L <.000100 000100 Molybdenum, total T439-967 E420 0.0005 mg/L <.000050	Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	
Normal Addition Factor Addition Molyacity 7439-87 Factor 0.00005 mg/L 0.00050 mg/L mg/	Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	
Nickel, total 740-00 E420 0.0005 mg/L <0.00050	Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	
Phosphorus, total 7723-140 820 0.05 mg/L <0.050	Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	
Potassium, total T440-097 E420 0.05 mg/L <0.050 Rubidium, total 7440-177 E420 0.0002 mg/L <0.00020	Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	
Rubidium, total 74401-77 Ed20 0.0002 mg/L <0.00020	Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	
Selenium, total 7782-492 E420 0.00005 mg/L <0.00050 mg/L <0.00050 Silicon, total 7440-213 E420 0.1 mg/L <0.10	Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	
Silicon, total T440-213 E420 0.1 mg/L <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	
Silver, total 7440-224 E420 0.0001 mg/L <0.00010 mg/L <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.0	Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	
Sodium, total 7440-235 E420 0.05 mg/L <0.050 mg/L <0.050 Strontium, total 7440-246 E420 0.0002 mg/L <0.00020	Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	
Strontium, total 7440-24 E420 0.0002 mg/L <0.0002 Sulfur, total 7704-349 E420 0.5 mg/L <0.50	Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	
Sulfur, total 7704-349 E420 0.5 mg/L <0.50 Tellurium, total 13494-809 E420 0.0002 mg/L <0.00020	Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	
Tellurium, total 13494-80-9 E420 0.0002 mg/L <0.00020	Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	
	Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	
Thallium, total 7440-28-0 E420 0.00001 mg/L <0.000010	Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	
	Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	

Page	:	10 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



Sub-Matrix: Water

Analyte	CAS Number	r Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1647732) - cc	ontinued					
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	
Total Metals (QCLot: 1654017)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.000050	
Dissolved Metals (QCLot: 1645007)						
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	<0.000050	
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	



Sub-Matrix: Water

Mercury, dissolved 7439-97-6 E509 0.00005 mg/L <0.000050	Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Silver, disaolved 744-224 621 0.00001 mpl, 4.000010	Dissolved Metals (QCLot: 1645007)						
Sodur. Model Model <t< td=""><td>Silicon, dissolved</td><td>7440-21-3</td><td>E421</td><td>0.05</td><td>mg/L</td><td><0.050</td><td></td></t<>	Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	
Stortlum, dissolved 7440-24 E421 0.0002 mgL 40.0020 Subtr, dissolved 7704-34-9 E421 0.5 mgL 40.50 Tellurin, dissolved 7704-34-9 E421 0.0002 mgL 40.0020 Tellurin, dissolved 740-26-9 E421 0.0001 mgL 40.0010 Thoriun, dissolved 740-26-9 E421 0.0001 mgL 40.0010 Tindissolved 740-35-5 E421 0.0001 mgL 40.0010 Tingtas, dissolved 7440-35-7 E421 0.0001 mgL 40.0010 Uranium, dissolved 7440-35-7 E421 0.0001 mgL 40.0010 Uranium, dissolved 7440-85-7 E421 0.0000 mgL 40.0010 Zinconium, dissolved 7440-85-7 E421 0.0000 mgL 40.0000 Zinconium, dissolved 7440-85-7 E421	Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	
Sultir disolved T704-348 ξ421 0.5 mgL 4.0.50	Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	
Tellurium, dissolved 13444400 E421 0.0002 mgl. 4.0.0020 Thalium, dissolved 7440-280 E421 0.0001 mgl. <0.00010	Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	
Thallur, dissolved 7440-240 621 0.00011 mgl. <0.00010 Tin, dissolved 7440-240 621 0.0001 mgl. <0.00010	Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	
Thrifting dissolved TA402-91 E421 0.0001 mgL	Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	
The dissolved 7440-35 F421 0.0001 mg/L <000010 Titunium, dissolved 7440-32 E421 0.0003 mg/L <000030	Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	
Titnium, dissolved 7440-324 621 0.0003 mg. 0.00030 mg. 0.00030 mg. 0.00030 mg.	Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	
Tungster, dissolved 7440-337 E421 0.0001 mg/L <0.00010 Uranium, dissolved 7440-612 E421 0.0001 mg/L <0.00010	Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	
Uranium, dissolved 7440-61 E421 0.00001 mgL 4.000010 Vanadium, dissolved 7440-622 E421 0.0001 mgL 4.00050 Zinc, dissolved 7440-666 E421 0.001 mgL <0.0010	Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	
Anadium, dissolved 7440-622 E41 0.0005 mg/L <.0.0005 Zine, dissolved 7440-664 E421 0.001 mg/L <.0.0010	Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	
Jine, dissolved 7440-66 E421 0.001 mg/L <0.0010 Jirconium, dissolved 7440-67 E421 0.0002 mg/L <0.00020	Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	
Interfact on the second sec	Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	
Dissolved Metals (QCLot: 1654684) Construction Metals (QCLot: 1648970) Metals (QCLot: 1649970) Metals (QCLot: 1649970) Metals (QCLot: 1648980) Second Metals (QCLot: 1648980) Se	Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	
Mercury, dissolved 7439-97-6 E509 0.00005 mg/L <0.000050 Dissolved Gases (QCLot: 1649070) Methane 74-82-8 E614B 20.77 ppmv <20.8	Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	<0.00020	
Dissolved Gases (QCLot: 1649070) Color	Dissolved Metals (QCLot: 1654684)						
Methane 74-82-8 E614B 20.77 ppmv <20.8 Jolatile Organic Compounds (QCLot: 1648980) Benzene 71-43-2 E611A 0.5 µg/L <0.50	Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.000050	
Volatile Organic Compounds (QCLot: 1648980) No. 100 (0.000) No. 100 (0.000	Dissolved Gases (QCLot: 1649070)						
Benzene 71-43-2 E611A 0.5 μg/L <0.50 Ethylbenzene 100-41-4 E611A 0.5 μg/L <0.50	Methane	74-82-8	E614B	20.77	ppmv	<20.8	
Ethylbenzene 100-414 E611A 0.5 µg/L <0.50 Methyl-tert-butyl ether [MTBE] 1634-044 E611A 0.5 µg/L <0.50	Volatile Organic Compounds (QCLo	t: 1648980)					
Instruction	Benzene	71-43-2	E611A	0.5	µg/L	<0.50	
Styrene 100-42-5 E611A 0.5 µg/L <0.50 Toluene 108-88-3 E611A 0.5 µg/L <0.50	Ethylbenzene	100-41-4	E611A	0.5	µg/L	<0.50	
Toluene 108-88-3 E611A 0.5 μg/L <0.50 Xylene, m+p- 179601-23-1 E611A 0.4 μg/L <0.40	Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	0.5	µg/L	<0.50	
Xylene, m+p- 179601-23-1 E611A 0.4 µg/L <0.40 Xylene, o- 95-47-6 E611A 0.3 µg/L <0.30	Styrene	100-42-5	E611A	0.5	µg/L	<0.50	
Xylene, o- 95-47-6 E611A 0.3 µg/L <0.30 Hydrocarbons (QCLot: 1648981) E581.VH+F1 100 µg/L <100	Toluene	108-88-3	E611A	0.5	µg/L	<0.50	
Hydrocarbons (QCLot: 1648981) F1 (C6-C10) E581.VH+F1 100 μg/L <100	Xylene, m+p-	179601-23-1	E611A	0.4	µg/L	<0.40	
F1 (C6-C10) E581.VH+F1 100 µg/L <100	Xylene, o-	95-47-6	E611A	0.3	µg/L	<0.30	
	Hydrocarbons (QCLot: 1648981)						
VHw (C6-C10) E581.VH+F1 100 µg/L <100	F1 (C6-C10)		E581.VH+F1	100	µg/L	<100	
	VHw (C6-C10)		E581.VH+F1	100	µg/L	<100	



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.

Dysical Tests (QCLot: 1644009) Exo Data page Connectional Connectional <thcone< th="" th<=""><th>Sub-Matrix: Water</th><th></th><th></th><th></th><th></th><th colspan="4">Laboratory Control Sample (LCS) Report Spike Recovery (%) Recovery Limits (%)</th></thcone<>	Sub-Matrix: Water					Laboratory Control Sample (LCS) Report Spike Recovery (%) Recovery Limits (%)			
Dysical Tests (QCLot: 1644009) Exo Data page Connectional Connectional <thcone< th="" th<=""><th></th><th></th><th></th><th></th><th>Spike</th><th>Recovery (%)</th><th>Recovery</th><th>Limits (%)</th><th></th></thcone<>					Spike	Recovery (%)	Recovery	Limits (%)	
Conduction Into Into Into Into Into Into Into Into Into Physical Tests (GCLcit: 1644010) EI08 pH units 7 pH un	Analyte CA	S Number Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1644010) E108 pH units 7 pH units 100 98.0 102 Physical Tests (QCLot: 1644011) pH units 7 pH units 100 98.0 102 Akains, phronophiloline (as GeC03) E200 1 mgL 229 mgL 94.6 75.0 125 Akains, phronophiloline (as GeC03) E200 1 mgL 300 mgL 104 85.0 115 Colour, true E202 5 CU 100 CU 102 85.0 115 Physical Tests (QCLot: 1644020) E121 0.1 NTU 200 NTU 96.5 85.0 115 Physical Tests (QCLot: 1646857)	Physical Tests (QCLot: 1644009)								
pH m- pH unita 7 pH unita 100 88.0 102 Physical Tests (CQL0: 164011) 229 mgl. 84.6 75.0 12.0 Atlainary, bending (as CaC03) E200 1 mgl. 229 mgl. 84.6 75.0 Atlainary, bending (as CaC03) E200 1 mgl. 550 mgl. 104 65.0 115 Color. troe E329 5 CU 100 CU 85.0 115 Physical Tests (QCL0: 1646854) E121 0.1 NTU 200 NTU 96.5 85.0 115 Atlainary, bending (as CaC04) 0.005 AUern 0.693 AUern 94.1 85.0 115 Physical Tests (QCL0: 1646857) E404 0.005 AUern 20.893 MUrin 94.1 85.0 115 Physical Tests (QCL0: 1646052) E404 0.005	Conductivity	E100	1	µS/cm	147 µS/cm	96.7	90.0	110	
Physical Tests (QCLot: 1644011) E280 1 mgL 229 mgL 94.6 75.0 125	Physical Tests (QCLot: 1644010)								
Alkaline, banch/phalain (as CaC03) E200 1 mpL 220 mpL 04.40 75.0 125 Alkalini, banch (as CaC03) E200 1 mgL 500 mgL 104 85.0 125 Alkalini, banch (as CaC03) E329 5 CU 100 CU 102 85.0 115 Physical Tests (OCLot: 1646854) FU	рН	E108		pH units	7 pH units	100	98.0	102	
Andread (as CaCC3) E290 1 mg/L 500 mg/L 104 85.0 115 Physical Tests (QCL0t: 1644020) E329 5 CU 100 CU 102 85.0 115 Physical Tests (QCL0t: 1646854) E329 0.1 NTU 200 NTU 96.5 85.0 115 Physical Tests (QCL0t: 1646857) E329 0.1 NTU 200 NTU 96.5 85.0 115 Physical Tests (QCL0t: 1646857) E329 Autom 0.0593 AU/on 94.1 85.0 115 Stabsfaces (UV (g2 Selmn) E404 % Tidm 20.3 % Tidm 118 85.0 115 Stabs (boil dissolved (TDS) Witt 90.0 110 85.0 115 Anions and Nutrients (QCL0t: 1644012) Mitt (as 80, 'and the and (an	Physical Tests (QCLot: 1644011)								
Physical Tests (QCLot: 1644020) E329 5 CU 100 CU 102 85.0 115 Physical Tests (QCLot: 1646854) E121 0.1 NTU 200 NTU 96.5 85.0 115 Physical Tests (QCLot: 1646857) E404 0.005 AUlem 0.693 AUlem 94.1 85.0 115 Physical Tests (QCLot: 1646857) % T/cm 20.3 % T/cm 110 85.0 115 Tismanitiance, VV (@ 254nm) E404 % T/cm 20.3 % T/cm 110 85.0 115 Physical Tests (QCLot: 1652612) % T/cm 20.3 % T/cm 110 85.0 115 Solds total dissolved [TDS] E162 10 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644012) E235 NO3-L 0.005 mg/L 100 mg/L 100 90.0 110	Alkalinity, phenolphthalein (as CaCO3)			mg/L	229 mg/L				
Colour, true E329 S CU 100 CU 102 85.0 115 Physical Tests (OCLot: 1648854) E121 0.1 NTU 200 NTU 96.5 85.0 115 Absorbane, UV (@ 254nm) E404 0.005 AU/cm 0.603 AU/cm 94.1 85.0 115 Transmittance, UV (@ 254nm) E404 0.005 AU/cm 0.603 AU/cm 94.1 85.0 115 Absorbane, UV (@ 254nm) E404 0.005 AU/cm 0.003 AU/cm 94.1 85.0 115 Stadis, total dissolved (TDS) Kitt Stadis Not 85.0 115 Anions and Nutrients (QCLot: 1644012) E235 NO34. 0.3 mglL 100 mglL 101 90.0 110 Anions and Nutrients (QCLot: 1644013) Harder & Sto.2 0.001 mglL 0.5 mglL 1000 90.0 1100	Alkalinity, total (as CaCO3)	E290	1	mg/L	500 mg/L	104	85.0	115	
Physical Tosts (QCLot: 1646854) E121 0.1 NTU 200 NTU 96.5 85.0 115 Physical Tosts (QCLot: 1646857) Absorbance, UV (@ 254nm) 6404 % T/cm 20.3 % T/cm 94.1 65.0 115 Physical Tosts (QCLot: 1646857) % T/cm 20.3 % T/cm 94.1 65.0 115 Transmittance, UV (@ 254nm) % T/cm 20.3 % T/cm 110 85.0 115 Physical Tosts (QCLot: 1652612) % T/cm 100 mg/L 102 85.0 115 Anions and Nutrients (QCLot: 1644012) </td <td>Physical Tests (QCLot: 1644020)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Physical Tests (QCLot: 1644020)								
Turbidity E121 0.1 NTU 200 NTU 96.5 85.0 115 Physical Tests (QCLot: 1646857)	Colour, true	E329	5	CU	100 CU	102	85.0	115	
Physical Tests (QCLot: 1646857) Absorbance, UV (@ 254nm) E404 0.005 AU/cm 0.693 AU/cm 94.1 85.0 115 Absorbance, UV (@ 254nm) E404 % T/cm 20.3 % T/cm 110 85.0 115 Physical Tests (QCLot: 1652612) E162 10 mg/L 1000 mg/L 102 85.0 115 Anions and Nutrients (QCLot: 1644012) E162 0.3 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644013) E235 NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644013) 14797-55-8 E235 NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014) 14797-65-8 E235 NO3-L 0.002 mg/L 1 mg/L 100 90.0 110 Anions and Nutrients (QCLo	Physical Tests (QCLot: 1646854)								
Absorbance, UV (@ 254nm) E404 0.005 AU/cm 0.693 AU/cm 94.1 85.0 115 Transmitance, UV (@ 254nm) E404 % T/cm 20.3 % T/cm 110 85.0 115 Physical Tests (QCL0t: 1652612) E162 10 mg/L 1000 mg/L 102 85.0 115 Anions and Nutrients (QCLot: 1644012) 100 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644013) mg/L 2.5 mg/L 100.0 90.0 110 Nitrite (as N) 14797-55-3 E25.NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014) </td <td>Turbidity</td> <td> E121</td> <td>0.1</td> <td>NTU</td> <td>200 NTU</td> <td>96.5</td> <td>85.0</td> <td>115</td> <td></td>	Turbidity	E121	0.1	NTU	200 NTU	96.5	85.0	115	
Transmittener, UV @ 294mm) E404 % T/cm 20.3 % T/cm 110 85.0 115 Physical Tests (QCLot: 1652612) E162 10 mg/L 1000 mg/L 102 85.0 115 Anions and Nutrients (QCLot: 1644012) Suifate (as SO4) 14908-79-8 E235.SO4 0.3 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644013) mg/L 0.005 mg/L 2.5 mg/L 100.0 90.0 1100 Anions and Nutrients (QCLot: 1644013) mg/L 0.05 mg/L 2.5 mg/L 100.0 90.0 1100 Anions and Nutrients (QCLot: 1644014) <	Physical Tests (QCLot: 1646857)								
Physical Tests (QCLot: 1652612) Solids, total dissolved (TDS) Image: Content of the set of th	Absorbance, UV (@ 254nm)	E404	0.005	AU/cm	0.693 AU/cm	94.1	85.0	115	
Solids, total dissolved [TDS] E162 10 mg/L 1000 mg/L 102 85.0 115 Anions and Nutrients (QCLot: 1644012) 14808-79-8 E235.SO4 0.3 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644013) 14797-55-8 E235.NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014) 14797-65-0 E235.NO3-L 0.005 mg/L 0.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014) 14797-65-0 E235.NO2-L 0.001 mg/L 0.5 mg/L 100 90.0 1100 Anions and Nutrients (QCLot: 1644015) 110 90.0 110 Flooride 16984-48-8 E235.F 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) 5.0 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) <t< td=""><td>Transmittance, UV (@ 254nm)</td><td> E404</td><td></td><td>% T/cm</td><td>20.3 % T/cm</td><td>110</td><td>85.0</td><td>115</td><td></td></t<>	Transmittance, UV (@ 254nm)	E404		% T/cm	20.3 % T/cm	110	85.0	115	
Anions and Nutrients (QCLot: 1644012) E235.SO4 0.3 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644013)	Physical Tests (QCLot: 1652612)								
Sulfate (as SO4) 14808-79-8 E33.SO4 0.3 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644013) 14797-55-8 E33.NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014) 14797-65-0 E35.NO2-L 0.001 mg/L 0.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644015) 14797-65-0 E35.NO2-L 0.001 mg/L 0.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644015) E35.F 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) E35.CI 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) E35.Br-L 0.05 mg/L 100 mg/L 101 85.0 115 Cyanides (QCLot: 1648080) E4959-67-9 E35.Br-L 0.05 mg/L <	Solids, total dissolved [TDS]	E162	10	mg/L	1000 mg/L	102	85.0	115	
Sulfate (as SO4) 14808-79-8 E33.SO4 0.3 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644013) 14797-55-8 E33.NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014) 14797-65-0 E35.NO2-L 0.001 mg/L 0.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644015) 14797-65-0 E35.NO2-L 0.001 mg/L 0.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644015) E35.F 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) E35.CI 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) E35.Br-L 0.05 mg/L 100 mg/L 101 85.0 115 Cyanides (QCLot: 1648080) E4959-67-9 E35.Br-L 0.05 mg/L <									
Anions and Nutrients (QCLot: 1644013) Nitrate (as N) 14797-55-8 E335.NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014)	Anions and Nutrients (QCLot: 1644012)								
Nitrate (as N) 14797-55-8 E35.NO3-L 0.005 mg/L 2.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644014) 14797-650 E33.NO2-L 0.001 mg/L 0.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644015) E33.NO2-L 0.001 mg/L 0.5 mg/L 100.0 90.0 110 Anions and Nutrients (QCLot: 1644015) E33.NO2-L 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) E33.F 0.02 mg/L 100 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) E33.F 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) E33.Br-L 0.5 mg/L 0.5 mg/L 101 85.0 115 Gyanides (QCLot: 1648080) E4959-67-9 E33.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115	Sulfate (as SO4)	4808-79-8 E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	
Anions and Nutrients (QCLot: 1644014) Nitrie (as N) 14797-65-0 E235.NO2-L 0.001 mg/L 0.5 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644015) Fluoride 16984-48-8 E235.F 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) Fluoride 16887-00-6 E235.Cl 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644016) Fluoride 16887-00-6 E235.Cl 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644016) Fluoride 0.5 mg/L 0.05 mg/L 100 90.0 110 Bromide 24959-67-9 E235.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115 Cyanides (QCLot: 1648080) Fluoride	Anions and Nutrients (QCLot: 1644013)								
Nitrite (as N) 14797-650 E235.NO2-L 0.001 mg/L 0.5 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644015) Filoride 6235.F 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) Chloride 102 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644016) E235.CI 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) E235.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115 Cyanides (QCLot: 1648080) E235.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115	Nitrate (as N) 1	4797-55-8 E235.NO3-L	0.005	mg/L	2.5 mg/L	100.0	90.0	110	
Anions and Nutrients (QCLot: 1644015) Fluoride 16984-48-8 E235.F 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016) Chloride 16887-00-6 E235.Cl 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) Bromide 24959-67-9 E235.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115 Cyanides (QCLot: 1648080)	Anions and Nutrients (QCLot: 1644014)								
Fluoride 16984-48-8 E235.F 0.02 mg/L 1 mg/L 101 90.0 110 Anions and Nutrients (QCLot: 1644016)	Nitrite (as N) 1	4797-65-0 E235.NO2-L	0.001	mg/L	0.5 mg/L	100	90.0	110	
Anions and Nutrients (QCLot: 1644016) Chloride 16887-00-6 E235.Cl 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) Bromide 24959-67-9 E235.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115 Cyanides (QCLot: 1648080)	Anions and Nutrients (QCLot: 1644015)								
Chloride 16887-00-6 E335.Cl 0.5 mg/L 100 mg/L 100 90.0 110 Anions and Nutrients (QCLot: 1644017) Bromide 24959-67-9 E335.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115 Cyanides (QCLot: 1648080) E35.0 E35.Br-L	Fluoride 1	6984-48-8 E235.F	0.02	mg/L	1 mg/L	101	90.0	110	
Anions and Nutrients (QCLot: 1644017) Bromide 24959-67-9 E235.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115 Cyanides (QCLot: 1648080)	Anions and Nutrients (QCLot: 1644016)								
Bromide 24959-67-9 E235.Br-L 0.05 mg/L 0.5 mg/L 101 85.0 115 Cyanides (QCLot: 1648080)	Chloride 1	6887-00-6 E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	
Cyanides (QCLot: 1648080)	Anions and Nutrients (QCLot: 1644017)						24		
	Bromide 2	4959-67-9 E235.Br-L	0.05	mg/L	0.5 mg/L	101	85.0	115	
Cyanide, strong acid dissociable (Total) E33 0.002 mg/L 0.25 mg/L 93.4 80.0 120	Cyanides (QCLot: 1648080)								
	Cyanide, strong acid dissociable (Total)	E333	0.002	mg/L	0.25 mg/L	93.4	80.0	120	
	l								

Page	:	13 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



Sub-Matrix: Water					Laboratory Co	ntrol Sample (LCS)	Report		
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number Me	ethod	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 1652	2739)								
Carbon, total organic [TOC]		55-L	0.5	mg/L	8.57 mg/L	94.5	80.0	120	
Organic / Inorganic Carbon (QCLot: 1652	2740)								
Carbon, dissolved organic [DOC]	E3	58-L	0.5	mg/L	8.57 mg/L	92.7	80.0	120	
Total Sulfides (QCLot: 1647389)									
Sulfide, total (as H2S)	7783-06-4 E3	95-H		mg/L	0.085 mg/L	105	80.0	120	
Sulfide, total (as S)	18496-25-8 E3	95-H	0.01	mg/L	0.08 mg/L	105	80.0	120	
Total Metals (QCLot: 1647732)									
Aluminum, total	7429-90-5 E4		0.003	mg/L	2 mg/L	107	80.0	120	
Antimony, total	7440-36-0 E4	20	0.0001	mg/L	1 mg/L	100	80.0	120	
Arsenic, total	7440-38-2 E4	20	0.0001	mg/L	1 mg/L	110	80.0	120	
Barium, total	7440-39-3 E4	20	0.0001	mg/L	0.25 mg/L	99.3	80.0	120	
Beryllium, total	7440-41-7 E4	20	0.00002	mg/L	0.1 mg/L	99.7	80.0	120	
Bismuth, total	7440-69-9 E4	20	0.00005	mg/L	1 mg/L	108	80.0	120	
Boron, total	7440-42-8 E4	20	0.01	mg/L	1 mg/L	93.2	80.0	120	
Cadmium, total	7440-43-9 E4	20	0.000005	mg/L	0.1 mg/L	103	80.0	120	
Calcium, total	7440-70-2 E4	20	0.05	mg/L	50 mg/L	98.3	80.0	120	
Cesium, total	7440-46-2 E4	20	0.00001	mg/L	0.05 mg/L	97.2	80.0	120	
Chromium, total	7440-47-3 E4	20	0.0005	mg/L	0.25 mg/L	106	80.0	120	
Cobalt, total	7440-48-4 E4	20	0.0001	mg/L	0.25 mg/L	104	80.0	120	
Copper, total	7440-50-8 E4	20	0.0005	mg/L	0.25 mg/L	104	80.0	120	
Iron, total	7439-89-6 E4	20	0.01	mg/L	1 mg/L	98.0	80.0	120	
Lead, total	7439-92-1 E4	20	0.00005	mg/L	0.5 mg/L	101	80.0	120	
Lithium, total	7439-93-2 E4	20	0.001	mg/L	0.25 mg/L	102	80.0	120	
Magnesium, total	7439-95-4 E4	20	0.005	mg/L	50 mg/L	110	80.0	120	
Manganese, total	7439-96-5 E4	20	0.0001	mg/L	0.25 mg/L	110	80.0	120	
Molybdenum, total	7439-98-7 E4	20	0.00005	mg/L	0.25 mg/L	101	80.0	120	
Nickel, total	7440-02-0 E4	20	0.0005	mg/L	0.5 mg/L	104	80.0	120	
Phosphorus, total	7723-14-0 E4	20	0.05	mg/L	10 mg/L	112	80.0	120	
Potassium, total	7440-09-7 E4	20	0.05	mg/L	50 mg/L	100	80.0	120	
Rubidium, total	7440-17-7 E4	20	0.0002	mg/L	0.1 mg/L	106	80.0	120	
Selenium, total	7782-49-2 E4	20	0.00005	mg/L	1 mg/L	107	80.0	120	
Silicon, total	7440-21-3 E4	20	0.1	mg/L	10 mg/L	114	80.0	120	
Silver, total	7440-22-4 E4	20	0.00001	mg/L	0.1 mg/L	90.1	80.0	120	
Sodium, total	7440-23-5 E4		0.05	mg/L	50 mg/L	106	80.0	120	

Page	:	14 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



Bille Recovery (?8) Analyte LOR Unit Target Concentration LOS LOS Total Midals (CCLct: 1647732) - continued 7440-24-6 [2420 0.0002 mgL 50 mgL 102 Sufar, total 7704-34-6 [2420 0.55 mgL 50 mgL 101 Sufar, total 7704-34-0 [2420 0.0002 mgL 0.1 mgL 106 Thalium, total 7440-28-0 [2420 0.0001 mgL 0.1 mgL 104 Thousin, total 7440-28-1 [2420 0.0001 mgL 0.5 mgL 108 Transm, total 7440-32-5 [2420 0.0001 mgL 0.1 mgL 106 Uranstan, total 7440-32-5 [2420 0.0005 mgL 0.5 mgL 108 Vanadum, total 7440-82-7 [2420 0.0005 mgL 0.5 mgL 108 Vanadum, total 7440-82-7 [2420 0.0005 mgL 0.5 mgL 108 Vanadum, total 7440-86-7		Sub-Matrix: Water				Laboratory Co	ntrol Sample (LCS)	Report	
Total Metals (QCL ot: 1647732) - continued 7440240 [420 0.0002 mpl. 0.25 mgl. 102 Strontinu, total 7740240 [420 0.0002 mgl. 0.1 mgl. 100 Tellutinum, total 13494.009 [420 0.0002 mgl. 0.1 mgl. 101 Tellutinum, total 7440280 [420 0.0001 mgl. 0.1 mgl. 103 Tonium, total 7440280 [420 0.0001 mgl. 0.5 mgl. 98.8 Tinnum, total 7440282 [420 0.0001 mgl. 0.5 mgl. 98.8 Tinnum, total 7440282 [420 0.0001 mgl. 0.5 mgl. 108 Vanadum, total 7440282 [420 0.0001 mgl. 0.1 mgl. 108 Vanadum, total 7440665 [420 0.0003 mgl. 0.5 mgl. 108 Vanadum, total 7440667 [420 0.0003 mgl. 0.5 mgl. 108 Vanadum, total 7440667 [420					Spike	Recovery (%)	Recovery	v Limits (%)	
Stordur, total 7440-24.6 E420 0.0002 mg/L 0.25 mg/L 102 Stuftr, total 7704-34.9 E420 0.5 mg/L 50 mg/L 101 Thailum, total 740-280 E420 0.0001 mg/L 1 mg/L 104 Thailum, total 740-280 E420 0.0001 mg/L 0.1 mg/L 103 Thailum, total 740-281 E420 0.0001 mg/L 0.5 mg/L 106 Thailum, total 740-281 E420 0.0001 mg/L 0.05 mg/L 106 Tinaitum, total 740-337 E420 0.0001 mg/L 0.05 mg/L 106 Vanadium, total 740-632 E420 0.0001 mg/L 0.5 mg/L 106 Zinc, total 740-632 E420 0.003 mg/L 0.5 mg/L 106 Zinc, total 740-647 E420 0.003 mg/L 0.1 mg/L 108 Zinc, total 740-646 E420 0.003 mg/L <t< td=""><td>Tar</td><td>LOR</td><td>LOR</td><td>Unit</td><td>Target Concentration</td><td>LCS</td><td>Low</td><td>High</td><td>Qualifier</td></t<>	Tar	LOR	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Sultr, total770-3-435236.5mgL5.0 mgL6.0 mgL101Talkurn, total1348-40-96200.0000mgL0.1 mgL10.4 MgL104Thailurn, total7440-28-6200.0001mgL0.0 mgL0.6 mgL10.8 MgL10.8 MgLThoriurn, total7440-28-6200.0001mgL0.6 mgL0.6 mgL10.8 MgL10.8 MgLTin, total7440-37-6200.0001mgL0.6 mgL10.8 MgL10.8 MgLTingeten, total7440-37-6200.0001mgL0.005 mgL10.8 MgL10.8 MgLUraniurn, total7440-47-6200.0001mgL0.05 mgL10.8 MgL10.8 MgLVanadiurn, total7440-47-6200.0005mgL0.5 mgL10.8 MgL10.8 MgLZinc, total7440-47-6200.0002mgL0.5 mgL10.8 MgL10.8 MgLZinc, total7440-47-6200.0005mgL0.1 mgL98.2 MgL10.0 MgLZinc, total7440-47-6200.0001mgL0.1 mgL98.2 MgL10.0 MgLAntenny, dissolved7440-47-6200.0001mgL0.1 mgL98.2 MgL10.0 MgLAntenny, dissolved7440-47-6210.001mgL1.0 mgL90.6 MgL10.0 MgLBarlurn, dissolved7440-47-6210.001mgL1.0 mgL90.6 MgL10.0 MgLBarlurn, dissolved7440-47-6210.0001mgL<									
Tailarum, talai 13494-80-9 E420 0.0002 mg/L 0.1 mg/L 1051 Tailarum, tolai 7440-28-0 E420 0.0001 mg/L 1 mg/L 104 Thorium, tolai 7440-28-0 E420 0.0001 mg/L 0.1 mg/L 108 Tianum, tolai 7440-38-0 E420 0.0001 mg/L 0.25 mg/L 106 Tianum, tolai 7440-38-0 E420 0.0001 mg/L 0.1 mg/L 106 Unamium, tolai 7440-84-0 E420 0.0001 mg/L 0.0005 mg/L 106 Vanadum, tolai 7440-64-1 E420 0.0005 mg/L 0.5 mg/L 106 Zine, tolai 7440-64-1 E420 0.0005 mg/L 0.5 mg/L 106 Zine, tolai 7440-64-7 E420 0.0005 mg/L 0.1 mg/L 9.000 Zine, tolai Contur, tolai 7440-64-7 E420 0.0005 mg/L 1010 101 Disoloved Mattong, dissolved 7440-8		0.0002	0.0002	mg/L	0.25 mg/L	102	80.0	120	
Tailain, totalT440-280E4200.0001mg/L1 mg/L104104Thoriun, total7440-28-1E4200.001mg/L0.1mg/L103133Tin, total7440-38-5E4200.0001mg/L0.25 mg/L106102Tungsten, total7440-38-7E4200.0001mg/L0.01 mg/L108108108Tungsten, total7440-87-7E4200.0001mg/L0.05 mg/L108108108Vanadum, total7440-87-7E4200.0003mg/L0.5 mg/L108112108		0.5	0.5	mg/L	50 mg/L	101	80.0	120	
Thorium, total T440-22-1 E420 0.0001 mgL 0.1 mgL 103 Tin, total 7440-31-5 E420 0.0001 mgL 0.5 mgL 86.8 Tinahum, total 7440-32-5 E420 0.0001 mgL 0.1 mgL 0.1 mgL 106 Uranium, total 7440-32-7 E420 0.0001 mgL 0.5 mgL 106 Vanadium, total 7440-82-2 E420 0.0002 mgL 0.5 mgL 106 Zinc, total 7440-82-2 E420 0.0002 mgL 0.5 mgL 106 Zinc, total 7440-82-2 E420 0.0002 mgL 0.1 mgL 108 Zinc, total 7440-87-7 E420 0.0002 mgL 0.1 mgL 108 Zinc, total 7440-87-7 E420 0.0002 mgL 0.1 mgL 108 Zincohum, dissolved 7440-87-7 E421 0.001 mgL 10mgL 10mgL 100 Sissolved 7440-38-7 E421 0		0.0002	0.0002	mg/L	0.1 mg/L	105	80.0	120	
The total7440.31.5E4200.0001mgL0.5 mgL98.898.8Thanium, total7440.32.6E4200.0003mgL0.25 mgL106106Tungsten, total7440.32.6E4200.0001mgL0.00 mgL10.80105Vanadium, total7440.40.51E4200.0003mgL0.5 mgL106122Vanadium, total7440.62.2E4200.0003mgL0.5 mgL112122Ziro, total740.66.6E4200.0002mgL0.5 mgL106122Ziro, total740.70E4000.00005mgL0.5 mgL106122Contum, total740.70E4000.00005mgL0.0 mgL100100100Total Metzon740.98-0E4210.001mgL12mgL98.5100 </td <td></td> <td>0.00001</td> <td>0.00001</td> <td>mg/L</td> <td>1 mg/L</td> <td>104</td> <td>80.0</td> <td>120</td> <td></td>		0.00001	0.00001	mg/L	1 mg/L	104	80.0	120	
Thinkin, total 7440-325 F420 0.0003 mgL 0.25 mgL 106 Tungsten, total 7440-337 F420 0.0001 mgL 0.1 mgL 105 105 Uranium, total 7440-337 F420 0.0001 mgL 0.005 mgL 106 105 Vanadum, total 7440-627 F420 0.003 mgL 0.5 mgL 112 106 112 <t< td=""><td></td><td>0.0001</td><td>0.0001</td><td>mg/L</td><td>0.1 mg/L</td><td>103</td><td>80.0</td><td>120</td><td></td></t<>		0.0001	0.0001	mg/L	0.1 mg/L	103	80.0	120	
Tungsten, totalT440-337E4200.0001mgL0.1 mgL105105Uranium, total7440-621E4200.0005mgL0.5 mgL106126Zinc, total7440-622E4200.003mgL0.5 mgL106126Zinc, total740-667E4200.003mgL0.1 mgL198.2106Zinc, total740-667E4200.0002mgL0.1 mgL106106Zinchium, total749-676E5080.000005mgL0.0 mgL100100100Dissolved749-976E5080.000005mgL0.0 mgL9.5 mgL100100Dissolved740-879E4210.001mgL0.mgL9.5 mgL9.5 mgL9.5 mgLAntimoru, dissolved740-380E4210.001mgL1 mgL95.3100100Barium, dissolved740-380E4210.0001mgL0.25 mgL96.7100100Barium, dissolved740-435E4210.0005mgL1 mgL96.7100 <td></td> <td>0.0001</td> <td>0.0001</td> <td>mg/L</td> <td>0.5 mg/L</td> <td>98.8</td> <td>80.0</td> <td>120</td> <td></td>		0.0001	0.0001	mg/L	0.5 mg/L	98.8	80.0	120	
Uranium, total 7440-61-1 E420 0.00001 mg/L 0.005 mg/L 108 Vanadium, total 7440-62.2 E420 0.0005 mg/L 0.5 mg/L 1106 Zine, total 7440-66.6 E420 0.0003 mg/L 0.5 mg/L 112 Zironium, total 7440-66.7 E420 0.0002 mg/L 0.1 mg/L 98.2 Total Mettals (QCLot: 1654017) 7439-87.6 E598 0.00005 mg/L 0 mg/L 100 Dissolved 7440-82.2 E421 0.001 mg/L 1 mg/L 99.5 Atliminum, disolved 7440-82.2 E421 0.001 mg/L 1 mg/L 99.5 Atliminum, disolved 7440-82.2 E421 0.0001 mg/L 1 mg/L 99.5 Barium, dissolved 7440-83.2 E421 0.0001 mg/L 1 mg/L 99.5 Barium, dissolved 7440-84.9 E421 0.0001 mg/L 1 mg/L 99.0 Barium, dissolved 7440-42.8 E421 <td></td> <td>0.0003</td> <td>0.0003</td> <td>mg/L</td> <td>0.25 mg/L</td> <td>106</td> <td>80.0</td> <td>120</td> <td></td>		0.0003	0.0003	mg/L	0.25 mg/L	106	80.0	120	
Variadium, total 7440-82-2 E420 0.0005 mg/L 0.5 mg/L 106 Zinc, total 7440-66-6 E420 0.003 mg/L 0.5 mg/L 112 Zinc, total 7440-67-7 E420 0.0002 mg/L 0.1 mg/L 98.2 Total 7440-67-7 E420 0.00005 mg/L 0.1 mg/L 98.2 Total 7430-87-6 E508 0.00005 mg/L 2 mg/L 98.2 Dissolved 7440-87-7 E508 0.00005 mg/L 2 mg/L 99.5 Antimonum, dissolved 7429-95-5 E421 0.001 mg/L 1 mg/L 99.5 Antimonum, dissolved 7440-86-2 E421 0.0001 mg/L 0.25 mg/L 99.0 Baruin, dissolved 7440-87-2 E421 0.0001 mg/L 0.1 mg/L 99.0 Baruin, dissolved 7440-47-8 E421 0.00005 mg/L 1 mg/L 99.0 Calcium, dissolved 7440-47-8 E421 0.00005		0.0001	0.0001	mg/L	0.1 mg/L	105	80.0	120	
Zine, total 740-666 E420 0.003 mg/L 0.5 mg/L 112 Zirconium, total 740-67 E420 0.002 mg/L 0.1 mg/L 98.2 Total Metals (QCLot: 1654017) 0.0000 mg/L 0 mg/L 99.5 Dissolved Metals (QCLot: 1645007) 0.0010 mg/L 2 mg/L 99.5 Antimony, dissolved 7429-90-5 E421 0.001 mg/L 1 mg/L 99.5 Antimony, dissolved 7440-38-2 E421 0.001 mg/L 1 mg/L 99.5 Barun, dissolved 7440-38-3 E421 0.001 mg/L 0.25 mg/L 99.5 Barun, dissolved 7440-38-3 E421 0.001 mg/L 0.25 mg/L 99.0 Barun, dissolved 7440-47 E421 0.0002 mg/L 1 mg/L 99.0 1 Barun, dissolved 7440-47 E421 0.0005 mg/L 1 mg/L 90.0 1 Cathum, dissolved 7440-472 <td></td> <td>0.00001</td> <td>0.00001</td> <td>mg/L</td> <td>0.005 mg/L</td> <td>108</td> <td>80.0</td> <td>120</td> <td></td>		0.00001	0.00001	mg/L	0.005 mg/L	108	80.0	120	
Zirconium, total7440-677E4200.0002mg/L0.1 mg/L98.298.2Total Metals (QCL ot: 1654017)Mercury, total7439-97-855080.000005mg/L0 mg/L1001001Dissolved Metals (QCL ot: 1645007)7429-90-56210.001mg/L2 mg/L99.594.5Autimory, dissolved740-36-06210.0001mg/L1 mg/L99.595.894.3Arsenic, dissolved7440-36-36210.0001mg/L1 mg/L96.696.896.8Barlum, dissolved7440-36-36210.0001mg/L0.1 mg/L96.796.896.8Beryllim, dissolved7440-36-36210.0001mg/L0.1 mg/L99.096.7 <td></td> <td>0.0005</td> <td>0.0005</td> <td>mg/L</td> <td>0.5 mg/L</td> <td>106</td> <td>80.0</td> <td>120</td> <td></td>		0.0005	0.0005	mg/L	0.5 mg/L	106	80.0	120	
Total Metals (QCL ot: 1654017) Mercury, total 7439-97-6 E508 0.00005 mg/L 0 mg/L 100 Dissolved Metals (QCL ot: 1645007) 99.5 Attiminum, dissolved 7429-90.5 E421 0.001 mg/L 2 mg/L 99.5 Antimory, dissolved 7440-36-0 E421 0.0001 mg/L 1 mg/L 95.3 Arsenic, dissolved 7440-38-2 E421 0.0001 mg/L 1 mg/L 95.8 Barium, dissolved 7440-38-3 E421 0.0001 mg/L 0.25 mg/L 95.8 Beryllium, dissolved 7440-38-3 E421 0.0002 mg/L 0.1 mg/L 99.0 Bismuth, dissolved 7440-47-7 E421 0.00005 mg/L 1 mg/L 96.7 Cadmium, dissolved 7440-43-9 E421 0.01 mg/L 1 mg/L 93.7 Cadmium, dissolved 7440-43-9 E421 0.001 mg/L 0.05 mg/L 94.8 Cadmium, dissolved <td></td> <td>0.003</td> <td>0.003</td> <td>mg/L</td> <td>0.5 mg/L</td> <td>112</td> <td>80.0</td> <td>120</td> <td></td>		0.003	0.003	mg/L	0.5 mg/L	112	80.0	120	
Mercury, total 7439-97-6 E508 0.00005 mg/L 0 mg/L 100 Dissolved Metals (QCLot: 1645007) 7429-90-5 E421 0.001 mg/L 1 mg/L 99.5 Antimony, dissolved 7440-36-0 E421 0.0001 mg/L 1 mg/L 99.5 Arsenic, dissolved 7440-38-2 E421 0.0001 mg/L 1 mg/L 90.5 Barium, dissolved 7440-38-2 E421 0.0001 mg/L 0.25 mg/L 99.8 Barium, dissolved 7440-38-3 E421 0.0001 mg/L 0.1 mg/L 99.0 Barium, dissolved 7440-43-3 E421 0.00005 mg/L 1 mg/L 99.0 Bismuth, dissolved 7440-43-9 E421 0.00005 mg/L 1 mg/L 99.0 Cadmium, dissolved 7440-43-9 E421 0.00005 mg/L 1 mg/L 99.7 Cadmium, dissolved 7440-43-9 E421 0.00005 mg/L 0.1 mg/L 99.7 Cadium, dissolved 7440-47-2		0.0002	0.0002	mg/L	0.1 mg/L	98.2	80.0	120	
Mercury, total 7439-97-6 E508 0.00005 mg/L 0 mg/L 100 Dissolved Metals (QCLot: 1645007) 7429-90-5 E421 0.001 mg/L 1 mg/L 99.5 Antimony, dissolved 7440-36-0 E421 0.0001 mg/L 1 mg/L 99.5 Arsenic, dissolved 7440-38-2 E421 0.0001 mg/L 1 mg/L 90.5 Barium, dissolved 7440-38-2 E421 0.0001 mg/L 0.25 mg/L 99.8 Barium, dissolved 7440-38-3 E421 0.0001 mg/L 0.1 mg/L 99.0 Barium, dissolved 7440-43-3 E421 0.00005 mg/L 1 mg/L 99.0 Bismuth, dissolved 7440-43-9 E421 0.00005 mg/L 1 mg/L 99.0 Cadmium, dissolved 7440-43-9 E421 0.00005 mg/L 1 mg/L 99.7 Cadmium, dissolved 7440-43-9 E421 0.00005 mg/L 0.1 mg/L 99.7 Cadium, dissolved 7440-47-2									
Aluminum, dissolved 7429-90-5 E421 0.001 mg/L 2 mg/L 99.5 Antimony, dissolved 7440-36-0 E421 0.0001 mg/L 1 mg/L 95.3 Arsenic, dissolved 7440-38-2 E421 0.0001 mg/L 1 mg/L 100.0 Barium, dissolved 7440-38-2 E421 0.0001 mg/L 0.25 mg/L 95.8 Beryllium, dissolved 7440-41-7 E421 0.00002 mg/L 0.1 mg/L 99.0 Bismuth, dissolved 7440-41-7 E421 0.00005 mg/L 1 mg/L 99.0 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 96.7 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 93.7 Cadmium, dissolved 7440-42-8 E421 0.00 mg/L 0.1 mg/L 93.7 Cadmium, dissolved 7440-42-8 E421 0.0005 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-46-2	- T	0.000005	0.000005	mg/L	0 mg/L	100	80.0	120	
Aluminum, dissolved 7429-90-5 E421 0.001 mg/L 2 mg/L 99.5 Antimony, dissolved 7440-36-0 E421 0.0001 mg/L 1 mg/L 95.3 Arsenic, dissolved 7440-38-2 E421 0.0001 mg/L 1 mg/L 100.0 Barium, dissolved 7440-38-2 E421 0.0001 mg/L 0.25 mg/L 95.8 Beryllium, dissolved 7440-41-7 E421 0.00002 mg/L 0.1 mg/L 99.0 Bismuth, dissolved 7440-41-7 E421 0.00005 mg/L 1 mg/L 99.0 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 96.7 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 93.7 Cadmium, dissolved 7440-42-8 E421 0.05 mg/L 0.1 mg/L 93.7 Cadmium, dissolved 7440-43-9 E421 0.005 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-46-2									
Aluminum, dissolved 7429-90-5 E421 0.001 mg/L 2 mg/L 99.5 Antimony, dissolved 7440-36-0 E421 0.0001 mg/L 1 mg/L 95.3 Arsenic, dissolved 7440-38-2 E421 0.0001 mg/L 1 mg/L 100.0 Barium, dissolved 7440-38-2 E421 0.0001 mg/L 0.25 mg/L 95.8 Beryllium, dissolved 7440-41-7 E421 0.00002 mg/L 0.1 mg/L 99.0 Bismuth, dissolved 7440-41-7 E421 0.00005 mg/L 1 mg/L 99.0 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 96.7 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 93.7 Cadmium, dissolved 7440-42-8 E421 0.05 mg/L 0.1 mg/L 93.7 Cadmium, dissolved 7440-43-9 E421 0.005 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-46-2									
Area Area <th< td=""><td></td><td>0.001</td><td>0.001</td><td>mg/L</td><td>2 mg/L</td><td>99.5</td><td>80.0</td><td>120</td><td></td></th<>		0.001	0.001	mg/L	2 mg/L	99.5	80.0	120	
Barium, dissolved 7440-393 E421 0.0001 mg/L 0.2 mg/L 95.8 Beryllium, dissolved 7440-479 E421 0.0002 mg/L 0.1 mg/L 99.0 Bismuth, dissolved 7440-499 E421 0.0005 mg/L 1 mg/L 96.7 Boron, dissolved 7440-429 E421 0.01 mg/L 1 mg/L 96.7 Cadmium, dissolved 7440-429 E421 0.01 mg/L 1 mg/L 96.7 Cadmium, dissolved 7440-429 E421 0.0005 mg/L 1 mg/L 93.7 Cadium, dissolved 7440-429 E421 0.0005 mg/L 0.05 mg/L 93.7 Cadium, dissolved 7440-429 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-429 E421 0.0001 mg/L 0.25 mg/L 94.8 Cobalt, dissolved 7440-43 E421 0.001 mg/L 0.25 mg/L 94.5 Copper, dissolved 7440-48 E421 </td <td></td> <td>0.0001</td> <td>0.0001</td> <td>mg/L</td> <td>1 mg/L</td> <td>95.3</td> <td>80.0</td> <td>120</td> <td></td>		0.0001	0.0001	mg/L	1 mg/L	95.3	80.0	120	
Berylium, dissolved 7440-417 E421 0.00002 mg/L 0.1 mg/L 99.0 Bismuth, dissolved 7440-69-9 E421 0.00005 mg/L 1 mg/L 96.7 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 90.0 Cadmium, dissolved 7440-43-9 E421 0.00005 mg/L 0.1 mg/L 93.7 Cadroium, dissolved 7440-43-9 E421 0.00005 mg/L 0.05 mg/L 93.7 Calcium, dissolved 7440-43-9 E421 0.05 mg/L 0.05 mg/L 93.7 Calcium, dissolved 7440-42-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-43-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-43-3 E421 0.0001 mg/L 0.25 mg/L 94.5 Cobalt, dissolved 7440-43-8 E421 0.001 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-48 </td <td></td> <td>0.0001</td> <td>0.0001</td> <td>mg/L</td> <td>1 mg/L</td> <td>100.0</td> <td>80.0</td> <td>120</td> <td></td>		0.0001	0.0001	mg/L	1 mg/L	100.0	80.0	120	
Bismuth, dissolved 7440-69- E421 0.00005 mg/L 1 mg/L 96.7 Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 107 Cadmium, dissolved 7440-42-8 E421 0.00005 mg/L 0.1 mg/L 98.7 Cadmium, dissolved 7440-43-9 E421 0.00005 mg/L 0.1 mg/L 93.7 Calcium, dissolved 7440-42-2 E421 0.05 mg/L 50 mg/L 100 Cesium, dissolved 7440-42-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-42-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-43-3 E421 0.0001 mg/L 0.25 mg/L 94.5 Cobalt, dissolved 7440-48-8 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-48-8 E421 0.001 mg/L 1 mg/L 94.5 Iron, dissolved 7440-48-8		0.0001	0.0001	mg/L	0.25 mg/L	95.8	80.0	120	
Boron, dissolved 7440-42-8 E421 0.01 mg/L 1 mg/L 1 07 Cadmium, dissolved 7440-42-8 E421 0.00005 mg/L 0.1 mg/L 93.7 Calcium, dissolved 7440-70-2 E421 0.05 mg/L 50 mg/L 100 Calcium, dissolved 7440-42-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-42-3 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-42-3 E421 0.0001 mg/L 0.25 mg/L 94.8 Chromium, dissolved 7440-43-3 E421 0.0001 mg/L 0.25 mg/L 95.6 Cobalt, dissolved 7440-43- E421 0.001 mg/L 0.25 mg/L 93.1 Copper, dissolved 7440-43-8 E421 0.001 mg/L 10.25 mg/L 93.1 Iron, dissolved 7440-43-8 E421 0.011 mg/L 10.5 mg/L 95.9 Lead, dissolved 7439-89-		0.00002	0.00002	mg/L	0.1 mg/L	99.0	80.0	120	
Cadminn, dissolved 7440-39 E421 0.00005 mg/L 0.1 mg/L 93.7 Calcium, dissolved 7440-702 E421 0.05 mg/L 50 mg/L 100 Cesium, dissolved 7440-762 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-47-3 E421 0.0005 mg/L 0.25 mg/L 95.6 Cobalt, dissolved 7440-47-3 E421 0.0001 mg/L 0.25 mg/L 95.6 Cobalt, dissolved 7440-484 E421 0.0001 mg/L 0.25 mg/L 94.5 Copper, dissolved 7440-484 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-484 E421 0.001 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-484 E421 0.001 mg/L 10.9 97.2 Iron, dissolved 7439-896 E421 0.0105 mg/L 10.9 95.9 Iron, dissolved 7439-82 E421 0.0005 mg/L 0.5 mg/L 95.9 Iron, dissolved		0.00005	0.00005	mg/L	1 mg/L	96.7	80.0	120	
Calcium, dissolved 7440-70-2 E421 0.05 mg/L 50 mg/L 100 Cesium, dissolved 7440-46-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-46-2 E421 0.0005 mg/L 0.25 mg/L 94.8 Chobalt, dissolved 7440-48-4 E421 0.0001 mg/L 0.25 mg/L 94.5 Cobalt, dissolved 7440-48-4 E421 0.0001 mg/L 0.25 mg/L 94.5 Copper, dissolved 7440-48-4 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-89-8 E421 0.011 mg/L 1 mg/L 93.1 Iron, dissolved 7440-89-8 E421 0.011 mg/L 1 mg/L 93.1 Iron, dissolved 7439-89-8 E421 0.011 mg/L 1 mg/L 95.9 Lead, dissolved 7439-89-1 E421 0.0005 mg/L 0.5 mg/L 95.9 Lindum, dissolved 7439-89-2 E42		0.01	0.01	mg/L	1 mg/L	107	80.0	120	
Cesium, dissolved 7440-46-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-47-3 E421 0.0005 mg/L 0.25 mg/L 95.6 Cobalt, dissolved 7440-48-4 E421 0.0001 mg/L 0.25 mg/L 94.5 Copper, dissolved 7440-48-4 E421 0.0002 mg/L 0.25 mg/L 94.5 Copper, dissolved 7440-50-8 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-50-8 E421 0.011 mg/L 1.025 mg/L 93.1 Iron, dissolved 7439-89-6 E421 0.011 mg/L 1.0g/L 97.2 Lead, dissolved 7439-89-7 E421 0.0005 mg/L 0.5 mg/L 95.9 Lithium, dissolved 7439-89-7 E421 0.001 mg/L 0.25 mg/L 95.9 Lithium, dissolved 7439-89-7 E421 0.001 mg/L 0.25 mg/L 95.9		0.000005	0.000005	mg/L	0.1 mg/L	93.7	80.0	120	
Cesium, dissolved 7440-46-2 E421 0.0001 mg/L 0.05 mg/L 94.8 Chromium, dissolved 7440-47-3 E421 0.0005 mg/L 0.25 mg/L 95.6 Cobalt, dissolved 7440-48-4 E421 0.0001 mg/L 0.25 mg/L 94.5 Copper, dissolved 7440-48-4 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-58-8 E421 0.001 mg/L 0.25 mg/L 93.1 Iron, dissolved 7440-58-8 E421 0.010 mg/L 0.25 mg/L 93.1 Lead, dissolved 7439-89-8 E421 0.011 mg/L 1 mg/L 97.2 Lead, dissolved 7439-89-7 E421 0.0015 mg/L 0.5 mg/L 95.9 Linum, dissolved 421 0.001 mg/L 0.25 mg/L 95.9 95.9		0.05	0.05	mg/L	50 mg/L	100	80.0	120	
Cobalt, dissolved 7440-48-4 E421 0.0001 mg/L 0.25 mg/L 94.5 Copper, dissolved 7440-50-8 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7439-89-6 E421 0.01 mg/L 1 mg/L 97.2 Lead, dissolved 7439-89-7 E421 0.0005 mg/L 0.5 mg/L 95.9 Lithium, dissolved 7439-89-7 E421 0.001 mg/L 0.5 mg/L 95.9		0.00001	0.00001	mg/L	0.05 mg/L	94.8	80.0	120	
Copper, dissolved 7440-50-8 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7439-89-6 E421 0.01 mg/L 1 mg/L 97.2 Lead, dissolved 7439-89-7 E421 0.0005 mg/L 0.5 mg/L 95.9 Lithium, dissolved 7439-89-7 E421 0.001 mg/L 0.5 mg/L 95.9		0.0005	0.0005	mg/L	0.25 mg/L	95.6	80.0	120	
Copper, dissolved 7440-50-8 E421 0.0002 mg/L 0.25 mg/L 93.1 Iron, dissolved 7439-89-6 E421 0.01 mg/L 1 mg/L 97.2 Lead, dissolved 7439-92-1 E421 0.0005 mg/L 0.5 mg/L 95.9 Lithium, dissolved 7439-93-2 E421 0.001 mg/L 0.25 mg/L 95.9		0.0001	0.0001	mg/L	0.25 mg/L	94.5	80.0	120	
Iron, dissolved 7439-89-6 E421 0.01 mg/L 1 mg/L 97.2 Lead, dissolved 7439-92-1 E421 0.00005 mg/L 0.5 mg/L 95.9 Lithium, dissolved 7439-93-2 E421 0.001 mg/L 0.25 mg/L 95.6		0.0002	0.0002	-	0.25 mg/L	93.1	80.0	120	
Lead, dissolved 7439-92-1 E421 0.00005 mg/L 0.5 mg/L 95.9 Lithium, dissolved 7439-93-2 E421 0.001 mg/L 0.25 mg/L 95.6		0.01	0.01	mg/L	1 mg/L	97.2	80.0	120	
Lithium, dissolved 7439-93-2 E421 0.001 mg/L 0.25 mg/L 95.6		0.00005	0.00005	-	0.5 mg/L	95.9	80.0	120	
		0.001	0.001	-	0.25 mg/L	95.6	80.0	120	
		0.005	0.005	-	50 mg/L	98.3	80.0	120	
Manganese, dissolved 7439-96-5 E421 0.0001 mg/L 0.25 mg/L 96.3		0.0001	0.0001	-	ů.	96.3	80.0	120	
Molybdenum, dissolved 7439-98-7 E421 0.00005 mg/L 0.25 mg/L 95.4				-	Ŭ		80.0	120	
Nickel, dissolved 7440-02-0 E421 0.0005 mg/L 0.5 mg/L 95.1				-	Ŭ		80.0	120	

Page	:	15 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



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 (QCLot: 1645007) - continued													
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	10 mg/L	105	80.0	120					
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	50 mg/L	102	80.0	120					
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.1 mg/L	99.1	80.0	120					
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	1 mg/L	93.1	80.0	120					
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	10 mg/L	96.3	80.0	120					
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.1 mg/L	88.1	80.0	120					
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	50 mg/L	99.5	80.0	120					
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.25 mg/L	97.2	80.0	120					
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	50 mg/L	89.1	80.0	120					
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.1 mg/L	93.5	80.0	120					
Thallium, dissolved	7440-28-0		0.00001	mg/L	1 mg/L	97.3	80.0	120					
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.1 mg/L	95.7	80.0	120					
Fin, dissolved	7440-31-5		0.0001	mg/L	0.5 mg/L	90.9	80.0	120					
Fitanium, dissolved	7440-32-6		0.0003	mg/L	0.25 mg/L	93.9	80.0	120					
Fungsten, dissolved	7440-33-7		0.0001	mg/L	0.1 mg/L	94.1	80.0	120					
Jranium, dissolved	7440-61-1		0.00001	mg/L	0.005 mg/L	98.3	80.0	120					
/anadium, dissolved	7440-62-2		0.0005	mg/L	0.5 mg/L	97.0	80.0	120					
Zinc, dissolved	7440-66-6		0.000	mg/L	0.5 mg/L	91.2	80.0	120					
Zirconium, dissolved	7440-67-7		0.0002	mg/L	0.1 mg/L	93.4	80.0	120					
	7439-97-6		0.00002		-	99.4 99.4	80.0	120					
Mercury, dissolved	7439-97-0	E909	0.000005	mg/L	0 mg/L	99.4	80.0	120					
Dissolved Gases (QCLot: 1649070)													
Methane	74-82-8	E614B	20.77	ppmv	432 ppmv	94.3	80.0	120					
Volatile Organic Compounds (QCLot: 1648980)													
Benzene	71-43-2		0.5	µg/L	100 µg/L	111	70.0	130					
Ethylbenzene	100-41-4		0.5	µg/L	100 µg/L	91.6	70.0	130					
Methyl-tert-butyl ether [MTBE]	1634-04-4		0.5	µg/L	100 µg/L	128	70.0	130					
Styrene	100-42-5		0.5	µg/L	100 µg/L	96.2	70.0	130					
Toluene	108-88-3	E611A	0.5	µg/L	100 µg/L	99.1	70.0	130					
Kylene, m+p-	179601-23-1	E611A	0.4	µg/L	200 µg/L	101	70.0	130					
Xylene, o-	95-47-6	E611A	0.3	µg/L	100 µg/L	94.6	70.0	130					
Hydrocarbons (QCLot: 1648981)		5504 1/11:54	400		C240	02.2	70.0	100					
F1 (C6-C10)		E581.VH+F1	100	µg/L	6310 µg/L	83.3	70.0	130					
VHw (C6-C10)		E581.VH+F1	100	µg/L	6310 µg/L	75.3	70.0	130					

Page	:	16 of 20
Work Orde	r:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



ub-Matrix: Water Analyte CAS Number Method LOR U		Laboratory Control Sample (LCS) Report							
			Spike	Recovery (%)	Recovery				
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier



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: Water		Matrix Spike (MS) Report										
ab-matrix. Water					Spi	ke	Recovery (%)		Recovery Limits (%)				
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier			
Anions and Nutri	ents (QCLot: 1644012)												
FJ2402707-028	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L		ND	75.0	125				
Anions and Nutri	ents (QCLot: 1644013)												
FJ2402707-028	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.48 mg/L	2.5 mg/L	99.0	75.0	125				
Anions and Nutri	ents (QCLot: 1644014)												
FJ2402707-028	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.504 mg/L	0.5 mg/L	101	75.0	125				
Anions and Nutri	ents (QCLot: 1644015)												
FJ2402707-028	Anonymous	Fluoride	16984-48-8	E235.F	0.997 mg/L	1 mg/L	99.7	75.0	125				
Anions and Nutri	ents (QCLot: 1644016)												
FJ2402707-028	Anonymous	Chloride	16887-00-6	E235.Cl	99.9 mg/L	100 mg/L	99.9	75.0	125				
Anions and Nutri	ents (QCLot: 1644017)					-							
FJ2402707-028	Anonymous	Bromide	24959-67-9	E235.Br-L	0.490 mg/L	0.5 mg/L	98.1	75.0	125				
Cyanides (QCLo	t: 1648080)												
VA24C3606-001	Anonymous	Cyanide, strong acid dissociable (Total)		E333	0.207 mg/L	0.25 mg/L	82.8	75.0	125				
Organic / Inorgan	ic Carbon (QCLot: 165	2739)											
FJ2402699-001	Anonymous	Carbon, total organic [TOC]		E355-L	ND mg/L		ND	70.0	130				
Organic / Inorgan	ic Carbon (QCLot: 165	2740)											
FJ2402699-001	Anonymous	Carbon, dissolved organic [DOC]		E358-L	5.49 mg/L	5 mg/L	110	70.0	130				
Total Sulfides (Q													
VA24C3586-001	Anonymous	Sulfide, total (as S)	18496-25-8	E395-H	0.998 mg/L	1 mg/L	99.8	75.0	125				
Total Metals (QC					the third the								
FJ2402701-002	Anonymous	Aluminum, total	7429-90-5	E420	ND mg/L		ND	70.0	130				
102402101 002		Antimony, total	7440-36-0	E420	0.0183 mg/L	0.02 mg/L	91.6	70.0	130				
		Arsenic, total	7440-38-2	E420	0.0207 mg/L	0.02 mg/L	104	70.0	130				
		Barium, total	7440-39-3	E420	ND mg/L		ND	70.0	130				
		Beryllium, total	7440-41-7	E420	0.0372 mg/L	0.04 mg/L	93.1	70.0	130				
		Bismuth, total	7440-69-9	E420	0.00912 mg/L	0.01 mg/L	91.2	70.0	130				
		Boron, total	7440-42-8	E420	0.086 mg/L	0.1 mg/L	85.6	70.0	130				
		Cadmium, total	7440-43-9	E420	0.00384 mg/L	0.004 mg/L	95.9	70.0	130				
		Calcium, total	7440-70-2	E420	ND mg/L		ND	70.0	130				
		Cesium, total	7440-46-2	E420	0.00953 mg/L	0.01 mg/L	95.3	70.0	130				
		Chromium, total	7440-47-3	E420	0.0387 mg/L	0.04 mg/L	96.8	70.0	130				
		Cobalt, total	7440-48-4	E420	0.0190 mg/L	0.02 mg/L	95.0	70.0	130				
		Cobail, Iolai	1440-40-4	L420	0.0130 mg/L	0.02 mg/L	35.0	10.0	100				

Page	:	18 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



Matrix Spike (MS) Report Sub-Matrix: Water Recovery (%) Recovery Limits (%) Spike Laboratory sample ID Client sample ID Analyte **CAS Number** Method Concentration Target MS Low High Qualifier Total Metals (QCLot: 1647732) - continued FJ2402701-002 Iron. total 7439-89-6 E420 2 mg/L Anonymous 1.93 mg/L 96.5 70.0 130 ----E420 0.02 mg/L Lead, total 7439-92-1 0.0180 mg/L 90.0 70.0 130 ----Lithium. total 7439-93-2 E420 0.0939 ma/L 0.1 mg/L 93.9 70.0 130 ----E420 Magnesium, total 7439-95-4 ND mg/L ----ND 70.0 130 ----E420 Manganese, total 7439-96-5 0.0193 mg/L 0.02 mg/L 96.5 70.0 130 ----Molybdenum, total 7439-98-7 F420 0.0192 mg/L 0.02 mg/L 95.9 70.0 130 ----Nickel, total 7440-02-0 E420 0.0377 mg/L 0.04 mg/L 94.2 70.0 130 ----Phosphorus, total 7723-14-0 E420 10.0 ma/L 10 ma/L 100 70.0 130 ----Potassium, total 7440-09-7 E420 3.65 mg/L 4 mg/L 91.2 70.0 130 Rubidium, total 7440-17-7 E420 0.0197 mg/L 70.0 130 0.02 mg/L 98.6 Selenium, total 7782-49-2 E420 0.0415 mg/L 0.04 mg/L 104 70.0 130 ----Silicon, total 7440-21-3 E420 9.65 mg/L 10 mg/L 96.5 70.0 130 ----Silver, total 7440-22-4 E420 0.00369 mg/L 0.004 mg/L 92.2 70.0 130 E420 Sodium, total 7440-23-5 1.90 mg/L 2 mg/L 95.0 70.0 130 ----Strontium, total 7440-24-6 E420 ND mg/L ND 70.0 130 --------Sulfur, total 7704-34-9 E420 20.4 mg/L 20 mg/L 102 70.0 130 ----Tellurium, total 13494-80-9 E420 0.0400 ma/L 0.04 ma/L 99.9 70.0 130 ----Thallium, total 7440-28-0 E420 0.00369 ma/L 0.004 mg/L 92.3 70.0 130 E420 Thorium, total 7440-29-1 0.0194 mg/L 0.02 mg/L 70.0 130 97.2 ----Tin. total 7440-31-5 E420 0.0190 mg/L 0.02 mg/L 70.0 130 95.1 ----Titanium, total 7440-32-6 E420 0.0400 ma/L 0.04 mg/L 130 99.9 70.0 ----Tungsten, total 7440-33-7 E420 0.0193 mg/L 0.02 mg/L 96.7 70.0 130 ----Uranium, total 7440-61-1 E420 0.00387 mg/L 0.004 mg/L 96.9 70.0 130 Vanadium, total 7440-62-2 E420 0.0984 mg/L 0.1 mg/L 98.4 70.0 130 ----Zinc. total 7440-66-6 E420 0.406 ma/L 0.4 mg/L 101 70.0 130 ----Zirconium, total 7440-67-7 E420 0.0359 ma/L 0.04 ma/L 89.8 70.0 130 ----Total Metals (QCLot: 1654017) FJ2402701-002 Anonymous 7439-97-6 E508 0.0000900 mg/L Mercury, total 0 mg/L 90.0 70.0 130 ----Dissolved Metals (QCLot: 1645007) LOCATION 3 FJ2402712-001 7429-90-5 E421 0.189 mg/L Aluminum, dissolved 0.2 mg/L 94.4 70.0 130 ----7440-36-0 E421 0.0172 mg/L Antimony, dissolved 0.02 mg/L 85.8 70.0 130 ----Arsenic, dissolved 7440-38-2 E421 0.0199 mg/L 0.02 mg/L 99.4 70.0 130 ----Barium, dissolved 7440-39-3 E421 ND mg/L -----ND 70.0 130 Bervllium, dissolved 7440-41-7 E421 0.0370 mg/L 0.04 ma/L 92.6 70.0 130 Bismuth, dissolved 7440-69-9 E421 0.00768 ma/L 0.01 mg/L 76.8 70.0 130 ----Boron, dissolved 7440-42-8 E421 ND ma/L 130 ND 70.0 ----Cadmium, dissolved 7440-43-9 E421 0.00347 mg/L 0.004 mg/L 86.7 70.0 130 ----Calcium, dissolved 7440-70-2 E421 ND mg/L ----ND 70.0 130 ----Cesium dissolved 7440-46-2 F421 0.00860 mg/L 0.01 mg/L 86.0 70.0 130 ----0.0360 mg/L Chromium, dissolved 7440-47-3 E421 0.04 mg/L 90.1 70.0 130 ----Cobalt, dissolved 7440-48-4 E421 0.0168 mg/L 0.02 mg/L 84.0 70.0 130 ----Copper, dissolved 7440-50-8 E421 0.0161 ma/L 0.02 mg/L 80.4 70.0 130 Iron, dissolved 7439-89-6 E421 1.68 mg/L 130 2 mg/L 84.0 70.0

Page	:	19 of 20
Work Order	:	FJ2402712
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02- Rose Prairie



Sub-Matrix: Water							Matrix Spi	ke (MS) Report		
					Spi	ike	Recovery (%)	Recovery	Limits (%)	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
issolved Metals	(QCLot: 1645007)	- continued								
FJ2402712-001	LOCATION 3	Lead, dissolved	7439-92-1	E421	0.0158 mg/L	0.02 mg/L	78.8	70.0	130	
		Lithium, dissolved	7439-93-2	E421	0.0908 mg/L	0.1 mg/L	90.8	70.0	130	
		Magnesium, dissolved	7439-95-4	E421	ND mg/L		ND	70.0	130	
		Manganese, dissolved	7439-96-5	E421	ND mg/L		ND	70.0	130	
		Molybdenum, dissolved	7439-98-7	E421	0.0183 mg/L	0.02 mg/L	91.4	70.0	130	
		Nickel, dissolved	7440-02-0	E421	0.0328 mg/L	0.04 mg/L	81.9	70.0	130	
		Phosphorus, dissolved	7723-14-0	E421	10.6 mg/L	10 mg/L	106	70.0	130	
		Potassium, dissolved	7440-09-7	E421	ND mg/L		ND	70.0	130	
		Rubidium, dissolved	7440-17-7	E421	0.0176 mg/L	0.02 mg/L	88.3	70.0	130	
		Selenium, dissolved	7782-49-2	E421	0.0373 mg/L	0.04 mg/L	93.3	70.0	130	
		Silicon, dissolved	7440-21-3	E421	8.40 mg/L	10 mg/L	84.0	70.0	130	
		Silver, dissolved	7440-22-4	E421	0.00249 mg/L	0.004 mg/L	62.2	70.0	130	MES
		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	0.0362 mg/L	0.04 mg/L	90.4	70.0	130	
		Thallium, dissolved	7440-28-0	E421	0.00317 mg/L	0.004 mg/L	79.3	70.0	130	
		Thorium, dissolved	7440-29-1	E421	0.0182 mg/L	0.02 mg/L	90.9	70.0	130	
		Tin, dissolved	7440-31-5	E421	0.0167 mg/L	0.02 mg/L	83.6	70.0	130	
		Titanium, dissolved	7440-32-6	E421	0.0377 mg/L	0.04 mg/L	94.2	70.0	130	
		Tungsten, dissolved	7440-33-7	E421	0.0172 mg/L	0.02 mg/L	85.8	70.0	130	
		Uranium, dissolved	7440-61-1	E421	0.00343 mg/L	0.004 mg/L	85.7	70.0	130	
		Vanadium, dissolved	7440-62-2	E421	0.0938 mg/L	0.1 mg/L	93.8	70.0	130	
		Zinc, dissolved	7440-66-6	E421	0.327 mg/L	0.4 mg/L	81.8	70.0	130	
		Zirconium, dissolved	7440-67-7	E421	0.0389 mg/L	0.04 mg/L	97.2	70.0	130	
issolved Metals	(QCLot: 1654684)									
J2402704-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000987 mg/L	0 mg/L	98.7	70.0	130	
olatile Organic C	Compounds (QCLot	: 1648980)								
J2402701-002	Anonymous	Benzene	71-43-2	E611A	112 µg/L	100 µg/L	112	60.0	140	
		Ethylbenzene	100-41-4	E611A	92.5 µg/L	100 µg/L	92.5	60.0	140	
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611A	133 µg/L	100 µg/L	133	60.0	140	
		Styrene	100-42-5	E611A	96.6 µg/L	100 µg/L	96.6	60.0	140	
		Toluene	108-88-3	E611A	99.7 µg/L	100 µg/L	99.7	60.0	140	
		Xylene, m+p-	179601-23-1	E611A	209 µg/L	200 µg/L	104	60.0	140	
		Xylene, o-	95-47-6	E611A	96.8 µg/L	100 µg/L	96.8	60.0	140	
lydrocarbons (Q	CLot: 1648981)									
/A24C3243-001	Anonymous	F1 (C6-C10)		E581.VH+F1	4910 µg/L	6310 µg/L	77.8	60.0	140	
		VHw (C6-C10)		E581.VH+F1	4440 µg/L	6310 µg/L	70.4	60.0	140	

Page	1	20 of 20
Work Order	11	FJ2402712
Client	1	Tetra Tech Canada Inc.
Project	1	704-ENW.GENV03704-02- Rose Prairie



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).</th>

		Chain of Cu	stody (COC) Canada Toll	Free 1 800 66	8 9878		Page / of /								Environmental Division Fort St. John ^{Work Order Reference} FJ2402712							
(ALS)	www.alsglobal.com		:: ·:		TESPA	I F	ben	IAT			21 .	:	:-	.:		1	124	02	./	2		
Report To	Contact and company name below will appear on the final report		Reports / F		1		1			i Time ((TAT) I	Reques	ted :	_			Rilty I		ш.,		ı I	
Company:	Tetra Tech	Select Report F	ormat: 🔽 PDF	EXCEL E	EDD (DIGITAL)	Roi	útine [R] if receive	ed by 3	pm M-F	- no si	ircharge	apply				Bie-1	W.				
Contact:	Andrea McMillan	Merge QC/QCI	Reports with COA	YES 🔲 🛚		□ 4d	lay (P4)	if received	а бу Зр	m M-F-	20%	ush surc	harge m	in			Haar J	in I				
Phone:	403-203-3355	Compare Resul	Its to Criteria on Report	- provide details be	low if box checked		1 -] if receive											43.			
÷	Company address below will appear on the final report	Select Distributi	on: EMAIL		FAX	2 day [P2] if received by 3pm M-F - 50% rush surcharge miles 1 day [E] if received by 3pm M-F - 100% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E2] if received by 10am M-S - 200% rush surcharge miles are day [E3] if received by 10am M-S - 200% rush surcharge miles are day [E3] if received by 10am M-S - 200% rush surcharge miles are day [E3] if received by 10am M-S - 200% rush surcharge miles are day [E3] if received by 10am M-S - 200% rush surcharge miles are day [E3] if received by 10am M-S - 200% rush surcharge miles are day [E3] if received by 10am M-S - 200% rush surcharge miles are day [E3] if received by 10am M-S -										in Cui		n) C		1		
Street:	140 Quarry Park Blvd	Email 1 or Eav	Andrea.Mcmillan@	Ditetratech.com										Τe	lephone	: +1 2	0 261 4	5617				
City/Province:	Calgary, Alberta	Email 2	EBA.labdata@tetr				Additional fees may apply to rush requests on weeke							.				0 201 (/51/			
Postal Code:	T2C 3G3	Email 3	Aziz.Shaikh@tetra			Date and Time Required for all E&P TATs:								16	7.14	i i i i i i i i i i i i i i i i i i i						
			Invoice R															7-14 1				
nvoice To						For all tests with rush TATs requested, please									AIN 10 CO	iiiiiii ava	ability.	•	<u> </u>			
· ·	Copy of Invoice with Report YES NO						- 10						alysis								· : ;	
Company:		Email 1 or Fax				181	3	Indica	ate Filt	ered (F).	Preser				reserv	ed (F/P)	below		I . '	E .	es)	
Contact:		Email 2	· · ·	·	· · ·	AINERS	E.					N.		6	:					REQUIRED	ĮĮ	
· · · ·	Project Information	Oil	and Gas Require		t use)	I≩I	ELP	· .		- i -				÷.	·					١ <u>ق</u>	e e	
ALS Account #		AFE/Cost Center: PO#					<u> </u>	· ·		^{1.}			ŀ					1	HOLD			
lob #:	704-ENW.GENV03704-02 / RUSE PAMPIE	Major/Minor Code: Routing Code:				Sont	ତ	·	1.	: -					- : [모	GE	8	
PO / AFE:		Requisitioner:	- · · · ·				H2S)		*					·:		1			NO	A	HAZA	
LSD:		Location:			•	16	(CH4,	· · ·			1.		÷.;		Carbon	$\left \mathcal{L} \right $		÷ -		STOR	Ŧ	
ALS Lab Worl	k Order # (ALS use only):	ALS Contact:		Sampler:		BER	Gas		Toet		ed Metals	etals + Hg		1:	Organic Ca	, 1		EPHUPA	SAMPLES	EXTENDED \$	SUSPECTED	
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	MUN	Dissolved	Routine	Dhuelon	H2S	Dissolv	Total Metals	Cyanide	DOC	Total O	BTEX		LEPH/HEP	SAM	ехте	SUSP	
	LOCATION 3	1. d	09-SEP-D	11:07	WATER	n I	X	$\times \times$	$\langle T \rangle$	<u> </u>	$\langle X \rangle$	٥X	X	X	\mathbf{X}	X	1. 	,		1		
											<u> </u>						-	1		1		
						1			:	-	+		· · ·								÷	
			•			1.						┿──					_	-			+	
-		<u></u>						÷		_	<u>.</u>	·	<u>.</u>			· · · ·	_	-			╇	
					-								· · ·			· ·					· ·	
					*	1. 1				 	с. D и	coit	ina		1					::		
				· ·		1		AE Sh	лbb	ang	are	FC GIN						1		Ī		
					-	• ·	Cal	1 Out		E	rpeo	nte						+		:	+	
<u></u>			·····	· · · · · · · · · · · · · · · · · · ·		-					riori	ty						+	÷.		+	
		·				1	# of	Coole	ers	_/A	ir									ŀ	1	
		· · · ·	· · ·			1- +	<u>بر</u> ہے	Carb	0175	- c	irou	nd	-	.	···· ·	<u>+</u>	÷.			Ľ		
						<u> </u>	.# 01	, Cuib							í						:	
		:			-	t i			- 1	·		-									++++	
;.												DECE				S use o	-					
Drinking	Water (DW) Samples ¹ (client use)	y Limits for result e	valuation by selecti (cel COC only)	ng from drop-do	wn below	Caali		thodis [CE PACI		FRC							
re samples tak	en from a Regulated DW System?					- · · · ·	ng Me		<u> </u>	-									G INITI	IATED		
=			· ·			—		Comme									YES		NO			
·	—	Androg Matella-				Coole		tody Sea					N/A	Samp		stody Se				s 🗌	N/A	
		Andrea MCMIIIan /	ESDAT PORMAT			1.1	1NI	THAL COC		CIMPER		.3-0			a'' ⊿	T	LER IE		UKES	1	<u> </u>	
<u> </u>						16									1			1				
Dologood bur	SHIPMENT RELEASE (client use)		NITIAL SHIPMENT	1	(ALS use only)						FINA	SHIP			PTIC	N (ALS	use o	nly)	TR			
Released by:	Date: Time			Date:		Time:	·	rs.					Date	٢.	1.4				1'V?	ü≲⊲	e .	
Thom	K3 Kng 9/9/24 110			1 1 9 1	09 d4	11								363		5			1 10 1	- (4/	- A A	

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the usel 1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

Page 144 of 222 opy.

÷.

ALS Canada Ltd.



CERTIFICATE OF ANALYSIS					
Work Order	: FJ2402713	Page	: 1 of 4		
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John		
Contact	: Andrea McMillan	Account Manager	: Brent Mack		
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road		
	Calgary AB Canada T2C 3G3		Fort St. John BC Canada V1J 6P3		
Telephone	:	Telephone	: 778-370-3279		
Project	: 704.ENW.GEN03704-02	Date Samples Received	: 09-Sep-2024 13:10		
PO	:	Date Analysis Commenced	: 13-Sep-2024		
C-O-C number	:	Issue Date	: 18-Sep-2024 08:34		
Sampler	: Thomas 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 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).

Description			
no units			
percent			
micrograms per cubic metre			
inches of mercury			
parts per billion (volume/volume)			

<: 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
НТА	Analytical holding time was exceeded.



Sub-Matrix: Air			С	lient sample ID	LOCATION 3		 	
(Matrix: Air)								
			Client sam	oling date / time	09-Sep-2024 11:16		 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2402713-001		 	
					Result		 	
Field Tests								
ID, batch proof		EF001/WT	-	-	240702.221		 	
ID, canister		EF001/WT	-	-	01400-0101		 	
ID, regulator		EF001/WT	-	-	G245		 	
Pressure on receipt		EF001/WT	0.10	Inches Hg	-2.05		 	
Sulfur Compounds								
Carbon disulfide	75-15-0	EC630/WT	6.2	µg/m³	<6.2		 	
Carbon disulfide	75-15-0	E630/WT	2.0	ppbv	<2.0 ^{hta}		 	
Carbonyl sulfide	463-58-1	EC630/WT	10	µg/m³	24		 	
Carbonyl sulfide	463-58-1	E630/WT	4.0	ppbv	9.6 ^{hta}		 	
Diethyl disulfide	110-81-6	EC630/WT	10	µg/m³	<10		 	
Diethyl disulfide	110-81-6	E630/WT	2.0	ppbv	<2.0 ^{hta}		 	
Diethyl sulfide	352-93-2	EC630/WT	15	µg/m³	<15		 	
Diethyl sulfide	352-93-2	E630/WT	4.0	ppbv	<4.0 ^{hta}		 	
Dimethyl disulfide	624-92-0	EC630/WT	7.7	µg/m³	<7.7		 	
Dimethyl disulfide	624-92-0	E630/WT	2.0	ppbv	<2.0 ^{hta}		 	
Dimethyl sulfide	75-18-3	EC630/WT	10	µg/m³	<10		 	
Dimethyl sulfide	75-18-3	E630/WT	4.0	ppbv	<4.0 ^{hta}		 	
Dimethylthiophene, 2,5-	638-02-8	EC630/WT	18	µg/m³	<18		 	
Dimethylthiophene, 2,5-	638-02-8		4.0	ppbv	<4.0 ^{hta}		 	
Ethyl mercaptan	75-08-1	EC630/WT	10	µg/m³	<10		 	
Ethyl mercaptan	75-08-1	E630/WT	4.0	ppbv	<4.0 ^{hta}		 	
Ethyl methyl sulfide	624-89-5	EC630/WT	12	µg/m³	<12		 	
Ethyl methyl sulfide	624-89-5		4.0	ppbv	<4.0 ^{hta}		 	
Ethylthiophene, 2-		EC630/WT	18	µg/m³	<18		 	
Ethylthiophene, 2-	872-55-9		4.0	ppbv	<4.0 ^{hta}		 	
Hydrogen sulfide	7783-06-4		5.6	µg/m³	<5.6		 	
Hydrogen sulfide	7783-06-4		4.0	ppbv	<4.0 ^{hta}		 	
Isobutyl mercaptan		EC630/WT	15	μg/m³	<15		 	
Isobutyl mercaptan	513-44-0		4.0	ppbv	<4.0 ^{hta}		 	
		l	1	1 1		I		l i i i i i i i i i i i i i i i i i i i



Sub-Matrix: Air		C	lient sample ID	LOCATION 3	 	
(Matrix: Air)						
		Client samp	oling date / time	09-Sep-2024 11:16	 	
Analyte	CAS Number Method/Lab	LOR	Unit	FJ2402713-001	 	
				Result	 	
Sulfur Compounds						
Isopropyl mercaptan	75-33-2 EC630/WT	12	µg/m³	<12	 	
Isopropyl mercaptan	75-33-2 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Methyl mercaptan	74-93-1 EC630/WT	7.9	µg/m³	<7.9	 	
Methyl mercaptan	74-93-1 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Methylthiophene, 2-	554-14-3 EC630/WT	16	µg/m³	<16	 	
Methylthiophene, 2-	554-14-3 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Methylthiophene, 3-	616-44-4 EC630/WT	16	µg/m³	<16	 	
Methylthiophene, 3-	616-44-4 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
n-Butyl mercaptan	109-79-5 EC630/WT	15	µg/m³	<15	 	
n-Butyl mercaptan	109-79-5 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Propyl mercaptan	107-03-9 EC630/WT	12	µg/m³	<12	 	
Propyl mercaptan	107-03-9 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
sec-butyl mercaptan + thiophene	EC630/WT	14	µg/m³	<21	 	
sec-butyl mercaptan + thiophene	E630/WT	6.0	ppbv	<6.0 ^{hta}	 	
t-Butyl mercaptan	75-66-1 EC630/WT	15	µg/m³	<15	 	
t-Butyl mercaptan	75-66-1 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
Tetrahydrothiophene	110-01-0 EC630/WT	14	µg/m³	<14	 	
Tetrahydrothiophene	110-01-0 E630/WT	4.0	ppbv	<4.0 ^{hta}	 	
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	13	 	
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 result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: FJ2402713	Page	: 1 of 5
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	· · · · · · · · · · · · · · · · · · ·	Telephone	: 778-370-3279
Project	: 704.ENW.GEN03704-02	Date Samples Received	: 09-Sep-2024 13:10
PO	:	Issue Date	: 18-Sep-2024 08:34
C-O-C number	·		
Sampler	: Thomas 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

- <u>No</u> Method Blank value outliers occur.
- <u>No</u> Duplicate outliers occur.
- <u>No</u> Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

• <u>No</u> 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: Air					E	valuation: × =	Holding time excee	edance ; 🔹	= Within	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Field Tests : Air Canister Information										
Canister LOCATION 3	EF001	09-Sep-2024					13-Sep-2024		4 days	
Permanent Gases : Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Rout	ine Level, %)									
Canister LOCATION 3	E629B-H	09-Sep-2024					13-Sep-2024	30 days	4 days	~
Sulfur Compounds : Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)										
Canister LOCATION 3	E630	09-Sep-2024					17-Sep-2024	7 days	8 days	¥ EHT

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

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



Quality Control Parameter Frequency Compliance

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

Matrix: Air		Evaluati	on: × = QC frequ	ency outside sp	ecification; ✓ = (QC frequency wit	hin specificatio
Quality Control Sample Type		C	ount	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	1649291	1	1	100.0	5.0	✓
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1649183	1	1	100.0	5.0	✓
Laboratory Control Samples (LCS)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	1649291	1	1	100.0	5.0	~
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1649183	1	1	100.0	5.0	1
Method Blanks (MB)							
Air Canister Information	EF001	1649126	1	6	16.6	5.0	✓
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	1649291	1	1	100.0	5.0	~
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1649183	1	1	100.0	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	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.

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order	FJ2402713	Page	: 1 of 5
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: 778-370-3279
Project	: 704.ENW.GEN03704-02	Date Samples Received	:09-Sep-2024 13:10
PO	:	Date Analysis Commenced	: 13-Sep-2024
C-O-C number	:	Issue Date	: 18-Sep-2024 08:34
Sampler	: Thomas 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

David Tremblett

VOC Section Supervisor

Position

Waterloo Air Quality, Waterloo, Ontario

Laboratory Department

alsglobal.com



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.

Page :	3 of 5
Work Order :	FJ2402713
Client :	Tetra Tech Canada Inc.
Project :	704.ENW.GEN03704-02



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: 1649183)											
FJ2402713-001	LOCATION 3	Carbon disulfide	75-15-0	E630	2.0	ppbv	<2.0	<2.0	0	Diff <2x LOR		
	ample ID Client sample ID Provide Client sample ID Client	Carbonyl sulfide	463-58-1	E630	4.0	ppbv	9.6	9.4	0.2	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 <4.0 D	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		
ermanent Gases (QC Lot: 1649291)									1		
-J2402713-001	LOCATION 3	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 CAS Number Method LOR Unit Qualifier Analyte Result Field Tests (QCLot: 1649126) Pressure on receipt ---- EF001 0.1 Inches Hg -30.0 Sulfur Compounds (QCLot: 1649183) Carbon disulfide 75-15-0 E630 <2.0 2 ppbv ----463-58-1 E630 4 <4.0 Carbonyl sulfide ppbv 110-81-6 E630 Diethyl disulfide 2 ppbv <2.0 Diethyl sulfide 352-93-2 E630 4 ppbv <4.0 624-92-0 E630 2 <2.0 Dimethyl disulfide ppbv ----75-18-3 E630 <4.0 Dimethyl sulfide 4 ppbv ----638-02-8 E630 Dimethylthiophene, 2,5-4 ppbv <4.0 75-08-1 E630 Ethyl mercaptan 4 ppbv <4.0 Ethyl methyl sulfide 624-89-5 E630 4 ppbv <4.0 ----872-55-9 E630 <4.0 Ethylthiophene, 2-4 ppbv ----Hydrogen sulfide 7783-06-4 E630 4 ppbv <4.0 Isobutyl mercaptan 513-44-0 E630 4 ppbv <4.0 75-33-2 E630 <4.0 Isopropyl mercaptan 4 ppbv ----Methyl mercaptan 74-93-1 E630 4 ppbv <4.0 554-14-3 E630 Methylthiophene, 2-4 ppbv <4.0 616-44-4 E630 Methylthiophene, 3-4 ppbv <4.0 n-Butyl mercaptan 109-79-5 E630 <4.0 4 ppbv ----107-03-9 E630 <4.0 Propyl mercaptan 4 ppbv sec-butyl mercaptan + thiophene ---- E630 6 ppbv <6.0 t-Butyl mercaptan 75-66-1 E630 4 ppbv <4.0 110-01-0 E630 4 <4.0 Tetrahydrothiophene ppbv ----Permanent Gases (QCLot: 1649291) 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	Spike Recovery (%) Recovery Limits (
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	Low High		
Sulfur Compounds (QCLot: 1649183)										
Carbonyl sulfide	463-58-1	E630	4	ppbv	104 ppbv	98.6	60.0	140		
Hydrogen sulfide	7783-06-4	E630	4	ppbv	112 ppbv	97.1	60.0	140		
Methyl mercaptan	74-93-1	E630	4	ppbv	101 ppbv	102	60.0	140		
Permanent Gases (QCLot: 1649291)										
Methane	74-82-8	E629B-H	0.05	%	15 %	93.4	70.0	130		

	Rush Sc]		FJAE Shipping & Reco Call OutExpedit Priority # of CoolersAir # of Carboys Ground	e										
50 NORTHLAND RO		1			AIR QUALITY CHAIN OF CU	STODY	FORM	- Ca	nister/T	ube/Gas	Bag	÷.,		Page_/	_of _/	
Phone: (519) 886-69		Enstror	5		Note: All TAT Quoted is in business da	ur which a	welude		DATE	SERVIC	E REQ	UEST	ED	Rush 3 day (100%)	Ø	
Fax: (519) 886-9047		COMPANY CON	1411421 14 2011		statutory holidays and weekends. TAT of s	samples rec			REQUIRED	10 day (r	regular	r)		Rush 2 day (200%)		
Toll Free: 1-800-668	-9878				3:00 pm or Saturday / Sunday begin the	e next day.		_	9/13/24	Rush 5 da	ay (50	(%)		Rush 1 day (300%) - Enquire		
COMPANY NAME	TET	HA TECH			REGULATION	1			ANALYSI	S REQUEST			Image: State of the state			
DFFICE	140	QUPERY PARA	E BLUD	3	CRITERIA							ñ		before sample submiss		
ROJECT MANAGER	Ar	-ENW. GENU	AN		OTHER						(6H"	(6H		SUBMISSION #		
PROJECT #	704	-ENW, GENVE	13704-0	2	INFORMATION		Ē				5 Sui	1) 6	10	1		
PHONE 403 203 33	ONE 403 203 3355 FAX COUNT# TETEP TECM IOTATION# A24-65A6100-013 PO#			REPORT FORMAT/DISTRIBUTIO	DN	72				ampl	mplir	NIN	(22) (2) (2) (2) (2) (2) (2) (2) (2) (2)			
ACCOUNT # TETE				EMAIL FAX BOTH	-	۵				E - Pre-Sampling ("Hg)	Post Sa		DATE/TIME ENTERED.			
	The second second second	INFORMATION		-	EMAIL 1 ANDRA . MCMILLON P EMAIL 24212 . SHAKH CTET	TETLOT	CAR				SURI	RE .	MF	BIN #.		
Sample Date/Ti	36 M	INFORMATION		-	EMAIL 2AZIZ, SHAIKH CTER	H (m	GLU	5	5		RES	SSU	FN			
Date (dd-mmm-yy)	Time (24hr) (hh:mm)	Çanister 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	24			STARTING PRESSURE	ENDING	COLLEC	Field Conditions (Rain/Wind/Dust/Odour) Field PID Reading	LAB ID	
og-sep-zy	11:16	01400-0101	4245	AA	LOCATION 3		1.4	×	×		30	8	4	RAIN, Oppon		
					Environmental D Fort St. John Work Order Refe FJ2402			Tele	phone : +12	250 261 5517		I.				
				-				-			+	-	-	1		
SPE	ECIAL INSTR	UCTIONS/COMMENTS			This Chain of Cust	ody Form is	only to be	used fo	or Air Quality	Samples	-			SAMPLE CONDITION AS REC		
				Matrix Type	Soil Gas Vapour = SG Ambient Air = AA		Indoor A							FROZEN COLD COOLING INITIATED AMBIENT	MEAN TEMP	
RELINQUISHED BY	AMPLED BY: TUAMA 3 KIS 9191		127 1100					DATE & T	IME IME	12	9		INIT			
RELINQUISHED BY:	IPM P 3	kors			A TIME RECEIVED AT LAB BY					DATE & TI	IME			If yes add SIF		

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

ALS Environmental	
60 Northland Drive, Unit	1
Waterloo, ON	
N2V 2B8	

AIR SAMPLING MEDIA REQUEST FORM



2 CON 11 CON 1	SHIPPING INFO	s ship PUROLATO	R EXPRESS TODA	ns. Grey sections are for INT prior to submission to NAWTF W 21AUG for delivery 23AUG to ALS	FSJ	-	the state of the s	
ENT.	TetraTech				- Der singe		ORDER TAKEN BY:	Wendy Sears
ENT: ENT CONTACT:	Andrea McMillan		u un a Lin ministra chuir				ORDER DATE:	21-Aug-24
ENT PROJECT/PO:	Gas and GW samp	ing			AM REVIEWER:	DSTASTNY		
OTE #: (mandatory)	TotraTech MSA						CLIENT EXPECT DATE:	23-Aug-24 YB
LIVERY TO:	ALS Fort St John B	C, 11007 Alasi	ORDER FILLED BY:	10				
LEPHONE NUMBER:	587-830-1121	A	DATE COMPLETED:	22 400.04				
IP TO (include email):	andrea mcmillan@t	etratech.com					UATE COMPLETED.	23-Aug-24
	o Regular (ALS will cov	er shinning cost		Shipping Company:	OloF	edEx		
Shipping Method:	o RUSH(Client will be b				• .P	urolator	Tracking Number:	
(Select one)	confirm with Account M	Aanager)			HL			
IT.	o External Courier				Q ou	IPS	-	
	o Pickup at ALS				A	other		
	+ Location:				Q oN	I/A		
	o ALS Drivers							
	-			ion of all Sections is Ma				
Please provide a list of compo- What is your planned canister	unds and reporting limits sampling time? Option	that are required. Is listed under	Regulator Ti	nal Information Box below lation & target list (attach imes mail nawtr.nimediarequest			to confirm the media was a	dequately proofed.
Canister Size/Tube	Regulator Times	Regulator Quantity		ters/ Product Codes	Can	ister/Tube tlfication #	Initial Pressure/Flow (mmHg/mL per mln)	
	24 hr		V					-
	12 hr			1 1	1			
	8 hr		8					
6L Canister	4 hr			0.4				-
	1 hr		2	1				1
	0.5 hr	-						
and the local Dist	Trip Blank		1.		Sec.			
lumber of Canisters	60 mins		Methane S	629M, Full Sulfur Scan	-28.7	G245		
			mennener	S630		-		
Contractor 1	20 mins							
1.4L Canister	10 mins	-						
	4 mins	1						
	No Restrictor	China ha						-
Number of Canisters 1	Trip Blank		- constant		-	-		
	40 mins							
	14 mins				-		-	-
Bottle Vacs	7 mins				-			-
	3 mins							-
	No Restrictor						-	
Number of Canisters	Trip Blank		4		1			-
assive CarboPak X Tubes			1			-		
ffusive Caps			1		1.00			1
ctive SVI Tubes		1000						1
alibration Tube for SVI (yes/r	10)							
Other Sampling		Quantity	ID#	Ad	ditional In	formation & S	pecial Instructions or Requ	
ressure Gauge	Jouppnes	Quantity		Check all that apply:	IT in	door Air	Sub-Slab	Industrial
					IT A	mbient Air	Landfill	Commercial
aplok Tool			-	1		robe/Well	Crawlspace	Residential
anister Stands	w		-		E	ther (specify):		
alve Adaptor for Soil Vapor			Oursetitur	COMMENTS:	- trend	- Anna - Anna		
	jeable Supplies		Quantity	Methane \$100, Sulfurs S	242, Can	ster 2WEEK	rental \$105	
uplicate Sampler - \$45 car								
alve Adaptor for Soil Vapo								
efton Tubing - \$3 per foot	-Total length (ft)	ADA	- then	-				
	-Length per section	100		-				
ut & Ferrule Sets - \$8 per				-				
ediar Bags (contact the lab	-\$28 unpurged		-	-				
	-\$45 purged			4				100
efore SUBMITTING)	t: \$50, TD tube prep/re	ntal: \$50)	-	-				8 .
efore SUBMITTING) iloxane Kit - \$100 each (Ki	and the second sec							
efore SUBMITTING) illoxane Kit - \$100 each (Ki tush Order Prep Charge (<	48 hour notice, not incl	uding shipping)	\$50					
efore SUBMITTING) iloxane Kit - \$100 each (Ki ush Order Prep Charge (< iclude sampling supplies fr	48 hour notice, not incl	uding shipping) (yes/no)	\$50					
efore SUBMITTING) iloxane Kit - \$100 each (Ki	48 hour notice, not incl om other ALS location	(yes/no)	-	tal is 2 WEEKS only, After this	Note and the	tional sector of	ac snole	

8/23/2024



	CER	TIFICATE OF ANALYSIS		
Work Order Client Contact Address	 FJ2403535 Tetra Tech Canada Inc. Andrea McMillan 110, 140 Quarry Park Blvd SE Calgary Alberta Canada T2C 3G3 	Laboratory Account Manager Address	 ALS Environmental - Waterloo Brent Mack 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8 	
Telephone Project PO C-O-C number Sampler Site Quote number No. of samples received No. of samples analysed	 704-ENW.GENV03704-02, Task 001 Leroy Wolford VA24-EBAE100-013 1	Telephone Date Samples Received Date Analysis Commenced Issue Date	: 778-370-3279 : 20-Nov-2024 12:45 : 22-Nov-2024 : 27-Nov-2024 10:05	

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.

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.

Unit	Description
-	no units
inches Hg	inches of mercury
µg/m³	micrograms per cubic metre
ppbv	parts per billion (volume/volume)
%	percent

<: 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.





Sub-Matrix: Air (Matrix: Air)			Client sa	mple ID	Location 3	 	
		С	lient sampling date	/ time	20-Nov-2024 11:10	 	
Analyte CA	S Number	Method/Lab	LOR	Unit	FJ2403535-001	 	
					Result	 	
Field Tests							
ID, batch proof		EF001/WT	-	-	240728.222	 	
ID, canister		EF001/WT	-	-	01400-0216	 	
ID, regulator		EF001/WT	-	-	G289	 	
Pressure on receipt		EF001/WT	0.10	inches Hg	-6.13	 	
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	 	



Sub-Matrix: Air (Matrix: Air)			Client sar	nple ID	Location 3	 	
		С	lient sampling date	/ time	20-Nov-2024 11:10	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2403535-001	 	
					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	 	



Sub-Matrix: Air _(Matrix: Air)			Client sa	mple ID	Location 3					
		C	Client sampling date	/ time	20-Nov-2024 11:10					
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2403535-001					
					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 result qualifiers detected.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	FJ2403535	Page	: 1 of 5
Client	E Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: 778-370-3279
Project	:704-ENW.GENV03704-02, Task 001	Date Samples Received	: 20-Nov-2024 12:45
PO	:	Issue Date	: 27-Nov-2024 10:04
C-O-C number	:		
Sampler	: Leroy Wolford		
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

- <u>No</u> Method Blank value outliers occur.
- <u>No</u> Duplicate outliers occur.
- <u>No</u> Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

• <u>No</u> 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	Method	Sampling Date	Ext	raction / Pr	eparation			Analysis				
Container / Client Sample ID(s)			Preparation	Holding Times Eval		Analysis Date	Holding	g Times	Eval			
			Date	Rec	Actual			Rec	Actual			
Field Tests : Air Canister Information												
Canister												
Location 3	EF001	20-Nov-2024					22-Nov-2024		2 days			
Permanent Gases : Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Rout	ine Level, %)											
Canister												
Location 3	E629B-H	20-Nov-2024					26-Nov-2024	30 days	6 days	1		
Sulfur Compounds : Reduced Sulfur Compounds in Passivated Canisters by GC-S	CD (All List) (ppbV)										
Canister												
Location 3	E630	20-Nov-2024					22-Nov-2024	7 days	2 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		Evaluatio	on: × = QC frequ	ency outside sp	ecification; ✓ = 0	QC frequency wit	hin specificatior
Quality Control Sample Type			Co	ount			
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	1784037	1	1	100.0	5.0	~
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1779200	1	1	100.0	5.0	~
Laboratory Control Samples (LCS)							
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	1784037	1	1	100.0	5.0	~
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1779200	1	1	100.0	5.0	~
Method Blanks (MB)							
Air Canister Information	EF001	1779225	1	20	5.0	5.0	✓
Permanent Gases (Methane, CO2, CO, N2, and O2) in Air (Routine Level, %)	E629B-H	1784037	1	1	100.0	5.0	~
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ppbV)	E630	1779200	1	1	100.0	5.0	1



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).
				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	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.
Reduced Sulfur Compounds in Passivated Canisters by GC-SCD (All List) (ug/m3)	EC630 ALS Environmental - Waterloo	Air	ASTM D5504	longer canister storage time, please contact your Project Manager. 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.

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order	FJ2403535	Page	: 1 of 5
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone		Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02, Task 001	Date Samples Received	: 20-Nov-2024 12:45
PO	:	Date Analysis Commenced	: 22-Nov-2024
C-O-C number	:	Issue Date	: 27-Nov-2024 10:04
Sampler	: Leroy Wolford		
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

David Tremblett

VOC Section Supervisor

Position

Waterloo Air Quality, Waterloo, Ontario

Laboratory Department



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: 1779200)													
FJ2403535-001	Location 3	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: 1784037)				1				1	1				
J2403535-001	Location 3	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.

nalyte	CAS Number	Method	LOR	Unit	Result	Qualifier
ield Tests (QCLot: 1779225)						
Pressure on receipt		EF001	0.1	Inches Hg	-30.0	
ulfur Compounds (QCLot: 1779200)						
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	
ermanent Gases (QCLot: 1784037)						
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							
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier		
Sulfur Compounds (QCLot: 1779200)											
Carbonyl sulfide	463-58-1	E630	4	ppbv	104 ppbv	96.8	60.0	140			
Hydrogen sulfide	7783-06-4	E630	4	ppbv	112 ppbv	118	60.0	140			
Methyl mercaptan	74-93-1	E630	4	ppbv	101 ppbv	66.9	60.0	140			
Permanent Gases (QCLot: 1784037)											
Methane	74-82-8	E629B-H	0.05	%	15 %	103	70.0	130			

	FJAE Shipping & Receiving Call Out Expedite Priority # of Coolers Air # of Carboys Ground				Environmental Division Fort St. John Work Order Reference FJ2403535 QUALLY T CHAIN OF CUSTODY FORM - Campus (1)					one : +1 250 261 5517 Pageof						
60 NORTHLAND ROA WATERLOO, ON N2V					AIN QUALL	T CHAIN OF CUSTOD	Y FORM - C	amaren, re		;			Page_			
Phone: (519) 886-69	10	Enviror	_S) Imental		Note All TAT Q	uoted is in business days which	h exclude	DATE	SERVIC	EREC	QUEST	1	Rush 3 day (100%)			
Fax: (519) 886-9047	0979					and weekends. TAT of samples i day / Sunday begin the next da		REQUIRED	10 day (r			믐	Rush 2 day (200%)			
Toll Free: 1-800-668		- 1 -	1 -				1		Rush 5 da	ay (5	0%)		Rush 1 day (300%) - Enquire			
	Tetr	-a Tech Car	rada Inc.	-1	REGULATION		-	ANALYSIS	REQUEST				All rush work requires lab			
OFFICE					CRITERIA								before sample submis	sion		
PROJECT MANAGER					OTHER					1	6		SUBMISSION #			
PROJECT #	1100	H- FRACION	012		INFORMATION		Ē			100	H		-0.1			
PHONE		4- EBAE 100-	015		AFRONT					lilo	Dilu		ENTERED BY:			
				_	REPORT	FORMAT/DISTRIBUTION				Sam	ame		DATE/TIME ENTERED.			
ACCOUNT #					EMAILFA	хвотн	-			Pre	ost	(HRS)	DATE/ TIME EN TERED.			
QUOTATION #		PO #			SELECT: PDF	DIGITALBOTH	ů.			ER F		H				
the second se		INFORMATION			EMAIL 2		FUN			PSS 1	SUR 1	NIF	BIN #:			
Sample Date/Ti	Time (24hr) (hh:mm)	Canister or Tube ID# (e.g. 060000-XXXX or G0XXXXXXSVI)	Regulator Serial # CS1200-XXXX or GXX	Matrix Type	SAMPLE DESCR	RIPTION TO APPEAR ON REPORT	TUBE AIR VOLUME			CTARTING PRESSURE - Pre-Sampling ("Ha)	ENDING PRESSURE - Post Sampling ("Hg)	COLLECTION TIME	Field Conditions (Rain/Wind/Dust/Odour) Field PID Reading	LAB ID		
20-11-2024	11:10 am	01400-0216	G289	2						30	_	1				
10-11 2021	11-IV AM	01400-0210	GLUI	-					+ +	P	10	+				
	-									-	-	+		-		
	-									-	+	+				
	-			-			-		-	-	-	+				
h	1									+	+	-				
	-			-			-		-	-	-	+				
	-			-	-		-	+ + +		+	-	+				
	-								-	-	+	-		-		
	-			-						-	+	+				
	CIAL 1999	Instrant Configure				This chair of Provide Pro-	fr only to he word	for Air Circlin 7	Samuelar	1			SAMPLE CONDITION AS RE	ECEIVED		
SPE	CIAL INSTRU	UCTION\$/COMMENTS		Matrix Type	Soil Gas Vapou Ambient Air = /		Is only to be used Indoor Air = Industrial Hy	IA	semples			-0	FROZEN COLD COOLING INITIATED AMBIENT	MEAN TEMP		
SAMPLED BY: LEROY	WOLFO	DRD			TIME 24	RECEIVED BY:			DATE & T	ME			OBSERVATIONS	INIT		
RELINQUISHED BY:	11				& TIME	RECEIVED AT LAB BY			DATE & T	IME			Yes No II If yes add SIF			
Notes								1	at an a star			-	and the second se			

1. Quote number must be provided to ensure proper pricing

A15-65-

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

VON 20/24 - 12:45 pm Page 177 of 222

ALS Environmental	
60 Northland Drive, Unit 1.	
Waterloo, ON	
N2V 288	

AIR SAMPLING MEDIA REQUEST FORM



COMPLETE Blue sections. Grey sections are for INTERNAL USE ONLY Form MUST be reviewed & initialled by an ALS Account Manager prior to submission to NAWTR AIRMEDIA REQUEST (nawtr.airmediarequest@alsglobal.com)

	SHIPPING INFO:	ols ship PUROLATO	R Express Friday (SEPT for delivery 9 SEPT latest for cliv	ont plu		TOPDED TAKEN BY	Bront Monk
CLIENT:	TetraTech					gulf com	ORDER TAKEN BY: ORDER DATE:	Brent Mack 5-Sep-24
CLIENT CONTACT:	Andrea McMillan	-					AM REVIEWER:	DSTASTNY
CLIENT PROJECT/PO:	Gas and GW samp						CLIENT EXPECT DATE:	9-Sep-24
QUOTE #: (mandatory)	VA24-EBAE100-01	3					ORDER FILLED BY:	AR21
DELIVERY TO:	the state of the s	C. 11007 Alas	ika Road, For	t St John , BC, V1J 6P3 for	client	40	PEER REVIEWER:	YB
TELEPHONE NUMBER:	587-830-1121						DATE COMPLETED:	5-Sep-24
SHIP TO (include email):	andrea.momillan@	tetratech.com						a deb a t
Shipping Method:	o Regular (ALS will co o RUSH(Client will be			Shipping Company:	0	• FedEx • Purolator	Tracking Number:	
(Select one)	confirm with Account				Q	DHL		
	 External Couries Pickup at ALS 				18	o UPS o Other		
	. Location:			1	ŏ	o N/A		
	a ALS Drivers			and a second		A		
			-	tion of all Sections is Ma		bry		
I. What type of air is being samp	led? Check all appr	opriate types	in the Additi	onal Information Box belo	w h to au	mai/l		
, Please provide a list of compo-	unds and reporting limits	that are required.	Include regi	ulation & target list (attack	110 ei	man)		
3. What is your planned canister				mes				
1. Trip blanks will be shipped pre	-filled unless specifically	requested below	on this form.	email nawtr.airmediareques	tØalsg	lobal.com ASAP to	confirm the media was as	lequately proofed.
lote: If analysis required is	S DIFFERENT than w	nat is cloted	oa mis ivini,	eman nawaran mesaareques			1	1
Canister Size/Tube	Regulator Times	Regulator Quantity	Param	eters/ Product Codes		Canister/Tube dentification #	Initial Pressure/Flow (mmHg/mL per min)	Controller Identification #
	24 hr				-			
	12 hr	-			-			
6L Canister	8 hr	1	1					
OL Campter	4 hr				-	-		
	1 hr							
	0.5 hr					_		
Number of Canisters	Trip Blank		-					
	60 mins		Methane,	S629M, Full Sulfur Scan		01400-0216	-28.7	G289
	20 mins	1		S630	-	01400-0320	-28.7	G33
1.4L Canister	10 mins				-			
the outpater	4 mins	2		-	-		-	
	No Restrictor	4			-		-	
	President Constants				-			
Number of Canisters 2	Trip Blank	-			-			-
	40 mins		-		-			
	14 mins		5		6			
Bottle Vacs	7 mins	-			-			
	3 mins				-			-
	No Restrictor		100				the second second	
Number of Canisters	Trip Blank							
assive CarboPak X Tubes								
iffusive Caps					1			
ctive SVI Tubes				- the state	1.0			
alibration Tube for SVI (yes/nd	o)							
Other Sampling		Quantity	ID#	Add	litional	Information & Spe	cial Instructions or Reques	its
ressure Gauge	ouppies	1	PG59	Check all that apply:	m	Indoor Air	Sub-Slab	Industrial
aplok Tool			1000		The second secon	Ambient Air	Landfill	Commercial
anister Stands					H	Probe/Well	Crawlspace	Residential
				-	H			
alve Adaptor for Soil Vapour				COMMENTS:		Other (specify)	-toping (r	
	able Supplies		Quantity	Methane \$100, Sulfurs \$2	243 0	anistar MAIEEV	101 \$105	
uplicate Sampler - \$45 canis				wethane 19100, Sulfurs 52	242, 0	AUDICI ZVVČEN (BI	πω ψ των	
alve Adaptor for Soil Vapour								
eflon Tubing - \$3 per foot	-Total length (ft)			-				
	-Length per section	(π)	100	4				
	et .		-	4				
				1				
edlar Bags (contact the lab	-\$28 unpurged			-				
edlar Bags (contact the lab efore SUBMITTING)	-\$45 purged	-]				
edlar Bags (contact the lab efore SUBMITTING) illoxane Kit - \$100 each (Kit:	-\$45 purged \$50, TD tube prep/rem							
lut & Femule Sets - \$8 per se edlar Bags (contact the lab efore SUBMITTING) siloxane Kit - \$100 each (Kit: Rush Order Prep Charge (<48	-\$45 purged \$50, TD tube prep/rem		\$50					
edlar Bags (contact the lab efore SUBMITTING) illoxane Kit - \$100 each (Kit: Rush Order Prep Charge (<48 relude sampling supplies from	-\$45 purged \$50, TD tube prep/ren 8 hour notice, not inclu	ding shipping)	\$50					
edlar Bags (contact the lab efore SUBMITTING) illoxane Kit - \$100 each (Kit: Rush Order Prep Charge (<48	-\$45 purged \$50, TD tube prep/ren 8 hour notice, not inclu m other ALS location	ding shipping) yes/no)						
edlar Bags (contact the lab efore SUBMITTING) illoxane Kit - \$100 each (Kit: tush Order Prep Charge (<48 include sampling supplies from	-\$45 purged \$50, TD tube prep/ren 8 hour notice, not inclu m other ALS location	ding shipping) yes/no)	Canistur Rent	al is 2 WEEKS only. After this	fime as	iditional rental faes	apply.	
edlar Bags (contact the lab efore SUBMITTING) iloxane Kit - \$100 each (Kit: tush Order Prep Charge (<41 nclude sampling supplies from the COMMENTS	-\$45 purged \$50, TD tube prep/ren 8 hour notice, not inclu m other ALS location	ding shipping) yes/no) MEDIA REPL	Canistur Rent ACEMENT COS	al is 2 WEEKS only. After this STS: (Media lost or damaged log 3) CAPLOK TOOL SET - \$95 WROLLER - tWA: \$1600.00 GR Page 178 OF 222	will be	charged to the clien	1) 240.00 SI BOTTI EVAC CAN	STER - \$135.00



	CERTIFICATE OF ANALYSIS										
Work Order Client Contact Address	FJ2403536 Tetra Tech Canada Inc. Andrea McMillan 110, 140 Quarry Park Blvd SE	Laboratory Account Manager Address	: ALS Environmental - Vancouver : Brent Mack : 8081 Lougheed Highway								
Telephone Project PO C-O-C number Sampler Site	Calgary Alberta Canada T2C 3G3 704-ENW.GENV03704-02, Task 001 20-964972 Leroy Wolford	Telephone Date Samples Received Date Analysis Commenced Issue Date	Burnaby BC Canada V5A 1W9 : 778-370-3279 : 20-Nov-2024 12:45 : 21-Nov-2024 : 22-Nov-2024 16:46								
Site Quote number No. of samples received No. of samples analysed	 VA24-EBAE100-013 1 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
Erika Vanegas	Lab Assistant	Metals, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Inorganics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Inorganics, Burnaby, British Columbia
Owen Cheng		Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Inorganics, 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.

Unit	Description
mg/L	milligrams per litre
pH units	pH units
μS/cm	microsiemens per centimetre
NTU	nephelometric turbidity units
CU	colour units (1 cu = 1 mg/l pt)
AU/cm	absorbance units per centimetre
% T/cm	% transmittance per centimetre
-	no units

<: less than.

>: greater than.

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

Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Sample Comments

Sample	Client Id	Comment
FJ2403536-001	Location 3	Water sample for total mercury analysis was not submitted in glass or PTFE container with HCl preservative. Results may be biased low.



Qualifiers

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



Sub-Matrix: Water (Matrix: Water)			Client sa	mple ID	Location 3	 	
		С	lient sampling date	/ time	20-Nov-2024 11:30	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2403536-001	 	
					Result	 	
Physical Tests							
Absorbance, UV (@ 254nm)		E404/VA	0.0050	AU/cm	0.0830	 	
Alkalinity, bicarbonate (as CaCO3)		E290/VA	1.0	mg/L	933	 	
Alkalinity, carbonate (as CaCO3)		E290/VA	1.0	mg/L	13.3	 	
Alkalinity, hydroxide (as CaCO3)		E290/VA	1.0	mg/L	<1.0	 	
Alkalinity, phenolphthalein (as CaCO3)		E290/VA	1.0	mg/L	6.7	 	
Alkalinity, total (as CaCO3)		E290/VA	1.0	mg/L	946	 	
Colour, true		E329/VA	5.0	CU	<5.0	 	
Conductivity		E100/VA	2.0	µS/cm	1890	 	
Hardness (as CaCO3), dissolved		EC100/VA	0.60	mg/L	238	 	
Hardness (as CaCO3), from total Ca/Mg		EC100A/VA	0.60	mg/L	251	 	
рН		E108/VA	0.10	pH units	8.34	 	
Solids, total dissolved [TDS]		E162/VA	10	mg/L	1230	 	
Turbidity		E121/VA	0.10	NTU	26.0	 	
Transmittance, UV (@ 254nm)		E404/VA	1.0	% T/cm	82.6	 	
Anions and Nutrients							
Bromide	24959-67-9	E235.Br-L/VA	0.050	mg/L	<0.500 DLDS	 	
Chloride	16887-00-6	E235.CI/VA	0.50	mg/L	38.6	 	
Fluoride	16984-48-8	E235.F/VA	0.020	mg/L	0.629	 	
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	 	
Sulfate (as SO4)	14808-79-8	E235.SO4/VA	0.30	mg/L	120	 	



Sub-Matrix: Water _(Matrix: Water)			Client sa	mple ID	Location 3	 	
		C	lient sampling date	/ time	20-Nov-2024 11:30	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2403536-001	 	
					Result	 	
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	4.00	 	
Carbon, total organic [TOC]		E355-L/VA	0.50	mg/L	3.74	 	
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	0.165	 	
Antimony, total	7440-36-0	E420/VA	0.00010	mg/L	0.00696	 	
Arsenic, total	7440-38-2	E420/VA	0.00010	mg/L	0.0214	 	
Barium, total	7440-39-3	E420/VA	0.00010	mg/L	0.467	 	
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	0.352	 	
Cadmium, total	7440-43-9	E420/VA	0.0000050	mg/L	0.000116	 	
Calcium, total	7440-70-2	E420/VA	0.050	mg/L	41.0	 	
Cesium, total	7440-46-2	E420/VA	0.000010	mg/L	0.000125	 	
Chromium, total	7440-47-3	E420/VA	0.00050	mg/L	<0.00100 DLA	 	
Cobalt, total	7440-48-4	E420/VA	0.00010	mg/L	0.00190	 	
Copper, total	7440-50-8	E420/VA	0.00050	mg/L	0.00264	 	



Sub-Matrix: Water (Matrix: Water)			Client sar	mple ID	Location 3	 		
		C	lient sampling date	/ time	20-Nov-2024 11:30	 		
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2403536-001	 		
					Result	 		
Total Metals							1	
Iron, total	7439-89-6	E420/VA	0.010	mg/L	3.17	 		
Lead, total	7439-92-1	E420/VA	0.000050	mg/L	0.000556	 		
Lithium, total	7439-93-2	E420/VA	0.0010	mg/L	0.0154	 		
Magnesium, total	7439-95-4	E420/VA	0.0050	mg/L	36.2	 		
Manganese, total	7439-96-5	E420/VA	0.00010	mg/L	0.115	 		
Mercury, total	7439-97-6	E508/VA	0.0000050	mg/L	<0.000050	 		
Molybdenum, total	7439-98-7	E420/VA	0.000050	mg/L	0.0335	 		
Nickel, total	7440-02-0	E420/VA	0.00050	mg/L	0.0119	 		
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	3.39	 		
Rubidium, total	7440-17-7	E420/VA	0.00020	mg/L	0.00270	 		
Selenium, total	7782-49-2	E420/VA	0.000050	mg/L	0.00315	 		
Silicon, total	7440-21-3	E420/VA	0.10	mg/L	4.68	 		
Silver, total	7440-22-4	E420/VA	0.000010	mg/L	<0.000020 DLA	 		
Sodium, total	7440-23-5	E420/VA	0.050	mg/L	395	 		
Strontium, total	7440-24-6	E420/VA	0.00020	mg/L	0.665	 		
Sulfur, total	7704-34-9	E420/VA	0.50	mg/L	48.8	 		
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	0.000028	 		
Thorium, total	7440-29-1	E420/VA	0.00010	mg/L	<0.00020 DLA	 		
Tin, total	7440-31-5	E420/VA	0.00010	mg/L	<0.00020 DLA	 		



Sub-Matrix: Water (Matrix: Water)			Client sa	mple ID	Location 3	 	
		C	Client sampling date	/ time	20-Nov-2024 11:30	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2403536-001	 	
					Result	 	
Total Metals							
Titanium, total	7440-32-6	E420/VA	0.00030	mg/L	0.00554	 	
Tungsten, total	7440-33-7	E420/VA	0.00010	mg/L	0.00033	 	
Uranium, total	7440-61-1	E420/VA	0.000010	mg/L	0.00695	 	
Vanadium, total	7440-62-2	E420/VA	0.00050	mg/L	0.00127	 	
Zinc, total	7440-66-6	E420/VA	0.0030	mg/L	0.0092	 	
Zirconium, total	7440-67-7	E420/VA	0.00020	mg/L	0.00064	 	
Dissolved Metals				1			
Aluminum, dissolved	7429-90-5	E421/VA	0.0010	mg/L	0.0027	 	
Antimony, dissolved	7440-36-0	E421/VA	0.00010	mg/L	0.00671	 	
Arsenic, dissolved	7440-38-2	E421/VA	0.00010	mg/L	0.00623	 	
Barium, dissolved	7440-39-3	E421/VA	0.00010	mg/L	0.418	 	
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	0.329	 	
Cadmium, dissolved	7440-43-9	E421/VA	0.0000050	mg/L	0.0000734	 	
Calcium, dissolved	7440-70-2	E421/VA	0.050	mg/L	38.9	 	
Cesium, dissolved	7440-46-2	E421/VA	0.000010	mg/L	0.000078	 	
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	0.00174	 	
Copper, dissolved	7440-50-8	E421/VA	0.00020	mg/L	0.00055	 	
Iron, dissolved	7439-89-6	E421/VA	0.010	mg/L	0.787	 	



Analyte CAS Numb Dissolved Metals		lient sampling date	/ time Unit	20-Nov-2024 11:30 FJ2403536-001	 	
Dissolved Metals			Unit		 	 1
	1 E421/VA					
	1 E421/VA			Result	 	
7400.00	1 E421/VA					
Lead, dissolved 7439-92		0.000050	mg/L	<0.000100 DLA	 	
Lithium, dissolved 7439-93	2 E421/VA	0.0010	mg/L	0.0141	 	
Magnesium, dissolved 7439-95	4 E421/VA	0.0050	mg/L	34.2	 	
Manganese, dissolved 7439-96	5 E421/VA	0.00010	mg/L	0.112	 	
Mercury, dissolved 7439-97	6 E509/VA	0.0000050	mg/L	<0.000050	 	
Molybdenum, dissolved 7439-98	7 E421/VA	0.000050	mg/L	0.0304	 	
Nickel, dissolved 7440-02	0 E421/VA	0.00050	mg/L	0.0111	 	
Phosphorus, dissolved 7723-14	0 E421/VA	0.050	mg/L	<0.100 DLA	 	
Potassium, dissolved 7440-05	7 E421/VA	0.050	mg/L	3.39	 	
Rubidium, dissolved 7440-17	7 E421/VA	0.00020	mg/L	0.00238	 	
Selenium, dissolved 7782-45	2 E421/VA	0.000050	mg/L	0.00301	 	
Silicon, dissolved 7440-21	3 E421/VA	0.050	mg/L	4.07	 	
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	401	 	
Strontium, dissolved 7440-24	6 E421/VA	0.00020	mg/L	0.598	 	
Sulfur, dissolved 7704-34	9 E421/VA	0.50	mg/L	42.8	 	
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	0.000023	 	
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	 	



Sub-Matrix: Water (Matrix: Water)			Client sar	mple ID	Location 3	 	
		С	lient sampling date	/ time	20-Nov-2024 11:30	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	FJ2403536-001	 	
					Result	 	
Dissolved Metals							
Tungsten, dissolved	7440-33-7	E421/VA	0.00010	mg/L	0.00030	 	
Uranium, dissolved	7440-61-1	E421/VA	0.000010	mg/L	0.00624	 	
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	0.0043	 	
Zirconium, dissolved	7440-67-7	E421/VA	0.00020	mg/L	0.00041	 	
Dissolved mercury filtration location		EP509/VA	-	-	Field	 	
Dissolved metals filtration location		EP421/VA	-	-	Field	 	

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



QUALITY CONTROL INTERPRETIVE REPORT

Work Order	FJ2403536	Page	: 1 of 11
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: 778-370-3279
Project	: 704-ENW.GENV03704-02, Task 001	Date Samples Received	: 20-Nov-2024 12:45
PO	:	Issue Date	: 22-Nov-2024 16:46
C-O-C number	: 20-964972		
Sampler	: Leroy Wolford		
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

- <u>No</u> Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- <u>No</u> Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

• No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

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

Outliers : Frequency of Quality Control Samples

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



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					E٧	aluation: × =	Holding time exce	edance ; •	<pre>< = Within</pre>	Holding Tim
Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pr	eparation			Analys	is	
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	Times	Eval
			Date	Rec	Actual			Rec	Actual	
Anions and Nutrients : Bromide in Water by IC (Low Level)										
HDPE										
Location 3	E235.Br-L	20-Nov-2024	22-Nov-2024	28	2 days	1	22-Nov-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Chloride in Water by IC										
HDPE										
Location 3	E235.CI	20-Nov-2024	22-Nov-2024	28	2 days	1	22-Nov-2024	28 days	2 days	✓
				days						
Anions and Nutrients : Fluoride in Water by IC										
HDPE										
Location 3	E235.F	20-Nov-2024	22-Nov-2024	28	2 days	1	22-Nov-2024	28 days	2 days	1
				days						
Anions and Nutrients : Nitrate in Water by IC (Low Level)										
HDPE										
Location 3	E235.NO3-L	20-Nov-2024	22-Nov-2024	3 days	2 days	✓	22-Nov-2024	3 days	2 days	✓
Anions and Nutrients : Nitrite in Water by IC (Low Level)										
HDPE										
Location 3	E235.NO2-L	20-Nov-2024	22-Nov-2024	3 days	2 days	1	22-Nov-2024	3 days	2 days	1
Anions and Nutrients : Sulfate in Water by IC										
HDPE										
Location 3	E235.SO4	20-Nov-2024	22-Nov-2024	28	2 days	1	22-Nov-2024	28 days	2 days	1
				days						
Cyanides : Total Cyanide										
UV-inhibited HDPE - total (sodium hydroxide)										,
Location 3	E333	20-Nov-2024	22-Nov-2024	14	2 days	1	22-Nov-2024	14 days	2 days	1
				days						



nalyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pi	reparation			Analys	sis	
Container / Client Sample ID(s)		camping 2 are	Preparation Date	1	g Times Actual	Eval	Analysis Date		g Times Actual	Eval
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
Location 3	E509	20-Nov-2024	22-Nov-2024	28 days	2 days	1	22-Nov-2024	28 days	2 days	*
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS				1						
HDPE dissolved (nitric acid)										
Location 3	E421	20-Nov-2024	22-Nov-2024	180 days	2 days	1	22-Nov-2024	180 days	2 days	~
rganic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Leve	el)				1					
Amber glass dissolved (sulfuric acid) Location 3	E358-L	20-Nov-2024	21-Nov-2024	28 days	1 days	4	21-Nov-2024	28 days	1 days	1
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustic	n (Low Level)									
Amber glass total (lab preserved) Location 3	E355-L	20-Nov-2024	21-Nov-2024	3 days	1 days	~	21-Nov-2024	28 days	0 days	1
Physical Tests : Alkalinity Species by Titration										
HDPE Location 3	E290	20-Nov-2024	22-Nov-2024	14 days	2 days	~	22-Nov-2024	14 days	2 days	~
Physical Tests : Colour (True) by Spectrometer (5 CU)				uuyo						
HDPE Location 3	E329	20-Nov-2024	22-Nov-2024	3 days	2 days	4	22-Nov-2024	3 days	2 days	1
Physical Tests : Conductivity in Water										
HDPE										
Location 3	E100	20-Nov-2024	22-Nov-2024	28 days	2 days	1	22-Nov-2024	28 days	2 days	~
Physical Tests : pH by Meter										
HDPE Location 3	E108	20-Nov-2024	22-Nov-2024	0.25	38 hrs	*	22-Nov-2024	0.25	43 hrs	*
				hrs		EHTR-FM		hrs		EHTR-F
hysical Tests : TDS by Gravimetry										
HDPE Location 3	E162	20-Nov-2024					21-Nov-2024	7 days	1 days	1



Matrix: Water					Ev	/aluation: × =	Holding time excee	edance ; 🔹	🗸 = Within	Holding Tim
Analyte Group : Analytical Method	Method	Sampling Date	Ext	raction / Pi	reparation			Analys	sis	
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE										
Location 3	E121	20-Nov-2024					22-Nov-2024	3 days	2 days	1
Physical Tests : UV Absorbance and Transmittance by Spectrometry										
HDPE										
Location 3	E404	20-Nov-2024					22-Nov-2024	3 days	2 days	1
Total Metals : Total Mercury in Water by CVAAS										
HDPE - total (lab preserved)										
Location 3	E508	20-Nov-2024	22-Nov-2024	0 hrs	38 hrs	*	22-Nov-2024	0 hrs	38 hrs	*
						UCP				UCP
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE - total (lab preserved)										
Location 3	E420	20-Nov-2024	22-Nov-2024	180	2 days	1	22-Nov-2024	180	2 days	✓
				days				days		
Total Sulfides : Total Sulfide by Colourimetry (Automated Flow)										
HDPE total (zinc acetate+sodium hydroxide)										
Location 3	E395-H	20-Nov-2024					21-Nov-2024	7 days	1 days	1

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).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.



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			on: × = QC freque				
Quality Control Sample Type	Method	00100#	QC	ount Regular	Actual	Frequency (%)	Evaluation
Analytical Methods	Метоа	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Alkalinity Species by Titration	E290	1778435	1	8	12.5	5.0	✓
Bromide in Water by IC (Low Level)	E235.Br-L	1778439	1	8	12.5	5.0	✓
Chloride in Water by IC	E235.Cl	1778438	1	9	11.1	5.0	✓
Colour (True) by Spectrometer (5 CU)	E329	1778443	1	1	100.0	5.0	✓
Conductivity in Water	E100	1778436	1	5	20.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	1778479	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1778107	1	2	50.0	5.0	✓
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1777537	1	1	100.0	5.0	✓
Fluoride in Water by IC	E235.F	1778437	1	9	11.1	5.0	~
Nitrate in Water by IC (Low Level)	E235.NO3-L	1778440	1	8	12.5	5.0	1
Nitrite in Water by IC (Low Level)	E235.NO2-L	1778441	1	8	12.5	5.0	~
pH by Meter	E108	1778434	1	14	7.1	5.0	~
Sulfate in Water by IC	E235.SO4	1778442	1	11	9.0	5.0	1
TDS by Gravimetry	E162	1778085	1	18	5.5	5.0	✓
Total Cyanide	E333	1778955	1	1	100.0	5.0	1
Total Mercury in Water by CVAAS	E508	1778474	1	20	5.0	5.0	 ✓
Total Metals in Water by CRC ICPMS	E420	1777978	1	2	50.0	5.0	<u> </u>
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1777538	1	1	100.0	5.0	1
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1778131	1	1	100.0	5.0	<u> </u>
Turbidity by Nephelometry	E121	1779281	1	20	5.0	5.0	 ✓
UV Absorbance and Transmittance by Spectrometry	E404	1779752	1	1	100.0	5.0	
Laboratory Control Samples (LCS)							-
Alkalinity Species by Titration	E290	1778435	1	8	12.5	5.0	1
Bromide in Water by IC (Low Level)	E235.Br-L	1778439	1	8	12.5	5.0	
Chloride in Water by IC	E235.Cl	1778438	1	9	11.1	5.0	
Colour (True) by Spectrometer (5 CU)	E329	1778443	1	1	100.0	5.0	
Conductivity in Water	E100	1778436	1	5	20.0	5.0	
Dissolved Mercury in Water by CVAAS	E509	1778479	1	20	5.0	5.0	 ✓
Dissolved Metals in Water by CRC ICPMS	E309	1778107	1	20	50.0	5.0	
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1777537	1	1	100.0	5.0	
Fluoride in Water by IC	E235.F	1778437	1	9	11.1	5.0	
Nitrate in Water by IC (Low Level)	E235.F E235.NO3-L	1778440	1	8	12.5	5.0	
Nitrite in Water by IC (Low Level)	E235.NO3-L E235.NO2-L	1778440	1	8	12.5	5.0	
pH by Meter		1778434	1	14	7.1	5.0	<u> </u>
Sulfate in Water by IC	E108	1778434	1	14	9.0	5.0	<u> </u>
TDS by Gravimetry	E235.SO4	1778085	1	11	9.0 5.5	5.0	<u> </u>
	E162 Page 193		· ·	10	5.5	5.0	✓



Matrix: Water		Evaluatio	on: × = QC freque	ency outside spe	ecification; ✓ = 0	QC frequency wit	thin specificatio
Quality Control Sample Type				ount		Frequency (%))
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Control Samples (LCS) - Continued							
Total Cyanide	E333	1778955	1	1	100.0	5.0	1
Total Mercury in Water by CVAAS	E508	1778474	1	20	5.0	5.0	~
Total Metals in Water by CRC ICPMS	E420	1777978	1	2	50.0	5.0	~
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1777538	1	1	100.0	5.0	~
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1778131	1	1	100.0	5.0	~
Turbidity by Nephelometry	E121	1779281	1	20	5.0	5.0	~
UV Absorbance and Transmittance by Spectrometry	E404	1779752	1	1	100.0	5.0	~
Method Blanks (MB)							
Alkalinity Species by Titration	E290	1778435	1	8	12.5	5.0	1
Bromide in Water by IC (Low Level)	E235.Br-L	1778439	1	8	12.5	5.0	
Chloride in Water by IC	E235.Cl	1778438	1	9	11.1	5.0	
Colour (True) by Spectrometer (5 CU)	E329	1778443	1	1	100.0	5.0	<u> </u>
Conductivity in Water	E100	1778436	1	5	20.0	5.0	<u> </u>
Dissolved Mercury in Water by CVAAS	E509	1778479	1	20	5.0	5.0	<u> </u>
Dissolved Metals in Water by CRC ICPMS	E421	1778107	1	2	50.0	5.0	~
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1777537	1	1	100.0	5.0	<u> </u>
Fluoride in Water by IC	E235.F	1778437	1	9	11.1	5.0	
Nitrate in Water by IC (Low Level)	E235.NO3-L	1778440	1	8	12.5	5.0	
Nitrite in Water by IC (Low Level)	E235.NO2-L	1778441	1	8	12.5	5.0	<u> </u>
Sulfate in Water by IC	E235.SO4	1778442	1	11	9.0	5.0	<u> </u>
TDS by Gravimetry	E162	1778085	1	18	5.5	5.0	<u> </u>
Total Cyanide	E333	1778955	1	1	100.0	5.0	 ✓
Total Mercury in Water by CVAAS	E508	1778474	1	20	5.0	5.0	<u> </u>
Total Metals in Water by CRC ICPMS	E420	1777978	1	2	50.0	5.0	<u> </u>
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1777538	1	1	100.0	5.0	 ✓
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1778131	1	1	100.0	5.0	<u> </u>
Turbidity by Nephelometry	E121	1779281	1	20	5.0	5.0	<u> </u>
UV Absorbance and Transmittance by Spectrometry	E404	1779752	1	1	100.0	5.0	1
Matrix Spikes (MS)							_
Bromide in Water by IC (Low Level)	E235.Br-L	1778439	1	8	12.5	5.0	1
Chloride in Water by IC	E235.Cl	1778438	1	9	11.1	5.0	
Dissolved Mercury in Water by CVAAS	E509	1778479	1	20	5.0	5.0	
Dissolved Metals in Water by CRC ICPMS	E421	1778107	1	2	50.0	5.0	
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	1777537	0	1	0.0	5.0	¥
Fluoride in Water by IC	E235.F	1778437	1	9	11.1	5.0	×
Nitrate in Water by IC (Low Level)	E235.NO3-L	1778440	1	8	12.5	5.0	
Nitrite in Water by IC (Low Level)	E235.NO3-L	1778441	1	8	12.5	5.0	
Sulfate in Water by IC	E235.NO2-L	1778442	1	11	9.0	5.0	
Total Cyanide	E233.304	1778955	0	1	0.0	5.0	

Page Work Order	:	8 of 11 FJ2403536
Client Project	:	Tetra Tech Canada Inc. 704-ENW.GENV03704-02, Task 001



Matrix: Water Evaluation: ★ = QC frequency outside specification; ✓ = QC frequency within specification								
Quality Control Sample Type			Co	unt		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation	
Matrix Spikes (MS) - Continued								
Total Mercury in Water by CVAAS	E508	1778474	1	20	5.0	5.0	✓	
Total Metals in Water by CRC ICPMS	E420	1777978	1	2	50.0	5.0	✓	
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	1777538	0	1	0.0	5.0	×	
Total Sulfide by Colourimetry (Automated Flow)	E395-H	1778131	0	1	0.0	5.0	x	



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	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
	ALS Environmental - Vancouver			sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted
				at ambient laboratory temperature (normally 20 \pm 5°C). For high accuracy test results,
	ALS Environmental -			pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	Vancouver	Water	APHA 2130 B (mod)	Turkidia, is measured by the period protection and by measuring the interview of links
rubuity by Nephelometry	E121	Waler	AFHA 2130 B (1100)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
	ALS Environmental -			
	Vancouver			
TDS by Gravimetry	E162	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,
	ALS Environmental -			with gravimetric measurement of the residue.
	Vancouver			
Bromide in Water by IC (Low Level)	E235.Br-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver			
Chloride in Water by IC	E235.Cl	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
	Vancouver	10/-+		
Fluoride in Water by IC	E235.F	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
Nitrite in Water by IC (Low Loval)	Vancouver	Matar	EDA 200 1 (mod)	
Nitrite in Water by IC (Low Level)	E235.NO2-L	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
Nitrate in Water by IC (Low Level)	Vancouver	Water	EPA 300.1 (mod)	
Nitrate in Water by IC (Low Level)	E235.NO3-L	water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
Sulfata in Watar by IC	Vancouver	Water	EDA 200 1 (mod)	
Sulfate in Water by IC	E235.SO4	vvater	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
L	Vancouver			



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Alkalinity Species by Titration	E290 ALS Environmental -	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 under the second secon
	Vancouver			alkalinity values.
Colour (True) by Spectrometer (5 CU)	E329 ALS Environmental -	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
	Vancouver			sample as received (at time of testing), without pH adjustment.
Total Cyanide	E333	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.
	ALS Environmental -			
	Vancouver			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	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 inorganic
	ALS Environmental - Vancouver			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 total carbon (TC) is comprised of IC (which is common),
				this method is more accurate and more reliable than the TOC by subtraction method (i.e. TC minus TIC).
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental -	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion
	Vancouver			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 Sulfide by Colourimetry (Automated Flow)	E395-H	Water	APHA 4500 -S E-Auto-Colorimetry	Sulfide is determined using the gas dialysis automated methlyene blue colourimetric method. Results expressed "as H2S" if reported represent the maximum possible H2S
11000)	ALS Environmental -		L-Auto-Obionmetry	concentration based on the total sulfide concentration in the sample. The H2S
	Vancouver			calculation converts Total Sulphide as (S2-) and reports it as Total Sulphide as (H2S)
UV Absorbance and Transmittance by Spectrometry	E404	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
	ALS Environmental - Vancouver			carried out without pH adjustment.
Total Metals in Water by CRC ICPMS	E420	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
	ALS Environmental - Vancouver			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
Dissolved Metals in Water by CRC ICPMS	E421	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
	ALS Environmental - Vancouver			Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
	ALS Environmental - Vancouver			
Dissolved Mercury in Water by CVAAS	E509	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCI, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by
	ALS Environmental - Vancouver			CVAAS.
Dissolved Hardness (Calculated)	EC100	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
	ALS Environmental -			to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially
	Vancouver			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	Water	APHA 2340B	"Hardness (as CaCO3), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers
	ALS Environmental -			to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially
	Vancouver			calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations. Hardness from total Ca /Mg is normally comparable to Dissolved Hardness in non-turbid waters.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Total Organic Carbon by Combustion	EP355	Water		Preparation for Total Organic Carbon by Combustion
Combustion	ALS Environmental -			
	Vancouver			
Preparation for Dissolved Organic Carbon for Combustion	EP358	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon
	ALS Environmental -			
Disastrad Matela Wetas Filtratian	Vancouver	Matan	APHA 3030B	Meteo completer an filtered (0.45 ym) and another ad with LINO2
Dissolved Metals Water Filtration	EP421	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
	ALS Environmental -			
Dissolved Mercury Water Filtration	Vancouver EP509	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCI.
		, and a		
	ALS Environmental -			
	Vancouver			

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order	FJ2403536	Page	: 1 of 17
Client	: Tetra Tech Canada Inc.	Laboratory	: ALS Environmental - Fort St. John
Contact	: Andrea McMillan	Account Manager	: Brent Mack
Address	: 110, 140 Quarry Park Blvd SE	Address	: 11007 Alaska Road
	Calgary AB Canada T2C 3G3		Fort St. John, British Columbia Canada V1J 6P3
Telephone	:	Telephone	: 778-370-3279
Project	:704-ENW.GENV03704-02, Task 001	Date Samples Received	: 20-Nov-2024 12:45
PO	:	Date Analysis Commenced	: 21-Nov-2024
C-O-C number	: 20-964972	Issue Date	: 22-Nov-2024 16:46
Sampler	: Leroy Wolford		
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
Erika Vanegas	Lab Assistant	Vancouver Metals, Burnaby, British Columbia
Kate Dimitrova	Supervisor - Inorganic	Vancouver Inorganics, Burnaby, British Columbia
Kim Jensen	Department Manager - Metals	Vancouver Metals, Burnaby, British Columbia
Monica Ko	Lab Assistant	Vancouver Inorganics, Burnaby, British Columbia
Owen Cheng		Vancouver Metals, Burnaby, British Columbia
Tracy Harley	Supervisor - Water Quality Instrumentation	Vancouver Inorganics, 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).

ub-Matrix: Water							Labora	atory Duplicate (D	UP) Report		
aboratory 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: 1778085)										
FJ2403536-001	Location 3	Solids, total dissolved [TDS]		E162	20	mg/L	1230	1240	0.727%	20%	
Physical Tests (QC	Lot: 1778434)							11002			
FJ2403536-001	Location 3	рН		E108	0.10	pH units	8.34	8.34	0.00%	4%	
Physical Tests (QC	Lot: 1778435)										
FJ2403536-001	Location 3	Alkalinity, bicarbonate (as CaCO3)		E290	1.0	mg/L	933	934	0.162%	200%	
		Alkalinity, carbonate (as CaCO3)		E290	1.0	mg/L	13.3	14.7	10.1%	200%	
		Alkalinity, hydroxide (as CaCO3)		E290	1.0	mg/L	<1.0	<1.0	0.00%	200%	
		Alkalinity, phenolphthalein (as		E290	1.0	mg/L	6.7	7.4	0.7	Diff <2x LOR	
		CaCO3) Alkalinity, total (as CaCO3)		E290	1.0	mg/L	946	949	0.309%	20%	
Physical Tests (QC	Lot: 1778436)										
=J2403536-001	Location 3	Conductivity		E100	2.0	μS/cm	1890	1890	0.106%	10%	
Physical Tests (QC	Lot: 1778443)										
=J2403536-001	Location 3	Colour, true		E329	5.0	CU	<5.0	<5.0	0	Diff <2x LOR	
Physical Tests (QC	Lot: 1779281)										
FJ2403536-001	Location 3	Turbidity		E121	0.10	NTU	26.0	26.0	0.00%	15%	
Physical Tests (QC	Lot: 1779752)										
FJ2403536-001	Location 3	Absorbance, UV (@ 254nm)		E404	0.0050	AU/cm	0.0830	0.0830	0.00%	20%	
Anions and Nutrien	ts (QC Lot: 1778437)										
FJ2403536-001	Location 3	Fluoride	16984-48-8	E235.F	0.200	mg/L	0.629	0.604	0.025	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1778438)										
FJ2403536-001	Location 3	Chloride	16887-00-6	E235.CI	5.00	mg/L	38.6	37.6	0.92	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1778439)										
FJ2403536-001	Location 3	Bromide	24959-67-9	E235.Br-L	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	
Anions and Nu <u>trien</u>	ts (QC Lot: 1778440)										
FJ2403536-001	Location 3	Nitrate (as N)	14797-55-8	E235.NO3-L	0.0500	mg/L	<0.0500	<0.0500	0	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1778441)										
FJ2403536-001	Location 3	Nitrite (as N)	14797-65-0	E235.NO2-L	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	
Anions and Nutrien	ts (QC Lot: 1778442)										
	Location 3	Sulfate (as SO4)	14808-79-8	E235.SO4	3.00	mg/L	120	117	3.07%	20%	

Page	:	4 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



ub-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
Cyanides (QC Lot: 1	1778955)										
FJ2403536-001	Location 3	Cyanide, strong acid dissociable (Total)		E333	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	
Organic / Inorganic (Carbon (QC Lot: 1777	537)									
FJ2403536-001	Location 3	Carbon, dissolved organic [DOC]		E358-L	0.50	mg/L	4.00	3.67	0.33	Diff <2x LOR	
Organic / Inorganic (Carbon (QC Lot: 1777	538)									
FJ2403536-001	Location 3	Carbon, total organic [TOC]		E355-L	0.50	mg/L	3.74	3.72	0.02	Diff <2x LOR	
Total Sulfides (QC L	_ot: 1778131)										
FJ2403536-001	Location 3	Sulfide, total (as S)	18496-25-8	E395-H	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	
Fotal Metals (QC Lo	ot: 1777978)										
FJ2403536-001	Location 3	Aluminum, total	7429-90-5	E420	0.0060	mg/L	0.165	0.185	11.2%	20%	
		Antimony, total	7440-36-0	E420	0.00020	mg/L	0.00696	0.00715	2.66%	20%	
		Arsenic, total	7440-38-2	E420	0.00020	mg/L	0.0214	0.0216	0.908%	20%	
		Barium, total	7440-39-3	E420	0.00020	mg/L	0.467	0.464	0.795%	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	0.352	0.362	2.69%	20%	
		Cadmium, total	7440-43-9	E420	0.0000100	mg/L	0.000116	0.000119	2.43%	20%	
		Calcium, total	7440-70-2	E420	0.100	mg/L	41.0	42.7	4.11%	20%	
		Cesium, total	7440-46-2	E420	0.000020	mg/L	0.000125	0.000131	0.000007	Diff <2x LOR	
		Chromium, total	7440-47-3	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Cobalt, total	7440-48-4	E420	0.00020	mg/L	0.00190	0.00188	0.00002	Diff <2x LOR	
		Copper, total	7440-50-8	E420	0.00100	mg/L	0.00264	0.00262	0.00003	Diff <2x LOR	
		Iron, total	7439-89-6	E420	0.020	mg/L	3.17	3.21	1.19%	20%	
		Lead, total	7439-92-1	E420	0.000100	mg/L	0.000556	0.000550	0.000006	Diff <2x LOR	
		Lithium, total	7439-93-2	E420	0.0020	mg/L	0.0154	0.0159	0.0004	Diff <2x LOR	
		Magnesium, total	7439-95-4	E420	0.0100	mg/L	36.2	35.8	0.987%	20%	
		Manganese, total	7439-96-5	E420	0.00020	mg/L	0.115	0.116	0.752%	20%	
		Molybdenum, total	7439-98-7	E420	0.000100	mg/L	0.0335	0.0340	1.43%	20%	
		Nickel, total	7440-02-0	E420	0.00100	mg/L	0.0119	0.0119	0.106%	20%	
		Phosphorus, total	7723-14-0	E420	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	
		Potassium, total	7440-09-7	E420	0.100	mg/L	3.39	3.31	2.29%	20%	
		Rubidium, total	7440-17-7	E420	0.00040	mg/L	0.00270	0.00256	0.00014	Diff <2x LOR	
		Selenium, total	7782-49-2	E420	0.000100	mg/L	0.00315	0.00316	0.394%	20%	
		Silicon, total	7440-21-3	E420	0.20	mg/L	4.68	4.44	5.10%	20%	
		Silver, total	7440-22-4	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	
	1	1		Page 202 of 22	22			1	1	1	alsgloba

Page	:	5 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



ub-Matrix: Water							Labora	tory Duplicate (D	UP) Report		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifie
Fotal Metals (QC Lo	ot: 1777978) - continued										
=J2403536-001	Location 3	Sodium, total	7440-23-5	E420	0.100	mg/L	395	385	2.38%	20%	
		Strontium, total	7440-24-6	E420	0.00040	mg/L	0.665	0.674	1.33%	20%	
		Sulfur, total	7704-34-9	E420	1.00	mg/L	48.8	45.1	7.95%	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	0.000028	0.000028	0.0000001	Diff <2x LOR	
		Thorium, total	7440-29-1	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	
		Tin, total	7440-31-5	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	
		Titanium, total	7440-32-6	E420	0.00060	mg/L	0.00554	0.00545	0.00009	Diff <2x LOR	
		Tungsten, total	7440-33-7	E420	0.00020	mg/L	0.00033	0.00031	0.00002	Diff <2x LOR	
		Uranium, total	7440-61-1	E420	0.000020	mg/L	0.00695	0.00693	0.341%	20%	
		Vanadium, total	7440-62-2	E420	0.00100	mg/L	0.00127	0.00135	0.00008	Diff <2x LOR	
		Zinc, total	7440-66-6	E420	0.0060	mg/L	0.0092	0.0090	0.0001	Diff <2x LOR	
		Zirconium, total	7440-67-7	E420	0.00040	mg/L	0.00064	0.00062	0.00002	Diff <2x LOR	
otal Metals (QC Lo	ot: 1778474)										
FJ2403504-007	Anonymous	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	
Dissolved Metals (C	QC Lot: 1778107)										
FJ2403536-001	Location 3	Aluminum, dissolved	7429-90-5	E421	0.0020	mg/L	0.0027	<0.0020	0.0007	Diff <2x LOR	
		Antimony, dissolved	7440-36-0	E421	0.00020	mg/L	0.00671	0.00665	0.953%	20%	
		Arsenic, dissolved	7440-38-2	E421	0.00020	mg/L	0.00623	0.00641	2.96%	20%	
		Barium, dissolved	7440-39-3	E421	0.00020	mg/L	0.418	0.424	1.45%	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	0.329	0.304	7.90%	20%	
		Cadmium, dissolved	7440-43-9	E421	0.0000100	mg/L	0.0000734	0.0000759	0.0000025	Diff <2x LOR	
		Calcium, dissolved	7440-70-2	E421	0.100	mg/L	38.9	38.8	0.244%	20%	
		Cesium, dissolved	7440-46-2	E421	0.000020	mg/L	0.000078	0.000074	0.000004	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	0.00174	0.00173	0.000008	Diff <2x LOR	
		Copper, dissolved	7440-50-8	E421	0.00040	mg/L	0.00055	0.00055	0.0000005	Diff <2x LOR	
		Iron, dissolved	7439-89-6	E421	0.020	mg/L	0.787	0.778	1.09%	20%	
		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	0.0141	0.0138	0.0002	Diff <2x LOR	
		Magnesium, dissolved	7439-95-4	E421	0.0100	mg/L	34.2	34.8	1.82%	20%	

Page	:	6 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



ub-Matrix: Water							Labora	tory Duplicate (D	UP) Report		
aboratory 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: 1778107) - co	ontinued									
=J2403536-001	Location 3	Molybdenum, dissolved	7439-98-7	E421	0.000100	mg/L	0.0304	0.0300	1.08%	20%	
		Nickel, dissolved	7440-02-0	E421	0.00100	mg/L	0.0111	0.0113	1.99%	20%	
		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	3.39	3.42	0.835%	20%	
		Rubidium, dissolved	7440-17-7	E421	0.00040	mg/L	0.00238	0.00244	0.00006	Diff <2x LOR	
		Selenium, dissolved	7782-49-2	E421	0.000100	mg/L	0.00301	0.00306	1.52%	20%	
		Silicon, dissolved	7440-21-3	E421	0.100	mg/L	4.07	4.00	1.73%	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	401	405	0.881%	20%		
	Strontium, dissolved	7440-24-6	E421	0.00040	mg/L	0.598	0.595	0.558%	20%		
	Sulfur, dissolved	7704-34-9	E421	1.00	mg/L	42.8	41.8	2.40%	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	0.000023	0.000021	0.000002	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	0.00030	0.00029	0.000007	Diff <2x LOR	
		Uranium, dissolved	7440-61-1	E421	0.000020	mg/L	0.00624	0.00621	0.481%	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	0.0043	0.0044	0.0001	Diff <2x LOR	
		Zirconium, dissolved	7440-67-7	E421	0.00040	mg/L	0.00041	<0.00040	0.00001	Diff <2x LOR	
issolved Metals(QC Lot: 1778479)										
J2403504-007	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.000050	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.

Analyte	CAS Number Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 1778085)					
Solids, total dissolved [TDS]	E162	10	mg/L	<10	
Physical Tests (QCLot: 1778435)					
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	
hysical Tests (QCLot: 1778436)				1 1	
Conductivity	E100	1	μS/cm	<1.0	
Physical Tests (QCLot: 1778443)					
Colour, true	E329	5	CU	<5.0	
Physical Tests (QCLot: 1779281)				1 1	
Turbidity	E121	0.1	NTU	<0.10	
Physical Tests (QCLot: 1779752)					
Absorbance, UV (@ 254nm)	E404	0.005	AU/cm	<0.0050	
Anions and Nutrients (QCLot: 1778437)				1 1	
Fluoride	16984-48-8 E235.F	0.02	mg/L	<0.020	
nions and Nutrients (QCLot: 1778438)					
Chloride	16887-00-6 E235.Cl	0.5	mg/L	<0.50	
nions and Nutrients (QCLot: 1778439)					
Bromide	24959-67-9 E235.Br-L	0.05	mg/L	<0.050	
nions and Nutrients (QCLot: 1778440)					
Nitrate (as N)	14797-55-8 E235.NO3-L	0.005	mg/L	<0.0050	
nions and Nutrients (QCLot: 1778441)				1 1	
Nitrite (as N)	14797-65-0 E235.NO2-L	0.001	mg/L	<0.0010	
nions and Nutrients (QCLot: 1778442)				1 1	
Sulfate (as SO4)	14808-79-8 E235.SO4	0.3	mg/L	<0.30	
yanides (QCLot: 1778955)					
Cyanide, strong acid dissociable (Total)	E333	0.002	mg/L	<0.0020	
Organic / Inorganic Carbon (QCLot: 17775	37)				
Carbon, dissolved organic [DOC]	E358-L	0.5	mg/L	<0.50	

Page	:	8 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



Sub-Matrix: Water

Independent of the second of the se	nalyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Salide, SQLCbc1 1778131 0.01 mg.L <0.01 Salide, Natal (m. S.) 18406258 [5954] 0.01 mg.L <0.010	Organic / Inorganic Carbon (QCL	ot: 1777538) - continued					
Satiface, total (as. 3) 18466-256 B386-H 0.01 mgL <0.010 Odal Meditac (QCL01: 177778) - 0.003 mgL 4.0.0030 - Animmun, fold 7449.050 E420 0.0001 mgL 4.0.00010 - Animun, fold 7449.850 E420 0.0001 mgL 4.0.00010 - Animun, fold 7449.850 E420 0.0001 mgL 4.0.00010 - Barrin, fold 7449.852 E420 0.00002 mgL 4.0.00020 - Barrin, fold 7440.454 E420 0.0005 mgL 4.0.00050 - Cadmiun, fold 7440.452 E420 0.0005 mgL 4.0.00050 - Cadmiun, fold 7440.452 E420 0.0005 mgL 4.0.00050 - Cadmiun, fold 7440.452 E420 0.0005 mgL 4.0.00050 - Cobart, fold 7440.458 E420 0.001 mgL 4.0.0050 -	Carbon, total organic [TOC]		E355-L	0.5	mg/L	<0.50	
cal Motal CQCL01: 177/9780 420-00 64/0 0.003 mgL 4.0.030 Almmun, total 740-980-5 64/0 0.001 mgL 4.0.030 Antimory, total 740-980-5 64/0 0.0001 mgL 4.0.0010 Barium, total 740-982 64/0 0.0001 mgL 4.0.0010 Barium, total 7440-985 64/0 0.00002 mgL 4.0.00010 Baryllum, total 7440-428 64/0 0.00005 mgL 4.0.00000 Baryllum, total 7440-428 64/0 0.00005 mgL 4.0.00000 Cadmim, total 7440-428 64/0 0.00005 mgL 4.0.00001 Cadmim, total 7440-428 64/0 0.00001 mgL 4.0.00001 Castam, total 7440-442 64/0 0.00001 mgL 4.0.00001 Cobat, total 7440-445 64/0 0.0001 mgL 4.0.00001 Cobat, total 7440-445 64/0 0.0001 mgL 4.0.0001	otal Sulfides (QCLot: 1778131)						
Aurianu, Istal 749-90-5 6420 0.003 mgL 94.0030 Arianony, Istal 7440-360 6420 0.0001 mgL 40.0010 94.00010 Barsenic, Istal 7440-365 6420 0.0001 0.001 mgL 40.00010 94.000002 94.000002 94.000002 94.000002 94.000002 94.000002 94.000002 94.0000020 94.0000002 94.0000002 94.0000002 94.0000002 94.0000002 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.0000005 94.000001 94.0	Sulfide, total (as S)	18496-25-8	E395-H	0.01	mg/L	<0.010	
Artenor, bdal7440-802400.0001mgl.0.000190,000Areasic, bdal7440-352400.00010.0010.0010.00000.00000.000000.000000.000000.000000.000000.000000 </td <td>otal Metals (QCLot: 1777978)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	otal Metals (QCLot: 1777978)						
Arano, total740-838F400.0001mpl,0.0001mpl,0.00010.0001Barlun, total740-038F400.00010.0000mgl,0.000000Berydium, total740-045F400.000000mgl,0.0000000Boron, total740-045F400.00000mgl,0.0000000.000000Cadrum, total740-045F400.00000mgl,0.0000000.0000000Cadrum, total740-045F400.00000mgl,0.00000000.000	Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	
Bardun, totalT44030F4200.0001mgL0.4000101Berylin, totalT440431F4200.00020mgL0.00002mgL0.00000mgL </td <td>Antimony, total</td> <td>7440-36-0</td> <td>E420</td> <td>0.0001</td> <td>mg/L</td> <td><0.00010</td> <td></td>	Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	
Beydium, total7440-19F200.00002mgL4.0000201Bismuth, total7440-49F200.00005mgL4.0000501Cardmun, total7440-42F200.00005mgL4.0000501Cadmin, total7440-42F200.00001mgL4.000011Casim, total7440-42F200.0001mgL4.000011Cosim, total7440-42F200.0001mgL4.000011Cobat, total7440-42F200.0001mgL4.000011Cobat, total7440-43F200.0001mgL4.000011Cobat, total7440-44F200.0001mgL4.000011Cobat, total7440-45F200.0011mgL4.000011Cobat, total7498-46F200.0011mgL4.000011Magnesim, total7498-46F200.0011mgL4.000011Magnesim, total7498-46F200.0011mgL4.000011Magnesim, total7498-46F200.0005mgL4.000011Magnesim, total7498-46F200.0001mgL4.000011Magnesim, total7498-46F200.0005mgL4.000011Magnesim, total7498-46F200.0005mgL4.000011Nickel, total740404F200.0005mgL4.000011	Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	
Binuth, total744049924200.00007mgL4.000080.Boron, total744042824200.01mgL4.00080Cadinut, notal744042824200.0001mgL4.000800Calcium, total744044224200.0001mgL4.000800Cobin, total744044224200.0005mgL4.000800Cobin, total744044224200.0005mgL4.000800Cobin, total744044224200.0005mgLCobin, total744044224200.0005mgLCobin, total743945424200.0005mgLIthm, total743945424200.0005mgLMagnetin, total743945424200.0005mgL	Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	
Bron, tail 7440428 820 0.01 mgL 0.000050 mgL 0.000050 0.000050 mgL 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.000050 0.00001 0.000010 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000000 $0.00000000000000000000000000000000000$	Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	
Addition, totalAdd-404Red 0.000005 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.0000000 0.0000000 0.0000000 0.0000000 0.0000000 0.00000000 $0.00000000000000000000000000000000000$	Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	
Calcium, total7440-02E4200.05mg.L<.0.0501Cestum, total7440-42E4200.00001mg.L0.0000100.000000Cobat, total7440-43E4200.00001mg.L0.0000000.0000000.000000Copper, total7440-44E4200.0001mg.L0.000000mg.L0.0000000.0000000.0000000.0000000.00000000.00000000.00000000.00000000.00000000.00000000.00000000.00000000.00000000.00000000.00000000.00000000.00000000.000000000.00000000.00000000.000000000.000000000.0000000000.0000000000000.0000000000000.00000000000000.0000000000000000.00000000000000000000000000000000000	Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	
Casim Table Table <th< td=""><td>Cadmium, total</td><td>7440-43-9</td><td>E420</td><td>0.000005</td><td>mg/L</td><td><0.000050</td><td></td></th<>	Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.000050	
Chromium, tetal 7440473 E420 0.0005 mgl.	Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	
Cobalt, Colat, Cobalt, Colat, Colat, Cobalt, Colat, Cobalt, Colat, Cobalt, Colat, Cobalt, Cobal	Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	
Coper, total 7440508 840 0.0005 mg/r 6.000500 iron, total 7439849 640 0.01 mg/r <0.00050	Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	
Induct Transmitter Transmitter <t< td=""><td>Cobalt, total</td><td>7440-48-4</td><td>E420</td><td>0.0001</td><td>mg/L</td><td><0.00010</td><td></td></t<>	Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	
Lead, total 7439-92 E420 0.00005 mgl. <0.00050 Lithium, total 7439-92 E420 0.001 mgl. <0.0010	Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	
Lihum, total 7439-32 840 0.001 mg/. <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.0010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <0.00010 <td>Iron, total</td> <td>7439-89-6</td> <td>E420</td> <td>0.01</td> <td>mg/L</td> <td><0.010</td> <td></td>	Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	
Ange Ange <th< td=""><td>Lead, total</td><td>7439-92-1</td><td>E420</td><td>0.00005</td><td>mg/L</td><td><0.000050</td><td></td></th<>	Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	
Maganese, total Table Magnese, total <thtotal< th=""> Table Magnes, total</thtotal<>	Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	
Molyberum, total 7439-98-7 420 0.00005 mg/L <0.00050 mg/L <0.00020	Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	
Nickel, total 7440-02 Ed0 0.0005 mg/L 0.00050 mg/L 0.00050 0.0	Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	
Phosphorus, total 7723.140 E420 0.05 mg/L <0.050 mg/L <0.00020 mg/L	Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	
Potassium total T440-097 E420 0.05 mg/L <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0	Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	
Rubidium, total T440-177 E420 0.0002 mg/L <0.00020 Selenium, total 7782-492 E420 0.00055 mg/L <0.00050	Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	
Selenium, total 7782-492 E420 0.000050 mg/L <0.000050 Silicon, total 7440-213 E420 0.1 mg/L <0.000010	Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	
Silicon, total T440-21-3 E420 0.1 mg/L <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10 <0.10	Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	
Silver, total 7440-224 E420 0.00001 mg/L <0.000010 Sodium, total 7440-235 E420 0.05 mg/L <0.0500	Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	
Sodium, total 7440-23-5 E420 0.05 mg/L <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.	Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	
Strontium, total 7440-246 E420 0.0002 mg/L <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <0.00020 <	Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	
Sulfur, total 7704-349 E420 0.5 mg/L <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50	Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	
Tellurium, total 13494-80-9 E420 0.0002 mg/L <0.00020 -	Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	
Tellurium, total 13494-80-9 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	-	<0.00020	
	Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	

Page	:	9 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



Sub-Matrix: Water

Analyte	CAS Number	r Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1777978) - c	ontinued					
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	
Total Metals (QCLot: 1778474)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.000050	
Dissolved Metals (QCLot: 1778107	7)					
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	<0.000050	
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	

Page :	10 of 17
Work Order :	FJ2403536
Client :	Tetra Tech Canada Inc.
Project :	704-ENW.GENV03704-02, Task 001



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1778107) -	continued					
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: 1778479)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.000050	



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: 1778085)									
Solids, total dissolved [TDS]		E162	10	mg/L	1000 mg/L	107	85.0	115	
Physical Tests (QCLot: 1778434)									
pH		E108		pH units	7 pH units	100	98.0	102	
Physical Tests (QCLot: 1778435)									
Alkalinity, phenolphthalein (as CaCO3)		E290	1	mg/L	229 mg/L	124	75.0	125	
Alkalinity, total (as CaCO3)		E290	1	mg/L	500 mg/L	104	85.0	115	
Physical Tests (QCLot: 1778436)									
Conductivity		E100	1	µS/cm	147 µS/cm	99.4	90.0	110	
Physical Tests (QCLot: 1778443)									
Colour, true		E329	5	CU	100 CU	104	85.0	115	
Physical Tests (QCLot: 1779281)									
Turbidity		E121	0.1	NTU	200 NTU	99.5	85.0	115	
Physical Tests (QCLot: 1779752)									
Absorbance, UV (@ 254nm)		E404	0.005	AU/cm	0.693 AU/cm	93.8	85.0	115	
Transmittance, UV (@ 254nm)		E404		% T/cm	20.3 % T/cm	110	85.0	115	
Anions and Nutrients (QCLot: 1778437)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	97.9	90.0	110	
Anions and Nutrients (QCLot: 1778438)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.2	90.0	110	
Anions and Nutrients (QCLot: 1778439)									
Bromide	24959-67-9	E235.Br-L	0.05	mg/L	0.5 mg/L	104	85.0	115	
Anions and Nutrients (QCLot: 1778440)									
Nitrate (as N)	14797-55-8	E235.NO3-L	0.005	mg/L	2.5 mg/L	97.9	90.0	110	
Anions and Nutrients (QCLot: 1778441)									
Nitrite (as N)	14797-65-0	E235.NO2-L	0.001	mg/L	0.5 mg/L	97.7	90.0	110	
Anions and Nutrients (QCLot: 1778442)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.1	90.0	110	
Cyanides (QCLot: 1778955)									
Cyanide, strong acid dissociable (Total)		E333	0.002	mg/L	0.25 mg/L	97.1	80.0	120	

Page	:	12 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



Sub-Matrix: Water	Laboratory Control Sample (LCS) Report									
				Spike	Spike Recovery (%) Recovery Limits (%)					
Analyte	CAS Number Metho	l LOR	Unit	Target Concentration	LCS	Low	High	Qualifier		
Organic / Inorganic Carbon (QCLot: 1777	(537)					2-121				
Carbon, dissolved organic [DOC]	E358-L	0.5	mg/L	8.57 mg/L	99.6	80.0	120			
Organic / Inorganic Carbon (QCLot: 1777	(538)									
Carbon, total organic [TOC]	E355-L	0.5	mg/L	8.57 mg/L	99.8	80.0	120			
Total Sulfides (QCLot: 1778131)										
Sulfide, total (as H2S)	7783-06-4 E395-H	l	mg/L	0.085 mg/L	93.8	80.0	120			
Sulfide, total (as S)	18496-25-8 E395-H	i 0.01	mg/L	0.08 mg/L	94.4	80.0	120			
Total Metals (QCLot: 1777978)										
Aluminum, total	7429-90-5 E420	0.003	mg/L	2 mg/L	106	80.0	120			
Antimony, total	7440-36-0 E420	0.0001	mg/L	1 mg/L	101	80.0	120			
Arsenic, total	7440-38-2 E420	0.0001	mg/L	1 mg/L	106	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	104	80.0	120			
Bismuth, total	7440-69-9 E420	0.00005	mg/L	1 mg/L	105	80.0	120			
Boron, total	7440-42-8 E420	0.01	mg/L	1 mg/L	101	80.0	120			
Cadmium, total	7440-43-9 E420	0.000005	mg/L	0.1 mg/L	102	80.0	120			
Calcium, total	7440-70-2 E420	0.05	mg/L	50 mg/L	102	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	103	80.0	120			
Copper, total	7440-50-8 E420	0.0005	mg/L	0.25 mg/L	103	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	107	80.0	120			
Lithium, total	7439-93-2 E420	0.001	mg/L	0.25 mg/L	104	80.0	120			
Magnesium, total	7439-95-4 E420	0.005	mg/L	50 mg/L	103	80.0	120			
Manganese, total	7439-96-5 E420	0.0001	mg/L	0.25 mg/L	103	80.0	120			
Molybdenum, total	7439-98-7 E420	0.00005	mg/L	0.25 mg/L	104	80.0	120			
Nickel, total	7440-02-0 E420	0.0005	mg/L	0.5 mg/L	103	80.0	120			
Phosphorus, total	7723-14-0 E420	0.05	mg/L	10 mg/L	116	80.0	120			
Potassium, total	7440-09-7 E420	0.05	mg/L	50 mg/L	104	80.0	120			
Rubidium, total	7440-17-7 E420	0.0002	mg/L	0.1 mg/L	104	80.0	120			
Selenium, total	7782-49-2 E420	0.00005	mg/L	1 mg/L	105	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	100	80.0	120			
Sodium, total	7440-23-5 E420	0.05	mg/L	50 mg/L	104	80.0	120			

Page	:	13 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



Sub-Matrix: Water						Laboratory Co	ntrol Sample (LCS)	Report		
					Spike Recovery (%) Recovery Limits (%)					
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
Total Metals (QCLot: 1777978) - continued										
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.25 mg/L	106	80.0	120		
Sulfur, total	7704-34-9	E420	0.5	mg/L	50 mg/L	106	80.0	120		
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.1 mg/L	107	80.0	120		
Thallium, total	7440-28-0	E420	0.00001	mg/L	1 mg/L	106	80.0	120		
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.1 mg/L	108	80.0	120		
Tin, total	7440-31-5	E420	0.0001	mg/L	0.5 mg/L	102	80.0	120		
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.25 mg/L	102	80.0	120		
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.1 mg/L	106	80.0	120		
Uranium, total	7440-61-1	E420	0.00001	mg/L	0.005 mg/L	112	80.0	120		
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.5 mg/L	105	80.0	120		
Zinc, total	7440-66-6	E420	0.003	mg/L	0.5 mg/L	104	80.0	120		
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.1 mg/L	104	80.0	120		
Total Metals (QCLot: 1778474)										
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	94.8	80.0	120		
Dissolved Metals (QCLot: 1778107)										
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	2 mg/L	99.5	80.0	120		
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	1 mg/L	96.0	80.0	120		
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	1 mg/L	106	80.0	120		
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.25 mg/L	101	80.0	120		
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.1 mg/L	96.5	80.0	120		
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	1 mg/L	99.8	80.0	120		
Boron, dissolved	7440-42-8	E421	0.01	mg/L	1 mg/L	93.3	80.0	120		
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.1 mg/L	104	80.0	120		
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	50 mg/L	96.6	80.0	120		
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.05 mg/L	94.0	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		0.0001	mg/L	0.25 mg/L	98.7	80.0	120		
Copper, dissolved	7440-50-8		0.0002	mg/L	0.25 mg/L	99.0	80.0	120		
Iron, dissolved	7439-89-6		0.01	mg/L	1 mg/L	101	80.0	120		
Lead, dissolved	7439-92-1		0.00005	mg/L	0.5 mg/L	103	80.0	120		
Lithium, dissolved	7439-93-2		0.001	mg/L	0.25 mg/L	95.4	80.0	120		
Magnesium, dissolved	7439-95-4		0.005	mg/L	50 mg/L	99.8	80.0	120		
Maganese, dissolved	7439-96-5		0.0001	mg/L	0.25 mg/L	100	80.0	120		
Molybdenum, dissolved	7439-98-7		0.00005	mg/L	0.25 mg/L	95.0	80.0	120		
Nickel, dissolved	7440-02-0		0.0005	mg/L	0.5 mg/L	97.9	80.0	120		
	7		0.0000	ing, c	0.0 mg/L	01.0	00.0	120		

Page	:	14 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



Sub-Matrix: Water	Laboratory Control Sample (LCS) Report								
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number Me	ethod	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1778107) -	continued								
Phosphorus, dissolved	7723-14-0 E4	21	0.05	mg/L	10 mg/L	104	80.0	120	
Potassium, dissolved	7440-09-7 E4	21	0.05	mg/L	50 mg/L	99.9	80.0	120	
Rubidium, dissolved	7440-17-7 E4	21	0.0002	mg/L	0.1 mg/L	103	80.0	120	
Selenium, dissolved	7782-49-2 E4	21	0.00005	mg/L	1 mg/L	102	80.0	120	
Silicon, dissolved	7440-21-3 E4	21	0.05	mg/L	10 mg/L	107	80.0	120	
Silver, dissolved	7440-22-4 E4	21	0.00001	mg/L	0.1 mg/L	88.2	80.0	120	
Sodium, dissolved	7440-23-5 E4	21	0.05	mg/L	50 mg/L	104	80.0	120	
Strontium, dissolved	7440-24-6 E4	21	0.0002	mg/L	0.25 mg/L	96.4	80.0	120	
Sulfur, dissolved	7704-34-9 E4	21	0.5	mg/L	50 mg/L	95.6	80.0	120	
Tellurium, dissolved	13494-80-9 E4	21	0.0002	mg/L	0.1 mg/L	94.9	80.0	120	
Thallium, dissolved	7440-28-0 E4	21	0.00001	mg/L	1 mg/L	99.1	80.0	120	
Thorium, dissolved	7440-29-1 E4	21	0.0001	mg/L	0.1 mg/L	100	80.0	120	
Tin, dissolved	7440-31-5 E4	21	0.0001	mg/L	0.5 mg/L	96.4	80.0	120	
Titanium, dissolved	7440-32-6 E4	21	0.0003	mg/L	0.25 mg/L	99.7	80.0	120	
Tungsten, dissolved	7440-33-7 E4	21	0.0001	mg/L	0.1 mg/L	102	80.0	120	
Uranium, dissolved	7440-61-1 E4	21	0.00001	mg/L	0.005 mg/L	97.3	80.0	120	
Vanadium, dissolved	7440-62-2 E4	21	0.0005	mg/L	0.5 mg/L	103	80.0	120	
Zinc, dissolved	7440-66-6 E4	21	0.001	mg/L	0.5 mg/L	102	80.0	120	
Zirconium, dissolved	7440-67-7 E4	21	0.0002	mg/L	0.1 mg/L	90.7	80.0	120	
Mercury, dissolved	7439-97-6 E5	509	0.000005	mg/L	0 mg/L	93.9	80.0	120	



Matrix Spike (MS) Report

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

ub-Matrix: Water		· · · ·	-	Matrix Spike (MS) Report									
					Spi	ke	Recovery (%)	Recovery	Limits (%)				
aboratory sample I	ID Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifie			
nions and Nutr	rients (QCLot: 17784	37)											
VA24D1699-001	Anonymous	Fluoride	16984-48-8	E235.F	1.05 mg/L	1 mg/L	105	75.0	125				
nions and Nuti	rients (QCLot: 17784	38)											
VA24D1699-001	Anonymous	Chloride	16887-00-6	E235.Cl	106 mg/L	100 mg/L	106	75.0	125				
nions and Nuti	rients (QCLot: 17784	39)											
/A24D1699-001	Anonymous	Bromide	24959-67-9	E235.Br-L	0.549 mg/L	0.5 mg/L	110	75.0	125				
nions and Nutr	rients (QCLot: 17784	40)											
VA24D1699-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3-L	2.58 mg/L	2.5 mg/L	103	75.0	125				
nions and <u>Nutr</u>	rients (QCLot: 17784					-			I				
VA24D1699-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2-L	0.520 mg/L	0.5 mg/L	104	75.0	125				
	rients (QCLot: 17784					<u>.</u>				1			
VA24D1699-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	103 mg/L	100 mg/L	103	75.0	125				
	CLot: 1777978)	Ounate (as 004)	14000-73-0	L200.004	100 mg/L	100 mg/L	100	10.0	125				
VA24D1615-001	Anonymous	Aluminum, total	7429-90-5	E420	0.179 mg/L	0.2 mg/L	89.4	70.0	130				
		Antimony, total	7440-36-0	E420	0.0183 mg/L	0.02 mg/L	91.4	70.0	130				
		Arsenic, total	7440-38-2	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130				
		Barium, total	7440-39-3	E420	0.0192 mg/L	0.02 mg/L	95.8	70.0	130				
		Beryllium, total	7440-41-7	E420	0.0395 mg/L	0.04 mg/L	98.8	70.0	130				
		Bismuth, total	7440-69-9	E420	0.00954 mg/L	0.01 mg/L	95.4	70.0	130				
		Boron, total	7440-42-8	E420	0.097 mg/L	0.1 mg/L	96.8	70.0	130				
		Cadmium, total	7440-43-9	E420	0.00399 mg/L	0.004 mg/L	99.8	70.0	130				
		Calcium, total	7440-70-2	E420	3.87 mg/L	4 mg/L	96.7	70.0	130				
		Cesium, total	7440-46-2	E420	0.00993 mg/L	0.01 mg/L	99.3	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	0.0194 mg/L	0.02 mg/L	96.9	70.0	130				
		Copper, total	7440-50-8	E420	0.0194 mg/L	0.02 mg/L	96.8	70.0	130				
		Iron, total	7439-89-6	E420	1.95 mg/L	2 mg/L	97.4	70.0	130				
		Lead, total	7439-92-1	E420	0.0195 mg/L	0.02 mg/L	97.4	70.0	130				
		Lithium, total	7439-93-2	E420	0.0973 mg/L	0.1 mg/L	97.3	70.0	130				
		Magnesium, total	7439-95-4	E420	0.954 mg/L	1 mg/L	95.4	70.0	130				
		Manganese, total	7439-96-5	E420	0.0190 mg/L	0.02 mg/L	95.0	70.0	130				
		Molybdenum, total	7439-98-7	E420	0.0191 mg/L	0.02 mg/L	95.4	70.0	130				
		Nickel, total	7440-02-0	E420	0.0385 mg/L	0.04 mg/L	96.2	70.0	130				
		Phosphorus, total	7723-14-0	E420	9.69 mg/L	10 mg/L	96.9	70.0	130				
			· •			•				1			
		Potassium, total	7440-09-7	E420	3.83 ma/L	4 ma/L	95.8	70.0	130				
		Potassium, total Rubidium, total	7440-09-7 7440-17-7	E420 E420	3.83 mg/L 0.0191 mg/L	4 mg/L 0.02 mg/L	95.8 95.6	70.0 70.0	130 130				

Page	:	16 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



Matrix Spike (MS) Report Sub-Matrix: Water Recovery (%) Recovery Limits (%) Spike Laboratory sample ID Client sample ID Analyte **CAS Number** Method Concentration Target MS Low High Qualifier Total Metals (QCLot: 1777978) - continued VA24D1615-001 Silicon, total 7440-21-3 E420 Anonymous 9.42 mg/L 10 mg/L 94.2 70.0 130 ----E420 Silver, total 7440-22-4 0.00392 mg/L 0.004 mg/L 98.1 70.0 130 ----Sodium, total 7440-23-5 E420 ND mg/L ND 70.0 130 --------Strontium, total E420 7440-24-6 0.0202 mg/L 0.02 mg/L 101 70.0 130 ----Sulfur, total E420 94.3 7704-34-9 18.9 mg/L 20 mg/L 70.0 130 ----0.0406 mg/L Tellurium, total 13494-80-9 E420 0.04 mg/L 101 70.0 130 ----Thallium, total 7440-28-0 E420 0.00380 mg/L 0.004 mg/L 94.9 70.0 130 ----Thorium, total 7440-29-1 E420 0.0195 ma/L 0.02 ma/L 97.6 70.0 130 ----Tin. total 7440-31-5 E420 0.0189 ma/L 0.02 mg/L 94.3 70.0 130 Titanium. total 7440-32-6 E420 0.0381 mg/L 0.04 mg/L 70.0 95.2 130 Tungsten, total 7440-33-7 E420 0.0187 mg/L 0.02 mg/L 93.5 70.0 130 ----0.004 mg/L Uranium, total 7440-61-1 E420 0.00390 mg/L 97.4 70.0 130 ----Vanadium, total 7440-62-2 E420 0.0963 mg/L 0.1 mg/L 96.3 70.0 130 Zinc. total E420 7440-66-6 0.391 mg/L 0.4 mg/L 97.7 70.0 130 ----Zirconium, total 7440-67-7 E420 0.0380 mg/L 0.04 mg/L 94.9 70.0 130 ----Total Metals (QCLot: 1778474) FJ2403504-008 Anonymous Mercury, total 7439-97-6 E508 0.0000966 mg/L 0 mg/L 96.6 70.0 130 ----Dissolved Metals (QCLot: 1778107) FJ2403537-001 Anonymous Aluminum, dissolved 7429-90-5 E421 0.189 mg/L 0.2 mg/L 94.6 70.0 130 ----7440-36-0 E421 Antimony, dissolved 0.0190 mg/L 0.02 mg/L 95.1 70.0 130 ----Arsenic, dissolved 7440-38-2 E421 0.0204 mg/L 0.02 mg/L 130 102 70.0 ----Barium, dissolved 7440-39-3 E421 ND mg/L ----ND 70.0 130 ----Beryllium, dissolved 7440-41-7 E421 0.0380 mg/L 0.04 mg/L 95.1 70.0 130 ----Bismuth, dissolved 7440-69-9 E421 0.00920 mg/L 0.01 mg/L 92.0 70.0 130 ----Boron, dissolved 7440-42-8 E421 0.093 mg/L 92.6 70.0 130 0.1 mg/L Cadmium, dissolved 7440-43-9 E421 0.00399 ma/L 0.004 ma/L 99.8 70.0 130 ----Calcium, dissolved 7440-70-2 E421 ND ma/L ND 130 ----70.0 ----Cesium, dissolved E421 7440-46-2 0.00963 mg/L 0.01 mg/L 96.3 70.0 130 Chromium, dissolved 7440-47-3 E421 0.0388 mg/L 0.04 mg/L 97.1 70.0 130 ----Cobalt, dissolved 7440-48-4 F421 0.0193 mg/L 70.0 0.02 mg/L 96.6 130 ----Copper, dissolved 7440-50-8 E421 0.0191 mg/L 0.02 mg/L 95.5 70.0 130 ----Iron, dissolved 7439-89-6 E421 1.91 mg/L 2 mg/L 95.3 70.0 130 ----Lead, dissolved 7439-92-1 E421 0.0190 mg/L 0.02 mg/L 70.0 95.2 130 Lithium, dissolved 7439-93-2 E421 0.0947 mg/L 0.1 mg/L 94 7 70.0 130 Magnesium, dissolved 7439-95-4 E421 ND mg/L ND 70.0 130 --------Manganese, dissolved 7439-96-5 E421 0.0192 ma/L 96.0 130 0.02 ma/L 70.0 ----E421 0.0192 mg/L Molybdenum, dissolved 7439-98-7 0.02 mg/L 96.1 70.0 130 ----Nickel, dissolved E421 0.0379 mg/L 7440-02-0 0.04 mg/L 94.9 70.0 130 ----Phosphorus, dissolved 7723-14-0 F421 9.80 mg/L 10 mg/L 98.0 70.0 130 ----Potassium, dissolved 7440-09-7 E421 3.90 mg/L 4 mg/L 97.4 70.0 130 ----Rubidium, dissolved 7440-17-7 E421 0.0198 mg/L 0.02 mg/L 98.8 70.0 130 ----Selenium, dissolved 7782-49-2 E421 0.0399 ma/L 0.04 mg/L 99.7 70.0 130 Silicon, dissolved 7440-21-3 E421 9.02 mg/L 10 mg/L 90.2 70.0 130

Page	:	17 of 17
Work Order	:	FJ2403536
Client	:	Tetra Tech Canada Inc.
Project	:	704-ENW.GENV03704-02, Task 001



Sub-Matrix: Water					Matrix Spike (MS) Report						
					Spi	ke	Recovery (%)	Recovery	Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier	
Dissolved Metals	(QCLot: 1778107) - c	continued									
FJ2403537-001	Anonymous	Silver, dissolved	7440-22-4	E421	0.00385 mg/L	0.004 mg/L	96.3	70.0	130		
		Sodium, dissolved	7440-23-5	E421	2.04 mg/L	2 mg/L	102	70.0	130		
		Strontium, dissolved	7440-24-6	E421	ND mg/L		ND	70.0	130		
		Sulfur, dissolved	7704-34-9	E421	19.4 mg/L	20 mg/L	97.1	70.0	130		
		Tellurium, dissolved	13494-80-9	E421	0.0394 mg/L	0.04 mg/L	98.4	70.0	130		
		Thallium, dissolved	7440-28-0	E421	0.00370 mg/L	0.004 mg/L	92.4	70.0	130		
		Thorium, dissolved	7440-29-1	E421	0.0198 mg/L	0.02 mg/L	99.1	70.0	130		
		Tin, dissolved	7440-31-5	E421	0.0192 mg/L	0.02 mg/L	96.3	70.0	130		
		Titanium, dissolved	7440-32-6	E421	0.0395 mg/L	0.04 mg/L	98.8	70.0	130		
		Tungsten, dissolved	7440-33-7	E421	0.0190 mg/L	0.02 mg/L	95.3	70.0	130		
		Uranium, dissolved	7440-61-1	E421	0.00365 mg/L	0.004 mg/L	91.2	70.0	130		
		Vanadium, dissolved	7440-62-2	E421	0.0984 mg/L	0.1 mg/L	98.4	70.0	130		
		Zinc, dissolved	7440-66-6	E421	0.392 mg/L	0.4 mg/L	98.0	70.0	130		
		Zirconium, dissolved	7440-67-7	E421	0.0380 mg/L	0.04 mg/L	95.1	70.0	130		
bissolved Metals	(QCLot: 1778479)										
FJ2403524-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000946 mg/L	0 mg/L	94.6	70.0	130		

Impact for Total Control of a control of	ALS	FJAE Shipping & R Call Out Expe Prior # of Coolers Air # of Carboys Grou	dite ity	f Custody (CO Canada Toll	C) / Analytic Free: 1 800 66		Form						co	C Nun	nber: Pa		E	Enviro	72	ital Di	visio	on
Controls: If PT/A. If 2/A. Les A control A for a control and the product of the p	Report To	contact and company here below will ap	pear on the intar report	Reports / I	Recipients		1		Tu	rnarou	ind Ti	me (T	AT) Re	quest	ed	_	-					
Proces Convex field to convert Rept of weak and two the water in the water in the water in the rept of t	Company:	Tetra Tech Conada Inc	Select Report F	format: D PDF	D EXCEL	EDD (DIGITAL)		outine (F	R] if rece	ived by	3pm M	N-F- n	o surch	arges a	pply	-		F	101	NOC		
Company_set balance balance Base 1 for family Base 1 for family<																		10	241	530	0.00	,
Bitter: Entil 10 F Bit: Entil 10 F Bit: <td>11.</td> <td>Company address below will appear on the fin</td> <td></td> <td>ALC D</td> <td>O MI</td> <td>-</td> <td>11</td>	11.	Company address below will appear on the fin																	ALC D	O MI	-	11
ClupProtocol Enul 2 Dreage 1000 model of	Street:		Email 1 or Eax				1-						110.000		and a second				86 B/	1.1		
Number 0 Same as Recent 0 0 Mining Receiptors Available	City/Province:							av apply	torushr	equests	OU MEE	skends,	statuto	y holiday	is and no	an-rol			i Y B	SHA.	7	
Corput of unclear with Report US No Benefit of Ros Corput of Us Note (Find and Corput of Ros Corput of Ros <th< td=""><td>Postal Code:</td><td></td><td>Email 3</td><td></td><td></td><td></td><td></td><td>Date an</td><td>nd Time</td><td>Require</td><td>ed for</td><td>all E&F</td><td>TATS</td><td></td><td></td><td></td><td></td><td></td><td>132.7</td><td>MAG</td><td>8 III</td><td>11</td></th<>	Postal Code:		Email 3					Date an	nd Time	Require	ed for	all E&F	TATS						132.7	MAG	8 III	11
Company: Dist note Dist note <thdis note<="" th=""> <thdis note<="" th=""> <thdis< td=""><td>Invoice To</td><td>Same as Report To</td><td>□ NO</td><td>Invoice R</td><td>tecipients</td><td></td><td></td><td></td><td></td><td>For</td><td>ali test</td><td>ts with r</td><td>ush TA'</td><td>Ts reque</td><td>sted, plos</td><td>asé c</td><td></td><td></td><td>O SOLD</td><td>um II. ()</td><td>- 11</td><td>11</td></thdis<></thdis></thdis>	Invoice To	Same as Report To	□ NO	Invoice R	tecipients					For	ali test	ts with r	ush TA'	Ts reque	sted, plos	asé c			O SOLD	um II. ()	- 11	11
Company: Tath Canada Emil 1 of fix: Company: Tath Canada Point	1 4 3	Copy of Invoice with Report 🔲 YES	NO Select Invoice D	Distribution:	MAIL 🗍 MAIL	FAX				-	-	-	_	An	alysis	Re	Tel	ephone :	+1 250	261 5517		
Contract Email 2 United Sector Project Information Offend Sector Project Information Project I	Company:	Tetra Tech Canada Inc	Email 1 or Fax				S		-	Indicate	Filter	ed (F),	Presen	ed (P)	or Filtere	d and Pri	eservear	F/P) DEICH				
LSD Loadion: ALS Lab Work Order # (ALS use only): ALS Contact: Sample: : Sample: ::	Contact:		Email 2	1			1 L			1									TT	-	E E	ote
LSD Loadion: ALS Lab Work Order # (ALS use only): ALS Contact: Sample: : Sample: ::				Oil and Gas Require	d Fields (client	use)	N N														B	eu
LSD Loadion: ALS Lab Work Order # (ALS use only): ALS Contact: Sample: : Sample: ::			AFE/Cost Center:		PO#		E													19	1 2 2	(se
LSD Loadion: ALS Lab Work Order # (ALS use only): ALS Contact: Sample: : Sample: ::	Job#: VA	24-EBAE 100-013	Major/Minor Code:		Routing Code:		18												1.1	19	B	8
ALS Lab Work Order # (ALS use only): ALS Contact: Sample: Hard	PO / AFE:		Requisitioner:																	1 ÷	RA	ZA
ALS Lab Work Order # (ALS use only): ALS Contact: Sample: Hard	LSD:		Location:				18												1 1		12	HA
Cyanides 20-il-2024 II:35 I I IIII IIIIII General /TSSTDD Routine 20-il-2024 II:35 I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	ALS Lab Wor	k Order # (ALS use only):	ALS Contact:		Sampler:						0	0	0							ш		CTED
Cyanides 20-il-2024 II:35 I I IIII IIIIII General /TSSTDD Routine 20-il-2024 II:35 I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII						Sample Type	NN	2		4	F	FI	1	A						AM	XTEN	INSPE
General /TSS/TDS Rowhne 20-II-2024 II:35 I <thi< th=""> I <thi< th=""></thi<></thi<>	1. 1		appear on the reporty			-	-	1		-		-		-		-	-		+-+	- 0	m	0
Metals + Mercury Q -U-2024 II:40 Q Q II:40 Q Q II:40	27-1-1-1-1-1		1 -				-	1		-	-	-	-	-			-	_	++	-	-	-
Methone, Ethane, Ethane QO-N-2024 II:45 Q Q III IIII NUT/Doc/DKN/TDN/TDP/DNH3 20-II-2024 II:30 IIIII IIIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	£	General /1 32/103 Rol	Mane	- North Contraction of the International Contractional Contractionactional Contractional Contractional Contractionactional Contr			-		1	-		_	_				_	_		_		-
N#T Doc/ DKN/TDN/TDP/DNH3 10 11 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></th1<>		Metals + Mercury			11:40	1		-		2	÷	-										1
N#T Doc/ DKN/TDN/TDP/DNH3 10 11 1 <th1< th=""> <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></th1<>		Methane, Ethane, Eth	hene	20-11-2024	11:45			1.21			2											
NVT/TOC/LOD/TMA/TTN/TTP/NH3/PHEN 20:11-2024 14:35 4 </td <td>1 1 1 1</td> <td>NUT/DOC/DKN/TDN/</td> <td>TDP/DNH3</td> <td>19-11-2024</td> <td>11:50</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td>	1 1 1 1	NUT/DOC/DKN/TDN/	TDP/DNH3	19-11-2024	11:50							1										1
SUlf-de-Total 20-H-2024 12.09 1 <td></td> <td></td> <td></td> <td>and the second se</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>1</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td>+</td>				and the second se								-	1				-				-	+
Image: State of the samples is client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT OF TARLS (ALS use only) Prinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT OF TARLS (ALS use only) Prinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) Color of the			/ IN / I FE WAST FUED			-	-	-	-	-	-	-				-	-	-	+ +		-	+
Drinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT DETAILS (ALS use only) Drinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT DETAILS (ALS use only) Are samples taken from a Regulated DW System? YES NO YES NO Are samples for human consumption/ use? Submission Comments identified on Sample Receipt Notification YES YES NO SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (ALS use only) FINAL SOURCE REMPERATURES 'C Released by: Date: Time: Released by: Date: Time: Released by: Date: Time: Released by: Date: Time:	Sectard Sector	SUIFINC TOTAL		2011-000	10,00	-	-	-	-	-	-	-		1		-	-	-	-		-	+
Drinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT DETAILS (ALS use only) Drinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT DETAILS (ALS use only) Are samples taken from a Regulated DW System? YES NO YES NO Are samples for human consumption/ use? Submission Comments identified on Sample Receipt Notification YES YES NO SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (ALS use only) FINAL SOURCE REMPERATURES 'C Released by: Date: Time: Released by: Date: Time: Released by: Date: Time: Released by: Date: Time:		10					-		-	-	_	-		-				_		_	-	-
Drinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT OFTARLS (ALS use only) Orinking Water (DW) Samples ¹ (client use) Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only) SAMPLE RECEIPT OFTARLS (ALS use only) Are samples taken from a Regulated DW System? VIS NO YIS NO Are samples for human consumption/ use? VIS NO YIS NO ShiPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (ALS use only) FINAL SHIPMENT RECEPTION (ALS use only) Released by: Date: Time: Received by: Date: Time: LFRAY Date: Time: Received by: Date: Time:							1															
Drinking water (dw) samples (client use) (Excel COC only) Cooling (Method NONE ICE ICE PNOKS PROZEN COOLING INITIATED Are samples taken from a Regulated DW System? Submission Comments identified on Sample Receipt Notification YES NO Imitiaties YES NO Are samples for human consumption/ use? Submission Comments identified on Sample Receipt Notification YES NO YES NO Imitiaties Imitiaties Imitiaties YES NO Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time:	A Property of the second	0																				
Drinking water (dw) samples (client use) (Excel COC only) Cooling (Method NONE ICE ICE PNOKS PROZEN COOLING INITIATED Are samples taken from a Regulated DW System? Submission Comments identified on Sample Receipt Notification YES NO Imitiaties YES NO Are samples for human consumption/ use? Submission Comments identified on Sample Receipt Notification YES NO YES NO Imitiaties Imitiaties Imitiaties YES NO Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time:	the set					1.1																
Drinking water (dw) samples (client use) (Excel COC only) Cooling (Method NONE ICE ICE PNOKS PROZEN COOLING INITIATED Are samples taken from a Regulated DW System? Submission Comments identified on Sample Receipt Notification YES NO Imitiaties YES NO Are samples for human consumption/ use? Submission Comments identified on Sample Receipt Notification YES NO YES NO Imitiaties Imitiaties Imitiaties YES NO Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time:	1 a B			1														-		-		-
Drinking water (dw) samples (client use) (Excel COC only) Cooling (Method NONE ICE ICE PNOKS PROZEN COOLING INITIATED Are samples taken from a Regulated DW System? Submission Comments identified on Sample Receipt Notification YES NO Imitiaties YES NO Are samples for human consumption/ use? Submission Comments identified on Sample Receipt Notification YES NO YES NO Imitiaties Imitiaties Imitiaties YES NO Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties ShiPMENT RELEASE (client use) Imitiaties Imitiaties Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time: Released by: Date: ZO / M / ZO / M Time:		manufacture to a second	Notes / Specify Limits for result	evaluation by selectin	a from dron-down	n below	1	-		-		SAM	PLE	RECE	PTOE	TAILS	ALS u	se oniv				-
Are samples taken from a Regulated DW System? Submission Comments identified on Sample Receipt Notification 1 YES NO YES NO Are samples for human consumption/ use? YES NO YES NO SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (ALS use only) FINAL SHIPMENT RECEPTION (ALS use only) Released by: Date: Time: Released by: Date: Time: 0 Date: Time: Released by: Date: Time:	Drinking	Water (DW) Samples' (client use)			.g		Coolin	ng Met	thod		NONE				_					DE SING INT	DIATED	
YES NO Are samples for human consumption/ use? YES NA YES NO YES NO SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (ALS use only) FINAL SHIPMENT RECEPTION (ALS use only) Released by: 20/11/2014 Date: 20/11/2014 Time: 24/2 Date: 20/11/2014 Time: 24/2 Date: 20/11/2014 Time: 24/2							Subm	Ission	Comm	100 A 81 2 11	1000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1.12.00		And in case of the local line	Contraction of the local division of the						
Are samples for human consumption/ use? Imit all contex remperatures *C Final Contex remperatures *C YES NO Imit all contex remperatures *C Final Contex remperatures *C SHIPMENT RELEASE (client use) Imit all shipment reception (ALS use only) Final Shipment reception (ALS use only) Released by: Date: Time: Ref Date: Date: Time: 2011/2021 Time: Ref Date: Date: Time: Time:	C YE	5 🔲 NO					Goole	er Cust	ody Se	ats Int	adt:		TYE	s n	N/A	Sample	e Custo	10.00			YES M	E nich
SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (ALS use only) FINAL SHIPMENT RECEPTION (ALS use only) Released by: Date: 70/11/2074 Time: Ref Date: 0/10/20/24 Time: Received by: Date: Time: Time: Time: Time: Ref Date: 0/10/20/24 Time: Time: <td< td=""><td>Are samples for hu</td><td>man consumption/ use?</td><td></td><td></td><td></td><td></td><td>-</td><td>4 11</td><td></td><td>_</td><td></td><td></td><td></td><td></td><td>I</td><td>- 1.</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Are samples for hu	man consumption/ use?					-	4 11		_					I	- 1.						
Released by: LEROY LLATORD Date: 20/11/2024 Time: Re Date: 000 20/24 Time: Received by: Date: Time: Received by: Received by: Date: Time: Received by: Date: Time: Received by: Re	C YES	5 🔲 NO					12	5	1										-			
LEROY LILEBORD 20/11/2024 247 100 20/24				INITIAL SHIPMEN	T RECEPTION (ALS use only)							FINAL	SHIP	MENT	RECE	PTION	(ALS us	e only)		-	
			Time: Re		Date: TON 1	2/21)	Time:	12	Recen	ved by					Date					Tur	16:	
				WHE	TE - LABORATOR	Y COPY YELLO	and the second second		DPY		_			-+							400	1000 000 1

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.

Page 216 of 222

	FJAE Shipping & Rec Call OutExpedi	te	Custody (COC	C) / Analytic	al Request f	Form				•	co)C Nur	nber:	20 -	9	6 4	9	72		-	
	Priority	7	Canada Toll i	Free: 1 800 668	9878				.*				Pa	ge		*	•	-· _	v		• •
(ALS)	# of Carboys Ground	A		•										÷				men		Divis	ion
Report To	# OI CUIDOYS CIOUIN		Reports / R	ecipients		_			roaroun	d Tim	e (TAT) R	equest	ed	1	ł			Johr			
Company:	Tetra Tech Conada Inc	Select Report Fo	· · · · · · · · · · · · · · · · · · ·				Routine [R]			_								Order	Hete	rence	<u>`</u>
Contact:	IDITA IDDA COMME INC	· · · · · · · · · · · · · · · · · · ·	Reports with COA			1-	t day [P4] i							mum		Г	J2	24(13	23	6
Phone:	·		lts to Criteria en Report - p		_		3 day [P3]														
	Company address below will appear on the final re			🔲 MAIL 🗍			2 day [P2]							1				12.U	œW.	48	
Street:	·	Email 1 or Fax					day [E] if ame day [E]											ΩЙ	(Elix	┟자 문	
City/Province:		Email 2					nay apply to										ШŢ	i II	(phy	Υ	
Postal Code:		Email 3	······	·=			Date and	Time	Required	for all	E&P TAT	2		-			III X.'	ΥH	i ti	(9E)	1111
Invoice To	Same as Report To	NO .	Invoice R	ecipients					For al	tests v	with rush TA	Ts requo	sted, plea	ase c	_			The second se	шп.		1.111
	Copy of Invoice with Report	NO Select Invoice Di	istribution: 🔲 EM		FAX							Ar	alysis	Re	Т	elepho	ne:+	+ 1 250 ;	261 55	17	
Company:	Tetra Tech Canada Inc	Ernail 1 or Fax				N N	Γ		Indicate F	iltered	(F), Prese	ved (P)	or Filtere	d and Pit	aserver	a'(#/#)'0'	eiuw		 1		<u></u>
Contact:		Email 2			•	١ <u>٣</u>			_											ļ	e la
· ·	Project Information		Dil and Gas Require	d Fields (client u	ise)	CONTAIN		T			•									<u>ءَ ا ۽</u>	STORAGE REQUIRE D HAZARD (see note:
ALS Account # /		AFE/Cost Center:		PO#	•]È								•	•		1			3 6	ž Š
Job #: VA	24-EBAE 100-013	Major/Minor Code:		Routing Code:		ð									÷.						
PO/AFE:		Requisitioner:	· · · · ·	•		_									•						
LSD:		Location:				16		- :				·				1.25		· -			
ALS Lab Worl	k Order # (ALS use only):	ALS Contact:	`	Sampler:		BER		-	Ş		20						•	•			EX I ENUED STORAGE REQUIRE SUSPECTED HAZARD (see note:
ALS Sample # (ALS use only)	Sample Identification a (This description will ap		Date (dd-mmm-yy)	Time (hft:mm)	Sample Type	- WN	д.		LL L	21	r 17	a		•						SAN	SUSF
	Cyanides		20-11-2024	11:32			1							•							
	General/TSS/TDS Rout	THE .	20-11-2024	11:35				1												T	
	Metals + Mercury	······································	20-11-2024	11:40					2												·
	Methane, Ethane, Ethe	ene	20-11-2024	11:45				· .		2			·						÷.		
	NUT/DOC/DKN/TDN/1	DP/DNH3	20-11-2024	11:50				-		,	1										
	NUT/TOC/COD/TAKKY,		20-11-2024	14:50	e -						1										
	SUIFide-Total		20-11-2024	12:00		-					•	1									
		·······		, <u>, , , , , , , , , , , , , , , , , , </u>		1						1							-	\top	
		· · ·			-							1							-		
		· · · ·	· ·	·		-				-				i i	\neg				-+-	1	- <u> </u>
	· · · · · · · · · · · · · · · · · · ·								-												
e a M																					
Drinking	g Water (DW) Samples ¹ (client use)	Notes / Specify Limits for result	evaluation by selectin Excel COC only)	g from drop-down	below	1798. 	2011 N. J 10-	4	89A		SAMPLE	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						ysji 	2 ^{.3}	35 	#
Are samples take	n from a Regulated DW System?	1				- í -	nission C	_							-	DZEN 🔬		<mark>[™] coo</mark> YES [™]	DEING IN) as , 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
· ·	s 🗍 NO		-			-	er Custo									stody Se					
· –	uman consumption/ use?			·	•	000					RATURES			Janupi	-			RTEMPE	_		<u>e n/n 3</u>
	5 🗍 NO	1				12	5	3	¢. 1	i.		94. 249	2000 A			, its	jaz.	ġ,	1,555	5	Ž
	SHIPMENT RELEASE (client use)		INITIAL SHIPMEN	RECEPTION (A	LS use only)	5666)	1	3 588	1994 703	2.4 1892	FINA	L SHI	MENT				S	<u>معلمم</u>	 		
Released by:	Date:	Time: Reó		Date NOV 2	a share share			Recei	ved by:	¥¥* Ř	j. "M	1				21No			T	ime:	aw
	PAGE FOR ALS LOCATIONS AND SAMPLING INFO		WHI	TE - LABORATOR	1 0 1		IENT COP	γ	and a second				- 4562					F	**		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.

.

-<u>-</u>--,

APPENDIX C

TETRA TECH'S LIMITATIONS ON THE USE OF THIS DOCUMENT



GEOENVIRONMENTAL

1.1 USE OF DOCUMENT AND OWNERSHIP

This document pertains to a specific site, a specific development, and a specific scope of work. The document may include plans, drawings, profiles and other supporting documents that collectively constitute the document (the "Professional Document").

The Professional Document is intended for the sole use of TETRA TECH's Client (the "Client") as specifically identified in the TETRA TECH Services Agreement or other Contractual Agreement entered into with the Client (either of which is termed the "Contract" herein). TETRA TECH does not accept any responsibility for the accuracy of any of the data, analyses, recommendations or other contents of the Professional Document when it is used or relied upon by any party other than the Client, unless authorized in writing by TETRA TECH.

Any unauthorized use of the Professional Document is at the sole risk of the user. TETRA TECH accepts no responsibility whatsoever for any loss or damage where such loss or damage is alleged to be or, is in fact, caused by the unauthorized use of the Professional Document.

Where TETRA TECH has expressly authorized the use of the Professional Document by a third party (an "Authorized Party"), consideration for such authorization is the Authorized Party's acceptance of these Limitations on Use of this Document as well as any limitations on liability contained in the Contract with the Client (all of which is collectively termed the "Limitations on Liability"). The Authorized Party should carefully review both these Limitations on Use of this Document and the Contract prior to making any use of the Professional Document. Any use made of the Professional Document by an Authorized Party constitutes the Authorized Party's express acceptance of, and agreement to, the Limitations on Liability.

The Professional Document and any other form or type of data or documents generated by TETRA TECH during the performance of the work are TETRA TECH's professional work product and shall remain the copyright property of TETRA TECH.

The Professional Document is subject to copyright and shall not be reproduced either wholly or in part without the prior, written permission of TETRA TECH. Additional copies of the Document, if required, may be obtained upon request.

1.2 ALTERNATIVE DOCUMENT FORMAT

Where TETRA TECH submits electronic file and/or hard copy versions of the Professional Document or any drawings or other project-related documents and deliverables (collectively termed TETRA TECH's "Instruments of Professional Service"), only the signed and/or sealed versions shall be considered final. The original signed and/or sealed electronic file and/or hard copy version archived by TETRA TECH shall be deemed to be the original. TETRA TECH will archive a protected digital copy of the original signed and/or sealed version for a period of 10 years.

Both electronic file and/or hard copy versions of TETRA TECH's Instruments of Professional Service shall not, under any circumstances, be altered by any party except TETRA TECH. TETRA TECH's Instruments of Professional Service will be used only and exactly as submitted by TETRA TECH.

Electronic files submitted by TETRA TECH have been prepared and submitted using specific software and hardware systems. TETRA TECH makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

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.





Electoral Area Directors Committee DIARY

	Item	Notes	Diarized
1.	Natural Gas	Expansion of services to rural areas	May 27, 2019
2.	Section 381 - Cost sharing for services under Part 14 (Planning and Land Use Management) of the <i>Local</i> <i>Government Act.</i>	Staff to contact the Ministry of Municipal Affairs to set up a zoom meeting with the Electoral Area Directors.	August 15, 2019
3.	Agriculture Advisory Committee	Staff to gather feedback from stakeholders on the relevancy of this Committee, and what they would like to see included in a Terms of Reference if the Committee was reestablished.	March 14, 2024
4.	Agriculture of the Future	Innovation model for supporting the next generation of farmers.	December 14, 2024
			Updated: Dec. 17 2024

Page 220 of 222 diverse. vast. abundant.



PEACE RIVER REGIONAL DISTRICT

Electoral Area Director's Committee Terms of Reference

1. Membership

1.1 The Electoral Area Directors' Committee membership shall be elected representatives from Electoral Area 'B', Electoral Area 'C', Electoral Area 'D', and Electoral Area 'E'.

2. Terms of Reference

- 2.1 The Electoral Area Directors' Committee will meet to address issues of a rural nature.
- 2.2 Meetings will be open to the public.
- 2.3 The Electoral Area Directors' Committee will be chaired by an Electoral Area Director elected by the committee participants.
- 2.4 The Electoral Area Directors' Committee will hold meetings the third Thursday of each month or at the call of the Chair.
- 2.5 Electoral Area Directors' Committee meetings will be funded through the Legislative Electoral Area budget under "Electoral Area Business". Only Electoral Area Directors will be compensated for attending meetings.
- 2.6 Agenda items for the Electoral Area Directors' Committee meetings will include items that are:
 - a. referred to the meeting by resolution of the Regional Board; or,
 - b. of a purely rural nature.
- 2.7 Items for the regular agenda must be provided to Administration by noon the Friday prior to the scheduled meeting.
- 2.8 All recommendations of the Committee shall be determined by majority vote of the Electoral Area Directors.
- 2.9 Staff will prepare minutes and forward recommendations to the Regional Board for consideration.
- 2.10 Committee recommendations will be ratified by the Regional Board prior to staff action being undertaken, unless previously authorized by a referring Board resolution.

Date Committee Established	February 27, 2003	Board Resolution #	RD/03/02/02 (27)
Date TOR Approved by Board	January 22, 2004	Board Resolution #	RD/04/01/20 (22)
Amendment Date		Board Resolution #	
Amendment Date		Board Resolution #	
Amendment Date		Board Resolution #	

diverse. vast. abundant



REPORT

То:	Electoral Directors Committee	Report Number: ADM-EADC-061
From:	Olivia Lundahl, Electoral Area Officer	Date: February 13, 2025

Subject: Notice of Closed EADC Session – February 13, 2025

RECOMMENDATION: [Corporate Unweighted]

That the Electoral Area Directors Committee recess to a Closed Meeting for the purpose of discussing the following items:

Agenda Item	Description	Authority
3.1	Closed Meeting Minutes	CC Section 97(1)(b) Closed Minutes, Access to Records.
5.1	Rolla Dyke	CC Section 90 (1)(g) Litigation or potential litigation and CC Section 90 (1)(i) Receipt of advice to solicitor-client privilege

BACKGROUND/RATIONALE:

As per the Closed Meeting Process and Proactive Disclosure Policy.

ALTERNATIVE OPTIONS:

The Electoral Area Directors Committee may recess to a Closed Meeting to discuss whether or not the items proposed properly belong in a Closed Session as per *Community Charter* Section 90(1)(n).

STRATEGIC PLAN RELEVANCE:

Not Applicable to Strategic Plan.

FINANCIAL CONSIDERATION(S):

Not applicable.

COMMUNICATIONS CONSIDERATION(S):

Not applicable.

OTHER CONSIDERATION(S):

Not applicable.