

From: [Heather Scott](#)
To: [Erica Janes](#)
Subject: FW: CARO Analytical Services OTHER - Work Order: 7070695, Project: Sewage Lagoon
Date: Thursday, August 3, 2017 10:03:40 AM

From: Heather Scott
Sent: July 25, 2017 8:30 AM
To: 'Manager Works and Services' <mws@fortliard.com>
Subject: RE: CARO Analytical Services OTHER - Work Order: 7070695, Project: Sewage Lagoon

Not a problem, Alan!

Cheers-
Heather

From: Manager Works and Services [<mailto:mws@fortliard.com>]
Sent: July 21, 2017 1:47 PM
To: Heather Scott <heather.scott@mvlwb.com>
Subject: RE: CARO Analytical Services OTHER - Work Order: 7070695, Project: Sewage Lagoon

Hello heather,

My apologies for not having identified the sample location properly with the SNP location. Yes, the sample was from SNP 1478-6 and there was visible flow at that point at the time of sampling.

I will be careful about the identification of sample location in the future.

Hope the sun is shining for you there this weekend, and you have a good one,

Al

Manager Municipal Operations
Hamlet of Fort Liard, NT
867 770 4104 ext. 103
Fax: 867 770 4004
mws@fortliard.com
Cell: 867 445 4000

From: Heather Scott [<mailto:heather.scott@mvlwb.com>]
Sent: Friday, July 21, 2017 12:31 PM
To: Manager Works and Services <mws@fortliard.com>; Erica Janes <ejanes@mvlwb.com>

Cc: Wendy_Bidwell@gov.nt.ca; brad_McInnes@gov.nt.ca

Subject: RE: CARO Analytical Services OTHER - Work Order: 7070695, Project: Sewage Lagoon

Thanks Alan-

Just to clarify, is the Highway 7 Sample, SNP 1478-6? Also, I am curious: was there any visible flow at this location at the time of sampling?

Cheers and have a great weekend-
Heather

Heather Scott, M.A.Sc., P.Chem.

Senior Technical Advisor

Mackenzie Valley Land and Water Board

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Please note: All correspondence to the Board, including emails, letters, faxes and attachments are public documents and may be posted to the public registry.



From: Manager Works and Services [<mailto:mws@fortliard.com>]

Sent: July 17, 2017 3:30 PM

To: Erica Janes <ejanes@mvlwb.com>

Cc: Heather Scott <heather.scott@mvlwb.com>; Wendy_Bidwell@gov.nt.ca;
brad_McInnes@gov.nt.ca

Subject: FW: CARO Analytical Services OTHER - Work Order: 7070695, Project: Sewage Lagoon

Please find attached the test results from Fort Liard end of decant samples. Any questions or concerns please give me a call.

Alan

Alan Harris

Manager Municipal Operations

Hamlet of Fort Liard

867 770 4104 ext. 103

Fax: 867 770 4004

Cell: 867 445 4000

mws@fortliard.com

From: reports@caro.ca [<mailto:reports@caro.ca>]

Sent: Monday, July 17, 2017 3:00 PM

To: Manager Works and Services <mws@fortliard.com>

Subject: CARO Analytical Services OTHER - Work Order: 7070695, Project: Sewage Lagoon

Dear Alan Harris: Thank you for using CARO! Please find your document(s) attached (Project Info: Sewage Lagoon 3). If you have any questions, please contact Sarah Cunningham-Fleming, Dipl T, call us directly, or simply reply to this email.

It is our goal at CARO to deliver complete peace of mind and exceed your expectations for service and quality. Please visit caro.ca/feedback to let us know how we are doing!

We are always working on becoming the best laboratory that we can be at CARO and this year, we have a reason to celebrate because April marked our 30th BIRTHDAY! For three decades, CARO has been providing Western Canada with dependable analytical services and we look forward to many more. To see a fun industry and brand timeline and other exciting developments, please visit [CARO's News Blog](#).

Thank you and have a great day,
Team CARO

caro.ca | 877.769.9646 | [British Columbia](#) | [Alberta](#) | [Yukon](#)

Caring About Results, Obviously.

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REPORTED TO Fort Liard, Hamlet of
174 Valley Main Street
Fort Liard, NT X0G 0A0

TEL (867) 770-4104
FAX (867) 770-4004

ATTENTION Alan Harris

WORK ORDER 7070695


PO NUMBER 4811
PROJECT Sewage Lagoon
PROJECT INFO End of Decant

RECEIVED / TEMP 2017-07-11 10:35 / 17°C
REPORTED 2017-07-17
COC NUMBER 06343

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.



Authorized By:

Sarah Cunningham-Fleming, Dipl T
Laboratory Coordinator

If you have any questions or concerns, please contact me at scunningham-fleming@caro.ca

Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
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17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100

www.caro.ca

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695
2017-07-17

Analysis Description	Method Reference	Technique	Location
Ammonia, Total in Water	APHA 4500-NH3 D*	Ion Selective Electrode	Edmonton
Biochemical Oxygen Demand in Water	APHA 5210 B	Dissolved Oxygen Meter	Edmonton
Biochemical Oxygen Demand, Carbonaceous in Water	APHA 5210 B	Dissolved Oxygen Meter	Edmonton
Coliforms, Fecal (Q-Tray) in Water	APHA 9223 B*	Most Probable Number / Enzyme Substrate Endo Agar	Edmonton
Conductivity in Water	APHA 2510 B	Conductivity Meter	Edmonton
Hardness (as CaCO3) in Water	APHA 2340 B*	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Estimated)	N/A
pH in Water	APHA 4500-H+ B	Electrometry	Edmonton
Solids, Total Dissolved in Water	APHA 2540 C*	Gravimetry (Dried at 103-105C)	Edmonton
Solids, Total Suspended in Water	APHA 2540 D*	Gravimetry (Dried at 103-105C)	Edmonton
Total Metals by ICPMS in Water	APHA 3030 E* / APHA 3125 B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma Mass Spectrometry (ICP-MS)	Richmond

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

APHA Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation

Glossary of Terms:

MRL Method Reporting Limit
 < Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
 mg/L Milligrams per litre
 MPN/100 mL Most Probable Number per 100 millilitres
 pH units pH < 7 = acidic, pH > 7 = basic
 µS/cm Microsiemens per centimetre

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695
2017-07-17

Analyte	Result / Recovery	MRL / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: Cell #3 SN 1478-9 (7070695-01) [Water] Sampled: 2017-07-10 10:00

General Parameters

Ammonia, Total (as N)	2.56	0.050	mg/L	N/A	2017-07-12	
BOD, 5-day	100	2.0	mg/L	2017-07-11	2017-07-16	
BOD, 5-day Carbonaceous	89.5	2.0	mg/L	2017-07-11	2017-07-16	
Conductivity (EC)	684	2.0	µS/cm	N/A	2017-07-14	
pH	9.20	0.01	pH units	N/A	2017-07-14	HT2
Solids, Total Dissolved	454	10	mg/L	N/A	2017-07-13	
Solids, Total Suspended	356	2.0	mg/L	N/A	2017-07-13	

Calculated Parameters

Hardness, Total (as CaCO3)	146	0.500	mg/L	N/A	N/A	
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Total Metals

Aluminum, total	0.291	0.0050	mg/L	2017-07-13	2017-07-13	
Antimony, total	0.00026	0.00010	mg/L	2017-07-13	2017-07-13	
Arsenic, total	0.00256	0.00050	mg/L	2017-07-13	2017-07-13	
Barium, total	0.0607	0.0050	mg/L	2017-07-13	2017-07-13	
Beryllium, total	< 0.00010	0.00010	mg/L	2017-07-13	2017-07-13	
Bismuth, total	0.00087	0.00010	mg/L	2017-07-13	2017-07-13	
Boron, total	0.235	0.0050	mg/L	2017-07-13	2017-07-13	
Cadmium, total	0.000071	0.000010	mg/L	2017-07-13	2017-07-13	
Calcium, total	41.6	0.20	mg/L	2017-07-13	2017-07-13	
Chromium, total	0.00068	0.00050	mg/L	2017-07-13	2017-07-13	
Cobalt, total	0.00126	0.00010	mg/L	2017-07-13	2017-07-13	
Copper, total	0.0404	0.00020	mg/L	2017-07-13	2017-07-13	
Iron, total	1.65	0.010	mg/L	2017-07-13	2017-07-13	
Lead, total	0.00098	0.00010	mg/L	2017-07-13	2017-07-13	
Lithium, total	0.0113	0.00010	mg/L	2017-07-13	2017-07-13	
Magnesium, total	10.2	0.010	mg/L	2017-07-13	2017-07-13	
Manganese, total	0.119	0.00020	mg/L	2017-07-13	2017-07-13	
Molybdenum, total	0.00096	0.00010	mg/L	2017-07-13	2017-07-13	
Nickel, total	0.00475	0.00020	mg/L	2017-07-13	2017-07-13	
Phosphorus, total	2.96	0.050	mg/L	2017-07-13	2017-07-13	
Potassium, total	24.6	0.10	mg/L	2017-07-13	2017-07-13	
Selenium, total	< 0.00050	0.00050	mg/L	2017-07-13	2017-07-13	
Silicon, total	3.7	1.0	mg/L	2017-07-13	2017-07-13	
Silver, total	< 0.000050	0.000050	mg/L	2017-07-13	2017-07-13	
Sodium, total	122	0.10	mg/L	2017-07-13	2017-07-13	
Strontium, total	0.100	0.0010	mg/L	2017-07-13	2017-07-13	
Sulfur, total	6.9	3.0	mg/L	2017-07-13	2017-07-13	
Tellurium, total	< 0.00020	0.00020	mg/L	2017-07-13	2017-07-13	
Thallium, total	< 0.000020	0.000020	mg/L	2017-07-13	2017-07-13	
Thorium, total	< 0.00010	0.00010	mg/L	2017-07-13	2017-07-13	
Tin, total	< 0.00020	0.00020	mg/L	2017-07-13	2017-07-13	
Titanium, total	0.0089	0.0050	mg/L	2017-07-13	2017-07-13	
Uranium, total	0.000389	0.000020	mg/L	2017-07-13	2017-07-13	
Vanadium, total	0.0020	0.0010	mg/L	2017-07-13	2017-07-13	

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695
2017-07-17

Analyte	Result / Recovery	MRL / Limits	Units	Prepared	Analyzed	Notes
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Sample ID: Cell #3 SN 1478-9 (7070695-01) [Water] Sampled: 2017-07-10 10:00, Continued

Total Metals, Continued

Zinc, total	0.0391	0.0040	mg/L	2017-07-13	2017-07-13	
Zirconium, total	0.00042	0.00010	mg/L	2017-07-13	2017-07-13	

Microbiological Parameters

Coliforms, Fecal (Q-Tray)	> 200.5	1.0	MPN/100 mL	2017-07-11	2017-07-12	
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Sample ID: Highway 7 (7070695-02) [Water] Sampled: 2017-07-10 10:00

General Parameters

Ammonia, Total (as N)	3.69	0.050	mg/L	N/A	2017-07-12	
BOD, 5-day	< 7.5	2.0	mg/L	2017-07-11	2017-07-16	BOD2
BOD, 5-day Carbonaceous	< 7.7	2.0	mg/L	2017-07-11	2017-07-16	
Conductivity (EC)	324	2.0	µS/cm	N/A	2017-07-14	
pH	6.68	0.01	pH units	N/A	2017-07-14	HT2
Solids, Total Dissolved	266	10	mg/L	N/A	2017-07-13	
Solids, Total Suspended	17.0	2.0	mg/L	N/A	2017-07-13	

Calculated Parameters

Hardness, Total (as CaCO3)	122	0.500	mg/L	N/A	N/A	
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Total Metals

Aluminum, total	0.0444	0.0050	mg/L	2017-07-13	2017-07-13	
Antimony, total	< 0.00010	0.00010	mg/L	2017-07-13	2017-07-13	
Arsenic, total	0.00100	0.00050	mg/L	2017-07-13	2017-07-13	
Barium, total	0.0452	0.0050	mg/L	2017-07-13	2017-07-13	
Beryllium, total	< 0.00010	0.00010	mg/L	2017-07-13	2017-07-13	
Bismuth, total	< 0.00010	0.00010	mg/L	2017-07-13	2017-07-13	
Boron, total	0.0607	0.0050	mg/L	2017-07-13	2017-07-13	
Cadmium, total	0.000022	0.000010	mg/L	2017-07-13	2017-07-13	
Calcium, total	34.8	0.20	mg/L	2017-07-13	2017-07-13	
Chromium, total	< 0.00050	0.00050	mg/L	2017-07-13	2017-07-13	
Cobalt, total	0.00053	0.00010	mg/L	2017-07-13	2017-07-13	
Copper, total	0.00248	0.00020	mg/L	2017-07-13	2017-07-13	
Iron, total	0.575	0.010	mg/L	2017-07-13	2017-07-13	
Lead, total	0.00011	0.00010	mg/L	2017-07-13	2017-07-13	
Lithium, total	0.00362	0.00010	mg/L	2017-07-13	2017-07-13	
Magnesium, total	8.56	0.010	mg/L	2017-07-13	2017-07-13	
Manganese, total	0.359	0.00020	mg/L	2017-07-13	2017-07-13	
Molybdenum, total	0.00015	0.00010	mg/L	2017-07-13	2017-07-13	
Nickel, total	0.00113	0.00020	mg/L	2017-07-13	2017-07-13	
Phosphorus, total	1.42	0.050	mg/L	2017-07-13	2017-07-13	
Potassium, total	4.29	0.10	mg/L	2017-07-13	2017-07-13	
Selenium, total	< 0.00050	0.00050	mg/L	2017-07-13	2017-07-13	
Silicon, total	3.1	1.0	mg/L	2017-07-13	2017-07-13	
Silver, total	< 0.000050	0.000050	mg/L	2017-07-13	2017-07-13	
Sodium, total	19.7	0.10	mg/L	2017-07-13	2017-07-13	
Strontium, total	0.0815	0.0010	mg/L	2017-07-13	2017-07-13	

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695
2017-07-17

Analyte	Result / Recovery	MRL / Units Limits	Prepared	Analyzed	Notes
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Sample ID: Highway 7 (7070695-02) [Water] Sampled: 2017-07-10 10:00, Continued

Total Metals, Continued

Sulfur, total	< 3.0	3.0 mg/L	2017-07-13	2017-07-13	
Tellurium, total	< 0.00020	0.00020 mg/L	2017-07-13	2017-07-13	
Thallium, total	< 0.000020	0.000020 mg/L	2017-07-13	2017-07-13	
Thorium, total	< 0.00010	0.00010 mg/L	2017-07-13	2017-07-13	
Tin, total	< 0.00020	0.00020 mg/L	2017-07-13	2017-07-13	
Titanium, total	< 0.0050	0.0050 mg/L	2017-07-13	2017-07-13	
Uranium, total	0.000086	0.000020 mg/L	2017-07-13	2017-07-13	
Vanadium, total	< 0.0010	0.0010 mg/L	2017-07-13	2017-07-13	
Zinc, total	0.0043	0.0040 mg/L	2017-07-13	2017-07-13	
Zirconium, total	< 0.00010	0.00010 mg/L	2017-07-13	2017-07-13	

Microbiological Parameters

Coliforms, Fecal (Q-Tray)	> 200.5	1.0 MPN/100 mL	2017-07-11	2017-07-12	
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Sample / Analysis Qualifiers:

- BOD2** The sample dilutions set-up for the BOD analysis did not meet the oxygen depletion criterion of at least 2 mg/L.
- HT2** The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695 2017-07-17

The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** Laboratory reagent water is carried through sample preparation and analysis steps. Method Blanks indicate that results are free from contamination, i.e. not biased high from sources such as the sample container or the laboratory environment
- **Duplicate (Dup):** Preparation and analysis of a replicate aliquot of a sample. Duplicates provide a measure of the analytical method's precision, i.e. how reproducible a result is. Duplicates are only reported if they are associated with your sample data.
- **Blank Spike (BS):** A known amount of standard is carried through sample preparation and analysis steps. Blank Spikes, also known as laboratory control samples (LCS), are prepared from a different source of standard than used for the calibration. They ensure that the calibration is acceptable (i.e. not biased high or low) and also provide a measure of the analytical method's accuracy (i.e. closeness of the result to a target value).
- **Standard Reference Material (SRM):** A material of similar matrix to the samples, externally certified for the parameter(s) listed. Standard Reference Materials ensure that the preparation steps in the method are adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
General Parameters, Batch B7G0585									
Blank (B7G0585-BLK1)			Prepared: 2017-07-11, Analyzed: 2017-07-16						
BOD, 5-day	< 1.2	2.0 mg/L							
Blank (B7G0585-BLK2)			Prepared: 2017-07-11, Analyzed: 2017-07-16						
BOD, 5-day	< 1.2	2.0 mg/L							
LCS (B7G0585-BS1)			Prepared: 2017-07-11, Analyzed: 2017-07-16						
BOD, 5-day	186	2.0 mg/L	198		94	85-115			
General Parameters, Batch B7G0586									
Blank (B7G0586-BLK1)			Prepared: 2017-07-11, Analyzed: 2017-07-16						
BOD, 5-day Carbonaceous	< 1.3	2.0 mg/L							
Blank (B7G0586-BLK2)			Prepared: 2017-07-11, Analyzed: 2017-07-16						
BOD, 5-day Carbonaceous	< 1.3	2.0 mg/L							
LCS (B7G0586-BS1)			Prepared: 2017-07-11, Analyzed: 2017-07-16						
BOD, 5-day Carbonaceous	177	2.0 mg/L	198		90	85-115			
General Parameters, Batch B7G0661									
Blank (B7G0661-BLK1)			Prepared: 2017-07-13, Analyzed: 2017-07-13						
Solids, Total Dissolved	< 20	10 mg/L							
Duplicate (B7G0661-DUP1)			Prepared: 2017-07-13, Analyzed: 2017-07-13						
Solids, Total Dissolved	466	10 mg/L		454			3	5	
Reference (B7G0661-SRM1)			Prepared: 2017-07-13, Analyzed: 2017-07-13						
Solids, Total Dissolved	254	10 mg/L	240		106	85-115			

General Parameters, Batch B7G0664

APPENDIX 1: QUALITY CONTROL DATA

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695
2017-07-17

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
General Parameters, Batch B7G0664, Continued									
Blank (B7G0664-BLK1)			Prepared: 2017-07-12, Analyzed: 2017-07-12						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B7G0664-BS1)			Prepared: 2017-07-12, Analyzed: 2017-07-12						
Ammonia, Total (as N)	0.216	0.050 mg/L	0.200		108	94-113			
General Parameters, Batch B7G0677									
Blank (B7G0677-BLK1)			Prepared: 2017-07-13, Analyzed: 2017-07-13						
Solids, Total Suspended	< 3.3	2.0 mg/L							
LCS (B7G0677-BS1)			Prepared: 2017-07-13, Analyzed: 2017-07-13						
Solids, Total Suspended	101	2.0 mg/L	100		101	94-105			
General Parameters, Batch B7G0923									
Reference (B7G0923-SRM1)			Prepared: 2017-07-14, Analyzed: 2017-07-14						
pH	6.94	0.01 pH units	7.00		99	98-102			
General Parameters, Batch B7G0924									
Blank (B7G0924-BLK1)			Prepared: 2017-07-14, Analyzed: 2017-07-14						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B7G0924-BS1)			Prepared: 2017-07-14, Analyzed: 2017-07-14						
Conductivity (EC)	1440	2.0 µS/cm	1410		102	95-105			
Duplicate (B7G0924-DUP1)			Source: 7070695-01		Prepared: 2017-07-14, Analyzed: 2017-07-14				
Conductivity (EC)	687	2.0 µS/cm	684		< 1	3			
Microbiological Parameters, Batch B7G0601									
Blank (B7G0601-BLK1)			Prepared: 2017-07-11, Analyzed: 2017-07-12						
Coliforms, Fecal (Q-Tray)	< 1.0	1.0 MPN/100 mL							
Duplicate (B7G0601-DUP1)			Source: 7070695-01		Prepared: 2017-07-11, Analyzed: 2017-07-12				
Coliforms, Fecal (Q-Tray)	> 200.5	1.0 MPN/100 mL	> 200.5						30
Total Metals, Batch B7G0743									
Blank (B7G0743-BLK1)			Prepared: 2017-07-13, Analyzed: 2017-07-13						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00010	0.00010 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0050	0.0050 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00020	0.00020 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00010	0.00010 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							

APPENDIX 1: QUALITY CONTROL DATA

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695
2017-07-17

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Total Metals, Batch B7G0743, Continued									
Blank (B7G0743-BLK1), Continued					Prepared: 2017-07-13, Analyzed: 2017-07-13				
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00020	0.00020 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00020	0.00020 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0010	0.0010 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							
LCS (B7G0743-BS1)					Prepared: 2017-07-13, Analyzed: 2017-07-13				
Aluminum, total	0.0220	0.0050 mg/L	0.0200		110	80-120			
Antimony, total	0.0184	0.00010 mg/L	0.0200		92	80-120			
Arsenic, total	0.0193	0.00050 mg/L	0.0200		96	80-120			
Barium, total	0.0177	0.0050 mg/L	0.0200		89	80-120			
Beryllium, total	0.0183	0.00010 mg/L	0.0200		91	80-120			
Bismuth, total	0.0197	0.00010 mg/L	0.0200		98	80-120			
Boron, total	0.0186	0.0050 mg/L	0.0200		93	80-120			
Cadmium, total	0.0190	0.000010 mg/L	0.0200		95	80-120			
Calcium, total	2.11	0.20 mg/L	2.00		106	80-120			
Chromium, total	0.0193	0.00050 mg/L	0.0200		97	80-120			
Cobalt, total	0.0196	0.00010 mg/L	0.0200		98	80-120			
Copper, total	0.0206	0.00020 mg/L	0.0200		103	80-120			
Iron, total	1.89	0.010 mg/L	2.00		94	80-120			
Lead, total	0.0195	0.00010 mg/L	0.0200		98	80-120			
Lithium, total	0.0179	0.00010 mg/L	0.0200		90	80-120			
Magnesium, total	1.94	0.010 mg/L	2.00		97	80-120			
Manganese, total	0.0191	0.00020 mg/L	0.0200		96	80-120			
Molybdenum, total	0.0183	0.00010 mg/L	0.0200		92	80-120			
Nickel, total	0.0198	0.00020 mg/L	0.0200		99	80-120			
Phosphorus, total	1.90	0.050 mg/L	2.00		95	80-120			
Potassium, total	1.92	0.10 mg/L	2.00		96	80-120			
Selenium, total	0.0221	0.00050 mg/L	0.0200		111	80-120			
Silicon, total	1.9	1.0 mg/L	2.00		95	80-120			
Silver, total	0.0194	0.000050 mg/L	0.0200		97	80-120			
Sodium, total	2.02	0.10 mg/L	2.40		84	80-120			
Strontium, total	0.0183	0.0010 mg/L	0.0200		92	80-120			
Sulfur, total	4.0	3.0 mg/L	5.00		80	80-120			
Tellurium, total	0.0204	0.00020 mg/L	0.0200		102	80-120			
Thallium, total	0.0195	0.000020 mg/L	0.0200		97	80-120			
Thorium, total	0.0182	0.00010 mg/L	0.0200		91	80-120			
Tin, total	0.0190	0.00020 mg/L	0.0200		95	80-120			
Titanium, total	0.0197	0.0050 mg/L	0.0200		99	80-120			
Uranium, total	0.0188	0.000020 mg/L	0.0200		94	80-120			
Vanadium, total	0.0187	0.0010 mg/L	0.0200		93	80-120			

APPENDIX 1: QUALITY CONTROL DATA

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 7070695
2017-07-17

Analyte	Result	MRL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Notes
Total Metals, Batch B7G0743, Continued									
LCS (B7G0743-BS1), Continued					Prepared: 2017-07-13, Analyzed: 2017-07-13				
Zinc, total	0.0226	0.0040 mg/L	0.0200		113	80-120			
Zirconium, total	0.0195	0.00010 mg/L	0.0200		97	80-120			
Reference (B7G0743-SRM1)					Prepared: 2017-07-13, Analyzed: 2017-07-13				
Aluminum, total	0.294	0.0050 mg/L	0.303		97	81-129			
Antimony, total	0.0497	0.00010 mg/L	0.0511		97	88-114			
Arsenic, total	0.120	0.00050 mg/L	0.118		102	88-114			
Barium, total	0.739	0.0050 mg/L	0.823		90	72-104			
Beryllium, total	0.0476	0.00010 mg/L	0.0496		96	76-131			
Boron, total	3.30	0.0050 mg/L	3.45		96	75-121			
Cadmium, total	0.0485	0.000010 mg/L	0.0495		98	89-111			
Calcium, total	11.0	0.20 mg/L	11.6		94	86-121			
Chromium, total	0.248	0.00050 mg/L	0.250		99	89-114			
Cobalt, total	0.0389	0.00010 mg/L	0.0377		103	91-113			
Copper, total	0.517	0.00020 mg/L	0.486		106	91-115			
Iron, total	0.496	0.010 mg/L	0.488		102	77-124			
Lead, total	0.196	0.00010 mg/L	0.204		96	92-113			
Lithium, total	0.375	0.00010 mg/L	0.403		93	85-115			
Magnesium, total	3.90	0.010 mg/L	3.79		103	78-120			
Manganese, total	0.105	0.00020 mg/L	0.109		96	90-114			
Molybdenum, total	0.192	0.00010 mg/L	0.198		97	90-111			
Nickel, total	0.253	0.00020 mg/L	0.249		101	90-111			
Phosphorus, total	0.206	0.050 mg/L	0.227		91	85-115			
Potassium, total	7.29	0.10 mg/L	7.21		101	84-113			
Selenium, total	0.138	0.00050 mg/L	0.121		114	85-115			
Sodium, total	7.73	0.10 mg/L	7.54		102	82-123			
Strontium, total	0.355	0.0010 mg/L	0.375		95	88-112			
Thallium, total	0.0792	0.000020 mg/L	0.0805		98	91-114			
Uranium, total	0.0284	0.000020 mg/L	0.0306		93	85-120			
Vanadium, total	0.377	0.0010 mg/L	0.386		98	86-111			
Zinc, total	2.62	0.0040 mg/L	2.49		105	85-111			