

From: [Erica Janes](#)
To: [Permits](#)
Subject: FW: CARO Analytical Services OTHER - Work Order: 8091183, Project: Sewage Lagoon
Date: October 11, 2018 9:07:50 AM
Attachments: [8091183_1 CARO-E1 2018 09 20 1420.pdf](#)

Please post email and attachment to MV2009L3-0025 – Fort Liard – 5 Reports and Studies / Ops and Nots – post-decant lab results and lagoon expansion notification – Sept20-18

From: Manager Works and Services <mws@fortliard.com>
Sent: Thursday, September 20, 2018 4:26 PM
To: Sonja Martin-Elson <Sonja_Martin-Elson@gov.nt.ca>
Cc: Erica Janes <ejanes@mvlwb.com>
Subject: FW: CARO Analytical Services OTHER - Work Order: 8091183, Project: Sewage Lagoon

Greetings Sonja,

Just received the post decant results for SNP1478-6. I have attached those for your review. I will be entering this data into the year end report.

Rowes Construction is mobilizing into our lagoon site tomorrow to begin the cell #3 expansion work. This is scheduled to have the work complete at the end of the first week of October.

If you have any questions, please give me a call.

Alan Harris
Manager Municipal Operations
Hamlet of Fort Liard
867 770 4104 ext. 103
mws@fortliard.com
Cell: 867 445 4000

From: reports@caro.ca <reports@caro.ca>
Sent: Thursday, September 20, 2018 4:01 PM
To: Manager Works and Services <mws@fortliard.com>
Subject: CARO Analytical Services OTHER - Work Order: 8091183, 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 Jennifer Shanko, A.Sc.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.

To learn about our new CSR packages and other exciting developments at CARO, 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.

The information in this email is confidential and privileged, and intended solely for the addressee. If you are not the intended recipient of this message, access to the information it contains is unauthorized by CARO Analytical Services. If you are not the intended recipient of this email, disclosure, copying, distribution or any action taken as a result of this email is prohibited and may be unlawful. When addressed to a client of CARO Analytical Services any opinions or advice contained in this email are subject to the terms and conditions in the governing engagement agreement.

|



CERTIFICATE OF ANALYSIS

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

ATTENTION Alan Harris

PO NUMBER 5263

PROJECT Sewage Lagoon

PROJECT INFO Sewage Lagoon 3

WORK ORDER 8091183

**RECEIVED / TEMP
REPORTED** 2018-09-14 11:45 / 13°C
2018-09-20 14:20

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

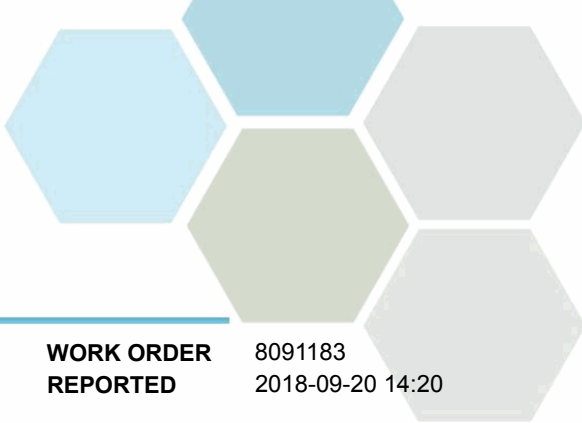
If you have any questions or concerns, please contact me at jshanko@caro.ca

Authorized By:

Jennifer Shanko, A.Sc.T.
Account Manager

1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7



TEST RESULTS

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 8091183
2018-09-20 14:20

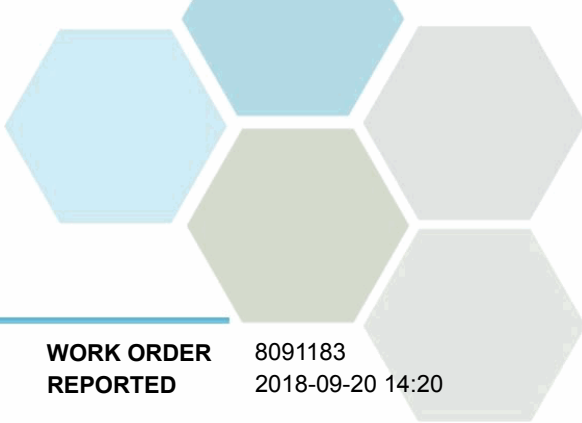
Analyte	Result	RL	Units	Analyzed	Qualifier
1478-6 (8091183-01) Matrix: Water Sampled: 2018-09-13					
General Parameters					
Ammonia, Total (as N)	12.3	0.050	mg/L	2018-09-19	
BOD, 5-day	7.3	2.0	mg/L	2018-09-18	
BOD, 5-day Carbonaceous	6.4	2.0	mg/L	2018-09-18	
Conductivity (EC)	1030	2.0	µS/cm	2018-09-14	
Oil & Grease, Total	< 2.0	2.0	mg/L	2018-09-18	
pH	7.56	0.10	pH units	2018-09-14	HT2
Solids, Total Dissolved	608	10	mg/L	2018-09-18	
Solids, Total Suspended	3.0	2.0	mg/L	2018-09-18	

Calculated Parameters

Hardness, Total (as CaCO3)	197	0.500	mg/L	N/A	
----------------------------	-----	-------	------	-----	--

Total Metals

Aluminum, total	0.0256	0.0050	mg/L	2018-09-19	
Antimony, total	< 0.00020	0.00020	mg/L	2018-09-19	
Arsenic, total	0.00415	0.00050	mg/L	2018-09-19	
Barium, total	0.0593	0.0050	mg/L	2018-09-19	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-09-19	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-09-19	
Boron, total	0.116	0.0050	mg/L	2018-09-19	
Cadmium, total	0.000066	0.000010	mg/L	2018-09-19	
Calcium, total	51.3	0.20	mg/L	2018-09-19	
Chromium, total	< 0.00050	0.00050	mg/L	2018-09-19	
Cobalt, total	0.00051	0.00010	mg/L	2018-09-19	
Copper, total	0.00447	0.00040	mg/L	2018-09-19	
Iron, total	0.230	0.010	mg/L	2018-09-19	
Lead, total	< 0.00020	0.00020	mg/L	2018-09-19	
Lithium, total	0.0128	0.00010	mg/L	2018-09-19	
Magnesium, total	16.8	0.010	mg/L	2018-09-19	
Manganese, total	0.00769	0.00020	mg/L	2018-09-19	
Molybdenum, total	0.00071	0.00010	mg/L	2018-09-19	
Nickel, total	0.00358	0.00040	mg/L	2018-09-19	
Phosphorus, total	5.08	0.050	mg/L	2018-09-19	
Potassium, total	17.2	0.10	mg/L	2018-09-19	
Selenium, total	< 0.00050	0.00050	mg/L	2018-09-19	
Silicon, total	5.2	1.0	mg/L	2018-09-19	
Silver, total	< 0.000050	0.000050	mg/L	2018-09-19	
Sodium, total	118	0.10	mg/L	2018-09-19	
Strontium, total	0.116	0.0010	mg/L	2018-09-19	
Sulfur, total	13.8	3.0	mg/L	2018-09-19	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-09-19	
Thallium, total	< 0.000020	0.000020	mg/L	2018-09-19	
Thorium, total	< 0.00010	0.00010	mg/L	2018-09-19	



TEST RESULTS

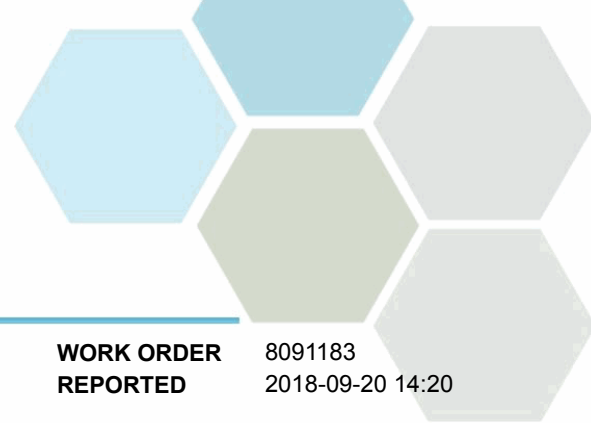
REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 8091183
2018-09-20 14:20

Analyte	Result	RL	Units	Analyzed	Qualifier
1478-6 (8091183-01) Matrix: Water Sampled: 2018-09-13, Continued					
<i>Total Metals, Continued</i>					
Tin, total	< 0.00020	0.00020	mg/L	2018-09-19	
Titanium, total	< 0.0050	0.0050	mg/L	2018-09-19	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-09-19	
Uranium, total	0.000573	0.000020	mg/L	2018-09-19	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-09-19	
Zinc, total	< 0.0040	0.0040	mg/L	2018-09-19	
Zirconium, total	0.00013	0.00010	mg/L	2018-09-19	
<i>Microbiological Parameters</i>					
Coliforms, Fecal (Q-Tray)	200	1.0	MPN/100 mL	2018-09-15	HT3

Sample Qualifiers:

- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- HT3 Microbiological analysis was initiated beyond the maximum holding time of 30 hours. Results may not be valid.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 8091183
2018-09-20 14:20

Analysis Description	Method Ref.	Technique	Location
Ammonia, Total in Water	SM 4500-NH3 D* (2011)	Ion Selective Electrode	Edmonton
Biochemical Oxygen Demand in Water	SM 5210 B (2011)	Dissolved Oxygen Meter	Edmonton
Biochemical Oxygen Demand, Carbonaceous in Water	SM 5210 B (2011)	Dissolved Oxygen Meter	Edmonton
Coliforms, Fecal in Water	SM 9223 B* (2004)	Most Probable Number / Enzyme Substrate Endo Agar	Edmonton
Conductivity in Water	SM 2510 B (2011)	Conductivity Meter	Edmonton
Hardness in Water	SM 2340 B* (2011)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	N/A
Oil and Grease, Total in Water	EPA 1664A*	Liquid-Liquid Extraction with Hexane	Edmonton
pH in Water	SM 4500-H+ B (2011)	Electrometry	Edmonton
Solids, Total Dissolved in Water	SM 2540 C* (2011)	Gravimetry (Dried at 103-105C)	Edmonton
Solids, Total Suspended in Water	SM 2540 D* (2011)	Gravimetry (Dried at 103-105C)	Edmonton
Total Metals in Water	EPA 200.2* / EPA 6020B	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond

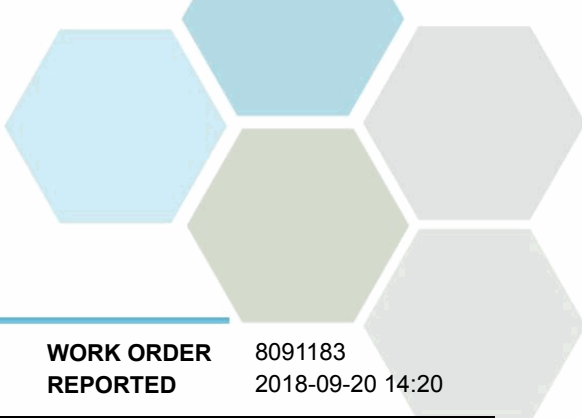
Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
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
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

General Comments:

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



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 8091183
2018-09-20 14:20

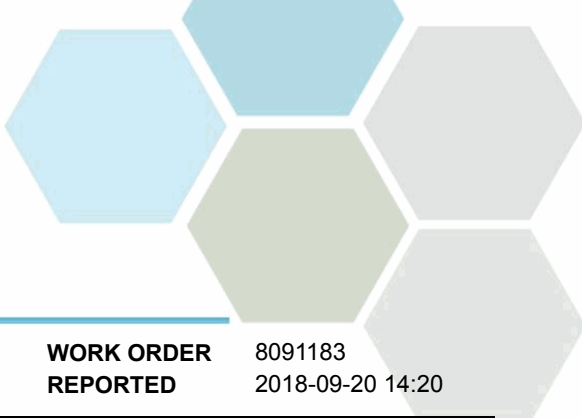
The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in “batches” and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (Blk):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is 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 10-20 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.

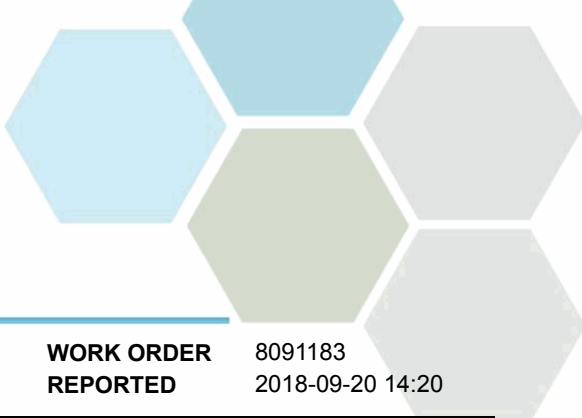
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B8I0938									
Reference (B8I0938-SRM1)			Prepared: 2018-09-14, Analyzed: 2018-09-14						
pH	7.08	0.10 pH units	7.00		101	98-102			
Reference (B8I0938-SRM2)			Prepared: 2018-09-14, Analyzed: 2018-09-14						
pH	7.07	0.10 pH units	7.00		101	98-102			
Reference (B8I0938-SRM3)			Prepared: 2018-09-14, Analyzed: 2018-09-14						
pH	7.04	0.10 pH units	7.00		101	98-102			
General Parameters, Batch B8I0944									
Blank (B8I0944-BLK1)			Prepared: 2018-09-14, Analyzed: 2018-09-14						
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B8I0944-BLK2)			Prepared: 2018-09-14, Analyzed: 2018-09-14						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B8I0944-BS1)			Prepared: 2018-09-14, Analyzed: 2018-09-14						
Conductivity (EC)	1010	2.0 µS/cm	1000		101	95-105			
LCS (B8I0944-BS2)			Prepared: 2018-09-14, Analyzed: 2018-09-14						
Conductivity (EC)	1000	2.0 µS/cm	1000		100	95-105			
General Parameters, Batch B8I0986									
Blank (B8I0986-BLK1)			Prepared: 2018-09-14, Analyzed: 2018-09-18						
BOD, 5-day	< 1.2	1.2 mg/L							BOD6
Blank (B8I0986-BLK2)			Prepared: 2018-09-14, Analyzed: 2018-09-18						
BOD, 5-day	< 1.2	1.2 mg/L							BOD6
LCS (B8I0986-BS1)			Prepared: 2018-09-14, Analyzed: 2018-09-18						
BOD, 5-day	148	58.2 mg/L	198		75	85-115			SP1

General Parameters, Batch B8I0987



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT	Fort Liard, Hamlet of Sewage Lagoon		WORK ORDER REPORTED	8091183 2018-09-20 14:20					
Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B810987, Continued									
Blank (B810987-BLK1)			Prepared: 2018-09-14, Analyzed: 2018-09-18						
BOD, 5-day Carbonaceous	< 1.3	1.3 mg/L							
Blank (B810987-BLK2)			Prepared: 2018-09-14, Analyzed: 2018-09-18						
BOD, 5-day Carbonaceous	< 1.3	1.3 mg/L							BOD6
LCS (B810987-BS1)			Prepared: 2018-09-14, Analyzed: 2018-09-18						
BOD, 5-day Carbonaceous	137	66.5 mg/L	198		69	85-115			SPK
General Parameters, Batch B81022									
Blank (B81022-BLK1)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B81022-BLK2)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B81022-BLK3)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B81022-BS1)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Suspended	101	2.0 mg/L	100		101	94-105			
LCS (B81022-BS2)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Suspended	113	2.0 mg/L	100		113	94-105			SPK1
LCS (B81022-BS3)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Suspended	95.0	2.0 mg/L	100		95	94-105			
General Parameters, Batch B81084									
Blank (B81084-BLK1)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Dissolved	< 10	10 mg/L							
Reference (B81084-SRM1)			Prepared: 2018-09-17, Analyzed: 2018-09-18						
Solids, Total Dissolved	244	10 mg/L	240		102	85-115			
General Parameters, Batch B81191									
Blank (B81191-BLK1)			Prepared: 2018-09-18, Analyzed: 2018-09-18						
Oil & Grease, Total	< 2.0	2.0 mg/L							
LCS (B81191-BS1)			Prepared: 2018-09-18, Analyzed: 2018-09-18						
Oil & Grease, Total	37.2	2.0 mg/L	40.2		93	70-97			
LCS Dup (B81191-BSD1)			Prepared: 2018-09-18, Analyzed: 2018-09-18						
Oil & Grease, Total	36.9	2.0 mg/L	40.2		92	70-97	< 1	10	
General Parameters, Batch B81283									
Blank (B81283-BLK1)			Prepared: 2018-09-19, Analyzed: 2018-09-19						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B81283-BLK2)			Prepared: 2018-09-19, Analyzed: 2018-09-19						
Ammonia, Total (as N)	< 0.050	0.050 mg/L							

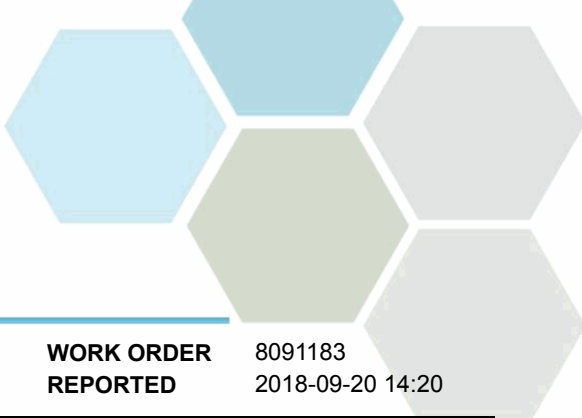


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 8091183
2018-09-20 14:20

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B811283, Continued									
LCS (B811283-BS1)			Prepared: 2018-09-19, Analyzed: 2018-09-19						
Ammonia, Total (as N)	0.201	0.050 mg/L	0.200		100	94-113			
LCS (B811283-BS2)			Prepared: 2018-09-19, Analyzed: 2018-09-19						
Ammonia, Total (as N)	0.199	0.050 mg/L	0.200		100	94-113			
Microbiological Parameters, Batch B811006									
Blank (B811006-BLK1)			Prepared: 2018-09-14, Analyzed: 2018-09-15						
Coliforms, Fecal (Q-Tray)	< 1.0	1.0 MPN/100 mL							
Total Metals, Batch B811233									
Blank (B811233-BLK1)			Prepared: 2018-09-18, Analyzed: 2018-09-19						
Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 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	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
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	< 0.00040	0.00040 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	< 0.00050	0.00050 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							
Tungsten, total	< 0.0010	0.0010 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 (B811233-BS1)			Prepared: 2018-09-18, Analyzed: 2018-09-19						
Aluminum, total	0.0217	0.0050 mg/L	0.0200		109	80-120			
Antimony, total	0.0207	0.00020 mg/L	0.0200		103	80-120			
Arsenic, total	0.0214	0.00050 mg/L	0.0200		107	80-120			



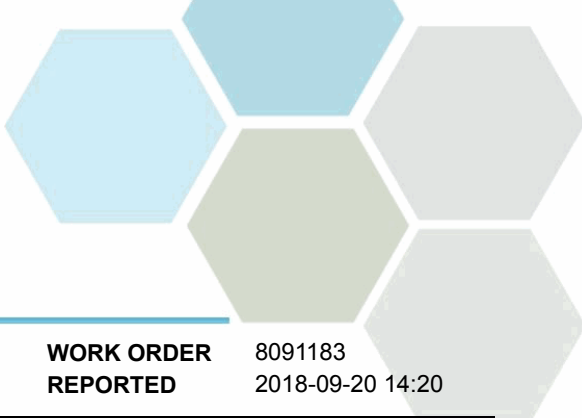
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 8091183
2018-09-20 14:20

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B811233, Continued									
LCS (B811233-BS1), Continued					Prepared: 2018-09-18, Analyzed: 2018-09-19				
Barium, total	0.0213	0.0050 mg/L	0.0200		107	80-120			
Beryllium, total	0.0226	0.00010 mg/L	0.0200		113	80-120			
Bismuth, total	0.0217	0.00010 mg/L	0.0200		109	80-120			
Boron, total	0.0221	0.0050 mg/L	0.0200		111	80-120			
Cadmium, total	0.0217	0.000010 mg/L	0.0200		109	80-120			
Calcium, total	2.04	0.20 mg/L	2.00		102	80-120			
Chromium, total	0.0205	0.00050 mg/L	0.0200		103	80-120			
Cobalt, total	0.0211	0.00010 mg/L	0.0200		105	80-120			
Copper, total	0.0215	0.00040 mg/L	0.0200		108	80-120			
Iron, total	2.01	0.10 mg/L	2.00		100	80-120			
Lead, total	0.0218	0.00020 mg/L	0.0200		109	80-120			
Lithium, total	0.0227	0.00010 mg/L	0.0200		113	80-120			
Magnesium, total	2.05	0.10 mg/L	2.00		103	80-120			
Manganese, total	0.0207	0.00020 mg/L	0.0200		103	80-120			
Molybdenum, total	0.0198	0.00010 mg/L	0.0200		99	80-120			
Nickel, total	0.0211	0.00040 mg/L	0.0200		106	80-120			
Phosphorus, total	2.10	0.050 mg/L	2.00		105	80-120			
Potassium, total	2.01	0.10 mg/L	2.00		100	80-120			
Selenium, total	0.0219	0.00050 mg/L	0.0200		110	80-120			
Silicon, total	2.3	1.0 mg/L	2.00		114	80-120			
Silver, total	0.0212	0.000050 mg/L	0.0200		106	80-120			
Sodium, total	2.02	0.10 mg/L	2.00		101	80-120			
Strontium, total	0.0210	0.0010 mg/L	0.0200		105	80-120			
Sulfur, total	5.0	3.0 mg/L	5.00		101	80-120			
Tellurium, total	0.0216	0.00050 mg/L	0.0200		108	80-120			
Thallium, total	0.0216	0.000020 mg/L	0.0200		108	80-120			
Thorium, total	0.0204	0.00010 mg/L	0.0200		102	80-120			
Tin, total	0.0214	0.00020 mg/L	0.0200		107	80-120			
Titanium, total	0.0213	0.0050 mg/L	0.0200		107	80-120			
Tungsten, total	0.0182	0.0010 mg/L	0.0200		91	80-120			
Uranium, total	0.0209	0.000020 mg/L	0.0200		104	80-120			
Vanadium, total	0.0208	0.0010 mg/L	0.0200		104	80-120			
Zinc, total	0.0175	0.0040 mg/L	0.0200		88	80-120			
Zirconium, total	0.0199	0.00010 mg/L	0.0200		100	80-120			

Reference (B811233-SRM1)					Prepared: 2018-09-18, Analyzed: 2018-09-19				
Aluminum, total	0.322	0.0050 mg/L	0.303		106	82-114			
Antimony, total	0.0536	0.00020 mg/L	0.0511		105	88-115			
Arsenic, total	0.126	0.00050 mg/L	0.118		107	88-111			
Barium, total	0.836	0.0050 mg/L	0.823		102	83-110			
Beryllium, total	0.0550	0.00010 mg/L	0.0496		111	80-119			
Boron, total	3.41	0.0050 mg/L	3.45		99	80-118			
Cadmium, total	0.0526	0.000010 mg/L	0.0495		106	90-110			
Calcium, total	11.2	0.20 mg/L	11.6		97	85-113			
Chromium, total	0.253	0.00050 mg/L	0.250		101	88-111			
Cobalt, total	0.0402	0.00010 mg/L	0.0377		107	90-114			
Copper, total	0.522	0.00040 mg/L	0.486		107	90-117			
Iron, total	0.493	0.010 mg/L	0.488		101	90-116			
Lead, total	0.214	0.00020 mg/L	0.204		105	90-110			
Lithium, total	0.435	0.00010 mg/L	0.403		108	79-118			
Magnesium, total	3.87	0.010 mg/L	3.79		102	88-116			
Manganese, total	0.111	0.00020 mg/L	0.109		102	88-108			
Molybdenum, total	0.200	0.00010 mg/L	0.198		101	88-110			
Nickel, total	0.261	0.00040 mg/L	0.249		105	90-112			
Phosphorus, total	0.260	0.050 mg/L	0.227		115	72-118			
Potassium, total	7.29	0.10 mg/L	7.21		101	87-116			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Fort Liard, Hamlet of Sewage Lagoon

WORK ORDER REPORTED 8091183
2018-09-20 14:20

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B8I1233, Continued									
Reference (B8I1233-SRM1), Continued					Prepared: 2018-09-18, Analyzed: 2018-09-19				
Selenium, total	0.134	0.00050 mg/L	0.121		111	90-122			
Sodium, total	7.51	0.10 mg/L	7.54		100	86-118			
Strontium, total	0.389	0.0010 mg/L	0.375		104	86-110			
Thallium, total	0.0863	0.000020 mg/L	0.0805		107	90-113			
Uranium, total	0.0311	0.000020 mg/L	0.0306		102	88-112			
Vanadium, total	0.400	0.0010 mg/L	0.386		104	87-110			
Zinc, total	2.69	0.0040 mg/L	2.49		108	90-113			

QC Qualifiers:

- BOD6 The BOD unseeded blank dissolved oxygen depletion exceeded 0.2 mg/L.
- SP1 The reporting limit has been raised due to a high saturation percentage
- SPK The recovery of this analyte was outside of established control limits.
- SPK1 The recovery of this analyte was outside of established control limits. The data was accepted based on performance of other batch QC.