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Date Received: 10-APR-18
Report Date: 13-APR-18 13:17 (MT)
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Client Phone: 204-488-2997

Certificate of Analysis

Lab Work Order #: L2078181
Project P.O. #: WX18410.075
Job Reference: WX18410.075
C of C Numbers:
Legal Site Desc: T-33

Judy Dalmaijer
Account Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2078181-1 SAMPLE 1 - RED PAINT Sampled By: CLIENT on 05-APR-18 Matrix: OTHER							
Miscellaneous Parameters							
Mercury (Hg)	<0.0050		0.0050	mg/kg	12-APR-18	13-APR-18	R4010749
Metals in Soil by CRC ICPMS							
Aluminum (Al)	65700		5000	mg/kg	12-APR-18	12-APR-18	R4009452
Antimony (Sb)	2.68		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Arsenic (As)	0.22		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Barium (Ba)	2670		50	mg/kg	12-APR-18	12-APR-18	R4009452
Beryllium (Be)	<0.10		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Boron (B)	<5.0		5.0	mg/kg	12-APR-18	12-APR-18	R4009452
Bismuth (Bi)	1.25		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Cadmium (Cd)	7.05		0.020	mg/kg	12-APR-18	12-APR-18	R4009452
Calcium (Ca)	1660		50	mg/kg	12-APR-18	12-APR-18	R4009452
Chromium (Cr)	599		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Cobalt (Co)	0.33		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Copper (Cu)	69.5		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Iron (Fe)	1680		50	mg/kg	12-APR-18	12-APR-18	R4009452
Lead (Pb)	781		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Lithium (Li)	<2.0		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Magnesium (Mg)	589		20	mg/kg	12-APR-18	12-APR-18	R4009452
Manganese (Mn)	13.8		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
Molybdenum (Mo)	327		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Nickel (Ni)	3.22		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Phosphorus (P)	1990		50	mg/kg	12-APR-18	12-APR-18	R4009452
Potassium (K)	130		100	mg/kg	12-APR-18	12-APR-18	R4009452
Selenium (Se)	<0.20		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Silver (Ag)	<0.10		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Sodium (Na)	2480		50	mg/kg	12-APR-18	12-APR-18	R4009452
Strontium (Sr)	54.5		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Sulfur (S)	<1000		1000	mg/kg	12-APR-18	12-APR-18	R4009452
Thallium (Tl)	0.075		0.050	mg/kg	12-APR-18	12-APR-18	R4009452
Tin (Sn)	77.1		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Titanium (Ti)	81.9		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
Tungsten (W)	<0.50		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Uranium (U)	0.094		0.050	mg/kg	12-APR-18	12-APR-18	R4009452
Vanadium (V)	10.2		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Zinc (Zn)	3280		200	mg/kg	12-APR-18	12-APR-18	R4009452
Zirconium (Zr)	1.6		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
L2078181-2 SAMPLE 3 - BLACK PAINT Sampled By: CLIENT on 05-APR-18 Matrix: OTHER							
Miscellaneous Parameters							
Mercury (Hg)	0.0090		0.0050	mg/kg	12-APR-18	13-APR-18	R4010749
Metals in Soil by CRC ICPMS							
Aluminum (Al)	1480		50	mg/kg	12-APR-18	12-APR-18	R4009452
Antimony (Sb)	2.14		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Arsenic (As)	29.2		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Barium (Ba)	5.96		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Beryllium (Be)	<0.10		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Boron (B)	<5.0		5.0	mg/kg	12-APR-18	12-APR-18	R4009452
Bismuth (Bi)	<0.20		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Cadmium (Cd)	358		0.020	mg/kg	12-APR-18	12-APR-18	R4009452
Calcium (Ca)	2200		50	mg/kg	12-APR-18	12-APR-18	R4009452

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2078181-2 SAMPLE 3 - BLACK PAINT							
Sampled By: CLIENT on 05-APR-18							
Matrix: OTHER							
Metals in Soil by CRC ICPMS							
Chromium (Cr)	417		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Cobalt (Co)	25.4		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Copper (Cu)	45.6		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Iron (Fe)	521000		5000	mg/kg	12-APR-18	12-APR-18	R4009452
Lead (Pb)	984		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Lithium (Li)	<2.0		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Magnesium (Mg)	797		20	mg/kg	12-APR-18	12-APR-18	R4009452
Manganese (Mn)	4250		100	mg/kg	12-APR-18	12-APR-18	R4009452
Molybdenum (Mo)	30.5		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Nickel (Ni)	67.0		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Phosphorus (P)	135		50	mg/kg	12-APR-18	12-APR-18	R4009452
Potassium (K)	540		100	mg/kg	12-APR-18	12-APR-18	R4009452
Selenium (Se)	<0.20		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Silver (Ag)	<0.10		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Sodium (Na)	5690		50	mg/kg	12-APR-18	12-APR-18	R4009452
Strontium (Sr)	6.13		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Sulfur (S)	1100		1000	mg/kg	12-APR-18	12-APR-18	R4009452
Thallium (Tl)	<0.050		0.050	mg/kg	12-APR-18	12-APR-18	R4009452
Tin (Sn)	4.9		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Titanium (Ti)	122		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
Tungsten (W)	1.26		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Uranium (U)	<0.050		0.050	mg/kg	12-APR-18	12-APR-18	R4009452
Vanadium (V)	4.70		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Zinc (Zn)	545		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Zirconium (Zr)	4.7		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
L2078181-3 SAMPLE 4 - WHITE PAINT							
Sampled By: CLIENT on 06-APR-18							
Matrix: OTHER							
Miscellaneous Parameters							
Mercury (Hg)	0.0832		0.0050	mg/kg	12-APR-18	13-APR-18	R4010749
Metals in Soil by CRC ICPMS							
Aluminum (Al)	4630		50	mg/kg	12-APR-18	12-APR-18	R4009452
Antimony (Sb)	0.48		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Arsenic (As)	1.05		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Barium (Ba)	22.7		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Beryllium (Be)	<0.10		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Boron (B)	5.8		5.0	mg/kg	12-APR-18	12-APR-18	R4009452
Bismuth (Bi)	<0.20		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Cadmium (Cd)	0.863		0.020	mg/kg	12-APR-18	12-APR-18	R4009452
Calcium (Ca)	74900		50	mg/kg	12-APR-18	12-APR-18	R4009452
Chromium (Cr)	11.9		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Cobalt (Co)	1.27		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Copper (Cu)	14.5		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Iron (Fe)	5950		50	mg/kg	12-APR-18	12-APR-18	R4009452
Lead (Pb)	12.2		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Lithium (Li)	2.6		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Magnesium (Mg)	4940		20	mg/kg	12-APR-18	12-APR-18	R4009452
Manganese (Mn)	172		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
Molybdenum (Mo)	0.75		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Nickel (Ni)	6.39		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Phosphorus (P)	62		50	mg/kg	12-APR-18	12-APR-18	R4009452

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2078181-3 SAMPLE 4 - WHITE PAINT Sampled By: CLIENT on 06-APR-18 Matrix: OTHER							
Metals in Soil by CRC ICPMS							
Potassium (K)	1400		100	mg/kg	12-APR-18	12-APR-18	R4009452
Selenium (Se)	<0.20		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Silver (Ag)	<0.10		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Sodium (Na)	1050		50	mg/kg	12-APR-18	12-APR-18	R4009452
Strontium (Sr)	30.4		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Sulfur (S)	1800		1000	mg/kg	12-APR-18	12-APR-18	R4009452
Thallium (Tl)	<0.050		0.050	mg/kg	12-APR-18	12-APR-18	R4009452
Tin (Sn)	10.1		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Titanium (Ti)	168		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
Tungsten (W)	<0.50		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Uranium (U)	0.261		0.050	mg/kg	12-APR-18	12-APR-18	R4009452
Vanadium (V)	6.77		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Zinc (Zn)	824		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Zirconium (Zr)	5.5		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
L2078181-4 SAMPLE 5 - WHITE PAINT Sampled By: CLIENT on 06-APR-18 Matrix: OTHER							
Miscellaneous Parameters							
Mercury (Hg)	0.104		0.0050	mg/kg	12-APR-18	13-APR-18	R4010749
Metals in Soil by CRC ICPMS							
Aluminum (Al)	6960		50	mg/kg	12-APR-18	12-APR-18	R4009452
Antimony (Sb)	0.42		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Arsenic (As)	1.73		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Barium (Ba)	86.8		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Beryllium (Be)	0.16		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Boron (B)	7.7		5.0	mg/kg	12-APR-18	12-APR-18	R4009452
Bismuth (Bi)	<0.20		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Cadmium (Cd)	23.1		0.020	mg/kg	12-APR-18	12-APR-18	R4009452
Calcium (Ca)	122000		50	mg/kg	12-APR-18	12-APR-18	R4009452
Chromium (Cr)	91.6		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Cobalt (Co)	20.6		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Copper (Cu)	8.48		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Iron (Fe)	5610		50	mg/kg	12-APR-18	12-APR-18	R4009452
Lead (Pb)	200		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Lithium (Li)	6.7		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Magnesium (Mg)	17500		20	mg/kg	12-APR-18	12-APR-18	R4009452
Manganese (Mn)	190		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
Molybdenum (Mo)	0.24		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Nickel (Ni)	16.7		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Phosphorus (P)	161		50	mg/kg	12-APR-18	12-APR-18	R4009452
Potassium (K)	1420		100	mg/kg	12-APR-18	12-APR-18	R4009452
Selenium (Se)	<0.20		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Silver (Ag)	<0.10		0.10	mg/kg	12-APR-18	12-APR-18	R4009452
Sodium (Na)	1320		50	mg/kg	12-APR-18	12-APR-18	R4009452
Strontium (Sr)	64.7		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Sulfur (S)	1700		1000	mg/kg	12-APR-18	12-APR-18	R4009452
Thallium (Tl)	<0.050		0.050	mg/kg	12-APR-18	12-APR-18	R4009452
Tin (Sn)	5.0		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Titanium (Ti)	282		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
Tungsten (W)	<0.50		0.50	mg/kg	12-APR-18	12-APR-18	R4009452
Uranium (U)	0.480		0.050	mg/kg	12-APR-18	12-APR-18	R4009452

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2078181-4 SAMPLE 5 - WHITE PAINT Sampled By: CLIENT on 06-APR-18 Matrix: OTHER							
Metals in Soil by CRC ICPMS							
Vanadium (V)	10.8		0.20	mg/kg	12-APR-18	12-APR-18	R4009452
Zinc (Zn)	914		2.0	mg/kg	12-APR-18	12-APR-18	R4009452
Zirconium (Zr)	12.0		1.0	mg/kg	12-APR-18	12-APR-18	R4009452
L2078181-5 SAMPLE 6 - WHITE PAINT Sampled By: CLIENT on 06-APR-18 Matrix: OTHER							
Miscellaneous Parameters							
Mercury (Hg)	0.0490		0.0080	mg/kg	12-APR-18	13-APR-18	R4010749
Metals in Soil by CRC ICPMS							
Aluminum (Al)	4520	DLIS	75	mg/kg	12-APR-18	12-APR-18	R4009452
Antimony (Sb)	0.29	DLIS	0.15	mg/kg	12-APR-18	12-APR-18	R4009452
Arsenic (As)	0.60	DLIS	0.15	mg/kg	12-APR-18	12-APR-18	R4009452
Barium (Ba)	19.7	DLIS	0.75	mg/kg	12-APR-18	12-APR-18	R4009452
Beryllium (Be)	<0.15	DLIS	0.15	mg/kg	12-APR-18	12-APR-18	R4009452
Boron (B)	<7.5	DLIS	7.5	mg/kg	12-APR-18	12-APR-18	R4009452
Bismuth (Bi)	<0.30	DLIS	0.30	mg/kg	12-APR-18	12-APR-18	R4009452
Cadmium (Cd)	0.280	DLIS	0.030	mg/kg	12-APR-18	12-APR-18	R4009452
Calcium (Ca)	72200	DLIS	75	mg/kg	12-APR-18	12-APR-18	R4009452
Chromium (Cr)	6.26	DLIS	0.75	mg/kg	12-APR-18	12-APR-18	R4009452
Cobalt (Co)	0.78	DLIS	0.15	mg/kg	12-APR-18	12-APR-18	R4009452
Copper (Cu)	2.88	DLIS	0.75	mg/kg	12-APR-18	12-APR-18	R4009452
Iron (Fe)	2080	DLIS	75	mg/kg	12-APR-18	12-APR-18	R4009452
Lead (Pb)	10.4	DLIS	0.75	mg/kg	12-APR-18	12-APR-18	R4009452
Lithium (Li)	<3.0	DLIS	3.0	mg/kg	12-APR-18	12-APR-18	R4009452
Magnesium (Mg)	2800	DLIS	30	mg/kg	12-APR-18	12-APR-18	R4009452
Manganese (Mn)	147	DLIS	1.5	mg/kg	12-APR-18	12-APR-18	R4009452
Molybdenum (Mo)	0.20	DLIS	0.15	mg/kg	12-APR-18	12-APR-18	R4009452
Nickel (Ni)	2.72	DLIS	0.75	mg/kg	12-APR-18	12-APR-18	R4009452
Phosphorus (P)	<75	DLIS	75	mg/kg	12-APR-18	12-APR-18	R4009452
Potassium (K)	730	DLIS	150	mg/kg	12-APR-18	12-APR-18	R4009452
Selenium (Se)	<0.30	DLIS	0.30	mg/kg	12-APR-18	12-APR-18	R4009452
Silver (Ag)	<0.15	DLIS	0.15	mg/kg	12-APR-18	12-APR-18	R4009452
Sodium (Na)	588	DLIS	75	mg/kg	12-APR-18	12-APR-18	R4009452
Strontium (Sr)	26.0	DLIS	0.75	mg/kg	12-APR-18	12-APR-18	R4009452
Sulfur (S)	1600	DLIS	1500	mg/kg	12-APR-18	12-APR-18	R4009452
Thallium (Tl)	<0.075	DLIS	0.075	mg/kg	12-APR-18	12-APR-18	R4009452
Tin (Sn)	9.6	DLIS	3.0	mg/kg	12-APR-18	12-APR-18	R4009452
Titanium (Ti)	155	DLIS	1.5	mg/kg	12-APR-18	12-APR-18	R4009452
Tungsten (W)	<0.75	DLIS	0.75	mg/kg	12-APR-18	12-APR-18	R4009452
Uranium (U)	0.225	DLIS	0.075	mg/kg	12-APR-18	12-APR-18	R4009452
Vanadium (V)	5.93	DLIS	0.30	mg/kg	12-APR-18	12-APR-18	R4009452
Zinc (Zn)	190	DLIS	3.0	mg/kg	12-APR-18	12-APR-18	R4009452
Zirconium (Zr)	5.4	DLIS	1.5	mg/kg	12-APR-18	12-APR-18	R4009452

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Sample Parameter Qualifier Key:

Qualifier	Description
DLIS	Detection Limit Adjusted: Insufficient Sample

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
HG-200.2-CVAF-WP	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)
Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.			
MET-200.2-CCMS-WP	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
This method uses a heated strong acid digestion with HNO ₃ and HCl and is intended to liberate metals that may be environmentally available. Silicate minerals are not solubilized. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, V, W, and Zr. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. Analysis is by Collision/Reaction Cell ICPMS.			

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

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

Chain of Custody Numbers:

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.