Manitoba Metis Federation
ATTN: BRYANNA SHERBO
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7

Date Received: 31-AUG-21
Report Date: 08-SEP-21 16:55 (MT)
Version: FINAL

Client Phone: 204-586-8474

Certificate of Analysis

Lab Work Order #: L2634011

Project P.O. #: NOT SUBMITTED
Job Reference:
C of C Numbers:
Legal Site Desc:

Comments: ADDITIONAL 31-AUG-21 16:45

Craig Biddell, B.Sc.Ag
Account Manager

Physical Tests (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID	L2634011-1		L2634011-2		L2634011-3		L2634011-4		L2634011-5	
				Sampled Date	30-AUG-21		30-AUG-21		30-AUG-21		30-AUG-21		30-AUG-21	
				Sampled Time	14:00		14:00		14:00		14:00		14:00	
				Sample ID	**K1 - 0M 0 KISSISSING**		**K1 - 2.5M**		**K2 - 0M**		**C3 - 0M CAMP**		**C4 - 0M**	
Conductivity	umhos/cm	-	-		108		109		102		269		220	
Hardness (as CaCO3)	mg/L	-	-		45.9	HTC	49.2	HTC	43.4	HTC	115	HTC	94.2	HTC
pH	pH units	7.00-10.5	-		7.40		7.41		7.44		7.20		7.07	
TDS (Calculated)	mg/L	500	-		57.4		59.6		53.6		166		134	
Turbidity	NTU	-	-		2.10		2.26		2.24		7.50		7.77	

Federal Guidelines for Canadian Drinking Water Quality (MAR, 2021)
#1: GCDWQ - Aesthetic Objective/Other Value (Jan.2020)
#2: GCDWQ - Maximum Acceptable Concentrations (MACs-Jan.2020)

Physical Tests (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID	L2634011-6		L2634011-7		L2634011-8	
				Sampled Date	30-AUG-21		30-AUG-21		30-AUG-21	
				Sampled Time	14:00		14:00		14:00	
				Sample ID	**C4 - 3M**		**P5 - SPAWNING CREEK**		**S6 - SHERLETT**	
Conductivity	umhos/cm	-	-		252		75.5		85.7	
Hardness (as CaCO3)	mg/L	-	-		126	HTC	33.7	HTC	37.7	HTC
pH	pH units	7.00-10.5	-		7.85		7.36		7.24	
TDS (Calculated)	mg/L	500	-		160		37.5		44.0	
Turbidity	NTU	-	-		180		2.64		3.90	

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Anions and Nutrients (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	L2634011-1	L2634011-2	L2634011-3	L2634011-4	L2634011-5
ALS ID				L2634011-1	L2634011-2	L2634011-3	L2634011-4	L2634011-5
Sampled Date				30-AUG-21	30-AUG-21	30-AUG-21	30-AUG-21	30-AUG-21
Sampled Time				14:00	14:00	14:00	14:00	14:00
Sample ID				**K1 - 0M 0 KISSISSING**	**K1 - 2.5M**	**K2 - 0M**	**C3 - 0M CAMP**	**C4 - 0M**
Alkalinity, Total (as CaCO3)	mg/L	-	-	25.1	25.3	25.7	13.4	12.7
Bicarbonate (HCO3)	mg/L	-	-	30.6	30.9	31.4	16.3	15.5
Carbonate (CO3)	mg/L	-	-	<0.60	<0.60	<0.60	<0.60	<0.60
Chloride (Cl)	mg/L	250	-	0.79	0.74	0.76	0.82	0.91
Fluoride (F)	mg/L	-	1.5	0.074	0.075	0.074	0.100	0.090
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34	<0.34	<0.34	<0.34
Nitrate and Nitrite as N	mg/L	-	10	0.0243	0.0232	0.0132	0.0240	0.0288
Nitrate (as N)	mg/L	-	10	0.0243	0.0232	0.0119	0.0240	0.0288
Nitrite (as N)	mg/L	-	1	<0.0010	<0.0010	0.0013	<0.0010	<0.0010
Sulfate (SO4)	mg/L	500	-	22.0	22.6	18.9	110	86.4

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Anions and Nutrients (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	L2634011-6	L2634011-7	L2634011-8
ALS ID				L2634011-6	L2634011-7	L2634011-8
Sampled Date				30-AUG-21	30-AUG-21	30-AUG-21
Sampled Time				14:00	14:00	14:00
Sample ID				**C4 - 3M**	**P5 - SPAWNING CREEK**	**S6 - SHERLETT**
Alkalinity, Total (as CaCO3)	mg/L	-	-	26.8	29.2	28.9
Bicarbonate (HCO3)	mg/L	-	-	32.7	35.6	35.3
Carbonate (CO3)	mg/L	-	-	<0.60	<0.60	<0.60
Chloride (Cl)	mg/L	250	-	0.89	1.29	2.79
Fluoride (F)	mg/L	-	1.5	0.103	0.067	0.062
Hydroxide (OH)	mg/L	-	-	<0.34	<0.34	<0.34
Nitrate and Nitrite as N	mg/L	-	10	0.0420	0.0175	0.0174
Nitrate (as N)	mg/L	-	10	0.0399	0.0175	0.0160
Nitrite (as N)	mg/L	-	1	0.0021	<0.0010	0.0014
Sulfate (SO4)	mg/L	500	-	91.1	4.05	6.29

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Total Metals (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID / Sampled Date / Sampled Time / Sample ID: L2634011-1, 30-AUG-21, 14:00, K1 - 0M 0 KISSISSING	L2634011-2, 30-AUG-21, 14:00, K1 - 2.5M	L2634011-3, 30-AUG-21, 14:00, K2 - 0M	L2634011-4, 30-AUG-21, 14:00, C3 - 0M CAMP	L2634011-5, 30-AUG-21, 14:00, C4 - 0M
Aluminum (Al)-Total	mg/L	0.1	2.9	0.0761	0.0801	0.0713	0.0723	0.0810
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00052	0.00050	0.00051	0.00042	0.00048
Barium (Ba)-Total	mg/L	-	2	0.00894	0.00958	0.00866	0.00983	0.0105
Beryllium (Be)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	-	5	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	-	0.005	0.0000661	0.0000816	0.0000551	0.000315	0.000366
Calcium (Ca)-Total	mg/L	-	-	12.3	13.7	11.5	35.0	28.0
Cesium (Cs)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	0.000011
Chromium (Cr)-Total	mg/L	-	0.05	0.00017	0.00021	0.00016	0.00014	0.00020
Cobalt (Co)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010	0.00017	0.00021
Copper (Cu)-Total	mg/L	1	2	0.00755	0.00835	0.00675	0.0136	0.0150
Iron (Fe)-Total	mg/L	0.3	-	0.807	0.851	0.601	5.38	6.41
Lead (Pb)-Total	mg/L	-	0.005	0.000085	0.000094	0.000099	0.000197	0.000267
Lithium (Li)-Total	mg/L	-	-	0.0028	0.0030	0.0027	0.0047	0.0047
Magnesium (Mg)-Total	mg/L	-	-	3.66	3.63	3.59	6.82	5.93
Manganese (Mn)-Total	mg/L	0.02	0.12	0.0152	0.0169	0.0141	0.0499	0.0516
Molybdenum (Mo)-Total	mg/L	-	-	0.000078	0.000092	0.000061	0.000084	0.000124
Nickel (Ni)-Total	mg/L	-	-	0.00060	0.00063	0.00056	0.00085	0.00096
Phosphorus (P)-Total	mg/L	-	-	<0.030	<0.030	<0.030	<0.030	<0.030
Potassium (K)-Total	mg/L	-	-	1.46	1.59	1.41	2.93	2.87
Rubidium (Rb)-Total	mg/L	-	-	0.00166	0.00160	0.00165	0.00354	0.00319
Selenium (Se)-Total	mg/L	-	0.05	0.000096	0.000082	0.000081	0.000145	0.000091
Silicon (Si)-Total	mg/L	-	-	1.28	1.30	1.10	1.52	1.57
Silver (Ag)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	1.95	2.04	1.94	2.32	2.47
Strontium (Sr)-Total	mg/L	-	7	0.0279	0.0291	0.0279	0.0421	0.0407
Sulfur (S)-Total	mg/L	-	-	7.74	7.63	6.38	38.5	29.3
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	<0.000010	<0.000010	<0.000010	<0.000010	0.000024
Thorium (Th)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010

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Total Metals (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID: L2634011-6 Sampled Date: 30-AUG-21 Sampled Time: 14:00 Sample ID: C4 - 3M	ALS ID: L2634011-7 Sampled Date: 30-AUG-21 Sampled Time: 14:00 Sample ID: P5 - SPAWNING CREEK	ALS ID: L2634011-8 Sampled Date: 30-AUG-21 Sampled Time: 14:00 Sample ID: S6 - SHERLETT
Aluminum (Al)-Total	mg/L	0.1	2.9	1.20	0.0820	0.176
Antimony (Sb)-Total	mg/L	-	0.006	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	-	0.01	0.00102	0.00053	0.00059
Barium (Ba)-Total	mg/L	-	2	0.0218	0.00850	0.00949
Beryllium (Be)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	-	-	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	-	5	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	-	0.005	0.00199	0.0000991	0.000212
Calcium (Ca)-Total	mg/L	-	-	39.8	8.35	10.1
Cesium (Cs)-Total	mg/L	-	-	0.000085	<0.000010	0.000016
Chromium (Cr)-Total	mg/L	-	0.05	0.00187	0.00021	0.00041
Cobalt (Co)-Total	mg/L	-	-	0.00494	0.00011	0.00026
Copper (Cu)-Total	mg/L	1	2	0.0841	0.00713	0.0102
Iron (Fe)-Total	mg/L	0.3	-	36.5	0.562	0.638
Lead (Pb)-Total	mg/L	-	0.005	0.00142	0.000178	0.000148
Lithium (Li)-Total	mg/L	-	-	0.0055	0.0023	0.0026
Magnesium (Mg)-Total	mg/L	-	-	6.38	3.12	3.05
Manganese (Mn)-Total	mg/L	0.02	0.12	0.504	0.0402	0.0555
Molybdenum (Mo)-Total	mg/L	-	-	0.000220	0.000059	0.000150
Nickel (Ni)-Total	mg/L	-	-	0.00470	0.00056	0.00071
Phosphorus (P)-Total	mg/L	-	-	0.043	<0.030	<0.030
Potassium (K)-Total	mg/L	-	-	3.15	1.08	1.30
Rubidium (Rb)-Total	mg/L	-	-	0.00462	0.00152	0.00178
Selenium (Se)-Total	mg/L	-	0.05	0.000478	0.000053	0.000056
Silicon (Si)-Total	mg/L	-	-	4.54	0.52	1.81
Silver (Ag)-Total	mg/L	-	-	0.000048	<0.000010	<0.000010
Sodium (Na)-Total	mg/L	200	-	2.55	2.07	3.07
Strontium (Sr)-Total	mg/L	-	7	0.0458	0.0252	0.0264
Sulfur (S)-Total	mg/L	-	-	30.5	1.32	1.94
Tellurium (Te)-Total	mg/L	-	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	-	-	0.000019	<0.000010	<0.000010
Thorium (Th)-Total	mg/L	-	-	0.00022	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010

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Total Metals (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID / Sampled Date / Sampled Time / Sample ID	L2634011-1 30-AUG-21 14:00 **K1 - 0M 0 KISSISSING**	L2634011-2 30-AUG-21 14:00 **K1 - 2.5M**	L2634011-3 30-AUG-21 14:00 **K2 - 0M**	L2634011-4 30-AUG-21 14:00 **C3 - 0M CAMP**	L2634011-5 30-AUG-21 14:00 **C4 - 0M**
Titanium (Ti)-Total	mg/L	-	-		0.00175	0.00210	0.00174	0.00180	0.00211
Tungsten (W)-Total	mg/L	-	-		<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02		0.000047	0.000053	0.000048	0.000043	0.000066
Vanadium (V)-Total	mg/L	-	-		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	5	-		0.0300	0.0347	0.0235	0.0861	0.0883
Zirconium (Zr)-Total	mg/L	-	-		<0.00020	<0.00020	<0.00020	<0.00020	<0.00020

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Total Metals (WATER)

Analyte	Unit	Guide Limit #1	Guide Limit #2	ALS ID: L2634011-6 Sampled Date: 30-AUG-21 Sampled Time: 14:00 Sample ID: **C4 - 3M**	ALS ID: L2634011-7 Sampled Date: 30-AUG-21 Sampled Time: 14:00 Sample ID: **P5 - SPAWNING CREEK**	ALS ID: L2634011-8 Sampled Date: 30-AUG-21 Sampled Time: 14:00 Sample ID: **S6 - SHERLETT**
Titanium (Ti)-Total	mg/L	-	-	0.0449	0.00219	0.00740
Tungsten (W)-Total	mg/L	-	-	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	-	0.02	0.000261	0.000048	0.000057
Vanadium (V)-Total	mg/L	-	-	0.00262	<0.00050	0.00053
Zinc (Zn)-Total	mg/L	5	-	0.677	0.0439	0.0919
Zirconium (Zr)-Total	mg/L	-	-	0.00049	<0.00020	0.00028

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Reference Information

Qualifiers for Individual Parameters Listed:

Qualifier	Description
HTC	Hardness was calculated from Total Ca and/or Mg concentrations and may be biased high (dissolved Ca/Mg results unavailable).

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-CO3CO3-CALC-WP	Water	Alkalinity, Carbonate	CALCULATION

The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by carbonate is calculated and reported as mg CO3 2-/L.

ALK-HCO3HCO3-CALC-WP	Water	Alkalinity, Bicarbonate	CALCULATION

The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by bicarbonate is calculated and reported as mg HCO3-/L

ALK-OHOH-CALC-WP	Water	Alkalinity, Hydroxide	CALCULATION

The Alkalinity of water is a measure of its acid neutralizing capacity.Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by hydroxide is calculated and reported as mg OH-/L.

ALK-TITR-WP	Water	Alkalinity, Total (as CaCO3)	APHA 2320B

The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. Total alkalinity is determined by titration with a strong standard mineral acid to the successive HCO3- and H2CO3 endpoints indicated electrometrically.

CL-L-IC-N-WP	Water	Chloride in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

EC-WP	Water	Conductivity	APHA 2510B

Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes.

ETL-SOLIDS-CALC-WP	Water	TDS calculated	CALCULATION
F-IC-N-WP	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-WP	Water	Hardness Calculated	APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

IONBALANCE-CALC-WP	Water	Ion Balance Calculation	APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance (as % difference) cannot be calculated accurately for waters with very low electrical conductivity (EC), and is reported as "Low EC" where EC < 100 uS/cm (umhos/cm). Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-T-CCMS-WP	Water	Total Metals in Water by CRC ICPMS	EPA 200.2/6020B (mod.)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NO2+NO3-CALC-L-WP	Water	Nitrate+Nitrite	CALCULATION
NO2-L-IC-N-WP	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
NO3-L-IC-N-WP	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
PH-WP	Water	pH	APHA 4500H
The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode.			
SO4-IC-N-WP	Water	Sulfate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
TURBIDITY-WP	Water	Turbidity	APHA 2130B (modified)
Turbidity in aqueous matrices is determined by the nephelometric method.			

**ALS test methods may incorporate modifications from specified reference methods to improve performance.

Chain of Custody Numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guideline limits are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Quality Control Report

Workorder: L2634011 Report Date: 08-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP	Water							
Batch R5574658								
WG3610008-20 DUP		**L2634012-1**						
Alkalinity, Total (as CaCO3)		66.6	66.2		mg/L	0.6	20	01-SEP-21
WG3610008-19 LCS								
Alkalinity, Total (as CaCO3)			98.9		%		85-115	01-SEP-21
WG3610008-16 MB								
Alkalinity, Total (as CaCO3)			<1.0		mg/L		1	01-SEP-21
CL-L-IC-N-WP	Water							
Batch R5575365								
WG3609315-15 DUP		**L2634011-1**						
Chloride (Cl)		0.79	0.74		mg/L	5.8	20	01-SEP-21
WG3609315-7 DUP		**L2633977-1**						
Chloride (Cl)		3.16	3.07		mg/L	2.8	20	01-SEP-21
WG3609315-14 LCS								
Chloride (Cl)			101.7		%		90-110	01-SEP-21
WG3609315-6 LCS								
Chloride (Cl)			101.8		%		90-110	01-SEP-21
WG3609315-13 MB								
Chloride (Cl)			<0.10		mg/L		0.1	01-SEP-21
WG3609315-5 MB								
Chloride (Cl)			<0.10		mg/L		0.1	01-SEP-21
WG3609315-16 MS		**L2634011-1**						
Chloride (Cl)			104.5		%		75-125	01-SEP-21
WG3609315-8 MS		**L2633977-1**						
Chloride (Cl)			104.7		%		75-125	01-SEP-21
EC-WP	Water							
Batch R5574658								
WG3610008-20 DUP		**L2634012-1**						
Conductivity		381	381		umhos/cm	0.0	10	01-SEP-21
WG3610008-18 LCS								
Conductivity			98.9		%		90-110	01-SEP-21
WG3610008-16 MB								
Conductivity			<1.0		umhos/cm		1	01-SEP-21
F-IC-N-WP	Water							
Batch R5575365								
WG3609315-15 DUP		**L2634011-1**						
Fluoride (F)		0.074	0.075		mg/L	1.2	20	01-SEP-21
WG3609315-7 DUP		**L2633977-1**						

Quality Control Report

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-IC-N-WP	Water							
Batch R5575365								
WG3609315-7 DUP		**L2633977-1**						
Fluoride (F)		0.091	0.089		mg/L	1.8	20	01-SEP-21
WG3609315-14 LCS								
Fluoride (F)			103.3		%		90-110	01-SEP-21
WG3609315-6 LCS								
Fluoride (F)			104.0		%		90-110	01-SEP-21
WG3609315-13 MB								
Fluoride (F)			<0.020		mg/L		0.02	01-SEP-21
WG3609315-5 MB								
Fluoride (F)			<0.020		mg/L		0.02	01-SEP-21
WG3609315-16 MS		**L2634011-1**						
Fluoride (F)			107.6		%		75-125	01-SEP-21
WG3609315-8 MS		**L2633977-1**						
Fluoride (F)			108.3		%		75-125	01-SEP-21
MET-T-CCMS-WP	Water							
Batch R5575700								
WG3609076-4 DUP		**WG3609076-3**						
Aluminum (Al)-Total		0.0171	0.0127	J	mg/L	0.0044	0.006	01-SEP-21
Antimony (Sb)-Total		0.0695	0.0725		mg/L	4.2	20	01-SEP-21
Arsenic (As)-Total		0.0836	0.0829		mg/L	0.8	20	01-SEP-21
Barium (Ba)-Total		0.0602	0.0582		mg/L	3.5	20	01-SEP-21
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	01-SEP-21
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	01-SEP-21
Boron (B)-Total		0.146	0.158		mg/L	7.8	20	01-SEP-21
Cadmium (Cd)-Total		0.0000052	0.0000063	J	mg/L	0.0000012	0.00001	01-SEP-21
Calcium (Ca)-Total		379	414		mg/L	8.8	20	01-SEP-21
Cesium (Cs)-Total		0.000283	0.000283		mg/L	0.2	20	01-SEP-21
Chromium (Cr)-Total		0.00013	0.00015		mg/L	12	20	01-SEP-21
Cobalt (Co)-Total		0.0356	0.0353		mg/L	0.9	20	01-SEP-21
Copper (Cu)-Total		0.00132	0.00129		mg/L	2.5	20	01-SEP-21
Iron (Fe)-Total		1.88	1.87		mg/L	0.6	20	01-SEP-21
Lead (Pb)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	01-SEP-21
Lithium (Li)-Total		0.0338	0.0359		mg/L	6.0	20	01-SEP-21
Magnesium (Mg)-Total		56.0	55.7		mg/L	0.6	20	01-SEP-21
Manganese (Mn)-Total		0.0392	0.0394		mg/L	0.6	20	01-SEP-21

Quality Control Report

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5575700								
WG3609076-4 DUP		**WG3609076-3**						
Molybdenum (Mo)-Total		0.00806	0.00840		mg/L	4.2	20	01-SEP-21
Nickel (Ni)-Total		0.0157	0.0158		mg/L	1.0	20	01-SEP-21
Potassium (K)-Total		58.8	59.2		mg/L	0.6	20	01-SEP-21
Phosphorus (P)-Total		<0.030	<0.030	RPD-NA	mg/L	N/A	20	01-SEP-21
Rubidium (Rb)-Total		0.0308	0.0306		mg/L	0.5	20	01-SEP-21
Selenium (Se)-Total		0.000443	0.000336	J	mg/L	0.000107	0.0001	01-SEP-21
Silicon (Si)-Total		1.43	1.49		mg/L	3.7	20	01-SEP-21
Silver (Ag)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	01-SEP-21
Sodium (Na)-Total		226	226		mg/L	0.0	20	01-SEP-21
Strontium (Sr)-Total		3.08	3.23		mg/L	4.7	20	01-SEP-21
Sulfur (S)-Total		409	423		mg/L	3.4	20	01-SEP-21
Tellurium (Te)-Total		0.00033	0.00033		mg/L	1.0	20	01-SEP-21
Thallium (Tl)-Total		0.000012	0.000011		mg/L	8.4	20	01-SEP-21
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	01-SEP-21
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	01-SEP-21
Titanium (Ti)-Total		0.00151	0.00154		mg/L	1.8	20	01-SEP-21
Tungsten (W)-Total		0.00071	0.00076		mg/L	6.7	20	01-SEP-21
Uranium (U)-Total		0.000186	0.000200		mg/L	7.2	20	01-SEP-21
Vanadium (V)-Total		0.00351	0.00341		mg/L	2.9	20	01-SEP-21
Zinc (Zn)-Total		<0.0030	<0.0030	RPD-NA	mg/L	N/A	20	01-SEP-21
Zirconium (Zr)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	01-SEP-21
WG3609076-2 LCS								
Aluminum (Al)-Total			103.8		%		80-120	01-SEP-21
Antimony (Sb)-Total			102.6		%		80-120	01-SEP-21
Arsenic (As)-Total			101.6		%		80-120	01-SEP-21
Barium (Ba)-Total			100.9		%		80-120	01-SEP-21
Beryllium (Be)-Total			97.7		%		80-120	01-SEP-21
Bismuth (Bi)-Total			102.1		%		80-120	01-SEP-21
Boron (B)-Total			94.2		%		80-120	01-SEP-21
Cadmium (Cd)-Total			101.3		%		80-120	01-SEP-21
Calcium (Ca)-Total			97.8		%		80-120	01-SEP-21
Cesium (Cs)-Total			95.8		%		80-120	01-SEP-21
Chromium (Cr)-Total			101.7		%		80-120	01-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5575700								
WG3609076-2 LCS								
Cobalt (Co)-Total			99.0		%		80-120	01-SEP-21
Copper (Cu)-Total			98.4		%		80-120	01-SEP-21
Iron (Fe)-Total			94.4		%		80-120	01-SEP-21
Lead (Pb)-Total			98.4		%		80-120	01-SEP-21
Lithium (Li)-Total			99.0		%		80-120	01-SEP-21
Magnesium (Mg)-Total			111.0		%		80-120	01-SEP-21
Manganese (Mn)-Total			102.3		%		80-120	01-SEP-21
Molybdenum (Mo)-Total			103.8		%		80-120	01-SEP-21
Nickel (Ni)-Total			97.5		%		80-120	01-SEP-21
Potassium (K)-Total			106.4		%		80-120	01-SEP-21
Phosphorus (P)-Total			108.4		%		80-120	01-SEP-21
Rubidium (Rb)-Total			99.7		%		80-120	01-SEP-21
Selenium (Se)-Total			101.5		%		80-120	01-SEP-21
Silicon (Si)-Total			106.8		%		80-120	01-SEP-21
Silver (Ag)-Total			101.6		%		80-120	01-SEP-21
Sodium (Na)-Total			104.6		%		80-120	01-SEP-21
Strontium (Sr)-Total			97.4		%		80-120	01-SEP-21
Sulfur (S)-Total			106.4		%		80-120	01-SEP-21
Tellurium (Te)-Total			95.3		%		80-120	01-SEP-21
Thallium (Tl)-Total			97.0		%		80-120	01-SEP-21
Thorium (Th)-Total			92.9		%		80-120	01-SEP-21
Tin (Sn)-Total			99.3		%		80-120	01-SEP-21
Titanium (Ti)-Total			97.7		%		80-120	01-SEP-21
Tungsten (W)-Total			97.3		%		80-120	01-SEP-21
Uranium (U)-Total			92.6		%		80-120	01-SEP-21
Vanadium (V)-Total			101.2		%		80-120	01-SEP-21
Zinc (Zn)-Total			98.0		%		80-120	01-SEP-21
Zirconium (Zr)-Total			92.6		%		80-120	01-SEP-21
WG3609076-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	01-SEP-21
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Arsenic (As)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Barium (Ba)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	01-SEP-21

Quality Control Report

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5575700								
WG3609076-1 MB								
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	01-SEP-21
Boron (B)-Total			<0.010		mg/L		0.01	01-SEP-21
Cadmium (Cd)-Total			<0.000005(		mg/L		0.000005	01-SEP-21
Calcium (Ca)-Total			<0.050		mg/L		0.05	01-SEP-21
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	01-SEP-21
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Copper (Cu)-Total			<0.00050		mg/L		0.0005	01-SEP-21
Iron (Fe)-Total			<0.010		mg/L		0.01	01-SEP-21
Lead (Pb)-Total			<0.000050		mg/L		0.00005	01-SEP-21
Lithium (Li)-Total			<0.0010		mg/L		0.001	01-SEP-21
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	01-SEP-21
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	01-SEP-21
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	01-SEP-21
Potassium (K)-Total			<0.050		mg/L		0.05	01-SEP-21
Phosphorus (P)-Total			<0.030		mg/L		0.03	01-SEP-21
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	01-SEP-21
Selenium (Se)-Total			<0.000050		mg/L		0.00005	01-SEP-21
Silicon (Si)-Total			<0.10		mg/L		0.1	01-SEP-21
Silver (Ag)-Total			<0.000010		mg/L		0.00001	01-SEP-21
Sodium (Na)-Total			<0.050		mg/L		0.05	01-SEP-21
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	01-SEP-21
Sulfur (S)-Total			<0.50		mg/L		0.5	01-SEP-21
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	01-SEP-21
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	01-SEP-21
Thorium (Th)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Tin (Sn)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	01-SEP-21
Tungsten (W)-Total			<0.00010		mg/L		0.0001	01-SEP-21
Uranium (U)-Total			<0.000010		mg/L		0.00001	01-SEP-21
Vanadium (V)-Total			<0.00050		mg/L		0.0005	01-SEP-21
Zinc (Zn)-Total			<0.0030		mg/L		0.003	01-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5575700								
WG3609076-1 MB								
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	01-SEP-21
WG3609076-5 MS		**WG3609076-3**						
Aluminum (Al)-Total			104.4		%		70-130	01-SEP-21
Antimony (Sb)-Total			N/A	MS-B	%		-	01-SEP-21
Arsenic (As)-Total			N/A	MS-B	%		-	01-SEP-21
Barium (Ba)-Total			N/A	MS-B	%		-	01-SEP-21
Beryllium (Be)-Total			103.5		%		70-130	01-SEP-21
Bismuth (Bi)-Total			97.1		%		70-130	01-SEP-21
Boron (B)-Total			N/A	MS-B	%		-	01-SEP-21
Cadmium (Cd)-Total			101.4		%		70-130	01-SEP-21
Calcium (Ca)-Total			N/A	MS-B	%		-	01-SEP-21
Cesium (Cs)-Total			104.1		%		70-130	01-SEP-21
Chromium (Cr)-Total			104.5		%		70-130	01-SEP-21
Cobalt (Co)-Total			N/A	MS-B	%		-	01-SEP-21
Copper (Cu)-Total			95.9		%		70-130	01-SEP-21
Iron (Fe)-Total			103.8		%		70-130	01-SEP-21
Lead (Pb)-Total			101.3		%		70-130	01-SEP-21
Lithium (Li)-Total			115.4		%		70-130	01-SEP-21
Magnesium (Mg)-Total			N/A	MS-B	%		-	01-SEP-21
Manganese (Mn)-Total			N/A	MS-B	%		-	01-SEP-21
Molybdenum (Mo)-Total			116.8		%		70-130	01-SEP-21
Nickel (Ni)-Total			97.9		%		70-130	01-SEP-21
Potassium (K)-Total			N/A	MS-B	%		-	01-SEP-21
Phosphorus (P)-Total			114.9		%		70-130	01-SEP-21
Rubidium (Rb)-Total			N/A	MS-B	%		-	01-SEP-21
Selenium (Se)-Total			113.5		%		70-130	01-SEP-21
Silicon (Si)-Total			109.9		%		70-130	01-SEP-21
Silver (Ag)-Total			102.4		%		70-130	01-SEP-21
Sodium (Na)-Total			N/A	MS-B	%		-	01-SEP-21
Strontium (Sr)-Total			N/A	MS-B	%		-	01-SEP-21
Sulfur (S)-Total			N/A	MS-B	%		-	01-SEP-21
Tellurium (Te)-Total			105.1		%		70-130	01-SEP-21
Thallium (Tl)-Total			98.0		%		70-130	01-SEP-21
Thorium (Th)-Total			105.7		%		70-130	01-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5575700								
WG3609076-5 MS		**WG3609076-3**						
Tin (Sn)-Total			105.8		%		70-130	01-SEP-21
Titanium (Ti)-Total			109.0		%		70-130	01-SEP-21
Tungsten (W)-Total			109.9		%		70-130	01-SEP-21
Uranium (U)-Total			101.2		%		70-130	01-SEP-21
Vanadium (V)-Total			109.8		%		70-130	01-SEP-21
Zinc (Zn)-Total			96.5		%		70-130	01-SEP-21
Zirconium (Zr)-Total			104.8		%		70-130	01-SEP-21
Batch R5578301								
WG3610117-4 DUP		**WG3610117-3**						
Aluminum (Al)-Total		0.0415	0.0391		mg/L	6.1	20	02-SEP-21
Antimony (Sb)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-21
Arsenic (As)-Total		0.00023	0.00023		mg/L	0.3	20	02-SEP-21
Barium (Ba)-Total		0.00235	0.00236		mg/L	0.5	20	02-SEP-21
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-21
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-21
Boron (B)-Total		<0.010	<0.010	RPD-NA	mg/L	N/A	20	02-SEP-21
Cadmium (Cd)-Total		0.0000075	0.0000070		mg/L	6.9	20	02-SEP-21
Calcium (Ca)-Total		13.6	13.6		mg/L	0.1	20	02-SEP-21
Cesium (Cs)-Total		0.000130	0.000136		mg/L	4.5	20	02-SEP-21
Chromium (Cr)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-21
Cobalt (Co)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-21
Copper (Cu)-Total		0.307	0.309		mg/L	0.8	20	02-SEP-21
Iron (Fe)-Total		0.011	0.011		mg/L	3.0	20	02-SEP-21
Lead (Pb)-Total		0.00639	0.00660		mg/L	3.2	20	02-SEP-21
Lithium (Li)-Total		0.0016	0.0015		mg/L	2.1	20	02-SEP-21
Magnesium (Mg)-Total		4.22	4.21		mg/L	0.4	20	02-SEP-21
Manganese (Mn)-Total		0.00123	0.00125		mg/L	1.3	20	02-SEP-21
Molybdenum (Mo)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	02-SEP-21
Nickel (Ni)-Total		0.00064	0.00067		mg/L	4.9	20	02-SEP-21
Potassium (K)-Total		0.782	0.800		mg/L	2.2	20	02-SEP-21
Phosphorus (P)-Total		<0.030	<0.030	RPD-NA	mg/L	N/A	20	02-SEP-21
Rubidium (Rb)-Total		0.00130	0.00140		mg/L	7.3	20	02-SEP-21
Selenium (Se)-Total		0.000079	0.000082		mg/L	3.0	20	02-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5578301								
WG3610117-4 DUP		**WG3610117-3**						
Silicon (Si)-Total		1.17	1.17		mg/L	0.1	20	02-SEP-21
Silver (Ag)-Total		0.000010	<0.000010	RPD-NA	mg/L	N/A	20	02-SEP-21
Sodium (Na)-Total		9.43	9.73		mg/L	3.1	20	02-SEP-21
Strontium (Sr)-Total		0.0234	0.0236		mg/L	0.9	20	02-SEP-21
Sulfur (S)-Total		<0.50	<0.50	RPD-NA	mg/L	N/A	20	02-SEP-21
Tellurium (Te)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	02-SEP-21
Thallium (Tl)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	02-SEP-21
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-21
Tin (Sn)-Total		0.00015	0.00016		mg/L	7.7	20	02-SEP-21
Titanium (Ti)-Total		0.00044	0.00040		mg/L	9.7	20	02-SEP-21
Tungsten (W)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	02-SEP-21
Uranium (U)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	02-SEP-21
Vanadium (V)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	02-SEP-21
Zinc (Zn)-Total		0.0446	0.0448		mg/L	0.5	20	02-SEP-21
Zirconium (Zr)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	02-SEP-21
WG3610117-2 LCS								
Aluminum (Al)-Total			101.0		%		80-120	02-SEP-21
Antimony (Sb)-Total			102.0		%		80-120	02-SEP-21
Arsenic (As)-Total			99.9		%		80-120	02-SEP-21
Barium (Ba)-Total			102.6		%		80-120	02-SEP-21
Beryllium (Be)-Total			103.4		%		80-120	02-SEP-21
Bismuth (Bi)-Total			99.6		%		80-120	02-SEP-21
Boron (B)-Total			97.0		%		80-120	02-SEP-21
Cadmium (Cd)-Total			104.0		%		80-120	02-SEP-21
Calcium (Ca)-Total			103.1		%		80-120	02-SEP-21
Cesium (Cs)-Total			100.0		%		80-120	02-SEP-21
Chromium (Cr)-Total			100.6		%		80-120	02-SEP-21
Cobalt (Co)-Total			100.4		%		80-120	02-SEP-21
Copper (Cu)-Total			102.2		%		80-120	02-SEP-21
Iron (Fe)-Total			101.1		%		80-120	02-SEP-21
Lead (Pb)-Total			98.7		%		80-120	02-SEP-21
Lithium (Li)-Total			101.6		%		80-120	02-SEP-21
Magnesium (Mg)-Total			106.6		%		80-120	02-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5578301								
WG3610117-2 LCS								
Manganese (Mn)-Total			100.8		%		80-120	02-SEP-21
Molybdenum (Mo)-Total			101.3		%		80-120	02-SEP-21
Nickel (Ni)-Total			100.2		%		80-120	02-SEP-21
Potassium (K)-Total			104.4		%		80-120	02-SEP-21
Phosphorus (P)-Total			103.2		%		80-120	02-SEP-21
Rubidium (Rb)-Total			99.3		%		80-120	02-SEP-21
Selenium (Se)-Total			99.6		%		80-120	02-SEP-21
Silicon (Si)-Total			101.3		%		80-120	02-SEP-21
Silver (Ag)-Total			100.5		%		80-120	02-SEP-21
Sodium (Na)-Total			104.6		%		80-120	02-SEP-21
Strontium (Sr)-Total			101.9		%		80-120	02-SEP-21
Sulfur (S)-Total			94.0		%		80-120	02-SEP-21
Tellurium (Te)-Total			94.9		%		80-120	02-SEP-21
Thallium (Tl)-Total			98.5		%		80-120	02-SEP-21
Thorium (Th)-Total			97.5		%		80-120	02-SEP-21
Tin (Sn)-Total			99.8		%		80-120	02-SEP-21
Titanium (Ti)-Total			96.8		%		80-120	02-SEP-21
Tungsten (W)-Total			97.3		%		80-120	02-SEP-21
Uranium (U)-Total			96.3		%		80-120	02-SEP-21
Vanadium (V)-Total			102.2		%		80-120	02-SEP-21
Zinc (Zn)-Total			99.3		%		80-120	02-SEP-21
Zirconium (Zr)-Total			95.1		%		80-120	02-SEP-21
WG3610117-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	02-SEP-21
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Arsenic (As)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Barium (Ba)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	02-SEP-21
Boron (B)-Total			<0.010		mg/L		0.01	02-SEP-21
Cadmium (Cd)-Total			<0.000005(		mg/L		0.000005	02-SEP-21
Calcium (Ca)-Total			<0.050		mg/L		0.05	02-SEP-21
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	02-SEP-21
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	02-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5578301								
WG3610117-1 MB								
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Copper (Cu)-Total			<0.00050		mg/L		0.0005	02-SEP-21
Iron (Fe)-Total			<0.010		mg/L		0.01	02-SEP-21
Lead (Pb)-Total			<0.000050		mg/L		0.00005	02-SEP-21
Lithium (Li)-Total			<0.0010		mg/L		0.001	02-SEP-21
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	02-SEP-21
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	02-SEP-21
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	02-SEP-21
Potassium (K)-Total			<0.050		mg/L		0.05	02-SEP-21
Phosphorus (P)-Total			<0.030		mg/L		0.03	02-SEP-21
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	02-SEP-21
Selenium (Se)-Total			0.000108	B	mg/L		0.00005	02-SEP-21
Silicon (Si)-Total			<0.10		mg/L		0.1	02-SEP-21
Silver (Ag)-Total			<0.000010		mg/L		0.00001	02-SEP-21
Sodium (Na)-Total			<0.050		mg/L		0.05	02-SEP-21
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	02-SEP-21
Sulfur (S)-Total			<0.50		mg/L		0.5	02-SEP-21
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	02-SEP-21
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	02-SEP-21
Thorium (Th)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Tin (Sn)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	02-SEP-21
Tungsten (W)-Total			<0.00010		mg/L		0.0001	02-SEP-21
Uranium (U)-Total			<0.000010		mg/L		0.00001	02-SEP-21
Vanadium (V)-Total			<0.00050		mg/L		0.0005	02-SEP-21
Zinc (Zn)-Total			<0.0030		mg/L		0.003	02-SEP-21
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	02-SEP-21
WG3610117-5 MS		**WG3610117-3**						
Aluminum (Al)-Total			91.4		%		70-130	02-SEP-21
Antimony (Sb)-Total			99.1		%		70-130	02-SEP-21
Arsenic (As)-Total			91.6		%		70-130	02-SEP-21
Barium (Ba)-Total			91.8		%		70-130	02-SEP-21
Beryllium (Be)-Total			95.7		%		70-130	02-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5578301								
WG3610117-5 MS		**WG3610117-3**						
Bismuth (Bi)-Total			91.7		%		70-130	02-SEP-21
Boron (B)-Total			97.3		%		70-130	02-SEP-21
Cadmium (Cd)-Total			93.4		%		70-130	02-SEP-21
Calcium (Ca)-Total			N/A	MS-B	%		-	02-SEP-21
Cesium (Cs)-Total			93.0		%		70-130	02-SEP-21
Chromium (Cr)-Total			93.9		%		70-130	02-SEP-21
Cobalt (Co)-Total			93.6		%		70-130	02-SEP-21
Copper (Cu)-Total			N/A	MS-B	%		-	02-SEP-21
Iron (Fe)-Total			92.5		%		70-130	02-SEP-21
Lead (Pb)-Total			89.8		%		70-130	02-SEP-21
Lithium (Li)-Total			92.6		%		70-130	02-SEP-21
Magnesium (Mg)-Total			N/A	MS-B	%		-	02-SEP-21
Manganese (Mn)-Total			91.4		%		70-130	02-SEP-21
Molybdenum (Mo)-Total			98.8		%		70-130	02-SEP-21
Nickel (Ni)-Total			93.6		%		70-130	02-SEP-21
Potassium (K)-Total			95.7		%		70-130	02-SEP-21
Phosphorus (P)-Total			91.6		%		70-130	02-SEP-21
Rubidium (Rb)-Total			91.1		%		70-130	02-SEP-21
Selenium (Se)-Total			91.8		%		70-130	02-SEP-21
Silicon (Si)-Total			96.5		%		70-130	02-SEP-21
Silver (Ag)-Total			92.8		%		70-130	02-SEP-21
Sodium (Na)-Total			N/A	MS-B	%		-	02-SEP-21
Strontium (Sr)-Total			N/A	MS-B	%		-	02-SEP-21
Sulfur (S)-Total			95.3		%		70-130	02-SEP-21
Tellurium (Te)-Total			93.3		%		70-130	02-SEP-21
Thallium (Tl)-Total			89.5		%		70-130	02-SEP-21
Thorium (Th)-Total			92.4		%		70-130	02-SEP-21
Tin (Sn)-Total			97.9		%		70-130	02-SEP-21
Titanium (Ti)-Total			97.5		%		70-130	02-SEP-21
Tungsten (W)-Total			96.2		%		70-130	02-SEP-21
Uranium (U)-Total			90.3		%		70-130	02-SEP-21
Vanadium (V)-Total			94.3		%		70-130	02-SEP-21
Zinc (Zn)-Total			89.2		%		70-130	02-SEP-21

Quality Control Report

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R5578301								
WG3610117-5 MS		**WG3610117-3**						
Zirconium (Zr)-Total			99.0		%		70-130	02-SEP-21
NO2-L-IC-N-WP	Water							
Batch R5575365								
WG3609315-15 DUP		**L2634011-1**						
Nitrite (as N)		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	01-SEP-21
WG3609315-7 DUP		**L2633977-1**						
Nitrite (as N)		0.0014	0.0012		mg/L	16	20	01-SEP-21
WG3609315-14 LCS								
Nitrite (as N)			102.6		%		90-110	01-SEP-21
WG3609315-6 LCS								
Nitrite (as N)			103.4		%		90-110	01-SEP-21
WG3609315-13 MB								
Nitrite (as N)			<0.0010		mg/L		0.001	01-SEP-21
WG3609315-5 MB								
Nitrite (as N)			<0.0010		mg/L		0.001	01-SEP-21
WG3609315-16 MS		**L2634011-1**						
Nitrite (as N)			105.9		%		75-125	01-SEP-21
WG3609315-8 MS		**L2633977-1**						
Nitrite (as N)			105.5		%		75-125	01-SEP-21
NO3-L-IC-N-WP	Water							
Batch R5575365								
WG3609315-15 DUP		**L2634011-1**						
Nitrate (as N)		0.0243	0.0235		mg/L	3.5	20	01-SEP-21
WG3609315-7 DUP		**L2633977-1**						
Nitrate (as N)		0.0163	0.0152		mg/L	7.2	20	01-SEP-21
WG3609315-14 LCS								
Nitrate (as N)			101.9		%		90-110	01-SEP-21
WG3609315-6 LCS								
Nitrate (as N)			102.4		%		90-110	01-SEP-21
WG3609315-13 MB								
Nitrate (as N)			<0.0050		mg/L		0.005	01-SEP-21
WG3609315-5 MB								
Nitrate (as N)			<0.0050		mg/L		0.005	01-SEP-21
WG3609315-16 MS		**L2634011-1**						
Nitrate (as N)			105.0		%		75-125	01-SEP-21
WG3609315-8 MS		**L2633977-1**						

Quality Control Report

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-L-IC-N-WP	Water							
Batch R5575365								
WG3609315-8 MS		**L2633977-1**						
Nitrate (as N)			105.4		%		75-125	01-SEP-21
PH-WP	Water							
Batch R5574658								
WG3610008-20 DUP		**L2634012-1**						
pH		8.08	7.99	J	pH units	0.09	0.2	01-SEP-21
WG3610008-17 LCS								
pH			6.97		pH units		6.9-7.1	01-SEP-21
SO4-IC-N-WP	Water							
Batch R5575365								
WG3609315-15 DUP		**L2634011-1**						
Sulfate (SO4)		22.0	22.0		mg/L	0.0	20	01-SEP-21
WG3609315-7 DUP		**L2633977-1**						
Sulfate (SO4)		6.61	6.57		mg/L	0.7	20	01-SEP-21
WG3609315-14 LCS								
Sulfate (SO4)			103.3		%		90-110	01-SEP-21
WG3609315-6 LCS								
Sulfate (SO4)			103.6		%		90-110	01-SEP-21
WG3609315-13 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	01-SEP-21
WG3609315-5 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	01-SEP-21
WG3609315-16 MS		**L2634011-1**						
Sulfate (SO4)			104.9		%		75-125	01-SEP-21
WG3609315-8 MS		**L2633977-1**						
Sulfate (SO4)			105.3		%		75-125	01-SEP-21
TURBIDITY-WP	Water							
Batch R5575278								
WG3609532-3 DUP		**L2633977-1**						
Turbidity		24.4	24.6		NTU	0.8	15	01-SEP-21
WG3609532-2 LCS								
Turbidity			99.96		%		85-115	01-SEP-21
WG3609532-1 MB								
Turbidity			<0.10		NTU		0.1	01-SEP-21

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pH							
	1	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM
	2	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM
	3	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM
	4	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM
	5	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM
	6	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM
	7	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM
	8	30-AUG-21 14:00	01-SEP-21 12:00	0.25	46	hours	EHTR-FM

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2634011 were received on 31-AUG-21 16:15.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

12 - 1329 Niakwa Rd. E
Winnipeg, Manitoba R
Tel: (204) 255-9720
Fax: (204) 255-9721
Toll Free: 1 800 607 75

L2634011-COFC

Chain of Custody / Analytical Request Form

WORK ORDER NO: BR327080

FOR LABORATORY USE ONL

LAB NO.:

Sample Condition Upon Receipt: ☐ ACCEPTABLE ☐ NON ACCEPTABLE

DATE RECEIVED: 3/9/21

☐ Frozen ☐ Cold ☐ Ambient ☐ Broken ☐ Leakage ☐ Incorrect Sample Container

TIME RECEIVED: 16:15

COMMENT:

BY: FMH TEMP: 8.9°C

Date Sampled: Aug 30/21 Time: 11-14:00 A.M. ☐ P.M. ☐

Date Required: asap

Location: Sheridan, MB (Town, Community, City)

Submitter's Name Printed: Bryanna Sherbo

Sample Submitted By: Bryanna Sherbo

Community Code Number: n/a

Rural Municipality/LGC/UVD: n/a

SAMPLE TYPE

DRINKING WATER

- ☐ Untreated Well
- ☐ Treated Well
- ☐ Treated Municipal
- ☐ Non-Treated Municipal
- ☐ Water-Surface-Raw
- ☐ Water-Surface-Treated

NON-DRINKING WATER

- ☐ Sewage/Waste Water
- ☒ Lake/River
- ☐ Swimming Pool
- ☐ Whirl Pool
- ☐ Other:

PLEASE PRINT & PRESS FIRMLY

NOTES & CONDITIONS

1. Quote number **MUST BE** provided to insure proper pricing.
2. Failure to properly complete all portions of this form may delay analysis.
3. ALS's liability limited to cost of analysis.

PURPOSE OF TEST

☐ Private ☐ Real Estate ☐ Water Main

SERVICE REQUESTED

☒ REGULAR ☐ PRIORITY (50% SURCHARGE) ☐ EMERGENCY (100% SURCHARGE) ☐ SAME DAY (200% SURCHARGE)

LAB NUMBER	SAMPLE IDENTIFICATION
	K1-0m - Kississing
	K1-2.5m
	K1-2.5m - total metals
	K2-0m
	C3-0m - Camp
	C4-0m
	C4-0m - total metals
	C4-3m
	C4-3m - total metals
	P5 - spawning creek
	S6 - sherlett
	S6 - total metals

ALS CUSTOMER #: W2055 QUOTE #:

REPORT TO BE SENT TO

NAME: Manitoba Metis Federation
COMPANY: MMF
ADDRESS: 300-150 Henry Ave
CITY/TOWN: Winnipeg / PROV.: MB
POSTAL CODE: R3B 0J7
PHONE: 204-586-8474
BY: MAIL ☐ FAX ☐ (FAX NUMBER)
E-MAIL ☒ bryanna.sherbo@mmf.mb.ca (EMAIL ADDRESS)

CC

NAME: Marci Riel
ADDRESS: same as above
CITY/TOWN: / PROV.:
POSTAL CODE:
PHONE:
BY: MAIL ☐ FAX ☐ (FAX NUMBER)
E-MAIL ☒ marci.riel@mmf.mb.ca (EMAIL ADDRESS)

Analyses required

- total metals (no nitric acid given and only 4 vials)
- Routine

BILLING ADDRESS SAME AS REPORT TO ☒

NAME:
COMPANY:
ADDRESS:
CITY/TOWN: / PROV.:
POSTAL CODE:

PAYMENT PARTICULARS (CASH NOT ACCEPTED)

- ☐ INVOICE NEEDED / CLIENT'S P.O. NO.
- ☐ INTERAC
- ☒ CHEQUE
- ☐ VISA
- ☐ MASTERCARD

Subtotal $
G.S.T. $
Total $

* OUR POLICY IS NOT TO ACCEPT SAMPLES FROM THE PRIVATE CITIZEN WITHOUT PREPAYMENT

SAMPLING INSTRUCTIONS ON REVERSE SIDE

ALS ENVIRONMENTAL
12 - 1329 Niakwa Rd. E., Winnipeg, MB Canada R2J 3T4
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ENTERED IN LIMS BY:

Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: K1 - 0M - BACT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-1
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BC	CFU/mL			02-SEP-21

CDWQG = Health Canada Guideline Limits updated

* CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit.
* Turbidity guideline based on membrane filtration. For guidelines on conventional treatment and slow sand or diatomaceous earth filtration please see Summary Table of Guidelines for Canadian Drinking Water Quality
- A blank entry designates no known limit.
- A shaded value in the Results column exceeds CDWQG MAC and/ or Aesthetic Objective.

Approved by

Hua Wo
Account Manager

Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: K1 - SEDIMENT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-2
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Metals in Soil by CRC ICPMS						
Aluminum (Al)	9570		mg/kg			10-SEP-21
Antimony (Sb)	0.32		mg/kg			10-SEP-21
Arsenic (As)	8.95		mg/kg			10-SEP-21
Barium (Ba)	64.7		mg/kg			10-SEP-21
Beryllium (Be)	0.39		mg/kg			10-SEP-21
Bismuth (Bi)	<0.20		mg/kg			10-SEP-21
Boron (B)	<5.0		mg/kg			10-SEP-21
Cadmium (Cd)	12.7		mg/kg			10-SEP-21
Calcium (Ca)	11700		mg/kg			10-SEP-21
Chromium (Cr)	14.2		mg/kg			10-SEP-21
Cobalt (Co)	37.4		mg/kg			10-SEP-21
Copper (Cu)	715		mg/kg			10-SEP-21
Iron (Fe)	145000		mg/kg			10-SEP-21
Lead (Pb)	10.8		mg/kg			10-SEP-21
Lithium (Li)	6.8		mg/kg			10-SEP-21
Magnesium (Mg)	3110		mg/kg			10-SEP-21
Manganese (Mn)	1040		mg/kg			10-SEP-21
Molybdenum (Mo)	1.62		mg/kg			10-SEP-21
Nickel (Ni)	19.0		mg/kg			10-SEP-21
Phosphorus (P)	1430		mg/kg			10-SEP-21
Potassium (K)	970		mg/kg			10-SEP-21
Selenium (Se)	2.39		mg/kg			10-SEP-21
Silver (Ag)	0.29		mg/kg			10-SEP-21
Sodium (Na)	158		mg/kg			10-SEP-21
Strontium (Sr)	19.0		mg/kg			10-SEP-21
Sulfur (S)	4600		mg/kg			10-SEP-21
Thallium (Tl)	0.122		mg/kg			10-SEP-21
Tin (Sn)	<2.0		mg/kg			10-SEP-21
Titanium (Ti)	329		mg/kg			10-SEP-21
Tungsten (W)	<0.50		mg/kg			10-SEP-21
Uranium (U)	2.94		mg/kg			10-SEP-21
Vanadium (V)	29.8		mg/kg			10-SEP-21
Zinc (Zn)	2990		mg/kg			10-SEP-21
Zirconium (Zr)	2.3		mg/kg			10-SEP-21

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Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: K1 - SEDIMENT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-2
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed

CDWQG = Health Canada Guideline Limits updated

* CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit.
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Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: K1 - 2.5M - BACT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-3
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BC	CFU/mL			02-SEP-21

CDWQG = Health Canada Guideline Limits updated

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ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: K2 - 0M - BACT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-4
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BC	CFU/mL			02-SEP-21

CDWQG = Health Canada Guideline Limits updated

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ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: C3 - 0M - BACT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-5
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BR	CFU/mL			02-SEP-21

CDWQG = Health Canada Guideline Limits updated

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ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: C3 - SEDIMENT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-6
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Metals in Soil by CRC ICPMS						
Aluminum (Al)	21900		mg/kg			10-SEP-21
Antimony (Sb)	0.11		mg/kg			10-SEP-21
Arsenic (As)	2.62		mg/kg			10-SEP-21
Barium (Ba)	131		mg/kg			10-SEP-21
Beryllium (Be)	0.34		mg/kg			10-SEP-21
Bismuth (Bi)	0.20		mg/kg			10-SEP-21
Boron (B)	10.9		mg/kg			10-SEP-21
Cadmium (Cd)	0.501		mg/kg			10-SEP-21
Calcium (Ca)	5880		mg/kg			10-SEP-21
Chromium (Cr)	69.2		mg/kg			10-SEP-21
Cobalt (Co)	7.57		mg/kg			10-SEP-21
Copper (Cu)	113		mg/kg			10-SEP-21
Iron (Fe)	89700		mg/kg			10-SEP-21
Lead (Pb)	11.3		mg/kg			10-SEP-21
Lithium (Li)	23.9		mg/kg			10-SEP-21
Magnesium (Mg)	10800		mg/kg			10-SEP-21
Manganese (Mn)	264		mg/kg			10-SEP-21
Molybdenum (Mo)	1.37		mg/kg			10-SEP-21
Nickel (Ni)	19.1		mg/kg			10-SEP-21
Phosphorus (P)	672		mg/kg			10-SEP-21
Potassium (K)	6340		mg/kg			10-SEP-21
Selenium (Se)	0.77		mg/kg			10-SEP-21
Silver (Ag)	0.12		mg/kg			10-SEP-21
Sodium (Na)	410		mg/kg			10-SEP-21
Strontium (Sr)	18.8		mg/kg			10-SEP-21
Sulfur (S)	<1000		mg/kg			10-SEP-21
Thallium (Tl)	0.307		mg/kg			10-SEP-21
Tin (Sn)	<2.0		mg/kg			10-SEP-21
Titanium (Ti)	1840		mg/kg			10-SEP-21
Tungsten (W)	<0.50		mg/kg			10-SEP-21
Uranium (U)	0.959		mg/kg			10-SEP-21
Vanadium (V)	86.7		mg/kg			10-SEP-21
Zinc (Zn)	311		mg/kg			10-SEP-21
Zirconium (Zr)	12.5		mg/kg			10-SEP-21

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PO No.:
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Project Ref: SHERRIDON,MB
Sample ID: C3 - SEDIMENT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-6
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed

CDWQG = Health Canada Guideline Limits updated

* CDWQG for Nitrate+Nitrite-N is the limit for nitrate only. If present as Nitrate then the limit is 10mg/L < or N.D. = less than detection limit.
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Approved by

Hua Wo
Account Manager

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ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: C4 - 0M - BACT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-7
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BR	CFU/mL			02-SEP-21

CDWQG = Health Canada Guideline Limits updated

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Hua Wo
Account Manager

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ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: C4 - 3M - BACT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-8
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BC	CFU/mL			02-SEP-21

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Winnipeg MB R3B 0J7
ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: C4 - SEDIMENT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-9
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Metals in Soil by CRC ICPMS						
Aluminum (Al)	20000		mg/kg			10-SEP-21
Antimony (Sb)	1.25		mg/kg			10-SEP-21
Arsenic (As)	5.87		mg/kg			10-SEP-21
Barium (Ba)	117		mg/kg			10-SEP-21
Beryllium (Be)	0.58		mg/kg			10-SEP-21
Bismuth (Bi)	0.25		mg/kg			10-SEP-21
Boron (B)	9.5		mg/kg			10-SEP-21
Cadmium (Cd)	1.61		mg/kg			10-SEP-21
Calcium (Ca)	7980		mg/kg			10-SEP-21
Chromium (Cr)	43.5		mg/kg			10-SEP-21
Cobalt (Co)	10.4		mg/kg			10-SEP-21
Copper (Cu)	650		mg/kg			10-SEP-21
Iron (Fe)	35700		mg/kg			10-SEP-21
Lead (Pb)	25.2		mg/kg			10-SEP-21
Lithium (Li)	27.1		mg/kg			10-SEP-21
Magnesium (Mg)	7540		mg/kg			10-SEP-21
Manganese (Mn)	269		mg/kg			10-SEP-21
Molybdenum (Mo)	0.50		mg/kg			10-SEP-21
Nickel (Ni)	23.8		mg/kg			10-SEP-21
Phosphorus (P)	455		mg/kg			10-SEP-21
Potassium (K)	3900		mg/kg			10-SEP-21
Selenium (Se)	2.01		mg/kg			10-SEP-21
Silver (Ag)	0.61		mg/kg			10-SEP-21
Sodium (Na)	275		mg/kg			10-SEP-21
Strontium (Sr)	21.7		mg/kg			10-SEP-21
Sulfur (S)	1500		mg/kg			10-SEP-21
Thallium (Tl)	0.268		mg/kg			10-SEP-21
Tin (Sn)	2.0		mg/kg			10-SEP-21
Titanium (Ti)	1060		mg/kg			10-SEP-21
Tungsten (W)	<0.50		mg/kg			10-SEP-21
Uranium (U)	1.84		mg/kg			10-SEP-21
Vanadium (V)	49.3		mg/kg			10-SEP-21
Zinc (Zn)	546		mg/kg			10-SEP-21
Zirconium (Zr)	14.2		mg/kg			10-SEP-21

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PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: C4 - SEDIMENT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-9
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed

CDWQG = Health Canada Guideline Limits updated

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Hua Wo
Account Manager

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ATTN: BRYANNA SHERBO

Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: P5 - BACT - SPAWNING CREEK
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-10
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BC	CFU/mL			02-SEP-21

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Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: S6 - SHERLETT - BACT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-11
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Iron Bacteria	2200	IRB:BC	CFU/mL			02-SEP-21

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Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: S6 - SED - SHERLETT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-12
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed
Metals in Soil by CRC ICPMS						
Aluminum (Al)	33100		mg/kg			10-SEP-21
Antimony (Sb)	0.22		mg/kg			10-SEP-21
Arsenic (As)	5.93		mg/kg			10-SEP-21
Barium (Ba)	189		mg/kg			10-SEP-21
Beryllium (Be)	1.28		mg/kg			10-SEP-21
Bismuth (Bi)	0.31		mg/kg			10-SEP-21
Boron (B)	13.0		mg/kg			10-SEP-21
Cadmium (Cd)	1.38		mg/kg			10-SEP-21
Calcium (Ca)	5380		mg/kg			10-SEP-21
Chromium (Cr)	67.4		mg/kg			10-SEP-21
Cobalt (Co)	15.4		mg/kg			10-SEP-21
Copper (Cu)	3960		mg/kg			10-SEP-21
Iron (Fe)	37700		mg/kg			10-SEP-21
Lead (Pb)	17.6		mg/kg			10-SEP-21
Lithium (Li)	44.1		mg/kg			10-SEP-21
Magnesium (Mg)	12400		mg/kg			10-SEP-21
Manganese (Mn)	387		mg/kg			10-SEP-21
Molybdenum (Mo)	0.49		mg/kg			10-SEP-21
Nickel (Ni)	39.9		mg/kg			10-SEP-21
Phosphorus (P)	568		mg/kg			10-SEP-21
Potassium (K)	6490		mg/kg			10-SEP-21
Selenium (Se)	1.01		mg/kg			10-SEP-21
Silver (Ag)	0.25		mg/kg			10-SEP-21
Sodium (Na)	483		mg/kg			10-SEP-21
Strontium (Sr)	31.8		mg/kg			10-SEP-21
Sulfur (S)	<1000		mg/kg			10-SEP-21
Thallium (Tl)	0.417		mg/kg			10-SEP-21
Tin (Sn)	<2.0		mg/kg			10-SEP-21
Titanium (Ti)	1530		mg/kg			10-SEP-21
Tungsten (W)	<0.50		mg/kg			10-SEP-21
Uranium (U)	2.23		mg/kg			10-SEP-21
Vanadium (V)	72.9		mg/kg			10-SEP-21
Zinc (Zn)	495		mg/kg			10-SEP-21
Zirconium (Zr)	25.1		mg/kg			10-SEP-21

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Date: 13-SEP-21
PO No.:
WO No.: L2634033
Project Ref: SHERRIDON,MB
Sample ID: S6 - SED - SHERLETT
Sampled By: BS
Date Collected: 30-AUG-21
Lab Sample ID: L2634033-12
Matrix: LAKE/RIVER

Test Description	Result	Qualifier	Units of Measure	CDWQG MAC	Aesthetic Objective	Date Analyzed

CDWQG = Health Canada Guideline Limits updated

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Approved by

Hua Wo
Account Manager

Guidelines & Objectives

Sample Parameter Qualifier key listed:

Qualifier	Description
IRB:BC	Brown Cloudy: IRB dominant
IRB:BR	Brown Ring: IRB dominant

Health Canada MAC Health Related Criteria Limits

Nitrate/Nitrite-N*	Criteria limit is 10 mg/L (1.0 mg/L if present as all Nitrite-N). High concentrations may contribute to blue baby syndrome in infants.
Lead*	A cumulative body poison, uncommon in naturally occurring hard waters.
Fluoride*	Present in fluoridated water supplies at 0.8 mg/L to reduce dental caries. Elevated levels causes fluorosis (mottling of teeth).
Total Coliforms*	Criteria is 0 CFU/100mL. Adverse health effects.
E. Coli*	Criteria is 0 CFU/100 mL. Certain E. Coli bacteria can be life threatening.
Manganese*	Criteria limit is 0.12 mg/L. Possible neurological effects in infants.

*Health Canada Canadian Drinking Water Quality Guidelines (MAC limit)

Aesthetic Objective Concentration Levels

Alkalinity	Acid neutralizing capacity. Usually a measure of carbonate and bicarbonates and calculated and reported as calcium carbonate.
Balance	Quality control parameter ratioing cations to anions
Bicarbonate	See Alkalinity. Report as the anion HCO3-1
Carbonate	See Alkalinity. Reported at the anion CO3-2
Calcium	See Hardness. Common major cation of water chemistry.
Chloride	Common major anion of water chemistry.
Conductance	Physical test measuring water salinity (dissolved ions or solids)
Hardness	Classical measure or capacity of water to precipitate soap (chiefly calcium and magnesium ions). Causes scaling tendency in water if carbonates/bicarbonates are present (if >200 mg/L). For drinking water purposes waters with results <200 mg/L are considered acceptable, results >200 mg/L are considered poor but can be tolerated. Results >500 mg/L are unacceptable.
Hydroxide	See alkalinity
Magnesium	See hardness. Common major cation of water chemistry. Elevated levels (>125 mg/L) may exert a cathartic or diuretic action.
pH	Measure of water acidity/alkalinity. Normal range is 7.0-8.5.
Potassium	Common major cation of water chemistry.
Sodium	Common major cation of water chemistry. Measure of salinity (saltiness).The aesthetic objective (not related to health) for sodium in drinking water is 200 mg/L. However, where sodium concentration of the drinking water exceeds 20 mg/L, it is recommended that any person on a sodium restricted diet consult with his/her physician or Medical Officer of Health concerning the use of that water.
Sulphate	Common major anion of water chemistry. Elevated levels may exert a cathartic or diuretic action.
Total Dissolved Solids	A measure of water salinity.
Iron	Causes staining to laundry and porcelain and astringent taste. Oxidizes to red-brown precipitate on exposure to air.
Heterotrophic Plate Count	Criteria is 500 cfu/mL Measure of heterotrophic bacteria present.

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Client: Manitoba Metis Federation
300 - 150 Henry Avenue
Winnipeg MB R3B 0J7
Contact: BRYANNA SHERBO

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
IB-BART-SQ-CL	Water							
Batch R5583111								
WG3616009-1 MB								
Iron Bacteria			<1.0		CFU/mL		1	02-SEP-21
MET-200.2-CCMS-VA	Soil							
Batch R5582072								
WG3614415-4 CRM		**SCP SS-2**						
Aluminum (Al)			113.0		%		70-130	10-SEP-21
Antimony (Sb)			100.8		%		70-130	10-SEP-21
Arsenic (As)			101.6		%		70-130	10-SEP-21
Barium (Ba)			99.5		%		70-130	10-SEP-21
Beryllium (Be)			106.2		%		70-130	10-SEP-21
Bismuth (Bi)			0.14		mg/kg		0-0.34	10-SEP-21
Boron (B)			10.4		mg/kg		3.5-13.5	10-SEP-21
Cadmium (Cd)			98.6		%		70-130	10-SEP-21
Calcium (Ca)			105.5		%		70-130	10-SEP-21
Chromium (Cr)			107.1		%		70-130	10-SEP-21
Cobalt (Co)			102.0		%		70-130	10-SEP-21
Copper (Cu)			100.6		%		70-130	10-SEP-21
Iron (Fe)			103.3		%		70-130	10-SEP-21
Lead (Pb)			103.8		%		70-130	10-SEP-21
Lithium (Li)			103.8		%		70-130	10-SEP-21
Magnesium (Mg)			108.7		%		70-130	10-SEP-21
Manganese (Mn)			106.2		%		70-130	10-SEP-21
Molybdenum (Mo)			115.4		%		70-130	10-SEP-21
Nickel (Ni)			101.4		%		70-130	10-SEP-21
Phosphorus (P)			100.5		%		70-130	10-SEP-21
Potassium (K)			109.6		%		70-130	10-SEP-21
Selenium (Se)			0.13		mg/kg		0-0.34	10-SEP-21
Sodium (Na)			106.2		%		70-130	10-SEP-21
Strontium (Sr)			100.5		%		70-130	10-SEP-21
Thallium (Tl)			0.081		mg/kg		0.029-0.129	10-SEP-21
Tin (Sn)			98.4		%		70-130	10-SEP-21
Titanium (Ti)			114.8		%		70-130	10-SEP-21
Uranium (U)			103.1		%		70-130	10-SEP-21
Vanadium (V)			105.6		%		70-130	10-SEP-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	Soil							
Batch R5582072								
WG3614415-4 CRM		**SCP SS-2**						
Zinc (Zn)			102.0		%		70-130	10-SEP-21
Zirconium (Zr)			96.2		%		70-130	10-SEP-21
WG3614415-3 LCS								
Aluminum (Al)			104.4		%		80-120	10-SEP-21
Antimony (Sb)			112.9		%		80-120	10-SEP-21
Arsenic (As)			105.3		%		80-120	10-SEP-21
Barium (Ba)			104.1		%		80-120	10-SEP-21
Beryllium (Be)			101.3		%		80-120	10-SEP-21
Bismuth (Bi)			105.5		%		80-120	10-SEP-21
Boron (B)			101.8		%		80-120	10-SEP-21
Cadmium (Cd)			104.9		%		80-120	10-SEP-21
Calcium (Ca)			104.7		%		80-120	10-SEP-21
Chromium (Cr)			102.5		%		80-120	10-SEP-21
Cobalt (Co)			103.6		%		80-120	10-SEP-21
Copper (Cu)			103.0		%		80-120	10-SEP-21
Iron (Fe)			104.5		%		80-120	10-SEP-21
Lead (Pb)			106.5		%		80-120	10-SEP-21
Lithium (Li)			98.3		%		80-120	10-SEP-21
Magnesium (Mg)			113.5		%		80-120	10-SEP-21
Manganese (Mn)			103.7		%		80-120	10-SEP-21
Molybdenum (Mo)			105.6		%		80-120	10-SEP-21
Nickel (Ni)			102.1		%		80-120	10-SEP-21
Phosphorus (P)			102.8		%		80-120	10-SEP-21
Potassium (K)			108.3		%		80-120	10-SEP-21
Selenium (Se)			106.6		%		80-120	10-SEP-21
Silver (Ag)			102.5		%		80-120	10-SEP-21
Sodium (Na)			111.0		%		80-120	10-SEP-21
Strontium (Sr)			101.9		%		80-120	10-SEP-21
Sulfur (S)			103.9		%		80-120	10-SEP-21
Thallium (Tl)			108.9		%		80-120	10-SEP-21
Tin (Sn)			105.4		%		80-120	10-SEP-21
Titanium (Ti)			104.1		%		80-120	10-SEP-21
Tungsten (W)			103.3		%		80-120	10-SEP-21
Uranium (U)			102.5		%		80-120	10-SEP-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	Soil							
Batch R5582072								
WG3614415-3 LCS								
Vanadium (V)			106.8		%		80-120	10-SEP-21
Zinc (Zn)			102.8		%		80-120	10-SEP-21
Zirconium (Zr)			104.7		%		70-130	10-SEP-21
WG3614415-1 MB								
Aluminum (Al)			<50		mg/kg		50	10-SEP-21
Antimony (Sb)			<0.10		mg/kg		0.1	10-SEP-21
Arsenic (As)			<0.10		mg/kg		0.1	10-SEP-21
Barium (Ba)			<0.50		mg/kg		0.5	10-SEP-21
Beryllium (Be)			<0.10		mg/kg		0.1	10-SEP-21
Bismuth (Bi)			<0.20		mg/kg		0.2	10-SEP-21
Boron (B)			<5.0		mg/kg		5	10-SEP-21
Cadmium (Cd)			<0.020		mg/kg		0.02	10-SEP-21
Calcium (Ca)			<50		mg/kg		50	10-SEP-21
Chromium (Cr)			<0.50		mg/kg		0.5	10-SEP-21
Cobalt (Co)			<0.10		mg/kg		0.1	10-SEP-21
Copper (Cu)			<0.50		mg/kg		0.5	10-SEP-21
Iron (Fe)			<50		mg/kg		50	10-SEP-21
Lead (Pb)			<0.50		mg/kg		0.5	10-SEP-21
Lithium (Li)			<2.0		mg/kg		2	10-SEP-21
Magnesium (Mg)			<20		mg/kg		20	10-SEP-21
Manganese (Mn)			<1.0		mg/kg		1	10-SEP-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	10-SEP-21
Nickel (Ni)			<0.50		mg/kg		0.5	10-SEP-21
Phosphorus (P)			<50		mg/kg		50	10-SEP-21
Potassium (K)			<100		mg/kg		100	10-SEP-21
Selenium (Se)			<0.20		mg/kg		0.2	10-SEP-21
Silver (Ag)			<0.10		mg/kg		0.1	10-SEP-21
Sodium (Na)			<50		mg/kg		50	10-SEP-21
Strontium (Sr)			<0.50		mg/kg		0.5	10-SEP-21
Sulfur (S)			<1000		mg/kg		1000	10-SEP-21
Thallium (Tl)			<0.050		mg/kg		0.05	10-SEP-21
Tin (Sn)			<2.0		mg/kg		2	10-SEP-21
Titanium (Ti)			<1.0		mg/kg		1	10-SEP-21
Tungsten (W)			<0.50		mg/kg		0.5	10-SEP-21

Quality Control Report

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA	Soil							
Batch R5582072								
WG3614415-1 MB								
Uranium (U)			<0.050		mg/kg		0.05	10-SEP-21
Vanadium (V)			<0.20		mg/kg		0.2	10-SEP-21
Zinc (Zn)			<2.0		mg/kg		2	10-SEP-21
Zirconium (Zr)			<1.0		mg/kg		1	10-SEP-21

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Bacteriological Tests							
Iron Bacteria, Semi-quantitative							
	1	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR
	3	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR
	4	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR
	5	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR
	7	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR
	8	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR
	10	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR
	11	30-AUG-21 11:00	02-SEP-21 08:00	24	69	hours	EHTR

Legend & Qualifier Definitions:

EHTR-FM:	Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.
EHTR:	Exceeded ALS recommended hold time prior to sample receipt.
EHTL:	Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
EHT:	Exceeded ALS recommended hold time prior to analysis.
Rec. HT:	ALS recommended hold time (see units).

Notes*:
Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes.
Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2634033 were received on 31-AUG-21 16:15.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

12 - 1329 Niakwa Rd. E.
Winnipeg, Manitoba R2J 3T4
Tel: (204) 255-9720
Fax: (204) 255-9721
Toll Free: 1 800 607 7555

L2634033-COFC

Chain of Custody / Analytical Request Form

WORK ORDER NO: BR327226

FOR LABORATORY USE ONLY (S
Sample Condition Upon Receipt: ☐ ...CCEPTABLE
☐ Frozen ☐ Cold ☐ Ambient ☐ Br... ☐ ...eakage ☐ Incorrect Sample Container
COMMENT:

LAB NO.:
DATE RECEIVED: 31/8/21
TIME RECEIVED: 16:15
BY: FMH TEMP: 8.4°C

Date Sampled: Aug30/21 Time: 11-14:00 A.M. ☐ P.M. ☐
Location: Sheridan, MB (Town, Community, City)
Community Code Number: n/a

Date Required: asap
Submitter's Name Printed: Bryanna Sherbo
Sample Submitted By: Bryanna Sherbo
Rural Municipality/LGC/UVD: n/a

SAMPLE TYPE
DRINKING WATER
☐ Untreated Well
☐ Treated Well
☐ Treated Municipal
☐ Non-Treated Municipal
☐ Water-Surface-Raw
☐ Water-Surface-Treated

PURPOSE OF TEST
☐ Private ☐ Real Estate ☐ Water Main

PLEASE PRINT & PRESS FIRMLY
NON-DRINKING WATER
☐ Sewage/Waste Water
☒ Lake/River
☐ Swimming Pool
☐ Whirl Pool
☐ Other:

NOTES & CONDITIONS
1. Quote number **MUST BE** provided to insure proper pricing.
2. Failure to properly complete all portions of this form may delay analysis.
3. ALS's liability limited to cost of analysis.

SERVICE REQUESTED
☒ REGULAR ☐ PRIORITY (50% SURCHARGE) ☐ EMERGENCY (100% SURCHARGE) ☐ SAME DAY (200% SURCHARGE)

LAB NUMBER	SAMPLE IDENTIFICATION
	K1 - 0m - bact.
	K1 - sediment
	K1 - 2.5m - bact.
	K2 - 0m - bact.
	C3 - 0m - bact
	C3 - sed.
	C4 - 0m - bact.
	C4 - 3m - bact.
	C4 - sed.
	P5 - bact - spawning
	S6 - Sherlett - bac creek
	S6 - sed - Sherlett

ALS CUSTOMER #: W2055 QUOTE #:

REPORT TO BE SENT TO
NAME: Bryanna Sherbo
COMPANY: Manitoba Metis Federation
ADDRESS: 150 Henry Ave
CITY/TOWN: WPG / PROV.: MB
POSTAL CODE: R3B 0J7
PHONE: 204-586-8474
BY: MAIL ☐ FAX ☐ (FAX NUMBER)
E-MAIL ☒ bryanna.sherbo@mmf.mb.ca (EMAIL ADDRESS)

CC
NAME: Marci Riel
ADDRESS: same
CITY/TOWN: / PROV.:
POSTAL CODE:
PHONE:
BY: MAIL ☐ FAX ☐ (FAX NUMBER)
E-MAIL ☒ marci.riel@mmf.mb.ca (EMAIL ADDRESS)

Analyses required
- Sediment metals (Fe likely high)
- Iron reducing bacteria test

BILLING ADDRESS SAME AS REPORT TO ☒
NAME:
COMPANY:
ADDRESS:
CITY/TOWN: / PROV.:
POSTAL CODE:

PAYMENT PARTICULARS (CASH NOT ACCEPTED)
☐ INVOICE NEEDED / CLIENT'S P.O. NO.
☐ INTERAC
☒ CHEQUE
☐ VISA
☐ MASTERCARD
Subtotal $
G.S.T. $
Total $
* OUR POLICY IS NOT TO ACCEPT SAMPLES FROM THE PRIVATE CITIZEN WITHOUT PREPAYMENT

ENTERED IN LIMS BY:

SAMPLING INSTRUCTIONS ON REVERSE SIDE
ALS ENVIRONMENTAL
12 - 1329 Niakwa Rd. E., Winnipeg, MB Canada R2J 3T4
Phone: +1 204 255 9720 Fax: +1 204 255 9721 **www.alsglobal.com**
A Campbell Brothers Limited Company

SUBMITTER COPY

Eva Pip statements to Winnipeg Free Press on ALS analysis

1. The iron is very high, and without knowing details about where the samples were collected, this looks like typical northern Manitoba mine tailings leachate. Iron in itself is not considered toxic for people, although there is an aesthetic threshold because the water will look an alarming orange-red-brown, and it will taste bad. It will stain.

2. Iron bacteria are present where there is high iron as well as at least some oxygen. They create slimes, bad tastes and odors, and plug up pipes and screens, but are not considered toxic, just very hard to eradicate from plumbing systems. The lab did not go further and identify which iron bacteria specifically these are. There is no federal guideline for iron bacteria.

3. We assume that this is not drinking water, and some of the samples are labelled as sediments, so the federal guidelines which we will apply are the Canadian Sediment Quality Guidelines for the Protection of Aquatic Life, and the Canadian Water Quality Guidelines for the Protection of Aquatic Life. In other words, protection primarily of fish.

4. Note that in Canada we only have environmental guidelines, not standards, and thus the threshold values are not enforceable. Also note that although the analysis list is quite comprehensive for the samples, only a few of these parameters are on the Guidelines lists, so those are the only ones we can definitively discuss. It is possible some of the other parameters might be of concern, but we have no guideline reference to compare them to.

5. For sediments, we assume that the lab results are in terms of dry sediment weight. We can only discuss arsenic, cadmium, copper, chromium, lead and zinc. The lab doesn't say which valency of chromium they analyzed (they vary tremendously in toxicity), so we assume total chromium.

Sediment sample K1- sediment

Guideline levels are exceeded for arsenic, cadmium, and especially for copper (guideline 35.7, sample 715) and zinc (guideline 123, sample 2990). Iron is extremely high, but is not on the sediment guideline list.

Sediment sample C3 - sediment

Guidelines exceeded for chromium, copper and zinc, but not as bad as the K1 sample. Iron is still very high.

Sediment sample C4 - sediment

Guidelines exceeded for cadmium, chromium, zinc, and especially copper (guideline 35.7, sample 650). Arsenic is right on the borderline. Iron high.

Sediment sample S6 - SED – SHERLETT

Guideline levels exceeded for cadmium, chromium, zinc and especially copper (guideline 35.7, sample 3960). Arsenic is once again borderline. Iron high.

The conductivity, hardness, pH, total dissolved solids and other macro parameters in the water samples are all OK. Turbidity is excessive in C4- 3M.

However, iron is exceeded in all 8 water samples.

Summary:

All 4 sediment samples exceeded guidelines for aquatic life protection for copper and zinc. Some samples also exceeded for arsenic, chromium and cadmium.

Iron was very high in all sediment and water samples.

Mercury was not tested.

Typically sediments are much higher than the overlying water for metal contaminants because the sediments form the primary reservoir in aquatic ecosystems where metals are adsorbed.

These are contaminated sites and these habitats would not be suitable for fish because of elevated concentrations of toxic metals.