



CERTIFICATE OF ANALYSIS

Work Order	: FC2401051	Page	: 1 of 8
Client	: Regional Municipality of Wood Buffalo	Laboratory	: ALS Environmental - Fort McMurray
Contact	: Water Treatment Plant	Account Manager	: Megan Trydal
Address	: 1 Silin Forest Road Fort McMurray AB Canada T9H 5A1	Address	: #4, 340 Macalpine Crescent Fort McMurray AB Canada T9H 4A8
Telephone	: 780-762-5863	Telephone	: +1 780 791 1524
Project	: Fort Chipewyan Imperial Release	Date Samples Received	: 06-May-2024 16:00
PO	: 4500051416	Date Analysis Commenced	: 07-May-2024
C-O-C number	: ----	Issue Date	: 14-May-2024 16:40
Sampler	: JF		
Site	: ----		
Quote number	: Water Treatment Plant		
No. of samples received	: 2		
No. of samples analysed	: 2		

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Alex Drake	Lab Analyst	Inorganics, Edmonton, Alberta
Alex Drake	Lab Analyst	Metals, Edmonton, Alberta
Dan Nguyen	Team Leader - Inorganics	Metals, Edmonton, Alberta
Daniel Nguyen	Laboratory Analyst	Metals, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Kiersten Penol	Lab Assistant	Inorganics, Edmonton, Alberta
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Yan Zhang	Team Leader - Organics	Organics, Edmonton, Alberta



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).

<i>Unit</i>	<i>Description</i>
-	no units
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units
psu	practical salinity 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.



Analytical Results

Sub-Matrix: Water					Client sample ID	TREATED WATER	RAW WATER CHAMBER TAP	---	---	---
(Matrix: Water)					Client sampling date / time	06-May-2024 09:40	06-May-2024 09:45	---	---	---
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2401051-001	FC2401051-002	-----	-----	-----	
					Result	Result	---	---	---	
Physical Tests										
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/EO	1.0	mg/L	54.6	37.2	---	---	---	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/EO	1.0	mg/L	1.4	<1.0	---	---	---	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/EO	1.0	mg/L	<1.0	<1.0	---	---	---	
Alkalinity, total (as CaCO3)	---	E290/EO	1.0	mg/L	47.2	30.5	---	---	---	
Conductivity	---	E100/EO	1.0	µS/cm	149	80.4	---	---	---	
Hardness (as CaCO3), dissolved	---	EC100/EO	0.50	mg/L	35.4	32.8	---	---	---	
pH	---	E108/EO	0.10	pH units	8.35	7.29	---	---	---	
Salinity	---	EC100S/VA	1.0	psu	<1.0	<1.0	---	---	---	
Solids, total dissolved [TDS], calculated	---	EC103/EO	1.0	mg/L	84.1	47.3	---	---	---	
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl/EO	0.50	mg/L	17.5	4.05	---	---	---	
Fluoride	16984-48-8	E235.F/EO	0.020	mg/L	<0.020	0.051	---	---	---	
Nitrate (as N)	14797-55-8	E235.NO3/EO	0.020	mg/L	0.032	<0.020	---	---	---	
Nitrate + Nitrite (as N)	---	EC235.N+N/E O	0.0300	mg/L	0.0320	<0.0300	---	---	---	
Nitrite (as N)	14797-65-0	E235.NO2/EO	0.010	mg/L	<0.010	<0.010	---	---	---	
Sulfate (as SO4)	14808-79-8	E235.SO4/EO	0.30	mg/L	4.14	4.90	---	---	---	
Total Sulfides										
Sulfide, total (as S)	18496-25-8	E395/VA	0.0015	mg/L	<0.0015	<0.0015	---	---	---	
Sulfide, total (as H2S)	7783-06-4	E395/VA	0.0016	mg/L	<0.0016	<0.0016	---	---	---	
Ion Balance										
Anion sum	---	EC101/EO	0.10	meq/L	1.52	0.83	---	---	---	
Cation sum	---	EC101/EO	0.10	meq/L	1.48	0.84	---	---	---	
Ion balance (APHA)	---	EC101/EO	0.01	%	-1.33	0.60	---	---	---	
Ion balance (cations/anions)	---	EC101/EO	0.010	%	97.4	101	---	---	---	
Total Metals										
Aluminum, total	7429-90-5	E420/EO	0.0030	mg/L	0.0739	0.0720	---	---	---	
Antimony, total	7440-36-0	E420/EO	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Arsenic, total	7440-38-2	E420/EO	0.00010	mg/L	0.00015	0.00022	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	TREATED WATER	RAW WATER CHAMBER TAP	----	----	----
Client sampling date / time					06-May-2024 09:40	06-May-2024 09:45	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2401051-001	FC2401051-002	-----	-----	-----	
					Result	Result	---	---	---	
Total Metals										
Barium, total	7440-39-3	E420/EO	0.00010	mg/L	0.0174	0.0174	---	---	---	
Beryllium, total	7440-41-7	E420/EO	0.000020	mg/L	<0.000020	<0.000020	---	---	---	
Bismuth, total	7440-69-9	E420/EO	0.000050	mg/L	<0.000050	<0.000050	---	---	---	
Boron, total	7440-42-8	E420/EO	0.010	mg/L	0.012	0.011	---	---	---	
Cadmium, total	7440-43-9	E420/EO	0.0000050	mg/L	<0.0000050	<0.0000050	---	---	---	
Calcium, total	7440-70-2	E420/EO	0.050	mg/L	10.7	9.30	---	---	---	
Cesium, total	7440-46-2	E420/EO	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Chromium, total	7440-47-3	E420/EO	0.00050	mg/L	<0.00050	<0.00050	---	---	---	
Cobalt, total	7440-48-4	E420/EO	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Copper, total	7440-50-8	E420/EO	0.00050	mg/L	<0.00050	0.00110	---	---	---	
Iron, total	7439-89-6	E420/EO	0.010	mg/L	<0.010	0.079	---	---	---	
Lead, total	7439-92-1	E420/EO	0.000050	mg/L	<0.000050	<0.000050	---	---	---	
Lithium, total	7439-93-2	E420/EO	0.0010	mg/L	0.0034	0.0030	---	---	---	
Magnesium, total	7439-95-4	E420/EO	0.0050	mg/L	2.52	2.53	---	---	---	
Manganese, total	7439-96-5	E420/EO	0.00010	mg/L	0.00229	0.00349	---	---	---	
Molybdenum, total	7439-98-7	E420/EO	0.000050	mg/L	0.000171	0.000193	---	---	---	
Nickel, total	7440-02-0	E420/EO	0.00050	mg/L	<0.00050	<0.00050	---	---	---	
Phosphorus, total	7723-14-0	E420/EO	0.050	mg/L	<0.050	<0.050	---	---	---	
Potassium, total	7440-09-7	E420/EO	0.050	mg/L	0.794	0.808	---	---	---	
Rubidium, total	7440-17-7	E420/EO	0.00020	mg/L	0.00079	0.00088	---	---	---	
Selenium, total	7782-49-2	E420/EO	0.000050	mg/L	<0.000050	0.000051	---	---	---	
Silicon, total	7440-21-3	E420/EO	0.10	mg/L	1.23	1.43	---	---	---	
Silver, total	7440-22-4	E420/EO	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Sodium, total	7440-23-5	E420/EO	0.050	mg/L	16.6	3.41	---	---	---	
Strontium, total	7440-24-6	E420/EO	0.00020	mg/L	0.0683	0.0651	---	---	---	
Sulfur, total	7704-34-9	E420/EO	0.50	mg/L	1.30	1.61	---	---	---	
Tellurium, total	13494-80-9	E420/EO	0.00020	mg/L	0.00032	0.00031	---	---	---	
Thallium, total	7440-28-0	E420/EO	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Thorium, total	7440-29-1	E420/EO	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Tin, total	7440-31-5	E420/EO	0.00010	mg/L	<0.00010	<0.00010	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	TREATED WATER	RAW WATER CHAMBER TAP	----	----	----
Client sampling date / time					06-May-2024 09:40	06-May-2024 09:45	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2401051-001	FC2401051-002	-----	-----	-----	
					Result	Result	----	----	----	
Total Metals										
Titanium, total	7440-32-6	E420/EO	0.00030	mg/L	<0.00030	0.00199	----	----	----	
Tungsten, total	7440-33-7	E420/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Uranium, total	7440-61-1	E420/EO	0.000010	mg/L	<0.000010	0.000099	----	----	----	
Vanadium, total	7440-62-2	E420/EO	0.00050	mg/L	<0.00050	<0.00050	----	----	----	
Zinc, total	7440-66-6	E420/EO	0.0030	mg/L	<0.0030	<0.0030	----	----	----	
Zirconium, total	7440-67-7	E420/EO	0.00020	mg/L	<0.00020	<0.00020	----	----	----	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/EO	0.0010	mg/L	0.0768	0.0743	----	----	----	
Antimony, dissolved	7440-36-0	E421/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Arsenic, dissolved	7440-38-2	E421/EO	0.00010	mg/L	0.00012	0.00019	----	----	----	
Barium, dissolved	7440-39-3	E421/EO	0.00010	mg/L	0.0162	0.0159	----	----	----	
Beryllium, dissolved	7440-41-7	E421/EO	0.000020	mg/L	<0.000020	<0.000020	----	----	----	
Bismuth, dissolved	7440-69-9	E421/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	
Boron, dissolved	7440-42-8	E421/EO	0.010	mg/L	<0.010	<0.010	----	----	----	
Cadmium, dissolved	7440-43-9	E421/EO	0.0000050	mg/L	<0.0000050	<0.0000050	----	----	----	
Calcium, dissolved	7440-70-2	E421/EO	0.050	mg/L	9.82	8.65	----	----	----	
Cesium, dissolved	7440-46-2	E421/EO	0.000010	mg/L	<0.000010	<0.000010	----	----	----	
Chromium, dissolved	7440-47-3	E421/EO	0.00050	mg/L	<0.00050	<0.00050	----	----	----	
Cobalt, dissolved	7440-48-4	E421/EO	0.00010	mg/L	<0.00010	<0.00010	----	----	----	
Copper, dissolved	7440-50-8	E421/EO	0.00020	mg/L	0.00040	0.00090	----	----	----	
Iron, dissolved	7439-89-6	E421/EO	0.010	mg/L	<0.010	0.072	----	----	----	
Lead, dissolved	7439-92-1	E421/EO	0.000050	mg/L	<0.000050	<0.000050	----	----	----	
Lithium, dissolved	7439-93-2	E421/EO	0.0010	mg/L	0.0027	0.0024	----	----	----	
Magnesium, dissolved	7439-95-4	E421/EO	0.0050	mg/L	2.64	2.71	----	----	----	
Manganese, dissolved	7439-96-5	E421/EO	0.00010	mg/L	0.00245	0.00343	----	----	----	
Molybdenum, dissolved	7439-98-7	E421/EO	0.000050	mg/L	0.000162	0.000194	----	----	----	
Nickel, dissolved	7440-02-0	E421/EO	0.00050	mg/L	<0.00050	<0.00050	----	----	----	
Phosphorus, dissolved	7723-14-0	E421/EO	0.050	mg/L	<0.050	<0.050	----	----	----	
Potassium, dissolved	7440-09-7	E421/EO	0.050	mg/L	0.820	0.841	----	----	----	
Rubidium, dissolved	7440-17-7	E421/EO	0.00020	mg/L	0.00077	0.00079	----	----	----	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	TREATED WATER	RAW WATER CHAMBER TAP	----	----	----
Client sampling date / time					06-May-2024 09:40	06-May-2024 09:45	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2401051-001	FC2401051-002	-----	-----	-----	
					Result	Result	---	---	---	
Dissolved Metals										
Selenium, dissolved	7782-49-2	E421/EO	0.000050	mg/L	<0.000050	<0.000050	---	---	---	
Silicon, dissolved	7440-21-3	E421/EO	0.050	mg/L	1.28	1.53	---	---	---	
Silver, dissolved	7440-22-4	E421/EO	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Sodium, dissolved	7440-23-5	E421/EO	0.050	mg/L	17.2	3.54	---	---	---	
Strontium, dissolved	7440-24-6	E421/EO	0.00020	mg/L	0.0612	0.0578	---	---	---	
Sulfur, dissolved	7704-34-9	E421/EO	0.50	mg/L	1.23	1.51	---	---	---	
Tellurium, dissolved	13494-80-9	E421/EO	0.00020	mg/L	<0.00020	<0.00020	---	---	---	
Thallium, dissolved	7440-28-0	E421/EO	0.000010	mg/L	<0.000010	<0.000010	---	---	---	
Thorium, dissolved	7440-29-1	E421/EO	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Tin, dissolved	7440-31-5	E421/EO	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Titanium, dissolved	7440-32-6	E421/EO	0.00030	mg/L	<0.00030	0.00194	---	---	---	
Tungsten, dissolved	7440-33-7	E421/EO	0.00010	mg/L	<0.00010	<0.00010	---	---	---	
Uranium, dissolved	7440-61-1	E421/EO	0.000010	mg/L	<0.000010	0.000088	---	---	---	
Vanadium, dissolved	7440-62-2	E421/EO	0.00050	mg/L	<0.00050	<0.00050	---	---	---	
Zinc, dissolved	7440-66-6	E421/EO	0.0010	mg/L	<0.0010	<0.0010	---	---	---	
Zirconium, dissolved	7440-67-7	E421/EO	0.00030	mg/L	<0.00030	<0.00030	---	---	---	
Dissolved metals filtration location	----	EP421/EO	-	-	Field	Field	---	---	---	
Aggregate Organics										
Naphthenic acids	----	E565-L/EO	0.10	mg/L	<0.10	<0.10	---	---	---	
Volatile Organic Compounds [BTEXS+MTBE]										
Benzene	71-43-2	E611A/EO	0.50	µg/L	<0.50	<0.50	---	---	---	
Ethylbenzene	100-41-4	E611A/EO	0.50	µg/L	<0.50	<0.50	---	---	---	
Toluene	108-88-3	E611A/EO	0.50	µg/L	<0.50	<0.50	---	---	---	
Xylene, m+p-	179601-23-1	E611A/EO	0.50	µg/L	<0.50	<0.50	---	---	---	
Xylene, o-	95-47-6	E611A/EO	0.50	µg/L	<0.50	<0.50	---	---	---	
Xylenes, total	1330-20-7	E611A/EO	0.75	µg/L	<0.75	<0.75	---	---	---	
BTEX, total	----	E611A/EO	1.2	µg/L	<1.2	<1.2	---	---	---	
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/EO	100	µg/L	<100	<100	---	---	---	
F1-BTEX	----	EC580/EO	100	µg/L	<100	<100	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	TREATED WATER	RAW WATER CHAMBER TAP	----	----	----
Client sampling date / time					06-May-2024 09:40	06-May-2024 09:45	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2401051-001	FC2401051-002	-----	-----	-----	
					Result	Result	---	---	---	
Hydrocarbons										
F2 (C10-C16)	---	E601/EO	100	µg/L	<100	<100	---	---	---	
F3 (C16-C34)	---	E601/EO	250	µg/L	<250	<250	---	---	---	
F4 (C34-C50)	---	E601/EO	250	µg/L	<250	<250	---	---	---	
Hydrocarbons, total (C6-C50)	n/a	EC581/EO	400	µg/L	<400	<400	---	---	---	
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601/EO	1.0	%	110	110	---	---	---	
Dichlorotoluene, 3,4-	95-75-0	E581.F1/EO	1.0	%	107	118	---	---	---	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611A/EO	1.0	%	106	100	---	---	---	
Difluorobenzene, 1,4-	540-36-3	E611A/EO	1.0	%	101	101	---	---	---	
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Acenaphthylene	208-96-8	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Acridine	260-94-6	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Anthracene	120-12-7	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Benz(a)anthracene	56-55-3	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Benzo(a)pyrene	50-32-8	E641A/EO	0.0050	µg/L	<0.0050	<0.0050	---	---	---	
Benzo(b+j)fluoranthene	n/a	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Benzo(b+j+k)fluoranthene	n/a	E641A/EO	0.015	µg/L	<0.015	<0.015	---	---	---	
Benzo(g,h,i)perylene	191-24-2	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Benzo(k)fluoranthene	207-08-9	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Chrysene	218-01-9	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Dibenz(a,h)anthracene	53-70-3	E641A/EO	0.0050	µg/L	<0.0050	<0.0050	---	---	---	
Fluoranthene	206-44-0	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Fluorene	86-73-7	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Methylnaphthalene, 1-	90-12-0	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Methylnaphthalene, 1+2-	---	E641A/EO	0.015	µg/L	<0.015	<0.015	---	---	---	
Methylnaphthalene, 2-	91-57-6	E641A/EO	0.010	µg/L	<0.010	<0.010	---	---	---	
Naphthalene	91-20-3	E641A/EO	0.050	µg/L	<0.050	<0.050	---	---	---	



Analytical Results

Sub-Matrix: Water (Matrix: Water)					Client sample ID	TREATED WATER	RAW WATER CHAMBER TAP	----	----	----
Client sampling date / time					06-May-2024 09:40	06-May-2024 09:45	----	----	----	
Analyte	CAS Number	Method/Lab	LOR	Unit	FC2401051-001 Result	FC2401051-002 Result	-----	-----	-----	
Polycyclic Aromatic Hydrocarbons										
Phenanthrene	85-01-8	E641A/EO	0.020	µg/L	<0.020	<0.020	----	----	----	
Pyrene	129-00-0	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	
Quinoline	91-22-5	E641A/EO	0.050	µg/L	<0.050	<0.050	----	----	----	
B(a)P total potency equivalents [B(a)P TPE]	----	E641A/EO	0.010	µg/L	<0.010	<0.010	----	----	----	
PAHs, high molecular weight (BC AWQ)	n/a	E641A/EO	0.030	µg/L	<0.030	<0.030	----	----	----	
PAHs, low molecular weight (BC AWQ)	n/a	E641A/EO	0.060	µg/L	<0.060	<0.060	----	----	----	
PAHs, total (CCME sewer 18)	n/a	E641A/EO	0.070	µg/L	<0.070	<0.070	----	----	----	
PAHs, total (EPA 16)	n/a	E641A/EO	0.065	µg/L	<0.065	<0.065	----	----	----	
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/EO	0.1	%	77.4	73.2	----	----	----	
Naphthalene-d8	1146-65-2	E641A/EO	0.1	%	81.3	72.3	----	----	----	
Phenanthrene-d10	1517-22-2	E641A/EO	0.1	%	73.4	71.3	----	----	----	

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.



CERTIFICATE OF ANALYSIS

Work Order	: FC2401051	Page	: 1 of 10
Client	: Regional Municipality of Wood Buffalo	Laboratory	: ALS Environmental - Fort McMurray
Contact	: Water Treatment Plant	Account Manager	: Megan Trydal
Address	: 1 Silin Forest Road Fort McMurray AB Canada T9H 5A1	Address	: #4, 340 Macalpine Crescent Fort McMurray AB Canada T9H 4A8
Telephone	: 780-762-5863	Telephone	: +1 780 791 1524
Project	: Fort Chipewyan Imperial Release	Date Samples Received	: 06-May-2024 16:00
PO	: 4500051416	Date Analysis	: 07-May-2024
		Commenced	
		Issue Date	: 14-May-2024 16:43
C-O-C number	: ----		
Sampler	: JF		
Site	: ----		
Quote number	: Water Treatment Plant		
No. of samples received	: 2		
No. of samples analysed	: 2		

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.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Alex Drake	Lab Analyst	Inorganics, Edmonton, Alberta
Alex Drake	Lab Analyst	Metals, Edmonton, Alberta
Dan Nguyen	Team Leader - Inorganics	Metals, Edmonton, Alberta
Daniel Nguyen	Laboratory Analyst	Metals, Edmonton, Alberta
Geoff Berg	Lab Analyst	Organics, Edmonton, Alberta
Kari Mulroy	Lab Supervisor - Environmental	Organics, Edmonton, Alberta
Kiersten Penol	Lab Assistant	Inorganics, Edmonton, Alberta
Miles Gropen	Department Manager - Inorganics	Inorganics, Burnaby, British Columbia
Ping Yeung	Team Leader - Inorganics	Inorganics, Edmonton, Alberta
Yan Zhang	Team Leader - Organics	Organics, Edmonton, Alberta



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).

Measurement Uncertainty: The reported uncertainties in this report are expanded uncertainties calculated using a coverage factor of 2, which gives a level of confidence of approximately 95%.

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.

<i>Unit</i>	<i>Description</i>
-	no units
%	percent
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units
psu	practical salinity units

>: greater than.

<: less than.

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

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



Analytical Results

FC2401051-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: TREATED WATER

Client sampling date / time: 06-May-2024 09:40

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	54.6	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Alkalinity, carbonate (as CO ₃)	3812-32-6	1.4	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Alkalinity, hydroxide (as OH)	14280-30-9	<1.0	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Alkalinity, total (as CaCO ₃)	----	47.2	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Conductivity	----	149	1.0	µS/cm	E100/EO	07-May-2024	07-May-2024	1431442
Hardness (as CaCO ₃), dissolved	----	35.4	0.50	mg/L	EC100/EO	-	08-May-2024	-
pH	----	8.35	0.10	pH units	E108/EO	07-May-2024	07-May-2024	1431441
Salinity	----	<1.0	1.0	psu	EC100S/VA	-	13-May-2024	-
Solids, total dissolved [TDS], calculated	----	84.1	1.0	mg/L	EC103/EO	-	08-May-2024	-
Anions and Nutrients								
Chloride	16887-00-6	17.5	0.50	mg/L	E235.Cl/EO	07-May-2024	07-May-2024	1431529
Fluoride	16984-48-8	<0.020	0.020	mg/L	E235.F/EO	07-May-2024	07-May-2024	1431526
Nitrate (as N)	14797-55-8	0.032	0.020	mg/L	E235.NO3/EO	07-May-2024	07-May-2024	1431527
Nitrate + Nitrite (as N)	----	0.0320	0.03	mg/L	EC235.N+N/EO	-	08-May-2024	-
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2/EO	07-May-2024	07-May-2024	1431528
Sulfate (as SO ₄)	14808-79-8	4.14	0.30	mg/L	E235.SO4/EO	07-May-2024	07-May-2024	1431530
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/VA	-	10-May-2024	1436746
Sulfide, total (as H ₂ S)	7783-06-4	<0.0016	0.0016	mg/L	E395/VA	-	10-May-2024	1436746
Ion Balance								
Anion sum	----	1.52	0.10	meq/L	EC101/EO	-	08-May-2024	-
Cation sum	----	1.48	0.10	meq/L	EC101/EO	-	08-May-2024	-
Ion balance (APHA)	----	-1.33	0.01	%	EC101/EO	-	08-May-2024	-
Ion balance (cations/anions)	----	97.4	0.010	%	EC101/EO	-	08-May-2024	-
Total Metals								
Aluminum, total	7429-90-5	0.0739	0.0030	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Arsenic, total	7440-38-2	0.00015	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Barium, total	7440-39-3	0.0174	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Boron, total	7440-42-8	0.012	0.010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Cadmium, total	7440-43-9	<0.0000050	0.0000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Calcium, total	7440-70-2	10.7	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Cesium, total	7440-46-2	<0.000010	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Chromium, total	7440-47-3	<0.000050	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Copper, total	7440-50-8	<0.000050	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Iron, total	7439-89-6	<0.010	0.010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Lead, total	7439-92-1	<0.000050	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Lithium, total	7439-93-2	0.0034	0.0010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Magnesium, total	7439-95-4	2.52	0.0050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Manganese, total	7439-96-5	0.00229	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Molybdenum, total	7439-98-7	0.000171	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Nickel, total	7440-02-0	<0.00050	0.00050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429



Analytical Results

FC2401051-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: TREATED WATER

Client sampling date / time: 06-May-2024 09:40

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Total Metals								
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Potassium, total	7440-09-7	0.794	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Rubidium, total	7440-17-7	0.00079	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Selenium, total	7782-49-2	<0.000050	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Silicon, total	7440-21-3	1.23	0.10	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Sodium, total	7440-23-5	16.6	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Strontium, total	7440-24-6	0.0683	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Sulfur, total	7704-34-9	1.30	0.50	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Tellurium, total	13494-80-9	0.00032	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Titanium, total	7440-32-6	<0.00030	0.00030	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Uranium, total	7440-61-1	<0.000010	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Vanadium, total	7440-62-2	<0.00050	0.00050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0768	0.0010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Arsenic, dissolved	7440-38-2	0.00012	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Barium, dissolved	7440-39-3	0.0162	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Boron, dissolved	7440-42-8	<0.010	0.010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Calcium, dissolved	7440-70-2	9.82	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Copper, dissolved	7440-50-8	0.00040	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Iron, dissolved	7439-89-6	<0.010	0.010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Lithium, dissolved	7439-93-2	0.0027	0.0010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Magnesium, dissolved	7439-95-4	2.64	0.0050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Manganese, dissolved	7439-96-5	0.00245	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Molybdenum, dissolved	7439-98-7	0.000162	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Potassium, dissolved	7440-09-7	0.820	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Rubidium, dissolved	7440-17-7	0.00077	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Silicon, dissolved	7440-21-3	1.28	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957



Analytical Results

FC2401051-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: TREATED WATER

Client sampling date / time: 06-May-2024 09:40

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC/LOT
Dissolved Metals								
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Sodium, dissolved	7440-23-5	17.2	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Strontium, dissolved	7440-24-6	0.0612	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Sulfur, dissolved	7704-34-9	1.23	0.50	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Titanium, dissolved	7440-32-6	<0.00030	0.00030	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Uranium, dissolved	7440-61-1	<0.000010	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Dissolved metals filtration location	----	Field	-	-	EP421/EO	-	07-May-2024	1430957
Aggregate Organics								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L/EO	07-May-2024	09-May-2024	1430996
Volatile Organic Compounds [BTEXS+MTBE]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Toluene	108-88-3	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Xylene, m+p-	179601-23-1	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Xylene, o-	95-47-6	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Xylenes, total	1330-20-7	<0.75	0.75	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
BTEX, total	----	<1.2	1.2	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1/EO	07-May-2024	07-May-2024	1430959
F1-BTEX	----	<100	100	µg/L	EC580/EO	-	07-May-2024	-
F2 (C10-C16)	----	<100	100	µg/L	E601/EO	07-May-2024	07-May-2024	1431369
F3 (C16-C34)	----	<250	250	µg/L	E601/EO	07-May-2024	07-May-2024	1431369
F4 (C34-C50)	----	<250	250	µg/L	E601/EO	07-May-2024	07-May-2024	1431369
Hydrocarbons, total (C6-C50)	n/a	<400	400	µg/L	EC581/EO	-	07-May-2024	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	110	1.0	%	E601/EO	07-May-2024	07-May-2024	1431369
Dichlorotoluene, 3,4-	95-75-0	107	1.0	%	E581.F1/EO	07-May-2024	07-May-2024	1430959
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	106	1.0	%	E611A/EO	07-May-2024	07-May-2024	1430960
Difluorobenzene, 1,4-	540-36-3	101	1.0	%	E611A/EO	07-May-2024	07-May-2024	1430960
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Acridine	260-94-6	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370



Analytical Results

FC2401051-001

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: TREATED WATER

Client sampling date / time: 06-May-2024 09:40

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	77.4	0.1	%	E641A/EO	07-May-2024	07-May-2024	1431370
Naphthalene-d8	1146-65-2	81.3	0.1	%	E641A/EO	07-May-2024	07-May-2024	1431370
Phenanthrene-d10	1517-22-2	73.4	0.1	%	E641A/EO	07-May-2024	07-May-2024	1431370

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.

Analytical Results

FC2401051-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: RAW WATER CHAMBER TAP

Client sampling date / time: 06-May-2024 09:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Physical Tests								
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	37.2	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Alkalinity, carbonate (as CO ₃)	3812-32-6	<1.0	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Alkalinity, hydroxide (as OH)	14280-30-9	<1.0	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Alkalinity, total (as CaCO ₃)	----	30.5	1.0	mg/L	E290/EO	07-May-2024	07-May-2024	1431443
Conductivity	----	80.4	1.0	µS/cm	E100/EO	07-May-2024	07-May-2024	1431442
Hardness (as CaCO ₃), dissolved	----	32.8	0.50	mg/L	EC100/EO	-	08-May-2024	-
pH	----	7.29	0.10	pH units	E108/EO	07-May-2024	07-May-2024	1431441
Salinity	----	<1.0	1.0	psu	EC100S/VA	-	13-May-2024	-
Solids, total dissolved [TDS], calculated	----	47.3	1.0	mg/L	EC103/EO	-	08-May-2024	-



Analytical Results

FC2401051-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: RAW WATER CHAMBER TAP

Client sampling date / time: 06-May-2024 09:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLOT
Anions and Nutrients								
Chloride	16887-00-6	4.05	0.50	mg/L	E235.Cl/EO	07-May-2024	07-May-2024	1431529
Fluoride	16984-48-8	0.051	0.020	mg/L	E235.F/EO	07-May-2024	07-May-2024	1431526
Nitrate (as N)	14797-55-8	<0.020	0.020	mg/L	E235.NO3/EO	07-May-2024	07-May-2024	1431527
Nitrate + Nitrite (as N)	----	<0.0300	0.03	mg/L	EC235.N+N/EO	-	08-May-2024	-
Nitrite (as N)	14797-65-0	<0.010	0.010	mg/L	E235.NO2/EO	07-May-2024	07-May-2024	1431528
Sulfate (as SO4)	14808-79-8	4.90	0.30	mg/L	E235.SO4/EO	07-May-2024	07-May-2024	1431530
Total Sulfides								
Sulfide, total (as S)	18496-25-8	<0.0015	0.0015	mg/L	E395/VA	-	10-May-2024	1436746
Sulfide, total (as H2S)	7783-06-4	<0.0016	0.0016	mg/L	E395/VA	-	10-May-2024	1436746
Ion Balance								
Anion sum	----	0.83	0.10	meq/L	EC101/EO	-	08-May-2024	-
Cation sum	----	0.84	0.10	meq/L	EC101/EO	-	08-May-2024	-
Ion balance (APHA)	----	0.60	0.01	%	EC101/EO	-	08-May-2024	-
Ion balance (cations/anions)	----	101	0.010	%	EC101/EO	-	08-May-2024	-
Total Metals								
Aluminum, total	7429-90-5	0.0720	0.0030	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Antimony, total	7440-36-0	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Arsenic, total	7440-38-2	0.00022	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Barium, total	7440-39-3	0.0174	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Beryllium, total	7440-41-7	<0.000020	0.000020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Bismuth, total	7440-69-9	<0.000050	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Boron, total	7440-42-8	0.011	0.010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Cadmium, total	7440-43-9	<0.0000050	0.0000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Calcium, total	7440-70-2	9.30	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Cesium, total	7440-46-2	<0.000010	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Chromium, total	7440-47-3	<0.00050	0.00050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Cobalt, total	7440-48-4	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Copper, total	7440-50-8	0.00110	0.00050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Iron, total	7439-89-6	0.079	0.010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Lead, total	7439-92-1	<0.000050	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Lithium, total	7439-93-2	0.0030	0.0010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Magnesium, total	7439-95-4	2.53	0.0050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Manganese, total	7439-96-5	0.00349	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Molybdenum, total	7439-98-7	0.000193	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Nickel, total	7440-02-0	<0.00050	0.00050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Phosphorus, total	7723-14-0	<0.050	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Potassium, total	7440-09-7	0.808	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Rubidium, total	7440-17-7	0.00088	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Selenium, total	7782-49-2	0.000051	0.000050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Silicon, total	7440-21-3	1.43	0.10	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Silver, total	7440-22-4	<0.000010	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Sodium, total	7440-23-5	3.41	0.050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Strontium, total	7440-24-6	0.0651	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Sulfur, total	7704-34-9	1.61	0.50	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Tellurium, total	13494-80-9	0.00031	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429



Analytical Results

FC2401051-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: RAW WATER CHAMBER TAP

Client sampling date / time: 06-May-2024 09:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QC Lot
Total Metals								
Thallium, total	7440-28-0	<0.000010	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Thorium, total	7440-29-1	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Tin, total	7440-31-5	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Titanium, total	7440-32-6	0.00199	0.00030	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Tungsten, total	7440-33-7	<0.00010	0.00010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Uranium, total	7440-61-1	0.000099	0.000010	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Vanadium, total	7440-62-2	<0.00050	0.00050	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Zinc, total	7440-66-6	<0.0030	0.0030	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Zirconium, total	7440-67-7	<0.00020	0.00020	mg/L	E420/EO	07-May-2024	07-May-2024	1431429
Dissolved Metals								
Aluminum, dissolved	7429-90-5	0.0743	0.0010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Antimony, dissolved	7440-36-0	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Arsenic, dissolved	7440-38-2	0.00019	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Barium, dissolved	7440-39-3	0.0159	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Beryllium, dissolved	7440-41-7	<0.000020	0.000020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Bismuth, dissolved	7440-69-9	<0.000050	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Boron, dissolved	7440-42-8	<0.010	0.010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Cadmium, dissolved	7440-43-9	<0.0000050	0.0000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Calcium, dissolved	7440-70-2	8.65	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Cesium, dissolved	7440-46-2	<0.000010	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Chromium, dissolved	7440-47-3	<0.00050	0.00050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Cobalt, dissolved	7440-48-4	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Copper, dissolved	7440-50-8	0.00090	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Iron, dissolved	7439-89-6	0.072	0.010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Lead, dissolved	7439-92-1	<0.000050	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Lithium, dissolved	7439-93-2	0.0024	0.0010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Magnesium, dissolved	7439-95-4	2.71	0.0050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Manganese, dissolved	7439-96-5	0.00343	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Molybdenum, dissolved	7439-98-7	0.000194	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Nickel, dissolved	7440-02-0	<0.00050	0.00050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Phosphorus, dissolved	7723-14-0	<0.050	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Potassium, dissolved	7440-09-7	0.841	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Rubidium, dissolved	7440-17-7	0.00079	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Selenium, dissolved	7782-49-2	<0.000050	0.000050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Silicon, dissolved	7440-21-3	1.53	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Silver, dissolved	7440-22-4	<0.000010	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Sodium, dissolved	7440-23-5	3.54	0.050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Strontium, dissolved	7440-24-6	0.0578	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Sulfur, dissolved	7704-34-9	1.51	0.50	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Tellurium, dissolved	13494-80-9	<0.00020	0.00020	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Thallium, dissolved	7440-28-0	<0.000010	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Thorium, dissolved	7440-29-1	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Tin, dissolved	7440-31-5	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Titanium, dissolved	7440-32-6	0.00194	0.00030	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Tungsten, dissolved	7440-33-7	<0.00010	0.00010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957



Analytical Results

FC2401051-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: RAW WATER CHAMBER TAP

Client sampling date / time: 06-May-2024 09:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLOT
Dissolved Metals								
Uranium, dissolved	7440-61-1	0.000088	0.000010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Vanadium, dissolved	7440-62-2	<0.00050	0.00050	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Zinc, dissolved	7440-66-6	<0.0010	0.0010	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Zirconium, dissolved	7440-67-7	<0.00030	0.00030	mg/L	E421/EO	07-May-2024	07-May-2024	1430957
Dissolved metals filtration location	----	Field	-	-	EP421/EO	-	07-May-2024	1430957
Aggregate Organics								
Naphthenic acids	----	<0.10	0.10	mg/L	E565-L/EO	07-May-2024	09-May-2024	1430996
Volatile Organic Compounds [BTEXS+MTBE]								
Benzene	71-43-2	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Ethylbenzene	100-41-4	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Toluene	108-88-3	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Xylene, m+p-	179601-23-1	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Xylene, o-	95-47-6	<0.50	0.50	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Xylenes, total	1330-20-7	<0.75	0.75	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
BTEX, total	----	<1.2	1.2	µg/L	E611A/EO	07-May-2024	07-May-2024	1430960
Hydrocarbons								
F1 (C6-C10)	----	<100	100	µg/L	E581.F1/EO	07-May-2024	07-May-2024	1430959
F1-BTEX	----	<100	100	µg/L	EC580/EO	-	07-May-2024	-
F2 (C10-C16)	----	<100	100	µg/L	E601/EO	07-May-2024	07-May-2024	1431369
F3 (C16-C34)	----	<250	250	µg/L	E601/EO	07-May-2024	07-May-2024	1431369
F4 (C34-C50)	----	<250	250	µg/L	E601/EO	07-May-2024	07-May-2024	1431369
Hydrocarbons, total (C6-C50)	n/a	<400	400	µg/L	EC581/EO	-	07-May-2024	-
Hydrocarbons Surrogates								
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	110	1.0	%	E601/EO	07-May-2024	07-May-2024	1431369
Dichlorotoluene, 3,4-	95-75-0	118	1.0	%	E581.F1/EO	07-May-2024	07-May-2024	1430959
Volatile Organic Compounds Surrogates								
Bromofluorobenzene, 4-	460-00-4	100	1.0	%	E611A/EO	07-May-2024	07-May-2024	1430960
Diffuorobenzene, 1,4-	540-36-3	101	1.0	%	E611A/EO	07-May-2024	07-May-2024	1430960
Polycyclic Aromatic Hydrocarbons								
Acenaphthene	83-32-9	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Acenaphthylene	208-96-8	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Acridine	260-94-6	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Anthracene	120-12-7	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benz(a)anthracene	56-55-3	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(a)pyrene	50-32-8	<0.0050	0.0050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(b+j)fluoranthene	n/a	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(b+j+k)fluoranthene	n/a	<0.015	0.015	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(g,h,i)perylene	191-24-2	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Benzo(k)fluoranthene	207-08-9	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Chrysene	218-01-9	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Dibenz(a,h)anthracene	53-70-3	<0.0050	0.0050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Fluoranthene	206-44-0	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Fluorene	86-73-7	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Indeno(1,2,3-c,d)pyrene	193-39-5	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Methylnaphthalene, 1-	90-12-0	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370



Analytical Results

FC2401051-002

Sub-Matrix: Water

(Matrix: Water)

Client sample ID: RAW WATER CHAMBER TAP

Client sampling date / time: 06-May-2024 09:45

Analyte	CAS Number	Result	LOR	Unit	Method/Lab	Prep Date	Analysis Date	QCLot
Polycyclic Aromatic Hydrocarbons								
Methylnaphthalene, 1+2-	----	<0.015	0.015	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Methylnaphthalene, 2-	91-57-6	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Naphthalene	91-20-3	<0.050	0.050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Phenanthrene	85-01-8	<0.020	0.020	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Pyrene	129-00-0	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Quinoline	91-22-5	<0.050	0.050	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
B(a)P total potency equivalents [B(a)P TPE]	----	<0.010	0.010	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, high molecular weight (BC AWQ)	n/a	<0.030	0.03	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, low molecular weight (BC AWQ)	n/a	<0.060	0.06	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, total (CCME sewer 18)	n/a	<0.070	0.07	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
PAHs, total (EPA 16)	n/a	<0.065	0.065	µg/L	E641A/EO	07-May-2024	07-May-2024	1431370
Polycyclic Aromatic Hydrocarbons Surrogates								
Chrysene-d12	1719-03-5	73.2	0.1	%	E641A/EO	07-May-2024	07-May-2024	1431370
Naphthalene-d8	1146-65-2	72.3	0.1	%	E641A/EO	07-May-2024	07-May-2024	1431370
Phenanthrene-d10	1517-22-2	71.3	0.1	%	E641A/EO	07-May-2024	07-May-2024	1431370

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.



ALS Environmental
www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

Affix ALS barcode label here
(lab use only)

COC Number:

Page 1 of 1

Report To

Company: Regional Municipality of Wood Buffalo (WTP)

Contact: Water Treatment Plant

Phone: 780-762-5863

Street: 1 Silyn Forest Road

City/Province: Fort McMurray AB.

Postal Code: T9H 5A1

Invoice To: Same as Report To

Company: RMWB

Contact: Accounts Payable (9909 Franklin Ave Fort McMurray AB T9H 2K4)

ALS Account # / Quote #: Project Information

Job #: Fort Chipewyan Imperial Release

PO / AFE: 4500051416

LSD: Location:

ALS Lab Work Order # (lab use only):

ALS Sample # (lab use only):

Treated Water

Raw Water Chamber Tap

Report Format / Distribution

Select Report Format: PDF EXCEL EOD (DIGITAL)

Quality Control (QC) Report with Report YES NO

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

Select Distribution: EMAIL MAIL FAX

Email 1 or Fax: wldlab@rmwb.ca

Email 2: compliance@rmwb.ca

Email 3:

Invoice Distribution

Select Invoice Distribution: EMAIL MAIL FAX

Email 1 or Fax: accounts.payable@rmwb.ca

Email 2: water.treatment@rmwb.ca

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#

Major/Minor Code: Routing Code:

Requisitioner: Location:

ALS Contact:

ALS Contact:

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

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

4 day [P4-20%]

3 day [P3-25%]

2 day [P2-50%]

EMERGENCY

1 Business day [E - 100%] (Laboratory opening fees may apply)

Same Day, Weekend or Statutory holiday [E2 -200%]

Date and Time Required for all E&P TATs.

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

Analysis Request

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

NUMBER OF CONTAINERS

F1-F4 Hydrocarbons

Naphthenic Acid

PAH

BTEX/F1

Total Metals

Dissolved Metals

Total Sulphate

Total Sulphide

Routine Chemistry

Physical Chemistry

Salinity

SAMPLES ON HOLD

SUSPECTED HAZARD (see Special Instructions)

SAMPLES ON HOLD

SAMPLES ON HOLD

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Drinking Water (DW) Samples (client use)

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

Are samples taken from a Regulated DW System? YES NO

Are samples for human consumption use? YES NO

SHIPMENT RELEASE (client use)

INITIAL SHIPMENT RECEPTION (lab use only)

FINAL SHIPMENT RECEPTION (lab use only)

NAME: PHH

DATE: 2024 MAY 06 10:15

RECEIVED BY: [Signature]

DATE: 6TH MAY 24 4:00

RECEIVED BY: [Signature]

DATE: 5.1

RECEIVED BY: [Signature]

DATE: [Blank]

RECEIVED BY: [Blank]

DATE: [Blank]

RECEIVED BY: [Blank]

DATE: [Blank]

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DATE: [Blank]

RECEIVED BY: [Blank]

DATE: [Blank]

Frozen

Ice Packs

Ice Cubes

Cooling Initiated

INITIAL COOLER TEMPERATURES °C

SAMPLE CONDITION

SIF Observ.

Custody seal

Telephone: +1 780 791 1524

Barcode

Environmental Division

Fort McMurray

Work Order Reference

FC2401051

JUNE 2019 FRONT