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2-56836

Reconnaissance Soil Sampling Report

Cardiff Township, Ontario

For

Skead Holdings Ltd.

By

R.A. MacGregor, P. Eng.

May 5, 2016

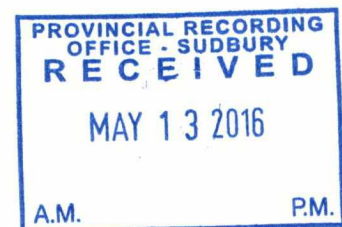


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Summary

Reconnaissance soil sampling was carried out at three locations in Cardiff Township to test for the presence of uranium thorium and rare earth elements. Analysis was also carried out for base metals and other elements.

Location

The sampling was carried out on Lots 7 and 8 Con 13 , Lot 10 Con. 12 and Lot 6 Con. 17 and 18 of Cardiff Township which is located about west of Bancroft , Ontario.

Access

The property sampling areas are located on or just south and north of Hwy 118 (formerly 121) . The claims to the north of the highway are crossed by the Adanac forest access road. Hwy 118 runs from Haliburton to Hwy 28 just west of Bancroft, Ontario.

Previous Exploration

The area was explored for uranium in the 1950's. Much of this data has been lost. Sampling and spectrometer surveys have been carried out on the northern group more recently.

Work Program

A reconnaissance type soil sampling program was laid out, consisting of single lines with samples to be taken approximately 100 metres apart. The objective was to obtain an overview uranium, thorium and rare earth content of soil which might be useful in further exploration. The work is further detailed in Appendix IV.

Sample Processing

Samples from the field in paper sample envelopes were air dried. Samples were then screened on an 80 mesh screen. The +80 mesh material was discarded and a sample taken from the -80 mesh material. The remaining -80 mesh sample was then screened on a 200 mesh screen to split it into -80 mesh, +200 mesh sample and a -200 mesh sample. Extra sample material has been archived in 20 dram plastic vials for future reference.

Results and Conclusions

Base metal values appear to be at background levels. Uranium and thorium values appear to be high on all three areas, but lowest on area 1 (lots 7 and 8 Con 13). Rare earth values appear to be low, but due to the lack of reference areas it is difficult to assign background or anomalous numbers to the results.

Uranium and thorium values are definitely anomalous. More detailed sampling particularly in areas of highest values may help in concentrating on areas of economic potential.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'R. MacGregor', written in a cursive style.

May 5, 2016

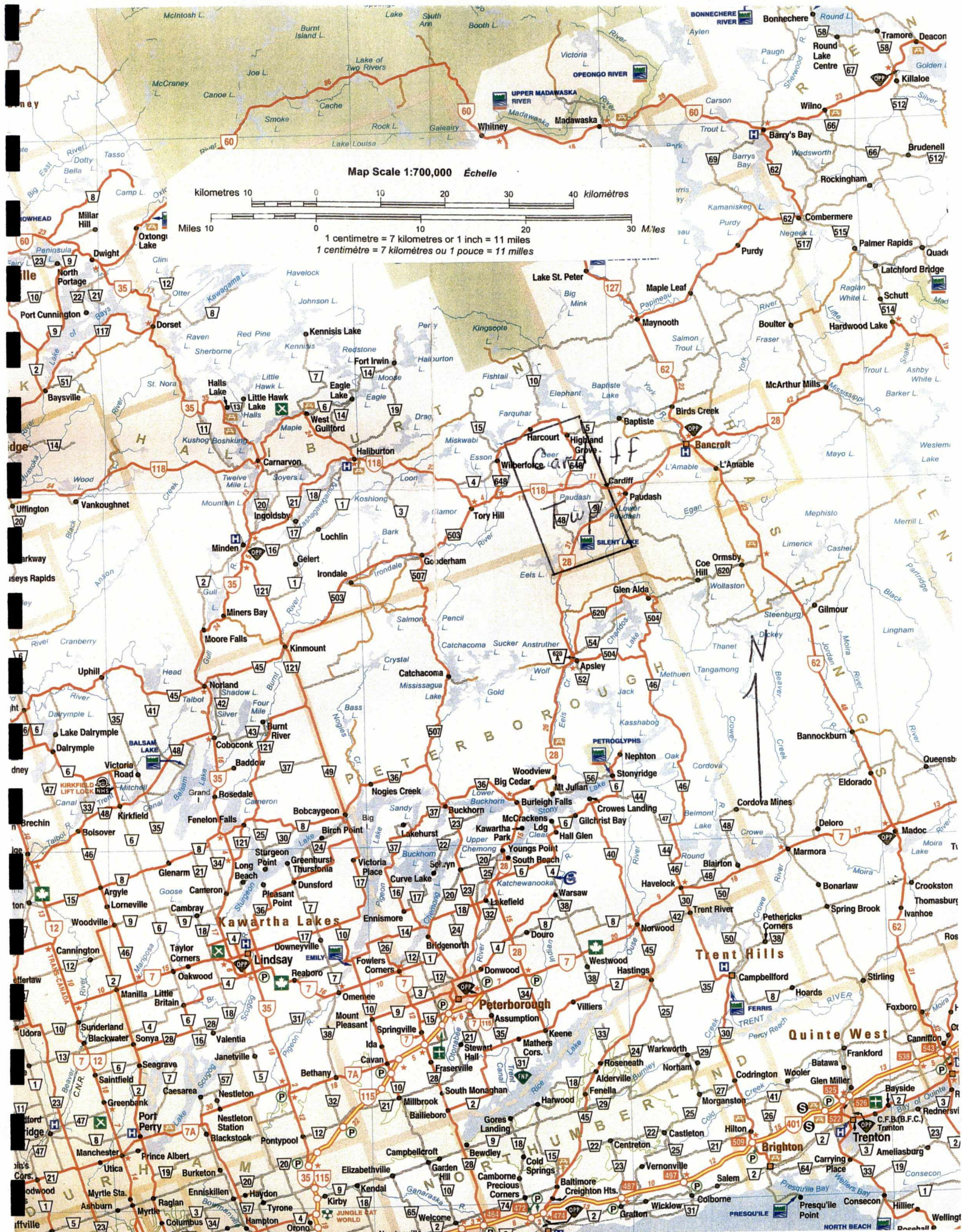
R. A. MacGregor, P. Eng.

	-80 mesh +200 mesh	-80 mesh	-200 mesh
Sample No.	IMA	AMA	IMA
13601	3004	511	
13602	3005	512	
13603	3006	513	
13604	3007	514	
13605	3008	515	
13606	3009	516	1817
13607	3010	517	
13608	3011	518	
13609	3012	519	
13610	3013	520	
13611	3014	521	
13612		522	
13613		523	
13614	3050	501	
13615	3048	524	
13616	3047	525	
13617	3046	526	
13618	3045	527	
13619	3028	528	
13620	3029	529	
13621	3018	530	
13622	3019	531	
13623	3020	532	
13624	3021	533	
13525	3022	534	
13626	3023	535	
13627	3024	536	
13628	3025	537	
13629	3026	538	
13630	3027	539	
13631	3017	540	
13632	3016	541	
13633	3015	542	
13634	3014	543	
13635		502	
13636		503	
13637		505	
13638		506	
13639		507	
13640		508	
13641		509	
13642		510	
13643		504	

Appendix I

Maps





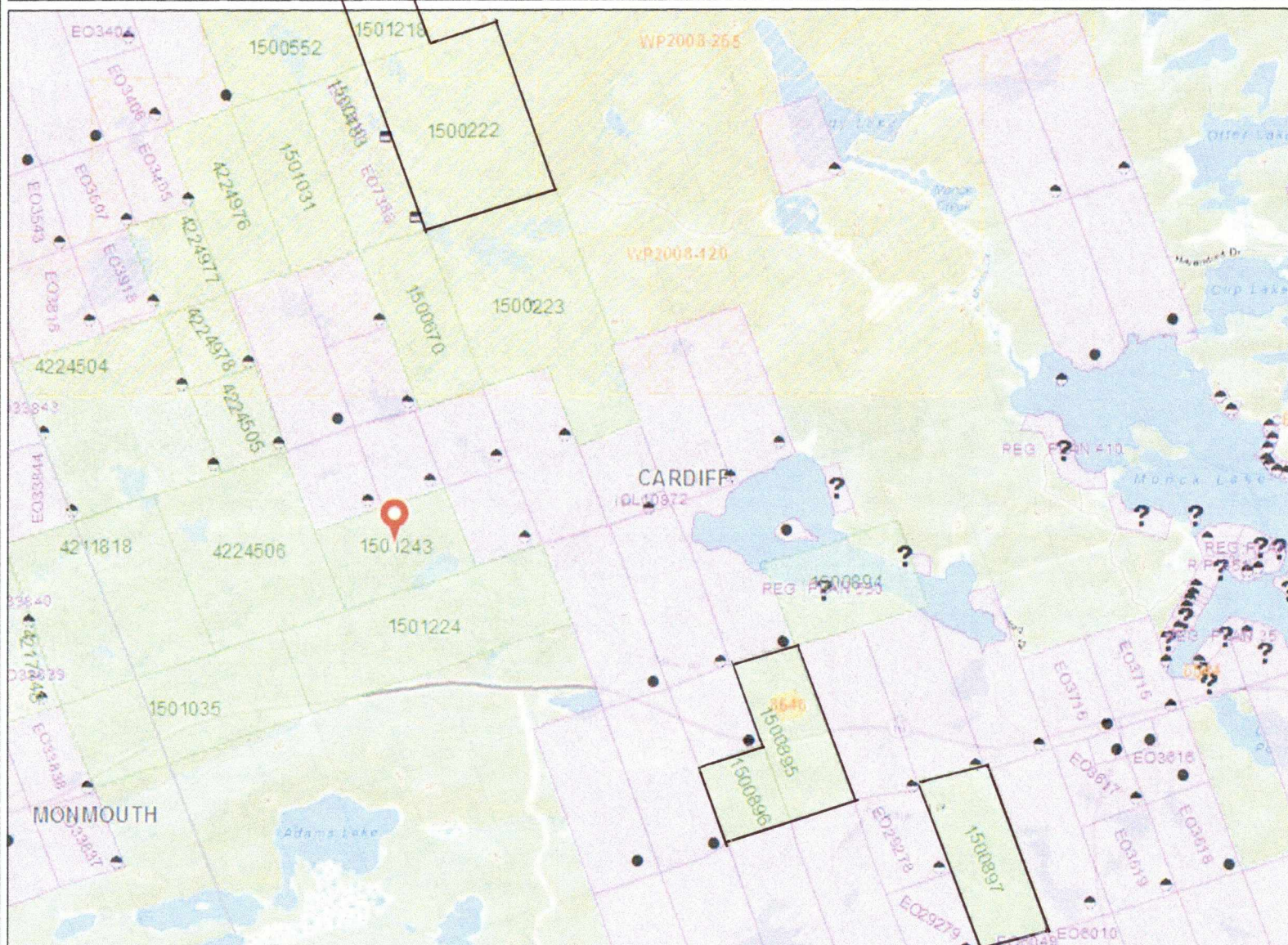
Map Scale 1:700,000 Échelle

kilometres 10 0 10 20 30 40 kilometres

Miles 10 0 10 20 30 Miles

1 centimetre = 7 kilometres or 1 inch = 11 miles

1 centimètre = 7 kilomètres ou 1 pouce = 11 milles



Legend

Administration Boundaries

- Mining Divisions
- Resident Geologist District
- Townships and Areas

Mineral Tenure Grid

- OMTG Tenure Grid

Alienations

- Withdrawal
- Notice

Unpatented Claim

- Active
- Pending

Disposition

- Disposition

Disposition Symbols

- Camp
- Disposition Unknown/Pending
- Freehold Patent Mining Rights Only
- Freehold Patent Surface Rights Only
- Freehold Patent Surface and Mining Rights
- Land Use Permit
- Leasehold Patent Mining Rights Only
- Leasehold Patent Surface Rights Only
- Leasehold Patent Surface and Mining Rights
- License of Occupation Mining Use Only
- License of Occupation Surface Use Only
- License of Occupation Surface and Mining Rights
- License of Occupation Uses Not Specified
- Order in Council
- Tower
- WPLA

Geology Layers

- AMIS Sites
- AMIS Features
- Drill Holes
- Mineral Occurrences

0 1.8 km

Projection: Web Mercator

The Ontario Ministry of Northern Development and Mines shall not be liable in any way for the use of, or reliance upon, this map or any information on this map. This map should not be used for: navigation, a plan of survey, routes, nor locations.

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78°8'30"W

44°59'30"N

Legend

+ Soil Sample Number Locations

Alienation 8548

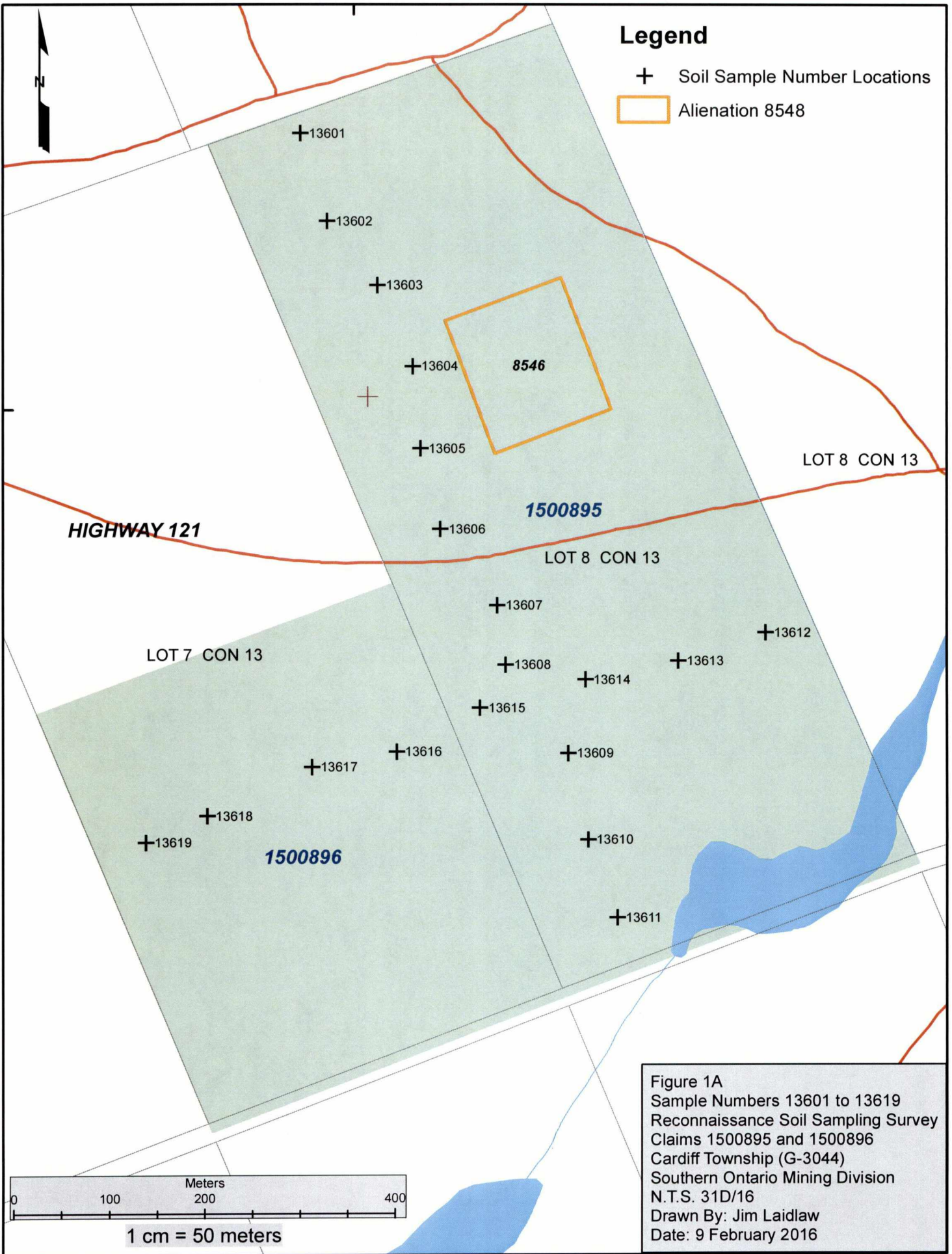


Figure 1A
Sample Numbers 13601 to 13619
Reconnaissance Soil Sampling Survey
Claims 1500895 and 1500896
Cardiff Township (G-3044)
Southern Ontario Mining Division
N.T.S. 31D/16
Drawn By: Jim Laidlaw
Date: 9 February 2016

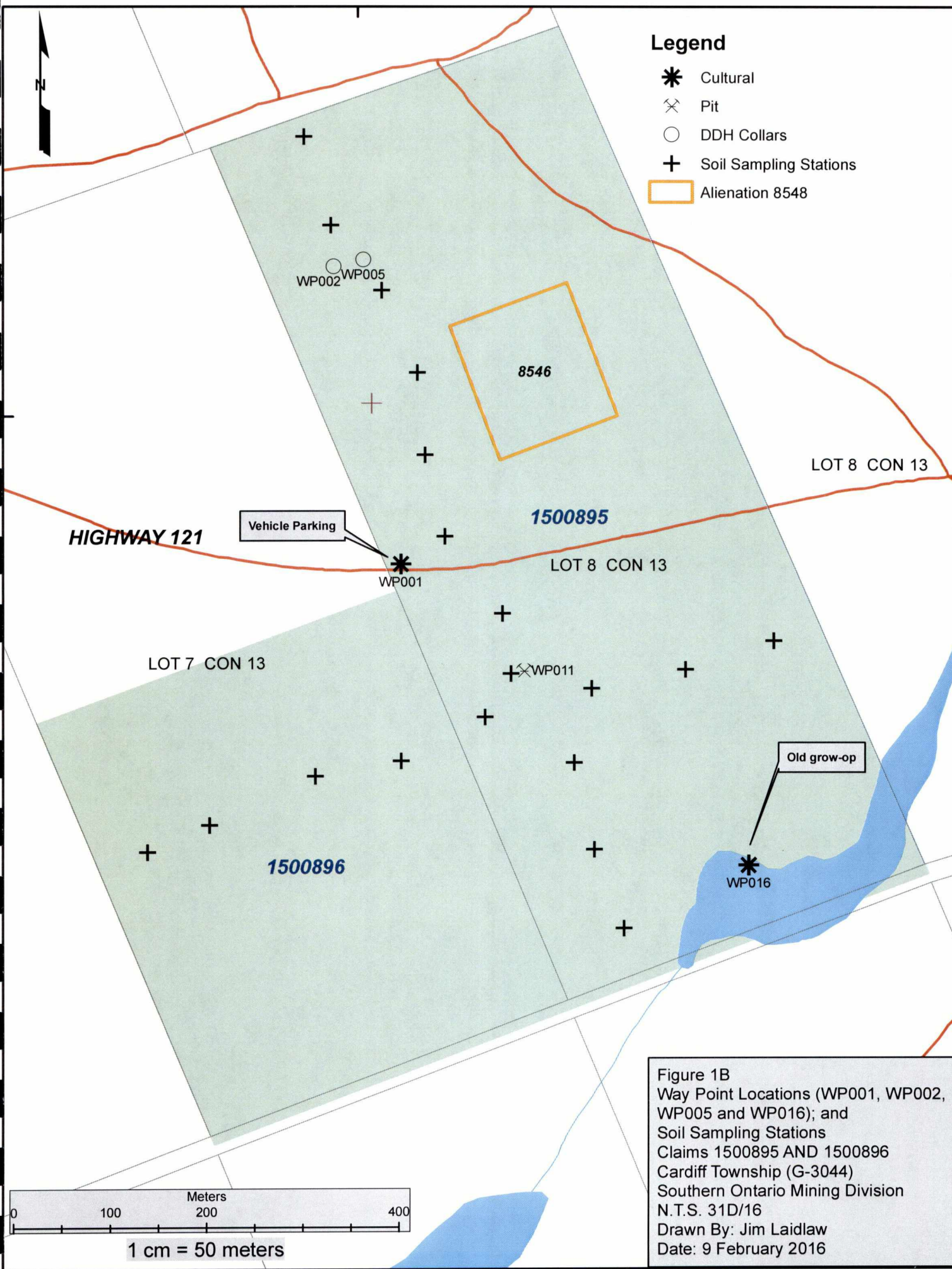
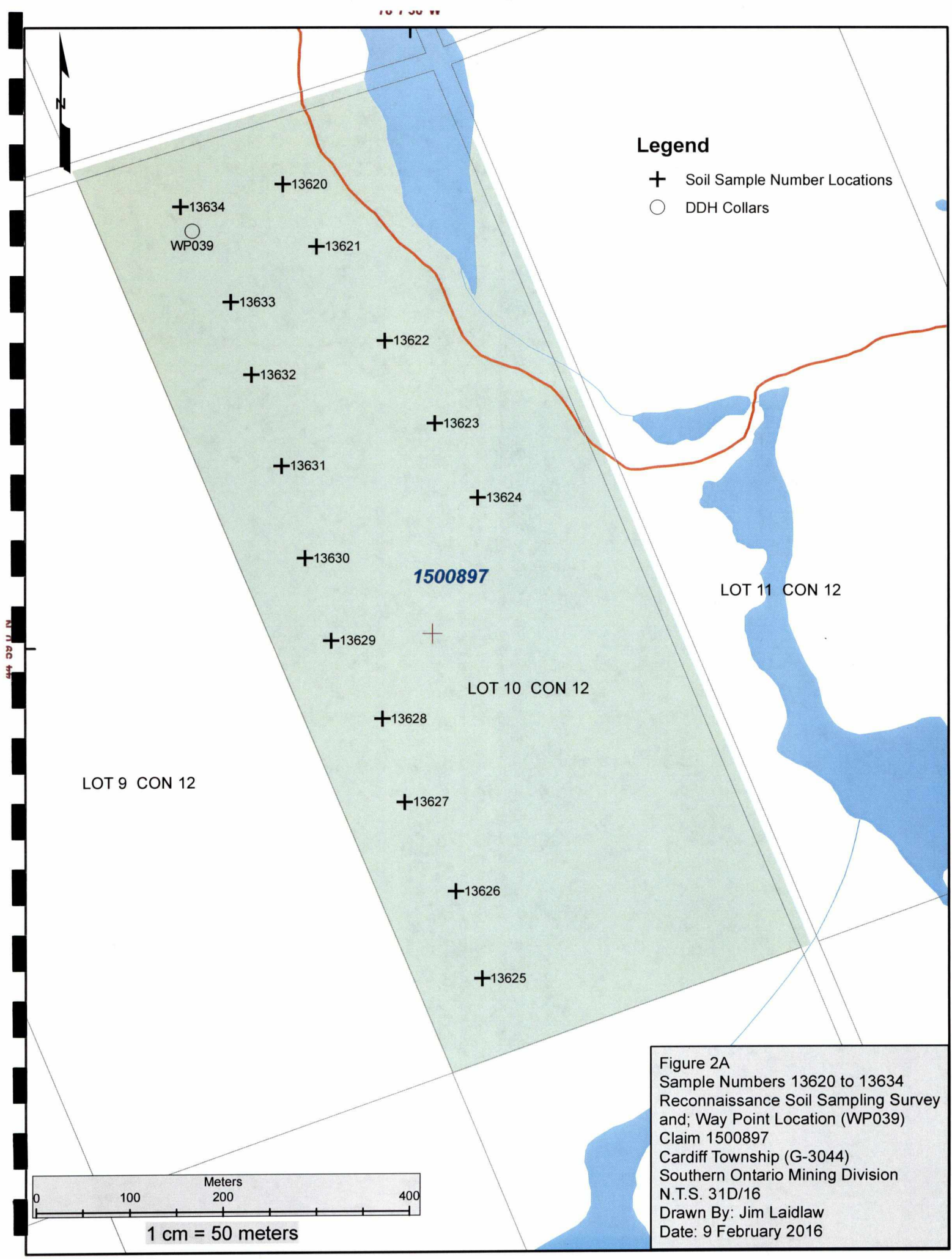


Figure 1B
Way Point Locations (WP001, WP002, WP005 and WP016); and
Soil Sampling Stations
Claims 1500895 AND 1500896
Cardiff Township (G-3044)
Southern Ontario Mining Division
N.T.S. 31D/16
Drawn By: Jim Laidlaw
Date: 9 February 2016



Legend

- + Soil Sample Number Locations
- DDH Collars

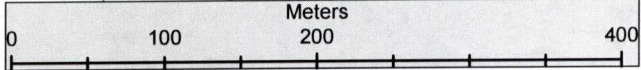
1500897

LOT 11 CON 12

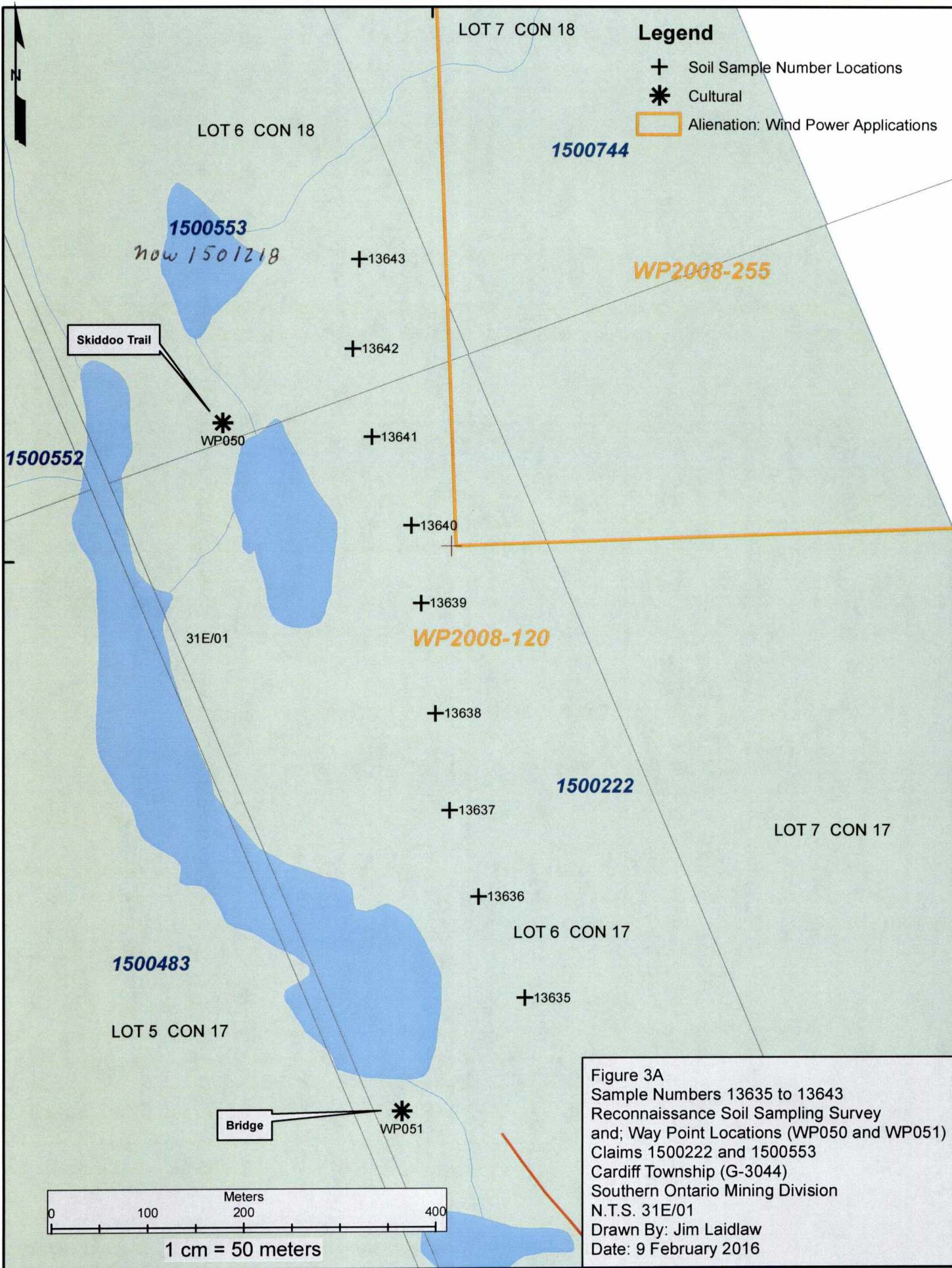
LOT 10 CON 12

LOT 9 CON 12

Figure 2A
Sample Numbers 13620 to 13634
Reconnaissance Soil Sampling Survey
and; Way Point Location (WP039)
Claim 1500897
Cardiff Township (G-3044)
Southern Ontario Mining Division
N.T.S. 31D/16
Drawn By: Jim Laidlaw
Date: 9 February 2016



78°10'0"W



78°8'30"W

Legend

+ Soil Sample Number Locations

□ Alienation 8548

Cu ppm, Pb ppm, Zn ppm, Mo ppm

+13601 13.1, 17.4, 65.5, 0.28

+13602 5.8, 18.3, 58.2, 0.09

+13603 10.2, 17.1, 42.1, 0.12

+13604 9.1, 17.2, 29.7, <0.05

+13605 15.2, 22.6, 76.5, 0.45

+13606 9.3, 18.2, 73.8, 0.41

+13607 34.9, 18.6, 120, 3.44

+13608 17.8, 22.9, 84.1, 0.54

+13614 7.9, 21.5, 57.0, 0.28

+13615 11.6, 18.9, 57.0, 0.14

+13616 7.7, 16.9, 65.2, 0.09

+13617 6.0, 17.9, 40.7, 0.25

+13618 11.5, 17.3, 39.8, 0.26

+13619 13.1, 15.7, 50.9, 0.66

+13610 18.2, 24.2, 48.9, 0.13

+13611 23.8, 21.7, 52.3, 0.66

+13612 14.3, 17.3, 54.1, 0.14

HIGHWAY 121

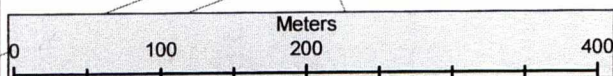
LOT 7 CON 13

LOT 8 CON 13

LOT 8 CON 13

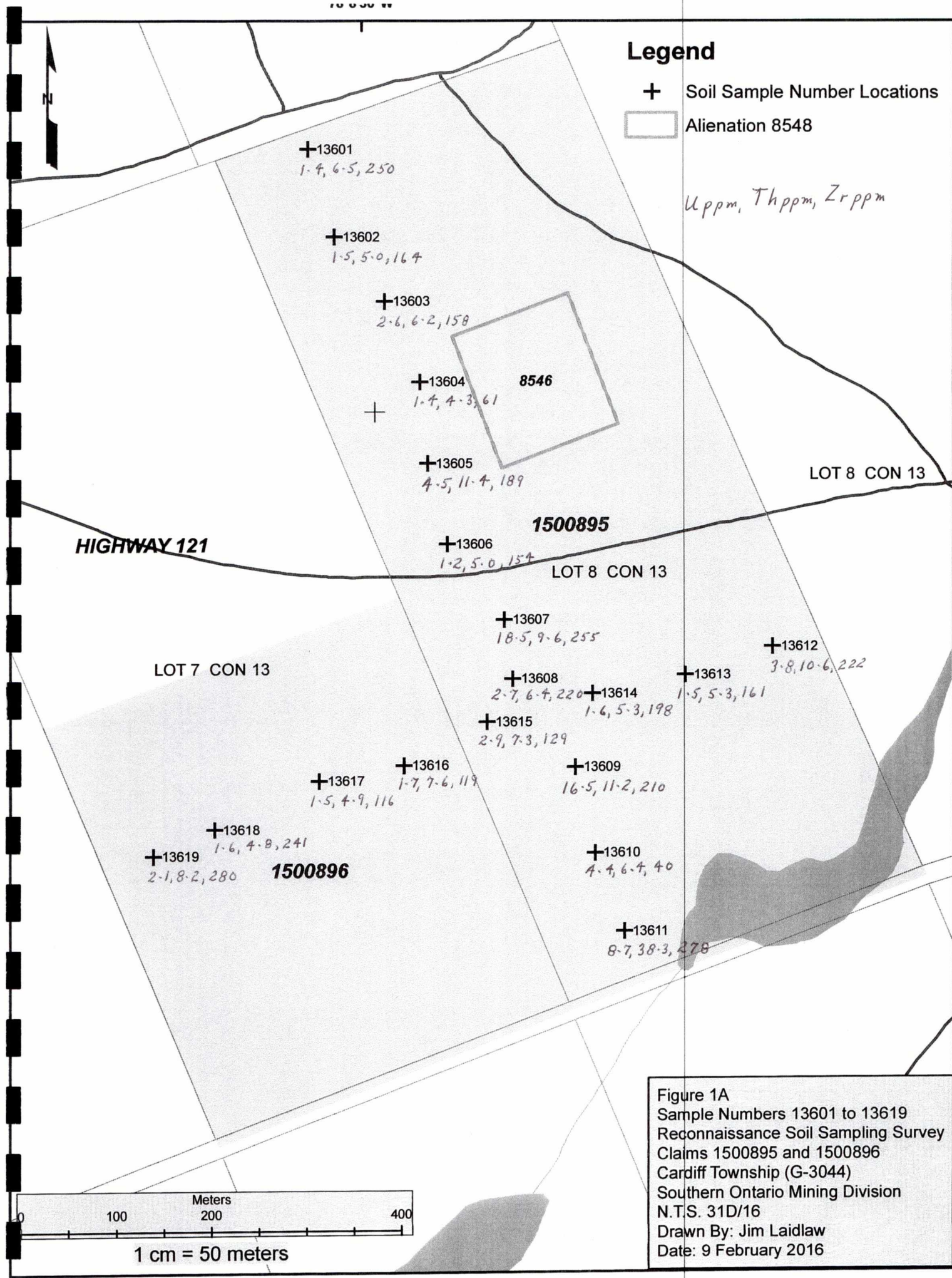
1500895

1500896



1 cm = 50 meters

Figure 1A
Sample Numbers 13601 to 13619
Reconnaissance Soil Sampling Survey
Claims 1500895 and 1500896
Cardiff Township (G-3044)
Southern Ontario Mining Division
N.T.S. 31D/16
Drawn By: Jim Laidlaw
Date: 9 February 2016

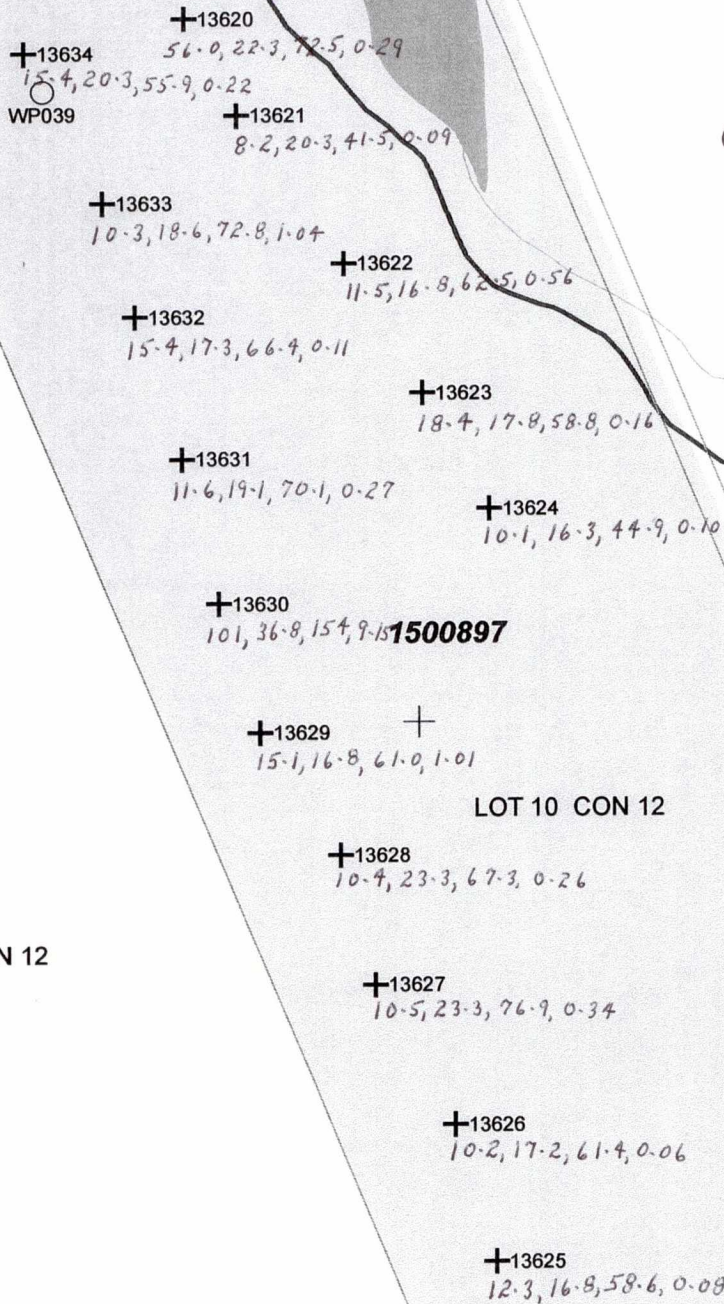


78°7'30"W

Legend

- + Soil Sample Number Locations
- DDH Collars

Cu ppm, Pb ppm, Zn ppm, Mo ppm



LOT 9 CON 12

LOT 10 CON 12

LOT 11 CON 12

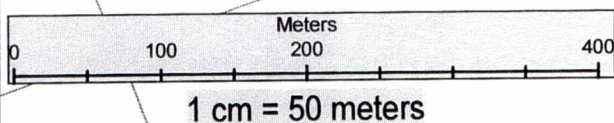
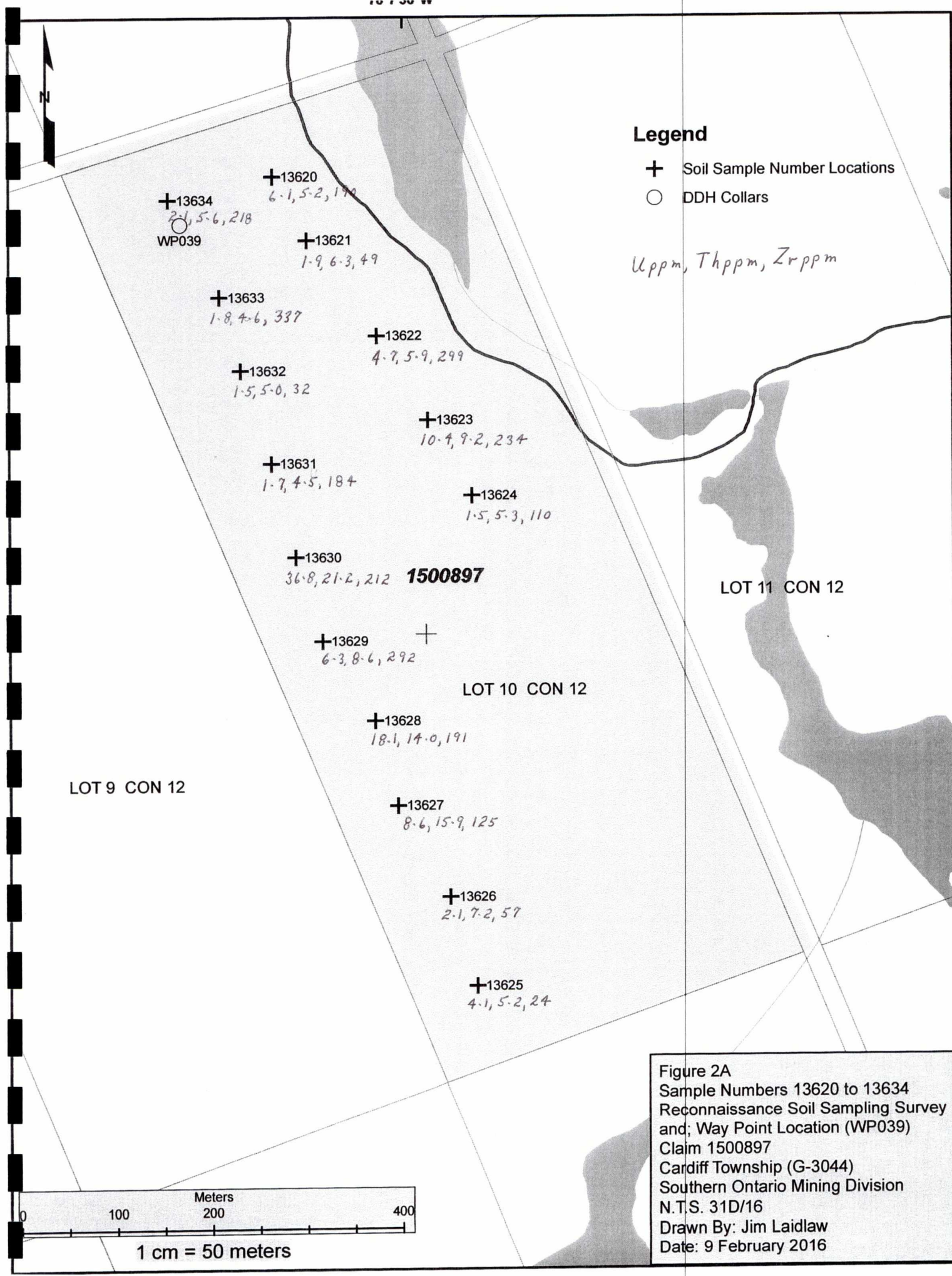


Figure 2A
Sample Numbers 13620 to 13634
Reconnaissance Soil Sampling Survey
and; Way Point Location (WP039)
Claim 1500897
Cardiff Township (G-3044)
Southern Ontario Mining Division
N.T.S. 31D/16
Drawn By: Jim Laidlaw
Date: 9 February 2016



Legend

- + Soil Sample Number Locations
- DDH Collars

Uppm, Thppm, Zrppm

LOT 11 CON 12

LOT 10 CON 12

LOT 9 CON 12

1500897

Figure 2A
Sample Numbers 13620 to 13634
Reconnaissance Soil Sampling Survey
and; Way Point Location (WP039)
Claim 1500897
Cardiff Township (G-3044)
Southern Ontario Mining Division
N.T.S. 31D/16
Drawn By: Jim Laidlaw
Date: 9 February 2016

78°10'0"W

LOT 7 CON 18

Legend

- + Soil Sample Number Locations
- * Cultural
- Alienation: Wind Power Applications

LOT 6 CON 18

1500744

1500553

now 1501218

+13643

23.5, 18.8, 48.6, 0.13

WP2008-255

+13642

22.6, 16.4, 54.3, 0.65

Cu ppm, Pb ppm, Zn ppm, Mo ppm

Skiddoo Trail

* WP050

+13641

26.3, 16.3, 67.2, 0.38

+13640

23.5, 19.4, 49.2, 0.32

+13639

8.1, 16.5, 55.0, 0.10

WP2008-120

+13638

12.1, 17.6, 69.0, 0.11

1500222

+13637

11.3, 18.8, 51.6, 0.19

LOT 7 CON 17

+13636

66.6, 15.2, 53.6, 3.55

LOT 6 CON 17

+13635

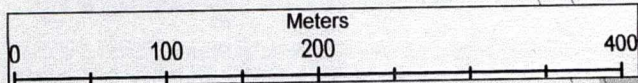
12.4, 16.2, 50.9, 0.64

1500483

LOT 5 CON 17

Bridge

* WP051



1 cm = 50 meters

Figure 3A
 Sample Numbers 13635 to 13643
 Reconnaissance Soil Sampling Survey
 and; Way Point Locations (WP050 and WP051)
 Claims 1500222 and 1500553
 Cardiff Township (G-3044)
 Southern Ontario Mining Division
 N.T.S. 31E/01
 Drawn By: Jim Laidlaw
 Date: 9 February 2016

78°10'0"W

Legend

- ⊕ Soil Sample Number Locations
- * Cultural
- Alienation: Wind Power Applications

LOT 7 CON 18

LOT 6 CON 18

1500744

1500553

now 1501218

⊕13643

5-2, 7-6, 71

WP2008-255

Skiddoo Trail

⊕13642

8-4, 7-7, 269

Uppm, Thppm, Zrppm

* WP050

⊕13641

2-6, 6-2, 249

1500552

⊕13640

3-1, 5-6, 176

⊕13639

3-5, 4-5, 176

WP2008-120

31E/01

⊕13638

3-7, 5-7, 218

1500222

⊕13637

5-4, 5-3, 42

LOT 7 CON 17

⊕13636

4-7-9, 12-9, 207

LOT 6 CON 17

1500483

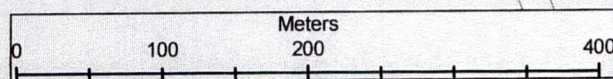
LOT 5 CON 17

⊕13635

3-7, 8-7, 101

Bridge

* WP051



1 cm = 50 meters

Figure 3A
 Sample Numbers 13635 to 13643
 Reconnaissance Soil Sampling Survey
 and; Way Point Locations (WP050 and WP051)
 Claims 1500222 and 1500553
 Cardiff Township (G-3044)
 Southern Ontario Mining Division
 N.T.S. 31E/01
 Drawn By: Jim Laidlaw
 Date: 9 February 2016

45°1'30"N

Appendix II

Assay Results





BUREAU MINERAL LABORATORIES
VERITAS Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

Submitted By: R.A. MacGregor
Receiving Lab: Canada-Vancouver
Received: January 20, 2016
Report Date: January 26, 2016
Page: 1 of 3

CERTIFICATE OF ANALYSIS

VAN16000154.1

CLIENT JOB INFORMATION

Project: None Given
Shipment ID:
P.O. Number
Number of Samples: 50

SAMPLE DISPOSAL

RTRN-PLP Return

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4
CANADA

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SLBHP	50	Sorting, labeling and boxing samples received as pulps			VAN
MA200	50	4 Acid digestion ICP-MS analysis	0.25	Completed	VAN
DRPLP	50	Warehouse handling / disposition of pulps			VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. "a" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



**BUREAU
VERITAS**

MINERAL LABORATORIES
Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client:

MacGregor, R.A.

28 Ford St.

Sault Ste. Marie ON P6A 4N4 CANADA

Project:

None Given

Report Date:

January 26, 2016

Page:

2 of 3

Part:

1 of 3

CERTIFICATE OF ANALYSIS

VAN16000154.1

	Method Analyte Unit MDL	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001	0.1
IMA 3001	Soil Pulp	6.4	10.1	31.5	196	<0.1	19.0	27.3	4567	7.77	9	7.5	12.3	349	0.9	0.2	0.2	107	3.77	0.257	57.4
IMA 3002	Soil Pulp	4.3	8.6	18.9	179	0.1	11.6	14.8	2488	7.50	2	9.5	19.1	328	0.7	0.1	0.1	66	3.58	0.189	58.4
IMA 3003	Soil Pulp	3.6	8.7	31.4	202	<0.1	17.8	27.0	3084	7.66	8	6.1	7.6	373	0.4	0.2	0.2	109	3.96	0.312	41.8
IMA 3004	Soil Pulp	0.8	9.9	18.9	66	<0.1	11.1	8.1	652	3.33	1	1.6	6.9	364	0.3	0.1	<0.1	73	1.91	0.077	23.5
IMA 3005	Soil Pulp	1.2	4.7	20.0	55	<0.1	8.7	6.3	589	4.09	<1	1.6	5.3	330	0.4	0.2	0.1	77	1.53	0.059	22.5
IMA 3006	Soil Pulp	1.6	7.3	18.3	41	<0.1	9.6	6.3	506	3.72	3	2.8	8.3	322	0.3	0.1	<0.1	59	1.62	0.042	19.3
IMA 3007	Soil Pulp	1.7	5.2	19.7	31	0.1	6.8	4.1	423	3.39	2	1.5	5.0	295	0.2	0.1	<0.1	67	1.20	0.031	14.3
IMA 3008	Soil Pulp	0.8	16.3	25.3	90	<0.1	12.1	8.4	693	3.23	3	5.2	15.5	368	0.4	<0.1	<0.1	67	1.98	0.142	35.4
IMA 3009	Soil Pulp	1.2	7.2	19.7	72	<0.1	12.9	8.4	696	3.57	2	1.6	5.9	325	0.4	0.1	<0.1	79	1.79	0.102	24.6
IMA 3010	Soil Pulp	12.1	37.8	21.7	138	<0.1	16.3	11.5	1692	3.62	3	21.5	8.5	360	0.7	0.2	<0.1	75	2.33	0.108	34.5
IMA 3011	Soil Pulp	2.8	16.0	24.9	86	<0.1	13.2	10.1	959	3.61	3	2.6	6.3	332	0.5	0.2	0.1	80	1.99	0.099	27.3
IMA 3012	Soil Pulp	4.1	52.9	27.8	177	0.1	22.4	17.1	2004	3.57	3	18.9	11.0	362	0.8	0.2	0.1	70	2.91	0.194	108.5
IMA 3013	Soil Pulp	2.8	19.2	27.0	54	0.1	12.9	9.5	657	3.16	2	4.9	6.8	399	0.2	0.1	<0.1	60	2.15	0.067	52.7
IMA 3014	Soil Pulp	1.6	13.5	21.7	57	0.1	14.3	10.6	649	3.72	2	2.1	5.4	337	0.2	0.1	0.1	66	1.98	0.087	25.3
IMA 3015	Soil Pulp	1.9	8.5	21.4	77	0.1	10.7	7.9	631	4.23	<1	1.8	5.5	335	0.3	0.1	0.1	76	1.81	0.090	21.0
IMA 3016	Soil Pulp	1.4	8.3	20.0	74	0.1	16.0	10.4	656	3.82	2	1.5	5.4	327	0.3	<0.1	<0.1	80	1.92	0.081	22.6
IMA 3017	Soil Pulp	2.2	12.4	21.4	76	0.1	10.0	6.8	474	4.23	2	1.8	5.6	294	0.6	0.1	<0.1	72	1.44	0.059	17.7
IMA 3018	Soil Pulp	1.4	6.4	22.0	45	<0.1	9.3	6.5	547	3.32	2	1.8	4.5	369	0.2	0.1	<0.1	71	1.71	0.047	16.8
IMA 3019	Soil Pulp	1.5	10.0	19.7	70	<0.1	12.6	11.0	791	4.63	1	5.7	7.8	373	0.3	<0.1	0.1	85	2.09	0.100	27.2
IMA 3020	Soil Pulp	2.8	19.9	20.8	63	0.1	15.2	11.3	681	3.52	<1	12.0	10.1	336	0.3	0.1	<0.1	76	1.84	0.063	27.9
IMA 3021	Soil Pulp	1.6	9.6	18.8	50	<0.1	12.2	8.0	483	3.81	2	1.6	6.3	306	0.2	0.1	<0.1	64	1.63	0.049	18.6
IMA 3022	Soil Pulp	3.1	12.6	18.2	62	<0.1	12.0	8.7	555	3.70	1	4.7	5.6	274	0.2	0.1	<0.1	76	1.46	0.077	19.8
IMA 3023	Soil Pulp	1.2	10.2	19.5	59	<0.1	12.2	9.7	658	3.67	2	2.6	9.3	346	<0.1	0.1	<0.1	76	1.91	0.070	22.2
IMA 3024	Soil Pulp	3.9	11.1	27.2	85	<0.1	11.8	10.6	534	5.51	4	10.5	21.1	264	0.3	0.3	0.1	100	1.60	0.067	29.9
IMA 3025	Soil Pulp	2.4	10.6	27.8	69	<0.1	12.8	9.3	1053	3.88	3	22.5	15.9	314	0.2	0.2	0.1	90	1.72	0.074	27.1
IMA 3026	Soil Pulp	1.7	13.5	18.5	63	<0.1	13.0	9.8	719	4.10	2	7.2	7.9	327	0.3	0.1	<0.1	85	1.82	0.106	28.7
IMA 3027	Soil Pulp	7.9	100.2	40.5	156	0.2	15.5	35.2	2853	3.22	3	43.4	24.2	300	0.9	0.2	0.2	62	1.75	0.155	58.7
IMA 3028	Soil Pulp	1.2	11.0	16.9	50	<0.1	10.9	8.5	841	3.47	2	2.4	9.5	403	0.2	0.1	<0.1	77	2.04	0.103	32.5
IMA 3029	Soil Pulp	2.8	54.2	24.7	79	<0.1	24.2	12.6	743	3.05	2	6.4	5.3	382	0.3	0.2	<0.1	62	2.49	0.072	22.8
IMA 3030	Soil Pulp	0.7	17.9	18.7	229	0.1	28.0	20.0	843	3.44	2	1.5	5.2	291	0.4	0.3	0.2	95	7.17	0.064	17.8



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9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client:

MacGregor, R.A.

28 Ford St.

Sault Ste. Marie ON P6A 4N4 CANADA

Project:

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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S	Rb	Hf
		ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
		1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1	0.1
IMA 3001	Soil Pulp	60	1.58	719	0.965	6.20	2.170	1.67	1.7	400.7	126	7.4	114.3	33.6	1.9	5	15	26.2	<0.1	53.4	10.1
IMA 3002	Soil Pulp	38	1.69	598	0.647	6.30	2.443	1.81	4.0	520.5	130	23.3	161.7	50.7	3.0	6	15	41.0	<0.1	90.0	13.4
IMA 3003	Soil Pulp	57	1.84	637	0.991	5.97	1.950	1.53	2.0	308.5	94	6.1	90.0	25.4	1.5	4	17	23.7	<0.1	43.4	9.0
IMA 3004	Soil Pulp	37	0.73	844	0.435	6.72	2.132	2.00	0.3	215.5	75	1.8	31.2	11.9	0.7	2	10	10.8	<0.1	46.3	6.2
IMA 3005	Soil Pulp	36	0.62	975	0.531	6.14	1.824	2.10	0.6	227.7	49	2.1	23.1	13.4	0.8	2	8	10.8	<0.1	51.8	6.1
IMA 3006	Soil Pulp	35	0.60	715	0.422	6.46	1.924	1.71	0.5	186.6	72	1.7	22.9	11.3	0.6	1	9	8.7	<0.1	37.7	5.1
IMA 3007	Soil Pulp	33	0.40	759	0.468	5.74	1.680	1.65	0.4	240.2	40	2.1	15.9	12.3	0.7	1	6	6.9	<0.1	36.6	6.4
IMA 3008	Soil Pulp	40	0.76	885	0.430	6.65	2.064	1.99	0.4	205.8	95	2.1	37.7	12.1	0.7	2	10	11.9	<0.1	45.8	5.8
IMA 3009	Soil Pulp	41	0.78	859	0.416	7.06	1.978	2.04	0.3	185.5	67	1.7	26.3	10.6	0.6	2	10	11.5	<0.1	51.6	5.2
IMA 3010	Soil Pulp	41	0.87	843	0.482	6.51	2.166	1.86	0.4	219.3	76	2.4	44.7	13.0	0.7	2	12	17.8	<0.1	46.7	6.1
IMA 3011	Soil Pulp	39	0.83	868	0.479	6.85	2.003	2.02	0.9	202.2	85	2.2	29.3	11.4	0.6	2	10	20.9	<0.1	54.7	5.8
IMA 3012	Soil Pulp	43	1.20	781	0.440	6.77	1.961	1.70	0.7	183.3	180	2.2	124.2	10.0	0.6	4	13	28.9	<0.1	47.0	5.3
IMA 3013	Soil Pulp	38	0.80	912	0.427	6.53	2.216	2.07	0.4	197.9	82	2.2	49.5	11.3	0.6	2	10	19.0	<0.1	51.7	5.4
IMA 3014	Soil Pulp	36	0.89	855	0.437	6.40	2.000	1.97	0.5	200.3	91	1.9	28.8	10.8	0.6	2	9	16.7	<0.1	51.1	5.3
IMA 3015	Soil Pulp	44	0.72	883	0.490	6.46	1.914	2.19	0.5	210.7	58	2.1	25.6	12.0	0.7	1	10	13.4	<0.1	59.7	5.9
IMA 3016	Soil Pulp	45	0.95	888	0.448	7.17	2.101	2.18	0.5	191.7	79	1.9	28.8	10.8	0.5	2	11	19.6	<0.1	55.2	5.4
IMA 3017	Soil Pulp	40	0.58	894	0.448	6.10	1.793	2.04	0.4	178.4	61	2.1	19.9	11.6	0.6	2	8	10.9	<0.1	51.6	4.7
IMA 3018	Soil Pulp	35	0.55	897	0.432	6.27	2.149	2.11	0.4	181.4	65	1.9	24.0	11.1	0.6	2	8	8.0	<0.1	49.9	4.7
IMA 3019	Soil Pulp	46	0.78	866	0.544	6.75	2.147	2.07	0.4	227.4	89	2.3	38.4	14.2	0.8	2	10	12.0	<0.1	50.8	6.3
IMA 3020	Soil Pulp	48	0.80	879	0.450	7.00	2.110	2.25	0.4	204.0	85	2.0	34.9	11.3	0.6	2	11	14.5	<0.1	55.2	5.7
IMA 3021	Soil Pulp	45	0.69	810	0.400	7.67	1.831	1.95	0.3	168.8	60	1.8	23.9	9.9	0.5	2	11	13.7	<0.1	46.2	4.8
IMA 3022	Soil Pulp	43	0.67	762	0.457	6.31	1.657	1.98	0.5	192.4	46	1.7	23.2	11.0	0.6	2	10	16.9	<0.1	52.7	5.6
IMA 3023	Soil Pulp	45	0.78	877	0.470	7.21	2.165	2.15	0.4	228.6	79	2.0	28.3	11.2	0.6	3	11	11.1	<0.1	48.4	6.7
IMA 3024	Soil Pulp	45	0.69	755	0.535	6.45	1.628	1.88	0.5	176.7	80	3.1	29.7	18.9	0.9	2	9	22.9	<0.1	48.7	5.1
IMA 3025	Soil Pulp	47	0.73	919	0.625	6.70	1.908	2.47	0.6	222.3	107	2.9	29.3	17.8	0.9	1	10	25.1	<0.1	64.7	6.3
IMA 3026	Soil Pulp	46	0.82	848	0.471	6.84	2.042	2.01	0.4	195.7	95	2.1	34.1	11.4	0.6	2	11	14.5	<0.1	48.4	5.5
IMA 3027	Soil Pulp	38	0.64	779	0.401	6.29	1.685	1.85	0.6	184.8	168	2.4	62.4	10.8	0.6	3	9	18.3	<0.1	57.7	5.2
IMA 3028	Soil Pulp	39	0.75	886	0.454	7.06	2.315	2.15	0.4	243.6	75	1.9	37.0	12.7	0.7	1	11	9.6	<0.1	47.9	6.7
IMA 3029	Soil Pulp	40	0.87	963	0.423	6.70	2.214	2.36	0.4	204.2	54	1.9	32.8	10.0	0.5	2	10	20.0	<0.1	58.1	5.7
IMA 3030	Soil Pulp	42	5.44	1091	0.381	5.14	0.407	3.68	0.5	82.3	37	1.7	16.0	8.5	0.5	2	9	287.3	<0.1	98.1	2.3



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9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client:

MacGregor, R.A.

28 Ford St.

Sault Ste. Marie ON P6A 4N4 CANADA

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CERTIFICATE OF ANALYSIS

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Method Analyte Unit MDL		MA200	MA200	MA200	MA200	MA200
		In	Re	Se	Te	Tl
		ppm	ppm	ppm	ppm	ppm
		0.05	0.005	1	0.5	0.5
IMA 3001	Soil Pulp	0.10	<0.005	<1	<0.5	0.7
IMA 3002	Soil Pulp	0.21	<0.005	1	<0.5	0.9
IMA 3003	Soil Pulp	0.12	<0.005	<1	<0.5	0.6
IMA 3004	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3005	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3006	Soil Pulp	0.08	<0.005	<1	<0.5	<0.5
IMA 3007	Soil Pulp	0.05	<0.005	<1	<0.5	<0.5
IMA 3008	Soil Pulp	0.08	<0.005	<1	<0.5	<0.5
IMA 3009	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3010	Soil Pulp	0.06	<0.005	<1	<0.5	<0.5
IMA 3011	Soil Pulp	<0.05	<0.005	1	<0.5	<0.5
IMA 3012	Soil Pulp	0.07	<0.005	2	<0.5	0.5
IMA 3013	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3014	Soil Pulp	0.08	<0.005	<1	<0.5	<0.5
IMA 3015	Soil Pulp	0.06	<0.005	<1	<0.5	<0.5
IMA 3016	Soil Pulp	0.07	<0.005	<1	<0.5	<0.5
IMA 3017	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3018	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3019	Soil Pulp	0.05	<0.005	1	<0.5	<0.5
IMA 3020	Soil Pulp	0.10	<0.005	<1	<0.5	<0.5
IMA 3021	Soil Pulp	0.06	<0.005	2	<0.5	<0.5
IMA 3022	Soil Pulp	0.06	<0.005	<1	<0.5	<0.5
IMA 3023	Soil Pulp	0.06	<0.005	1	<0.5	<0.5
IMA 3024	Soil Pulp	0.07	<0.005	<1	<0.5	<0.5
IMA 3025	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3026	Soil Pulp	0.05	<0.005	<1	<0.5	<0.5
IMA 3027	Soil Pulp	0.06	<0.005	2	<0.5	0.6
IMA 3028	Soil Pulp	0.08	<0.005	1	<0.5	<0.5
IMA 3029	Soil Pulp	0.08	<0.005	<1	<0.5	<0.5
IMA 3030	Soil Pulp	<0.05	<0.005	1	1.9	0.7



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9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

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CERTIFICATE OF ANALYSIS

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Method Analyte Unit MDL		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001
IMA 3031	Soil Pulp	1.8	130.1	17.0	107	<0.1	18.1	12.2	2299	4.85	3	7.1	14.0	438	0.4	0.1	<0.1	104	3.34	0.150
IMA 3032	Soil Pulp	0.6	8.5	17.8	43	<0.1	11.4	7.9	555	3.06	1	2.3	7.3	422	0.2	<0.1	<0.1	62	2.09	0.039
IMA 3033	Soil Pulp	0.7	11.8	24.0	127	<0.1	18.3	11.6	629	4.14	3	1.4	4.8	313	0.2	0.2	0.2	102	2.61	0.053
IMA 3034	Soil Pulp	1.5	9.5	24.0	119	<0.1	19.0	18.2	2286	6.69	2	7.2	17.1	430	0.4	0.1	<0.1	138	4.33	0.205
IMA 3035	Soil Pulp	0.3	5.0	36.1	29	0.1	32.0	17.8	4528	5.85	8	27.5	33.7	140	0.3	0.2	0.3	110	9.26	0.532
IMA 3036	Soil Pulp	0.7	9.5	76.9	328	0.2	11.8	8.9	558	2.31	3	2.6	10.3	321	0.3	0.2	0.8	81	4.33	0.227
IMA 3037	Soil Pulp	1.1	14.3	15.0	72	<0.1	8.4	7.8	757	3.76	2	3.7	4.1	283	<0.1	<0.1	0.1	43	1.76	0.102
IMA 3038	Soil Pulp	0.8	37.3	29.5	146	0.1	28.8	14.0	1234	2.74	5	2.6	8.1	331	0.8	0.4	0.3	68	5.12	0.199
IMA 3039	Soil Pulp	0.9	9.1	7.3	119	<0.1	1.4	10.7	1076	6.41	3	0.8	1.4	68	0.2	0.2	<0.1	2	2.35	0.512
IMA 3040	Soil Pulp	7.2	79.8	19.2	123	0.1	127.7	23.2	987	6.01	2	4.7	9.1	277	0.2	<0.1	0.2	134	2.49	0.104
IMA 3041	Soil Pulp	3.0	13.1	51.5	220	<0.1	17.0	18.3	1835	7.17	6	8.3	12.5	520	0.3	0.2	0.3	79	4.40	0.358
IMA 3042	Soil Pulp	1.5	27.3	25.4	141	0.1	104.7	33.8	1599	7.37	2	10.0	13.3	476	0.3	0.2	0.2	186	7.41	0.640
IMA 3043	Soil Pulp	1.4	5.5	30.7	112	<0.1	15.5	14.0	1749	5.04	2	5.2	6.9	424	0.2	0.1	0.1	94	3.51	0.165
IMA 3044	Soil Pulp	2.6	9.4	29.0	126	0.1	18.4	17.3	2030	6.43	3	6.0	7.5	428	0.4	0.1	0.1	135	4.50	0.193
IMA 3045	Soil Pulp	1.5	5.5	19.2	39	<0.1	7.9	5.6	494	2.81	1	1.5	6.0	325	0.2	0.2	<0.1	69	1.47	0.038
IMA 3046	Soil Pulp	1.9	3.9	20.3	40	<0.1	6.8	4.0	346	3.90	3	1.6	4.9	260	0.4	0.2	0.1	69	1.08	0.053
IMA 3047	Soil Pulp	2.1	7.1	18.7	68	<0.1	10.3	7.9	800	3.81	1	2.0	8.3	318	0.2	0.1	<0.1	80	1.63	0.089
IMA 3048	Soil Pulp	2.1	31.6	28.8	139	0.1	20.4	16.2	1346	4.35	3	3.6	7.7	351	0.5	0.2	0.2	84	2.72	0.155
IMA 3049	Soil Pulp	0.9	23.4	27.0	58	<0.1	13.7	10.4	705	3.23	2	10.1	33.0	443	0.2	<0.1	<0.1	64	2.50	0.110
IMA 3050	Soil Pulp	1.9	6.4	21.9	64	0.1	11.4	7.8	605	3.57	3	1.8	5.4	323	0.2	0.2	<0.1	78	1.64	0.060



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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

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CERTIFICATE OF ANALYSIS

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	Method Analyte Unit MDL	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	
		Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S	Rb	Hf
		ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
		1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1	0.1
IMA 3031	Soil Pulp	50	1.23	836	0.875	6.34	2.271	1.95	0.6	411.2	122	9.1	74.8	21.9	1.1	2	16	13.9	<0.1	44.8	11.5
IMA 3032	Soil Pulp	37	0.76	1003	0.351	7.43	2.481	2.33	0.3	161.6	79	1.5	26.6	9.9	0.5	2	10	9.2	<0.1	52.6	4.4
IMA 3033	Soil Pulp	45	2.05	955	0.521	6.47	1.666	2.28	0.6	156.9	46	2.2	23.6	13.2	0.8	2	10	86.4	<0.1	61.7	4.1
IMA 3034	Soil Pulp	68	1.92	671	1.350	6.87	2.419	1.68	1.8	427.3	117	4.9	92.6	34.1	2.0	3	21	22.4	<0.1	41.7	11.5
IMA 3035	Soil Pulp	32	5.89	102	0.333	4.65	3.315	0.25	0.3	162.0	152	1.8	65.2	3.7	0.2	<1	16	37.2	<0.1	5.8	4.1
IMA 3036	Soil Pulp	34	4.15	1170	0.459	5.12	1.775	2.38	0.5	87.9	168	1.9	27.0	11.6	0.6	2	9	64.0	<0.1	50.6	2.5
IMA 3037	Soil Pulp	29	0.64	818	0.527	6.73	2.623	2.08	0.4	134.6	65	1.6	32.3	10.4	0.5	1	9	29.6	<0.1	55.9	3.6
IMA 3038	Soil Pulp	33	2.44	1178	0.260	4.87	0.891	2.90	0.3	84.5	43	1.7	20.1	6.5	0.4	2	9	67.7	<0.1	65.9	2.4
IMA 3039	Soil Pulp	6	0.81	647	1.113	7.99	4.118	2.19	0.3	16.3	75	0.7	70.1	6.3	0.3	<1	9	66.7	<0.1	31.1	0.6
IMA 3040	Soil Pulp	259	2.15	729	0.689	6.77	1.818	1.89	1.8	220.2	106	3.1	53.5	19.4	1.1	1	16	85.2	<0.1	137.8	5.8
IMA 3041	Soil Pulp	46	1.74	622	0.836	7.24	2.430	1.70	1.6	309.3	126	6.5	139.4	33.4	2.1	5	12	42.8	<0.1	55.0	8.3
IMA 3042	Soil Pulp	405	5.04	1307	1.029	4.98	1.383	1.93	1.3	190.3	148	4.1	57.4	19.9	1.2	5	34	68.0	<0.1	133.6	5.3
IMA 3043	Soil Pulp	54	1.46	671	0.806	6.34	2.316	1.56	1.3	262.0	72	12.0	72.7	24.5	1.4	3	17	18.1	<0.1	40.2	7.0
IMA 3044	Soil Pulp	71	1.90	635	1.030	6.81	2.383	1.69	2.4	350.9	81	5.5	85.8	30.3	1.7	5	21	22.8	<0.1	40.9	10.7
IMA 3045	Soil Pulp	34	0.52	870	0.496	6.06	1.771	1.87	0.4	170.4	56	2.0	20.2	11.8	0.6	2	8	9.6	<0.1	41.9	4.7
IMA 3046	Soil Pulp	33	0.34	745	0.469	5.99	1.558	1.70	0.4	206.3	38	1.9	15.3	11.6	0.7	1	6	6.4	<0.1	38.6	6.1
IMA 3047	Soil Pulp	40	0.61	847	0.461	6.85	1.886	2.02	0.4	225.3	76	1.8	24.5	11.5	0.6	2	10	11.6	<0.1	53.1	6.6
IMA 3048	Soil Pulp	45	1.12	875	0.523	7.25	1.983	1.91	0.9	169.0	131	2.0	44.5	9.4	0.6	3	11	27.6	<0.1	83.8	5.0
IMA 3049	Soil Pulp	41	0.86	919	0.442	7.72	2.536	2.16	0.7	204.7	109	2.2	38.0	15.2	0.8	3	10	17.5	<0.1	65.5	5.9
IMA 3050	Soil Pulp	41	0.61	922	0.493	7.22	1.999	2.23	0.4	203.4	67	2.3	22.1	12.4	0.7	2	9	10.9	<0.1	58.4	6.0



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9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client:

MacGregor, R.A.

28 Ford St.

Sault Ste. Marie ON P6A 4N4 CANADA

Project:

None Given

Report Date:

January 26, 2016

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Part:

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CERTIFICATE OF ANALYSIS

VAN16000154.1

Method Analyte Unit MDL		MA200	MA200	MA200	MA200	MA200
		In	Re	Se	Te	Tl
		ppm	ppm	ppm	ppm	ppm
		0.05	0.005	1	0.5	0.5
IMA 3031	Soil Pulp	0.09	<0.005	2	<0.5	<0.5
IMA 3032	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3033	Soil Pulp	0.06	<0.005	<1	<0.5	<0.5
IMA 3034	Soil Pulp	0.07	<0.005	<1	<0.5	<0.5
IMA 3035	Soil Pulp	0.17	<0.005	<1	3.2	<0.5
IMA 3036	Soil Pulp	0.09	<0.005	<1	1.3	0.6
IMA 3037	Soil Pulp	0.05	<0.005	<1	<0.5	<0.5
IMA 3038	Soil Pulp	<0.05	<0.005	<1	1.1	<0.5
IMA 3039	Soil Pulp	0.07	<0.005	<1	<0.5	<0.5
IMA 3040	Soil Pulp	0.08	<0.005	<1	<0.5	1.6
IMA 3041	Soil Pulp	0.07	<0.005	1	<0.5	0.6
IMA 3042	Soil Pulp	0.15	<0.005	<1	1.0	1.4
IMA 3043	Soil Pulp	0.11	<0.005	1	<0.5	<0.5
IMA 3044	Soil Pulp	0.11	<0.005	<1	<0.5	<0.5
IMA 3045	Soil Pulp	<0.05	<0.005	1	<0.5	<0.5
IMA 3046	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3047	Soil Pulp	0.08	<0.005	<1	<0.5	<0.5
IMA 3048	Soil Pulp	<0.05	<0.005	1	<0.5	0.6
IMA 3049	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
IMA 3050	Soil Pulp	<0.05	<0.005	1	<0.5	<0.5



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PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

Project: None Given
Report Date: January 26, 2016

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QUALITY CONTROL REPORT

VAN16000154.1

	Method Analyte Unit MDL	MA200																			
		MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	0.1	1	0.01	0.001
Pulp Duplicates																					
IMA 3017	Soil Pulp	2.2	12.4	21.4	76	0.1	10.0	6.8	474	4.23	2	1.8	5.6	294	0.6	0.1	<0.1	72	1.44	0.059	17.7
REP IMA 3017	QC	2.0	11.8	20.7	72	<0.1	9.9	6.4	451	4.21	2	1.6	4.7	306	0.6	0.1	<0.1	66	1.53	0.058	15.8
IMA 3050	Soil Pulp	1.9	6.4	21.9	64	0.1	11.4	7.8	605	3.57	3	1.8	5.4	323	0.2	0.2	<0.1	78	1.64	0.060	23.3
REP IMA 3050	QC	1.8	6.2	22.3	65	<0.1	10.8	7.6	689	3.59	2	1.8	5.8	332	0.3	0.2	<0.1	80	1.63	0.060	23.8
Reference Materials																					
STD OREAS25A-4A	Standard	2.5	38.2	25.7	42	<0.1	47.3	7.7	501	6.64	11	3.0	17.2	52	<0.1	0.7	0.4	165	0.33	0.049	24.7
STD OREAS25A-4A	Standard	2.4	34.7	26.7	45	<0.1	48.3	7.2	496	6.67	11	2.8	16.5	49	<0.1	0.6	0.4	147	0.34	0.047	25.3
STD OREAS45E	Standard	2.0	758.7	19.4	45	0.3	444.1	54.1	514	22.26	16	2.5	14.0	15	<0.1	1.1	0.3	279	0.07	0.033	11.4
STD OREAS45E	Standard	2.6	795.6	19.3	46	0.3	473.2	57.3	541	24.73	18	2.5	12.5	16	<0.1	1.0	0.3	274	0.08	0.031	11.1
STD OREAS25A-4A		2.55	33.9	26.6	44.4		45.8	8.2	500	6.7	10.7	2.94	15.8	48.5		0.67	0.35	163	0.283	0.0495	21.8
STD OREAS45E Expected		2.4	780	18.2	46.7	0.311	454	57	570	24.12	16.3	2.41	12.9	15.9	0.06	1	0.28	322	0.065	0.034	11
BLK	Blank	<0.1	<0.1	0.2	<1	<0.1	<0.1	<0.2	<1	<0.01	2	<0.1	<0.1	<1	<0.1	<0.1	<0.1	2	<0.01	<0.001	<0.1
BLK	Blank	<0.1	<0.1	0.1	<1	<0.1	<0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001	<0.1



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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

Project: None Given
Report Date: January 26, 2016

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QUALITY CONTROL REPORT

VAN16000154.1

	Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	
	Analyte	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S	Rb	Hf
	Unit	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
	MDL	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1	0.1
Pulp Duplicates																					
IMA 3017	Soil Pulp	40	0.58	894	0.448	6.10	1.793	2.04	0.4	178.4	61	2.1	19.9	11.6	0.6	2	8	10.9	<0.1	51.6	4.7
REP IMA 3017	QC	39	0.57	889	0.459	6.11	1.789	2.22	0.3	189.7	56	2.0	20.0	11.5	0.6	2	8	9.9	<0.1	53.6	5.2
IMA 3050	Soil Pulp	41	0.61	922	0.493	7.22	1.999	2.23	0.4	203.4	67	2.3	22.1	12.4	0.7	2	9	10.9	<0.1	58.4	6.0
REP IMA 3050	QC	41	0.60	985	0.505	7.02	1.977	2.22	0.4	217.9	69	2.1	23.3	11.9	0.7	2	9	10.4	<0.1	56.8	6.2
Reference Materials																					
STD OREAS25A-4A	Standard	123	0.34	157	0.974	9.24	0.135	0.52	1.9	157.9	53	4.1	11.9	20.9	1.4	1	13	38.5	<0.1	64.8	4.3
STD OREAS25A-4A	Standard	128	0.32	158	0.956	9.33	0.116	0.49	1.9	149.8	56	4.2	10.7	19.7	1.5	1	13	38.8	<0.1	62.4	4.4
STD OREAS45E	Standard	850	0.16	268	0.482	6.47	0.056	0.32	1.1	90.7	24	1.4	7.6	5.9	0.5	<1	84	6.3	<0.1	20.6	3.0
STD OREAS45E	Standard	972	0.15	251	0.517	6.94	0.056	0.34	1.0	94.0	26	1.2	7.9	6.6	0.5	<1	91	7.0	<0.1	20.5	2.9
STD OREAS25A-4A		120	0.327	151	0.977	8.87	0.134	0.5	2	155	48.9	4.2	10.5	20.9	1.5	0.93	13.7	36.7	0.047	61	4.28
STD OREAS45E Expected		979	0.156	252	0.559	6.78	0.059	0.324	1.07	97	23.5	1.32	8.28	6.8	0.54		93	6.58	0.046	21.2	3.11
BLK	Blank	1	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1	<0.1	
BLK	Blank	2	<0.01	<1	<0.001	<0.01	0.002	<0.01	<0.1	0.2	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1	<0.1	



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9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

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Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

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QUALITY CONTROL REPORT

VAN16000154.1

Method		MA200	MA200	MA200	MA200	MA200
Analyte		In	Re	Se	Te	Ti
Unit		ppm	ppm	ppm	ppm	ppm
MDL		0.05	0.005	1	0.5	0.5
Pulp Duplicates						
IMA 3017	Soil Pulp	<0.05	<0.005	<1	<0.5	<0.5
REP IMA 3017	QC	0.06	<0.005	<1	<0.5	<0.5
IMA 3050	Soil Pulp	<0.05	<0.005	1	<0.5	<0.5
REP IMA 3050	QC	0.06	<0.005	<1	<0.5	<0.5
Reference Materials						
STD OREAS25A-4A	Standard	0.11	<0.005	3	<0.5	<0.5
STD OREAS25A-4A	Standard	0.10	<0.005	2	<0.5	<0.5
STD OREAS45E	Standard	0.07	<0.005	2	<0.5	<0.5
STD OREAS45E	Standard	0.06	<0.005	4	<0.5	<0.5
STD OREAS25A-4A		0.09		2.5		0.35
STD OREAS45E Expected		0.099		2.97	0.1	0.09
BLK	Blank	<0.05	<0.005	<1	<0.5	<0.5
BLK	Blank	<0.05	<0.005	<1	<0.5	<0.5

Quality Analysis ...



Innovative Technologies

Date Submitted: 17-Mar-16
Invoice No.: A16-02228
Invoice Date: 08-Apr-16
Your Reference:

R.A. McGregor
28 Ford Street
Sault Ste. Marie Ontario P6A 4N4
Canada

ATTN: R.A. MacGregor

CERTIFICATE OF ANALYSIS

71 Pulp samples were submitted for analysis.

The following analytical package(s) were requested:

Code UT-4 Total Digestion ICP/MS

REPORT **A16-02228**

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Notes:

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

A handwritten signature in black ink, consisting of a stylized 'E' followed by a series of loops and a horizontal line.

Emmanuel Esemé, Ph.D.
Quality Control

ACTIVATION LABORATORIES LTD.
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	d	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi
Unit Symbol	ppm	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Lower Limit	1	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
AMA 1	2	54.5	> 3.00	7.14	< 0.01	0.26	0.45	< 0.1	187	172	247	7.31	3.6	171	1.2	1.2	0.4	50	1.74	0.38	49.3	0.63	3.41
AMA 2	1	36.4	0.89	6.33	4.60	0.07	6.47	< 0.1	149	247	901	6.06	1.9	145	2.1	1.0	0.9	50	0.58	0.14	21.0	3.35	0.48
AMA 3	1	29.1	> 3.00	4.14	7.90	0.21	0.18	< 0.1	150	216	317	6.39	3.1	105	1.2	0.8	0.4	50	0.44	0.25	25.6	0.91	1.34
AMA 4	1	70.1	0.16	8.57	6.00	0.36	0.92	< 0.1	194	998	669	9.41	3.1	389	1.0	1.8	0.4	30	0.90	0.56	21.7	0.88	0.62
AMA 5	2	46.3	0.25	4.90	5.60	3.25	0.49	< 0.1	100	93.1	194	5.39	6.4	84.8	2.7	4.4	1.1	80	1.73	3.06	19.3	1.21	1.95
AMA 6	5	56.6	0.33	6.16	7.60	2.79	0.63	< 0.1	164	105	267	5.89	6.2	236	1.7	3.8	0.6	90	1.01	2.78	23.8	0.72	1.55
AMA 7	7	53.3	> 3.00	6.10	7.60	0.19	1.42	< 0.1	179	158	311	6.02	2.1	114	1.4	0.8	0.5	40	0.35	0.22	20.9	1.74	0.11
AMA 8	8	27.8	> 3.00	3.30	6.80	0.17	1.88	< 0.1	165	199	269	4.21	3.1	73.6	1.2	0.4	0.4	20	0.41	0.18	19.9	0.64	0.47
AMA 9	5	15.4	0.03	4.60	3.40	0.07	10.6	0.3	108	2250	1970	9.91	0.6	1110	0.6	0.4	0.2	50	0.20	0.43	88.7	0.43	0.16
AMA 10	13	33.1	> 3.00	4.75	6.90	0.14	2.52	< 0.1	177	296	432	5.77	2.9	98.7	1.2	0.7	0.4	30	0.58	0.15	19.3	0.94	0.89
AMA 11	3	17.3	1.76	3.95	5.60	2.21	4.48	< 0.1	160	322	983	5.91	2.5	115	0.9	1.2	0.3	30	0.21	0.89	32.9	0.94	0.13
AMA 12	2	9.5	1.37	0.62	2.40	0.73	0.08	< 0.1	97	1690	63	2.34	1.1	33.0	6.4	0.3	2.7	70	0.16	0.13	23.4	2.39	0.20
AMA 13	< 1	20.6	2.28	3.82	6.20	1.63	4.39	< 0.1	162	192	985	5.70	2.4	99.0	0.9	1.2	0.3	< 10	0.16	0.65	29.1	0.91	0.11
AMA 14	1	89.4	2.52	9.65	< 0.01	0.13	0.18	< 0.1	128	147	473	8.54	3.5	209	1.1	0.9	0.4	30	0.78	0.32	69.9	0.76	2.40
AMA 15	2	6.1	> 3.00	0.84	5.90	0.83	0.94	1.5	30	140	158	1.87	2.2	145	0.6	0.7	0.2	200	0.51	0.17	22.6	0.43	0.63
AMA 16	1	34.7	1.35	3.33	5.70	2.47	2.26	< 0.1	104	142	322	4.51	3.0	121	0.9	1.9	0.4	50	2.49	2.14	27.7	1.01	1.04
AMA 17	1	8.9	> 3.00	0.99	5.90	2.20	3.54	3.9	32	91.0	1210	3.94	7.7	49.8	6.9	3.2	2.3	70	2.30	0.24	139	1.07	0.15
AMA 18	1	16.3	2.87	0.44	4.60	2.32	0.34	8.2	50	89.8	82	5.18	2.4	298	1.4	1.1	0.5	1260	2.07	0.71	84.0	1.62	2.40
AMA 19	1	5.3	> 3.00	0.87	5.10	0.22	1.16	4.7	53	229	254	7.74	2.5	415	1.2	0.6	0.4	480	1.24	0.37	64.7	1.00	2.04
AMA 20	55	76.1	0.87	4.95	0.50	0.12	12.9	0.2	68	58.4	4470	9.64	2.8	3.4	2.7	21.3	0.8	< 10	0.33	1.12	16.6	0.46	0.21
AMA 21	30	< 0.5	> 3.00	0.01	7.80	4.11	0.02	< 0.1	< 1	91.9	18	0.45	0.4	0.9	< 0.1	2.1	< 0.1	20	0.15	0.31	0.6	< 0.05	0.03
AMA 22	4	0.5	> 3.00	0.01	3.30	4.40	0.09	< 0.1	< 1	49.3	17	0.81	0.7	< 0.5	< 0.1	2.2	< 0.1	< 10	0.18	0.30	1.6	< 0.05	0.03
AMA 23	1	116	> 3.00	0.30	7.30	4.21	2.65	< 0.1	< 1	56.6	1290	6.23	< 0.1	< 0.5	1.0	0.6	0.4	< 10	0.18	3.23	5.7	0.67	0.03
AMA 24	1	5.0	2.67	0.05	6.00	> 5.00	0.07	< 0.1	< 1	108	32	0.42	< 0.1	2.9	0.1	1.4	< 0.1	< 10	0.09	2.04	0.7	0.13	0.03
AMA 25	2	18.2	1.86	2.14	6.90	4.95	3.34	< 0.1	41	139	718	2.42	1.0	8.7	1.0	4.5	0.3	20	0.26	3.84	7.4	0.27	0.16
AMA 26	3	17.7	1.23	4.91	< 0.01	1.05	1.98	< 0.1	201	305	651	7.44	1.5	32.1	0.7	1.8	0.2	20	0.16	0.91	22.0	0.30	0.32
AMA 27	< 1	52.0	2.66	4.82	3.60	1.07	10.4	0.1	55	40.3	1920	4.74	2.5	9.2	6.7	14.3	2.2	10	0.25	1.67	14.6	1.30	0.32
AMA 501	< 1	10.1	2.03	0.65	6.00	2.24	1.50	0.2	31	37.3	556	3.30	4.9	9.0	2.1	1.5	0.8	40	0.10	0.81	6.3	0.92	0.11
AMA 502	< 1	12.8	1.99	0.76	4.90	2.06	1.64	0.1	54	35.4	456	3.31	1.4	12.5	2.3	2.1	0.9	70	0.08	0.65	6.7	1.03	0.07
AMA 503	11	27.3	2.00	0.69	4.30	2.10	1.52	0.1	50	45.2	679	2.75	5.3	15.0	7.2	3.4	2.7	60	0.11	1.29	14.4	2.66	0.09
AMA 504	13	19.5	1.98	0.80	5.70	1.96	1.72	0.1	53	39.4	539	5.30	0.8	10.3	3.1	2.4	1.1	70	0.10	0.77	7.0	1.05	0.13
AMA 505	2	11.6	1.84	0.62	5.30	2.08	1.37	0.1	48	38.2	387	3.85	2.7	10.1	2.9	1.8	1.1	60	0.10	0.81	6.1	1.22	0.11
AMA 506	< 1	19.5	2.23	0.89	6.30	2.26	1.92	0.1	38	41.3	539	4.39	5.2	15.2	2.6	2.0	0.9	50	0.09	0.86	8.8	1.08	0.11
AMA 507	< 1	12.8	2.05	0.80	4.50	2.27	1.61	0.1	36	46.7	469	5.07	4.3	11.7	2.4	1.7	0.9	40	0.08	0.83	7.6	1.02	0.09
AMA 508	3	13.5	2.09	0.62	6.60	2.51	1.44	< 0.1	26	42.8	395	4.12	4.3	9.0	2.2	1.7	0.8	40	0.28	0.84	5.7	1.00	0.12
AMA 509	1	16.4	2.03	0.82	4.30	2.06	1.76	0.1	43	47.1	534	4.02	6.2	12.8	2.5	1.9	0.9	20	0.16	0.99	7.6	1.07	0.09
AMA 510	< 1	16.8	2.02	0.85	5.60	2.24	1.71	0.1	59	45.7	573	4.30	6.6	12.2	2.9	2.0	1.1	< 10	0.15	1.17	8.4	1.29	0.11
AMA 511	1	9.9	2.25	0.79	5.50	2.12	1.92	0.2	48	41.9	629	3.43	6.1	11.3	2.7	1.8	1.0	20	0.11	0.51	7.0	1.14	0.07
AMA 512	< 1	10.4	1.88	0.65	5.25	2.17	1.50	0.1	27	35.8	544	4.30	3.7	8.4	2.0	1.6	0.7	30	2.73	0.86	6.0	0.88	0.14
AMA 513	6	9.3	2.08	0.69	5.80	1.71	1.66	0.2	39	35.8	440	3.90	3.3	9.3	2.0	1.8	0.7	80	0.20	0.33	5.7	0.86	0.09
AMA 514	< 1	6.8	1.72	0.42	5.35	1.75	1.18	< 0.1	25	31.5	354	3.39	0.8	8.1	1.5	1.2	0.5	60	0.11	0.31	3.9	0.65	0.09
AMA 515	< 1	10.7	2.12	0.78	5.90	2.12	1.88	0.3	58	37.9	596	3.13	3.4	10.6	3.2	2.0	1.1	30	0.07	0.65	7.1	1.38	0.08
AMA 516	2	12.2	2.02	0.87	5.90	2.01	1.73	0.2	43	45.1	713	3.71	3.8	12.8	2.3	1.7	0.8	30	0.27	0.75	8.5	1.10	0.07
AMA 517	1	15.3	2.13	0.88	5.50	1.83	2.26	0.5	51	43.2	1400	3.48	6.6	13.9	3.6	1.9	1.3	20	0.17	1.07	9.3	1.37	0.10
AMA 518	< 1	19.3	2.15	0.88	5.20	2.15	1.97	0.2	50	43.6	891	3.82	5.4	13.9	2.5	1.7	0.9	30	0.13	1.96	9.3	1.11	0.15
AMA 519	< 1	25.9	1.97	1.28	5.50	1.67	2.93	0.8	69	43.7	1840	3.76	5.3	21.3	8.8	4.2	3.3	30	0.17	2.51	14.9	2.77	0.15
AMA 520	< 1	16.3	2.25	0.85	5.80	2.15	2.09	0.2	37	30.7	569	3.10	0.5	11.6	3.8	2.1	1.4	40	0.12	1.03	7.7	1.58	0.11
AMA 521	11	14.5	2.45	0.92	5.60	2.16	2.32	0.1	57	45.0	612	3.10	6.7	12.5	3.1	2.3	1.1	30	0.09	0.74	8.7	1.28	0.07

Analyte Symbol		Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi
Unit Symbol	ppm	ppm	%	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm
Lower Limit	1	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
AMA 522	10	14.0	2.15	0.83	5.60	2.18	1.83	0.2	43	38.2	572	3.46	5.1	10.4	3.0	2.0	1.1	50	0.07	0.71	7.0	1.28	0.08
AMA 523	3	9.5	2.16	0.74	5.30	2.19	1.80	0.2	41	36.7	724	3.66	2.8	9.5	2.4	1.8	0.9	40	0.07	0.61	7.2	1.00	0.10
AMA 524	< 1	24.8	2.15	1.28	5.60	2.03	2.70	0.4	63	39.1	1160	4.33	2.4	18.9	3.8	2.3	1.5	30	0.13	3.71	12.7	1.53	0.18
AMA 525	< 1	10.4	1.94	0.71	5.30	2.06	1.58	0.2	38	40.5	746	3.84	2.3	9.6	2.2	1.8	0.8	40	0.08	0.78	7.6	0.97	0.10
AMA 526	2	7.1	1.53	0.37	5.20	1.79	0.99	0.4	29	34.1	319	3.74	2.0	5.6	1.5	1.3	0.5	60	0.26	0.41	3.5	0.62	0.10
AMA 527	1	9.8	2.01	0.57	5.50	2.08	1.49	0.2	27	34.3	455	2.93	5.8	6.8	1.8	1.5	0.6	30	0.15	0.49	4.9	0.80	0.10
AMA 528	< 1	8.7	2.39	0.80	5.60	2.20	1.94	0.2	56	39.2	743	3.42	6.8	10.3	2.9	1.8	1.1	30	0.11	0.53	7.1	1.29	0.05
AMA 529	< 1	17.8	2.42	0.91	5.50	2.29	2.31	0.3	38	35.3	665	3.10	4.6	24.8	2.7	1.7	1.0	20	0.10	4.04	11.2	1.13	0.11
AMA 530	1	7.4	2.21	0.58	5.30	2.18	1.64	0.1	43	29.9	485	3.49	0.5	8.0	2.2	1.7	0.8	30	0.08	0.66	5.5	0.89	0.08
AMA 531	9	11.1	2.22	0.76	5.80	2.02	1.92	0.2	57	43.4	699	4.64	7.0	11.2	3.1	2.1	1.1	30	0.07	0.67	8.6	1.17	0.08
AMA 532	5	12.8	2.23	0.84	6.10	2.25	1.81	0.2	41	42.9	555	3.32	5.4	14.1	2.9	2.0	1.1	50	0.09	1.30	9.6	1.24	0.08
AMA 533	5	11.9	1.85	0.69	5.20	1.92	1.50	0.2	47	35.0	403	3.62	1.6	11.5	2.0	1.8	0.8	100	0.07	0.82	6.8	0.95	0.07
AMA 534	1	16.0	1.63	0.69	5.80	2.04	1.45	0.2	36	39.9	484	3.68	0.3	11.2	2.0	1.6	0.8	60	0.09	1.15	7.3	0.87	0.11
AMA 535	< 1	10.2	2.27	0.79	5.50	2.17	1.82	0.2	33	38.2	566	3.63	0.8	11.7	2.4	1.9	0.9	40	0.07	0.67	8.0	1.04	0.07
AMA 536	1	20.7	1.63	0.70	5.60	1.85	1.44	0.2	37	50.4	458	5.18	2.9	10.5	2.5	2.3	0.9	60	0.25	1.24	8.7	0.94	0.16
AMA 537	2	22.0	1.81	0.72	5.50	2.21	1.51	0.1	32	46.6	923	3.79	4.5	11.9	2.4	1.8	0.8	30	0.16	2.11	8.4	0.97	0.14
AMA 538	1	12.7	2.14	0.89	5.60	2.17	1.89	0.1	67	49.9	677	4.23	6.9	12.8	3.0	1.8	1.1	30	0.12	0.74	8.5	1.27	0.07
AMA 539	2	16.6	1.75	0.65	5.60	1.90	1.57	0.9	61	37.1	2780	3.18	5.1	15.6	5.0	2.5	1.8	30	0.30	3.15	33.5	1.70	0.15
AMA 540	1	9.1	1.83	0.59	5.20	2.19	1.45	0.4	38	41.4	410	4.40	4.3	10.1	1.8	1.6	0.6	30	0.10	1.11	5.8	0.82	0.09
AMA 541	< 1	16.1	2.02	0.94	5.70	2.17	1.84	0.2	33	34.3	550	3.70	0.5	15.5	2.4	1.8	0.9	40	0.10	1.64	8.9	1.07	0.09
AMA 542	10	11.7	1.93	0.74	5.80	2.11	1.66	0.2	65	48.0	582	4.16	7.9	9.9	2.2	1.7	0.8	50	0.09	1.48	6.7	0.93	0.12
AMA 543	8	15.9	2.20	1.02	5.40	2.20	2.05	0.2	52	35.3	615	3.96	5.0	14.7	2.7	1.8	1.0	50	0.10	2.84	9.9	1.16	0.13
AMA 544	17	32.4	2.19	2.10	4.70	1.36	4.55	0.4	55	44.6	1860	4.72	5.4	24.3	6.6	3.4	2.4	40	0.07	0.66	16.7	2.17	0.20

Analyte Symbol	Se	Zn	Ga	As	Rb	Y	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.2	0.1	0.1	0.2	0.1	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
AMA 1	0.9	77.1	16.3	23.8	3.5	8.0	147	5.9	27.2	0.2	2	0.2	< 0.1	136	16.5	38.8	3.7	23.1	2.7	2.6	0.3	1.8	7440
AMA 2	< 0.1	70.3	10.2	10.5	1.0	17.6	125	0.9	14.2	< 0.1	< 1	< 0.1	< 0.1	28	80.6	197	17.7	117	13.4	11.0	1.1	5.1	1080
AMA 3	0.4	64.3	13.5	15.4	2.5	6.8	122	4.7	2.78	< 0.1	1	0.3	< 0.1	188	17.9	42.6	4.1	26.4	3.3	3.0	0.4	2.0	2440
AMA 4	0.3	152	10.6	1.1	9.3	6.9	140	2.6	3.86	< 0.1	3	0.4	< 0.1	326	16.2	38.0	3.6	23.3	2.9	2.8	0.3	1.7	4500
AMA 5	1.8	68.7	16.8	8.0	75.4	21.0	252	9.2	7.30	0.5	14	1.3	0.2	183	22.3	56.9	5.6	36.5	4.7	5.7	0.9	4.8	9990
AMA 6	0.8	69.0	14.8	10.5	63.8	10.8	254	6.6	8.88	0.3	14	1.0	< 0.1	228	14.7	37.6	3.7	23.6	2.9	2.8	0.4	2.2	4150
AMA 7	< 0.1	70.1	14.0	< 0.1	3.5	9.6	131	0.9	3.38	< 0.1	1	0.2	< 0.1	100	41.6	97.5	9.1	58.3	6.5	5.3	0.6	2.6	1330
AMA 8	0.3	47.5	11.9	12.0	2.0	7.7	129	4.8	4.02	< 0.1	2	1.4	< 0.1	71	13.1	32.0	3.0	19.0	2.4	2.4	0.3	1.8	2300
AMA 9	0.6	100	5.2	29.7	1.5	4.3	22	0.6	0.77	< 0.1	< 1	0.8	< 0.1	128	1.8	4.1	0.4	3.4	0.7	1.2	0.2	1.0	348
AMA 10	0.2	63.6	12.6	7.7	1.8	8.2	118	4.4	4.80	< 0.1	1	0.2	< 0.1	65	15.1	35.8	3.4	21.6	2.6	2.7	0.3	2.0	3660
AMA 11	0.1	75.4	4.8	36.0	44.6	5.9	97	0.8	4.32	< 0.1	1	0.3	< 0.1	804	14.8	34.0	3.3	21.1	2.7	2.7	0.3	1.6	66.5
AMA 12	1.2	< 0.2	3.6	0.8	3.8	48.2	42	2.9	6.48	< 0.1	1	0.3	< 0.1	16	5.4	13.6	1.4	9.8	3.4	11.5	2.2	13.0	> 10000
AMA 13	0.2	77.1	6.2	26.5	32.8	6.2	96	3.0	0.91	< 0.1	1	0.5	< 0.1	645	15.0	34.2	3.3	21.4	2.7	2.7	0.3	1.6	70.1
AMA 14	0.4	85.5	18.6	3.2	2.9	8.0	146	6.6	24.8	0.1	1	0.1	< 0.1	33	30.3	65.9	6.1	36.5	3.8	3.3	0.4	1.9	2910
AMA 15	1.4	891	12.5	73.9	5.8	4.0	79	3.5	3.40	0.2	4	2.8	0.3	142	6.5	16.0	1.5	8.9	1.1	1.1	0.2	0.9	151
AMA 16	1.5	56.0	13.1	39.9	50.1	6.7	121	4.5	5.03	0.2	2	0.9	0.2	111	21.8	49.4	4.7	27.7	3.1	2.8	0.3	1.6	> 10000
AMA 17	< 0.1	761	17.6	9.5	30.6	41.9	269	11.3	106	< 0.1	3	0.6	< 0.1	139	20.1	56.9	6.2	40.5	5.8	7.3	1.3	8.7	709
AMA 18	10.2	5140	12.8	295	34.0	9.5	97	4.1	16.8	0.8	13	3.5	1.3	20	10.0	28.6	2.8	17.3	2.2	2.6	0.4	2.3	685
AMA 19	5.7	2640	11.5	171	6.3	8.4	102	4.3	13.9	0.6	7	6.1	1.5	35	17.0	38.5	3.4	20.2	2.3	2.4	0.3	1.9	529
AMA 20	< 0.1	307	6.6	0.5	6.3	15.8	43	1.0	4.64	0.2	3	0.5	< 0.1	80	19.3	38.8	3.3	18.8	2.1	2.4	0.4	2.7	9.4
AMA 21	< 0.1	2.2	19.3	< 0.1	46.5	0.1	17	0.2	0.91	< 0.1	< 1	0.1	< 0.1	541	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	4.6
AMA 22	< 0.1	0.8	20.8	< 0.1	47.4	0.1	25	0.2	0.83	< 0.1	< 1	0.1	< 0.1	535	0.2	0.5	< 0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	3.1
AMA 23	< 0.1	127	< 0.1	< 0.1	47.6	6.4	5	6.2	0.67	< 0.1	1	0.1	< 0.1	2100	6.5	18.0	1.7	10.6	1.3	1.6	0.3	1.5	3.6
AMA 24	< 0.1	1.9	9.8	< 0.1	172	0.6	< 1	1.6	1.81	< 0.1	< 1	0.1	< 0.1	867	2.9	3.9	0.3	1.2	0.1	0.1	< 0.1	0.1	11.7
AMA 25	< 0.1	63.4	8.1	0.3	225	7.1	27	0.5	1.78	< 0.1	2	0.3	< 0.1	1740	9.4	16.9	1.5	8.0	0.9	1.1	0.2	1.2	28.9
AMA 26	< 0.1	160	34.8	< 0.1	36.3	4.8	45	2.0	2.41	< 0.1	4	0.1	< 0.1	345	14.9	22.6	1.5	7.3	0.7	0.8	0.1	0.9	11.8
AMA 27	< 0.1	143	8.7	< 0.1	37.9	41.6	48	10.2	0.89	< 0.1	3	0.3	< 0.1	409	24.3	63.3	6.8	42.3	5.8	7.2	1.3	8.6	7.3
AMA 501	0.1	57.0	8.1	< 0.1	36.4	14.2	198	0.1	0.14	< 0.1	< 1	< 0.1	< 0.1	877	15.6	48.8	3.5	22.0	2.8	3.3	0.5	3.2	11.6
AMA 502	0.4	50.9	7.7	< 0.1	31.3	15.6	101	< 0.1	0.64	< 0.1	1	< 0.1	< 0.1	787	15.2	57.5	3.5	22.2	3.1	3.7	0.6	3.8	12.4
AMA 503	< 0.1	53.6	7.1	< 0.1	33.2	50.3	207	1.2	3.55	< 0.1	2	< 0.1	< 0.1	805	65.6	204	13.3	82.4	11.0	12.2	2.0	12.3	66.6
AMA 504	< 0.1	48.6	11.3	< 0.1	31.9	20.3	71	< 0.1	0.13	< 0.1	< 1	< 0.1	< 0.1	761	19.2	71.6	4.2	26.0	3.5	4.2	0.7	4.6	23.5
AMA 505	0.2	51.6	9.8	< 0.1	34.5	21.4	142	< 0.1	0.19	< 0.1	< 1	< 0.1	< 0.1	807	23.0	61.9	5.3	33.1	4.2	4.9	0.8	4.7	11.3
AMA 506	0.1	69.0	10.8	< 0.1	35.8	17.8	218	< 0.1	0.11	< 0.1	< 1	< 0.1	< 0.1	886	20.7	56.4	4.3	26.8	3.4	3.9	0.6	4.0	12.1
AMA 507	0.2	55.0	11.1	< 0.1	35.2	17.0	176	0.1	0.10	< 0.1	< 1	< 0.1	< 0.1	823	17.9	50.9	3.9	24.4	3.3	3.7	0.6	3.9	8.1
AMA 508	< 0.1	49.2	12.1	< 0.1	39.9	15.0	176	< 0.1	0.32	< 0.1	1	< 0.1	< 0.1	923	21.9	55.0	4.0	23.7	3.0	3.4	0.6	3.5	23.5
AMA 509	0.5	67.2	9.6	0.3	33.1	17.4	249	0.3	0.38	< 0.1	1	< 0.1	< 0.1	775	17.2	45.1	3.9	24.9	3.2	3.9	0.6	3.9	26.3
AMA 510	0.5	54.3	11.5	< 0.1	35.0	20.8	269	1.2	0.65	< 0.1	2	< 0.1	< 0.1	798	27.6	53.0	5.6	33.6	4.3	5.0	0.8	4.8	22.6
AMA 511	0.2	65.5	8.1	< 0.1	31.2	18.8	250	0.8	0.28	< 0.1	1	< 0.1	< 0.1	813	17.3	58.8	4.1	25.5	3.4	4.2	0.7	4.2	13.1
AMA 512	0.3	58.2	10.8	< 0.1	35.2	14.3	164	< 0.1	0.08	< 0.1	< 1	< 0.1	< 0.1	907	16.2	41.2	3.4	20.9	2.6	3.0	0.5	3.0	5.8
AMA 513	0.5	42.1	9.7	< 0.1	25.1	13.7	158	< 0.1	0.12	< 0.1	< 1	< 0.1	< 0.1	701	14.3	56.3	3.0	18.4	2.4	2.9	0.5	3.1	10.2
AMA 514	0.2	29.7	10.0	< 0.1	25.3	10.1	61	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	717	10.5	33.9	2.3	13.8	1.8	2.1	0.3	2.3	9.1
AMA 515	0.4	76.5	8.5	< 0.1	33.1	23.0	189	0.4	0.45	< 0.1	1	< 0.1	< 0.1	815	26.2	77.8	5.9	36.5	4.5	5.0	0.8	4.9	15.2
AMA 516	0.4	73.8	8.0	< 0.1	34.5	16.1	154	0.2	0.41	< 0.1	1	< 0.1	< 0.1	811	17.5	53.2	3.9	24.1	3.1	3.6	0.6	3.6	9.3
AMA 517	0.4	120	7.8	< 0.1	31.7	27.7	255	1.3	3.44	< 0.1	1	< 0.1	< 0.1	806	29.1	66.5	6.4	39.3	4.8	5.5	0.8	5.4	34.9
AMA 518	0.4	84.1	9.1	< 0.1	38.7	18.1	220	0.3	0.54	< 0.1	1	< 0.1	< 0.1	832	21.3	72.8	4.4	27.5	3.5	4.1	0.6	4.0	17.8
AMA 519	0.5	166	7.2	< 0.1	31.5	73.2	210	2.0	3.58	< 0.1	2	0.1	< 0.1	704	78.3	148	17.0	109	13.7	15.8	2.3	13.7	59.7
AMA 520	< 0.1	48.9	7.6	< 0.1	34.8	29.0	40	< 0.1	0.13	< 0.1	< 1	< 0.1	< 0.1	855	42.0	68.2	8.8	53.2	5.8	6.6	0.9	5.8	18.2
AMA 521	0.3	52.3	7.6	< 0.1	38.5	21.6	278	1.4	0.66	< 0.1	2	< 0.1	< 0.1	836	23.7	78.4	5.3	32.8	4.0	4.6	0.7	4.7	23.8

Analyte Symbol	Se	Zn	Ga	As	Rb	Y	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.2	0.1	0.1	0.2	0.1	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
AMA 522	0.4	54.1	8.8	< 0.1	32.4	21.3	222	0.1	0.14	< 0.1	< 1	< 0.1	< 0.1	803	27.3	67.8	5.4	32.9	4.2	4.7	0.7	4.6	14.3
AMA 523	0.2	57.0	8.1	2.6	33.3	16.9	161	< 0.1	0.28	< 0.1	< 1	< 0.1	< 0.1	870	15.0	51.0	3.5	22.6	2.9	3.5	0.6	3.6	7.9
AMA 524	0.3	129	9.2	< 0.1	55.0	27.8	129	2.6	0.68	< 0.1	1	< 0.1	< 0.1	801	31.2	99.9	6.9	43.9	5.7	6.6	1.0	6.2	32.8
AMA 525	0.3	65.2	9.7	< 0.1	35.3	15.2	119	< 0.1	0.09	< 0.1	< 1	< 0.1	< 0.1	794	15.1	58.3	3.4	21.2	2.8	3.3	0.6	3.4	7.7
AMA 526	0.3	40.7	10.8	< 0.1	27.0	9.7	116	< 0.1	0.25	< 0.1	< 1	< 0.1	< 0.1	716	12.0	31.1	2.5	15.2	1.9	2.2	0.4	2.3	6.0
AMA 527	0.3	39.8	8.7	< 0.1	30.9	12.5	241	0.2	0.26	< 0.1	< 1	< 0.1	< 0.1	818	13.0	43.5	2.9	17.5	2.3	2.7	0.4	2.9	11.5
AMA 528	0.5	50.9	8.3	< 0.1	34.0	21.0	280	1.4	0.66	< 0.1	1	< 0.1	< 0.1	859	21.6	55.2	4.9	30.8	3.9	4.7	0.7	4.7	13.1
AMA 529	0.3	72.5	8.0	< 0.1	40.7	19.8	190	< 0.1	0.29	< 0.1	1	< 0.1	< 0.1	902	20.5	49.8	4.4	27.0	3.4	4.1	0.6	4.0	56.0
AMA 530	0.1	41.5	9.0	< 0.1	33.7	15.6	49	< 0.1	0.09	< 0.1	< 1	< 0.1	< 0.1	856	16.9	61.7	3.8	23.4	3.0	3.5	0.6	3.4	8.2
AMA 531	0.3	62.5	10.4	< 0.1	33.1	22.2	299	0.2	0.56	< 0.1	1	< 0.1	< 0.1	789	17.1	62.4	4.2	26.3	3.6	4.3	0.7	4.7	11.5
AMA 532	0.4	58.8	9.4	< 0.1	35.9	20.6	234	< 0.1	0.16	< 0.1	< 1	< 0.1	< 0.1	796	21.7	68.7	4.9	31.3	4.1	4.7	0.7	4.6	18.4
AMA 533	0.6	44.9	8.8	< 0.1	30.1	14.0	110	< 0.1	0.10	< 0.1	< 1	< 0.1	< 0.1	720	13.5	47.9	3.1	19.7	2.6	3.2	0.5	3.2	10.1
AMA 534	0.3	58.6	10.2	< 0.1	34.9	13.9	24	< 0.1	0.08	< 0.1	< 1	< 0.1	< 0.1	743	14.5	37.7	3.3	20.4	2.7	3.2	0.5	3.2	12.3
AMA 535	0.3	61.4	9.5	< 0.1	33.8	16.9	57	< 0.1	0.06	< 0.1	< 1	< 0.1	< 0.1	811	18.2	65.0	3.9	24.5	3.3	3.8	0.6	3.9	10.2
AMA 536	0.4	76.9	11.2	< 0.1	33.5	17.5	125	< 0.1	0.34	< 0.1	1	< 0.1	< 0.1	696	19.0	56.0	4.0	24.5	3.0	3.7	0.6	3.8	10.5
AMA 537	0.4	67.3	10.6	< 0.1	41.1	17.0	191	0.1	0.26	< 0.1	1	< 0.1	< 0.1	836	19.5	83.4	4.2	25.7	3.2	3.6	0.6	3.6	10.4
AMA 538	0.7	61.0	9.9	< 0.1	34.9	21.9	292	2.0	1.01	< 0.1	2	< 0.1	< 0.1	806	24.9	84.4	5.4	33.7	4.3	4.9	0.8	4.8	15.1
AMA 539	0.9	154	7.8	0.4	39.3	36.6	212	9.9	9.15	< 0.1	2	0.2	< 0.1	742	41.8	138	8.7	53.2	6.3	7.2	1.1	7.2	101
AMA 540	0.4	70.1	11.4	< 0.1	37.7	13.1	184	0.1	0.27	< 0.1	1	< 0.1	< 0.1	857	13.4	50.0	2.9	17.9	2.3	2.7	0.4	2.8	11.6
AMA 541	0.3	66.4	8.6	< 0.1	38.8	17.5	32	< 0.1	0.11	< 0.1	< 1	< 0.1	< 0.1	837	17.4	65.9	3.9	24.6	3.2	3.8	0.6	3.8	15.4
AMA 542	0.8	72.8	8.8	< 0.1	40.2	16.0	337	0.4	1.04	< 0.1	2	< 0.1	< 0.1	821	14.1	44.4	3.3	20.8	2.8	3.3	0.5	3.4	10.3
AMA 543	0.4	55.9	8.9	< 0.1	38.7	19.4	218	0.1	0.22	< 0.1	< 1	< 0.1	< 0.1	834	21.5	82.4	4.4	28.1	3.5	4.3	0.7	4.2	15.4
AMA 544	< 0.1	126	9.4	< 0.1	25.4	51.3	214	0.3	0.18	< 0.1	2	< 0.1	< 0.1	488	45.0	98.5	10.5	66.6	8.3	10.2	1.6	9.7	24.3

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	Sr	W	Re	Tl	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
AMA 1	< 0.1	0.2	1.8	0.2	0.2	87.6	2.7	0.250	0.06	7.0	3.1	1.1
AMA 2	< 0.1	0.2	2.1	0.3	< 0.1	331	3.0	< 0.001	< 0.05	11.3	17.4	4.3
AMA 3	< 0.1	0.2	1.8	0.2	0.2	112	2.2	< 0.001	< 0.05	7.1	2.5	0.8
AMA 4	< 0.1	0.1	1.6	0.2	0.2	23.7	3.0	< 0.001	0.09	12.1	3.5	1.0
AMA 5	< 0.1	0.3	3.1	0.4	0.6	17.3	6.6	< 0.001	0.70	13.2	5.4	1.6
AMA 6	< 0.1	0.2	2.7	0.3	0.4	20.2	10.0	< 0.001	0.59	12.3	4.9	1.7
AMA 7	< 0.1	0.2	1.9	0.2	< 0.1	102	4.6	< 0.001	< 0.05	2.3	7.2	1.7
AMA 8	< 0.1	0.2	1.8	0.2	0.2	94.4	6.4	< 0.001	< 0.05	13.0	2.2	0.7
AMA 9	< 0.1	< 0.1	0.9	0.1	< 0.1	379	1.2	0.100	< 0.05	9.2	0.1	< 0.1
AMA 10	< 0.1	0.1	1.6	0.2	0.2	87.0	5.1	< 0.001	< 0.05	7.0	3.0	0.8
AMA 11	< 0.1	0.1	1.3	0.2	< 0.1	285	1.6	< 0.001	0.36	8.1	3.5	0.9
AMA 12	< 0.1	0.7	6.8	0.6	0.2	5.3	5.3	< 0.001	< 0.05	1.8	1.6	1.0
AMA 13	< 0.1	0.1	1.3	0.2	0.1	301	10.2	< 0.001	0.25	4.2	3.2	0.9
AMA 14	< 0.1	0.1	1.6	0.2	0.4	51.6	4.6	< 0.001	0.05	5.8	7.5	2.3
AMA 15	< 0.1	< 0.1	0.8	0.1	0.2	121	0.8	< 0.001	0.43	30.5	2.7	0.9
AMA 16	< 0.1	0.1	1.2	0.2	0.3	75.7	4.8	< 0.001	0.67	11.9	4.5	1.3
AMA 17	< 0.1	0.9	11.3	1.4	0.7	67.3	2.1	< 0.001	0.14	76.4	5.8	14.6
AMA 18	< 0.1	0.2	2.0	0.3	0.3	52.1	1.5	< 0.001	2.46	84.5	2.5	1.2
AMA 19	< 0.1	0.1	1.6	0.2	0.3	56.7	1.0	< 0.001	2.19	85.5	4.8	1.3
AMA 20	< 0.1	0.5	10.9	2.4	< 0.1	38.7	3.1	< 0.001	0.13	10.2	1.5	1.8
AMA 21	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	28.9	0.3	< 0.001	0.35	2.6	0.4	0.2
AMA 22	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	45.0	0.2	< 0.001	0.37	6.2	0.3	0.1
AMA 23	< 0.1	0.1	2.0	0.3	0.3	578	0.3	< 0.001	0.49	9.9	0.6	3.8
AMA 24	< 0.1	< 0.1	0.2	< 0.1	< 0.1	191	0.5	< 0.001	1.57	7.1	2.5	0.9
AMA 25	< 0.1	0.1	2.0	0.3	< 0.1	240	1.4	< 0.001	1.94	18.3	11.1	2.6
AMA 26	< 0.1	0.1	1.3	0.2	0.1	570	0.5	< 0.001	0.32	21.3	0.6	0.8
AMA 27	0.3	0.9	10.8	1.4	0.2	184	0.2	< 0.001	0.42	15.6	4.8	4.2
AMA 501	< 0.1	0.3	2.9	0.4	< 0.1	207	< 0.1	< 0.001	0.27	18.9	5.3	1.6
AMA 502	< 0.1	0.3	3.1	0.4	< 0.1	208	< 0.1	< 0.001	0.21	16.2	8.7	3.7
AMA 503	< 0.1	0.8	9.1	1.0	< 0.1	189	0.1	< 0.001	0.32	15.2	12.9	47.9
AMA 504	< 0.1	0.4	4.4	0.5	< 0.1	226	< 0.1	< 0.001	0.21	18.8	7.6	5.2
AMA 505	< 0.1	0.3	3.8	0.4	< 0.1	190	< 0.1	< 0.001	0.21	18.5	5.3	5.4
AMA 506	< 0.1	0.3	3.5	0.4	< 0.1	245	< 0.1	< 0.001	0.26	17.6	5.7	3.7
AMA 507	< 0.1	0.3	3.2	0.4	< 0.1	202	0.1	< 0.001	0.24	16.5	4.5	3.5
AMA 508	< 0.1	0.3	3.0	0.4	< 0.1	209	0.1	< 0.001	0.30	19.4	5.6	3.1
AMA 509	< 0.1	0.3	3.4	0.4	< 0.1	208	0.1	< 0.001	0.23	16.3	6.2	2.6
AMA 510	< 0.1	0.3	3.8	0.5	< 0.1	217	< 0.1	< 0.001	0.25	16.4	7.7	8.4
AMA 511	< 0.1	0.3	3.6	0.4	< 0.1	234	0.1	< 0.001	0.23	17.4	6.5	1.4
AMA 512	< 0.1	0.2	2.8	0.3	< 0.1	215	< 0.1	< 0.001	0.25	18.3	5.0	1.5
AMA 513	< 0.1	0.2	2.7	0.3	< 0.1	216	< 0.1	< 0.001	0.18	17.1	6.2	2.6
AMA 514	< 0.1	0.2	2.2	0.3	< 0.1	197	< 0.1	< 0.001	0.17	17.2	4.3	1.4
AMA 515	< 0.1	0.4	4.3	0.5	< 0.1	240	< 0.1	< 0.001	0.23	22.6	11.4	4.5
AMA 516	< 0.1	0.3	3.0	0.4	< 0.1	222	0.2	< 0.001	0.23	18.2	5.0	1.2
AMA 517	< 0.1	0.4	5.0	0.6	< 0.1	245	0.1	< 0.001	0.28	18.6	9.6	18.5
AMA 518	< 0.1	0.3	3.4	0.4	< 0.1	219	0.1	< 0.001	0.34	22.9	6.4	2.7
AMA 519	< 0.1	1.0	10.9	1.3	< 0.1	225	0.2	< 0.001	0.42	24.1	11.2	16.5
AMA 520	< 0.1	0.4	5.0	0.6	< 0.1	255	< 0.1	< 0.001	0.28	24.2	6.4	4.4
AMA 521	< 0.1	0.4	4.3	0.5	< 0.1	264	0.1	< 0.001	0.28	21.7	38.3	8.7

Analyte Symbol	Se	Tm	Yb	Lu	Ta	Sr	W	Re	Ti	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
AMA 522	< 0.1	0.3	4.0	0.5	< 0.1	226	< 0.1	< 0.001	0.23	17.3	10.6	3.8
AMA 523	< 0.1	0.3	3.4	0.4	< 0.1	249	< 0.1	< 0.001	0.24	21.5	5.3	1.5
AMA 524	< 0.1	0.4	4.8	0.6	0.1	232	0.2	< 0.001	0.43	25.0	7.3	2.9
AMA 525	< 0.1	0.3	3.0	0.4	< 0.1	210	< 0.1	< 0.001	0.23	16.9	7.6	1.7
AMA 526	< 0.1	0.2	2.0	0.3	< 0.1	176	0.1	< 0.001	0.22	17.9	4.9	1.5
AMA 527	< 0.1	0.2	2.6	0.3	< 0.1	218	< 0.1	< 0.001	0.23	17.3	4.8	1.6
AMA 528	< 0.1	0.3	3.9	0.5	< 0.1	261	< 0.1	< 0.001	0.23	15.7	8.2	2.1
AMA 529	< 0.1	0.3	3.7	0.5	< 0.1	242	< 0.1	< 0.001	0.31	22.3	5.2	6.1
AMA 530	< 0.1	0.3	2.9	0.4	< 0.1	242	< 0.1	< 0.001	0.23	20.3	6.3	1.9
AMA 531	< 0.1	0.4	4.3	0.5	< 0.1	242	0.1	< 0.001	0.22	16.8	5.9	4.7
AMA 532	< 0.1	0.3	3.9	0.4	< 0.1	211	< 0.1	< 0.001	0.31	17.8	9.2	10.4
AMA 533	< 0.1	0.2	2.7	0.3	< 0.1	190	< 0.1	< 0.001	0.24	16.3	5.3	1.5
AMA 534	< 0.1	0.2	2.7	0.3	< 0.1	173	< 0.1	< 0.001	0.27	16.8	5.2	4.1
AMA 535	< 0.1	0.3	3.3	0.4	< 0.1	229	0.2	< 0.001	0.24	17.2	7.2	2.1
AMA 536	< 0.1	0.3	3.3	0.4	< 0.1	171	0.1	< 0.001	0.32	23.3	15.9	8.6
AMA 537	< 0.1	0.3	3.3	0.4	< 0.1	197	< 0.1	< 0.001	0.35	23.3	14.0	18.1
AMA 538	< 0.1	0.4	4.1	0.5	< 0.1	231	0.1	< 0.001	0.25	16.8	8.6	6.3
AMA 539	< 0.1	0.6	6.6	0.7	0.3	187	0.5	< 0.001	0.56	36.8	21.2	36.8
AMA 540	< 0.1	0.2	2.6	0.3	< 0.1	208	< 0.1	< 0.001	0.28	19.1	4.5	1.7
AMA 541	< 0.1	0.3	3.2	0.4	< 0.1	223	< 0.1	< 0.001	0.30	17.3	5.0	1.5
AMA 542	< 0.1	0.3	3.1	0.4	< 0.1	219	< 0.1	< 0.001	0.26	18.6	4.6	1.8
AMA 543	< 0.1	0.3	3.5	0.4	< 0.1	239	< 0.1	< 0.001	0.33	20.3	5.6	2.1
AMA 544	< 0.1	0.8	9.1	1.1	< 0.1	184	< 0.1	< 0.001	0.22	19.0	11.2	14.9

Analyte Symbol	Li	Na	Mg	Al	K	Ca	Cd	V	Cr	Mn	Fe	Hf	Ni	Er	Be	Ho	Hg	Ag	Cs	Co	Eu	Bi	
Unit Symbol	ppm	ppm	%	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	
Lower Limit	1	0.5	0.01	0.01	0.01	0.01	0.01	0.1	1	0.5	1	0.01	0.1	0.5	0.1	0.1	0.1	10	0.05	0.05	0.1	0.05	0.02
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas	6	11.0	0.07	0.34	4.30	0.05	0.83	2.0	71	12.9	788	23.8	0.7	39.3	0.9		2700	27.7	2.27	6.7	0.47	1330	
GXR-1 Cert	15.0	8.20	0.0520	0.217	3.52	0.050	0.960	3.30	80.0	12.0	852	23.6	0.960	41.0	1.22		3900	31.0	3.00	8.20	0.690	1380	
DH-1a Meas																							
DH-1a Cert																							
GXR-4 Meas	2	10.2	0.53	1.73	5.80	4.82	0.94	0.3	76	44.8	131	2.94	1.2	38.8	2.0		< 10	3.01	2.04	12.7	1.09	18.7	
GXR-4 Cert	4.50	11.1	0.564	1.66	7.20	4.01	1.01	0.860	87.0	64.0	155	3.09	6.30	42.0	1.90		110	4.00	2.80	14.6	1.63	19.0	
SDC-1 Meas	3	34.1	1.63	1.06	3.80	3.00	0.99		30	47.4	782	4.72	0.7	34.8	2.8	3.0	1.1	30		3.26	15.7	1.21	
SDC-1 Cert	13.00	34.00	1.52	1.02	8.34	2.72	1.00		102.00	64.00	880.00	4.82	8.30	38.0	4.10	3.00	1.50	200.00		4.00	18.0	1.70	
GXR-6 Meas	8	35.7	0.11	0.67	< 0.01	1.91	0.18	< 0.1	88	41.9	875	5.23	1.6	22.9	1.1		60	0.25	3.15	11.6	0.46	0.18	
GXR-6 Cert	9.80	32.0	0.104	0.609	17.7	1.87	0.180	1.00	186	96.0	1010	5.58	4.30	27.0	1.40		68.0	1.30	4.20	13.8	0.760	0.290	
DNC-1a Meas		4.6							149	137				277						49.5	0.48		
DNC-1a Cert		5.20								270				247						57.0	0.59		
								148.0000															
SBC-1 Meas		161						0.3	215	66.2			3.3	87.4	2.8	3.3	1.1			6.71	19.4	1.55	0.74
SBC-1 Cert		163.0						0.40	220.0	109			3.7	82.8	3.80	3.20	1.40			8.2	22.7	1.98	0.70
SdAR-M2 (U.S.G.S.) Meas		16.4						4.2	22	46.8			3.8	48.6	2.1	6.9	0.8	950		1.41	11.2	1.08	1.12
SdAR-M2 (U.S.G.S.) Cert		17.9						5.1	25.2	49.6			7.29	48.8	3.58	6.6	1.21	1440.00		1.82	12.4	1.44	1.05
AMA 1 Orig	2	53.3	> 3.00	7.03	< 0.01	0.27	0.45	< 0.1	183	164	245	7.22	3.5	168	1.2	1.1	0.4	50	1.64	0.38	49.9	0.63	3.39
AMA 1 Dup	1	55.6	> 3.00	7.24	0.20	0.26	0.46	< 0.1	190	179	249	7.40	3.7	173	1.2	1.3	0.4	50	1.84	0.39	48.8	0.64	3.42
AMA 512 Orig	< 1	10.3	1.88	0.64	5.30	2.18	1.49	0.1	28	38.5	540	4.28	4.3	8.5	2.0	1.6	0.7	20	4.85	0.84	5.8	0.88	0.15
AMA 512 Dup	< 1	10.4	1.88	0.66	5.20	2.16	1.50	0.2	27	33.2	547	4.32	3.0	8.3	2.0	1.6	0.7	30	0.61	0.87	6.2	0.89	0.12
AMA 514 Orig	< 1	6.7	1.69	0.42	5.30	1.75	1.20	0.1	26	32.2	357	3.42	0.8	10.1	1.5	1.3	0.5	60	0.12	0.31	4.0	0.65	0.10
AMA 514 Dup	< 1	6.9	1.75	0.42	5.40	1.74	1.17	< 0.1	23	30.8	352	3.37	0.8	6.1	1.5	1.2	0.5	50	0.09	0.31	3.9	0.65	0.09
Method Blank	< 1	< 0.5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.1	< 1	< 0.5	< 1	< 0.01	< 0.1	< 0.5	< 0.1	< 0.1	< 0.1	< 10	< 0.05	< 0.05	< 0.1	< 0.05	< 0.02

Analyte Symbol	Se	Zn	Ga	As	Rb	Y	Zr	Nb	Mo	In	Sn	Sb	Te	Ba	La	Ce	Pr	Nd	Sm	Gd	Tb	Dy	Cu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.2	0.1	0.1	0.2	0.1	1	0.1	0.05	0.1	1	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas	17.5	726	4.7	382	2.7	20.9	40	0.7	20.1	0.6	21	20.1	6.6	1180	6.3	13.6		8.8	1.7	3.2	0.6	3.4	1050
GXR-1 Cert	16.6	760	13.8	427	14.0	32.0	38.0	0.800	18.0	0.770	54.0	122	13.0	750	7.50	17.0		18.0	2.70	4.20	0.830	4.30	1110
DH-1a Meas																							
DH-1a Cert																							
GXR-4 Meas	6.1	66.1	12.3	91.9	104	8.3	42	9.5	325	0.2	6	3.7	0.7	139	44.6	91.6		41.6	3.7	3.3	0.4	2.0	5660
GXR-4 Cert	5.60	73.0	20.0	98.0	160	14.0	186	10.0	310	0.270	5.60	4.80	0.970	1640	64.5	102		45.0	6.60	5.25	0.360	2.60	6520
SDC-1 Meas		99.8	13.2	< 0.1	85.4		29	< 0.1			< 1	< 0.1		624	33.0	74.9		42.1	4.9	5.3	0.8	4.8	29.7
SDC-1 Cert		103.00	21.00	0.220	127.00		290.00	21.00			3.00	0.54		630	42.00	93.00		40.00	8.20	7.00	1.20	6.70	30.000
GXR-6 Meas	0.6	121	18.2	198	52.4	7.7	64	0.2	0.23	< 0.1	< 1	0.1	< 0.1	1370	9.7	28.9		12.4	1.5	1.8	0.3	1.7	66.2
GXR-6 Cert	0.940	118	35.0	330	90.0	14.0	110	7.50	2.40	0.260	1.70	3.60	0.0180	1300	13.9	36.0		13.0	2.67	2.97	0.415	2.80	66.0
DNC-1a Meas		72.8	10.3		2.8	11.2	44	1.7				0.6		106	3.2			5.3					100
DNC-1a Cert		70.0	15		5	18.0	38.0	3				0.96		118	3.6			5.20					100.00
SBC-1 Meas		190	16.1	22.7	102	20.5	133	9.9	4.69		3	0.9		672	41.3	94.9	8.3	51.5	6.0	6.4	0.9	5.1	39.0
SBC-1 Cert		186.0	27.0	25.7	147	36.5	134.0	15.3	2.40		3.3	1.01		788.0	52.5	108.0	12.6	49.2	9.6	8.5	1.20	7.10	31.0000
SdAR-M2 (U.S.G.S.) Meas		727	8.4		101	15.4	127	2.3	11.3					968	35.9	84.2	6.9	39.2	4.3	4.1	0.6	3.6	229
SdAR-M2 (U.S.G.S.) Cert		760	17.6		149	32.7	259	26.2	13.3					990	46.6	96.8	11.0	39.4	7.18	6.28	0.97	5.88	236.0000
AMA 1 Orig	0.8	76.4	16.0	24.4	3.5	7.9	143	5.9	27.1	0.2	2	0.2	< 0.1	133	16.2	38.0	3.6	22.7	2.6	2.6	0.3	1.8	7360
AMA 1 Dup	0.9	77.7	16.5	23.3	3.5	8.1	152	6.0	27.3	0.2	2	0.2	< 0.1	139	16.7	39.5	3.8	23.5	2.7	2.6	0.3	1.9	7510
AMA 512 Orig	0.4	58.0	10.8	< 0.1	35.3	14.3	184	< 0.1	0.09	< 0.1	< 1	< 0.1	< 0.1	906	15.5	39.3	3.2	19.9	2.5	3.0	0.5	3.0	6.3
AMA 512 Dup	0.1	58.5	10.8	< 0.1	35.2	14.4	144	< 0.1	0.07	< 0.1	< 1	< 0.1	< 0.1	908	16.9	43.0	3.6	21.9	2.7	3.1	0.5	3.1	5.3
AMA 514 Orig	0.2	29.3	9.8	< 0.1	25.0	10.0	61	< 0.1	0.06	< 0.1	< 1	< 0.1	< 0.1	711	9.8	32.5	2.2	13.2	1.7	2.1	0.3	2.3	12.5
AMA 514 Dup	0.1	30.1	10.2	< 0.1	25.7	10.2	61	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	723	11.2	35.2	2.4	14.3	1.9	2.1	0.3	2.3	5.7
Method Blank	< 0.1	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 1	< 0.1	< 0.05	< 0.1	< 1	< 0.1	< 0.1	< 1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2

Analyte Symbol	Ge	Tm	Yb	Lu	Ta	Sr	W	Re	Ti	Pb	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.001	0.05	0.5	0.1	0.1
Method Code	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS	TD-MS
GXR-1 Meas		0.2	2.2	0.2	< 0.1	237	119		0.28	618	2.6	26.8
GXR-1 Cert		0.430	1.90	0.280	0.175	275	164		0.390	730	2.44	34.9
DH-1a Meas											> 500	2120
DH-1a Cert											910	2629
GXR-4 Meas		0.1	1.0	0.1	0.5	135	32.2		2.47	44.1	18.3	5.4
GXR-4 Cert		0.210	1.60	0.170	0.790	221	30.8		3.20	52.0	22.5	6.20
SDC-1 Meas		0.3	3.5		< 0.1	115	< 0.1		0.50	22.9	11.4	2.5
SDC-1 Cert		0.65	4.00		1.20	180.00	0.80		0.70	25.00	12.00	3.10
GXR-6 Meas			1.6	0.2	< 0.1	28.4	0.1		1.62	86.7	4.7	1.2
GXR-6 Cert			2.40	0.330	0.485	35.0	1.90		2.20	101	5.30	1.54
DNC-1a Meas			2.1			105				6.4		
DNC-1a Cert			2.0			144.0				6.3		
SBC-1 Meas		0.3	3.6	0.4	0.5	122	1.4		0.72	33.5	15.3	5.2
SBC-1 Cert		0.56	3.64	0.54	1.10	178.0	1.60		0.89	35.0	15.8	5.76
SdAR-M2 (U.S.G.S.) Meas		0.3	2.7	0.3	< 0.1	91.5	0.1			692	13.4	2.1
SdAR-M2 (U.S.G.S.) Cert		0.54	3.63	0.54	1.8	144	2.8			808	14.2	2.53
AMA 1 Orig	< 0.1	0.2	1.8	0.3	0.2	87.5	2.8	0.200	0.06	6.9	3.1	1.1
AMA 1 Dup	< 0.1	0.2	1.9	0.2	0.2	87.8	2.6	0.300	0.06	7.0	3.1	1.1
AMA 512 Orig	< 0.1	0.2	2.9	0.3	< 0.1	213	< 0.1	< 0.001	0.25	18.2	4.5	1.5
AMA 512 Dup	< 0.1	0.3	2.8	0.3	< 0.1	217	< 0.1	< 0.001	0.26	18.4	5.4	1.5
AMA 514 Orig	< 0.1	0.2	2.2	0.3	< 0.1	196	< 0.1	< 0.001	0.17	17.1	4.3	1.4
AMA 514 Dup	< 0.1	0.2	2.2	0.3	< 0.1	198	< 0.1	< 0.001	0.17	17.3	4.4	1.5
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 0.001	< 0.05	< 0.5	< 0.1	< 0.1



BUREAU MINERAL LABORATORIES
VERITAS Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

Submitted By: R.A. MacGregor
Receiving Lab: Canada-Vancouver
Received: January 20, 2016
Report Date: January 26, 2016
Page: 1 of 4

CERTIFICATE OF ANALYSIS

VAN16000153.1

CLIENT JOB INFORMATION

Project: None Given
Shipment ID:
P.O. Number
Number of Samples: 81

SAMPLE DISPOSAL

RTRN-PLP Return

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To: MacGregor, R.A.
28 Ford St.
Sault Ste. Marie ON P6A 4N4
CANADA

CC:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
SLBHP	81	Sorting, labeling and boxing samples received as pulps			VAN
MA200	81	4 Acid digestion ICP-MS analysis	0.25	Completed	VAN
DRPLP	81	Warehouse handling / disposition of pulps			VAN

ADDITIONAL COMMENTS



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Bureau Veritas assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.
*** asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



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Canada

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Report Date: January 26, 2016

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Part: 1 of 3

CERTIFICATE OF ANALYSIS

VAN16000153.1

		Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001	0.1
IMA 1797	Pulp		3.3	2343.4	162.3	2411	5.2	25.0	18.1	655	6.25	3	0.2	0.6	8	6.1	0.3	0.9	25	0.15	0.017	3.2
IMA 1798	Pulp		0.4	153.1	10.9	130	0.1	132.5	47.1	1413	7.87	3	<0.1	0.2	144	0.3	0.4	<0.1	236	7.04	0.022	2.4
IMA 1799	Pulp		1.4	44.6	196.1	323	0.9	48.1	24.1	794	4.58	11	0.5	2.2	218	0.6	0.2	0.5	82	2.59	0.076	13.6
IMA 1800	Pulp		0.4	26.9	5.3	70	0.1	121.3	43.3	1226	5.12	<1	<0.1	0.2	160	<0.1	0.2	<0.1	133	4.99	0.016	1.6
IMA 1801	Pulp		0.4	10.2	12.2	49	<0.1	15.3	6.1	308	1.50	1	0.8	2.1	508	0.1	<0.1	<0.1	33	1.33	0.036	7.7
IMA 1802	Pulp		0.4	113.6	2.5	41	<0.1	30.2	8.8	759	2.70	2	0.7	2.3	83	0.1	<0.1	<0.1	70	0.67	0.057	9.4
IMA 1803	Pulp		0.5	12.9	11.1	70	<0.1	17.5	7.3	306	1.51	2	1.2	2.2	373	<0.1	<0.1	<0.1	35	0.98	0.034	6.8
IMA 1804	Pulp		5.0	85.2	347.3	380	0.4	47.8	71.2	1714	8.13	13	1.0	1.8	137	1.6	0.4	<0.1	53	1.12	0.043	26.2
IMA 1805	Pulp		0.7	7.5	43.4	91	<0.1	30.2	8.3	840	2.22	1	0.4	1.7	171	0.2	<0.1	<0.1	57	1.30	0.035	9.9
IMA 1806	Pulp		2.8	204.3	4.2	67	0.2	35.9	40.5	1483	8.85	2	0.2	0.8	156	<0.1	0.2	0.3	278	5.82	0.051	6.3
IMA 1807	Pulp		4.6	60.0	3.6	69	0.1	37.5	49.6	1880	10.73	2	0.2	0.8	140	<0.1	0.1	0.4	471	5.24	0.065	6.7
IMA 1808	Pulp		0.3	74.9	1.7	94	<0.1	172.5	54.7	1667	8.40	2	<0.1	0.3	142	<0.1	0.1	<0.1	285	5.72	0.028	2.9
IMA 1809	Pulp		1.5	115.7	7.8	94	0.1	23.6	44.8	1697	10.65	<1	0.3	1.1	128	<0.1	0.3	1.1	382	6.06	0.080	12.1
IMA 1810	Pulp		1.1	89.8	2.7	60	<0.1	74.3	37.6	1162	6.02	2	<0.1	0.3	140	0.1	0.1	0.2	185	7.53	0.021	3.5
IMA 1811	Pulp		1.0	25.9	6.3	41	<0.1	107.2	37.2	1153	4.41	<1	<0.1	0.1	176	<0.1	<0.1	<0.1	117	4.51	0.011	1.6
IMA 1812	Pulp		1.3	3.3	7.0	26	<0.1	30.6	14.3	768	3.51	<1	0.6	2.1	175	<0.1	<0.1	<0.1	65	2.55	0.039	9.3
IMA 1813	Pulp		0.2	53.7	13.1	54	<0.1	69.7	35.7	846	5.62	2	<0.1	0.3	75	<0.1	0.3	0.1	169	5.26	0.019	4.2
IMA 1814	Pulp		0.4	59.7	9.7	81	0.2	115.3	33.3	1313	5.42	2	0.7	3.0	182	0.2	0.2	<0.1	155	4.82	0.046	14.1
IMA 1815	Pulp		0.8	275.8	4.5	413	0.3	34.5	19.8	5196	27.29	2	<0.1	0.2	11	0.4	0.4	0.5	9	0.83	0.053	1.3
IMA 1816	Pulp		4.8	2656.0	5233.2	>10000	14.7	131.2	146.8	318	5.65	133	0.2	0.3	3	48.5	1.4	0.6	19	0.12	0.023	1.5
IMA 1817	Pulp		1.3	9.3	19.7	69	0.1	12.1	7.6	647	3.45	1	1.4	5.7	318	0.3	0.1	<0.1	64	1.68	0.093	21.7



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Project:

None Given

Report Date:

January 26, 2016

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Part:

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		Method	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	
		Analyte	Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S	Rb	Hf
		Unit	ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
		MDL	1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1	0.1
IMA 1797	Pulp		175	0.59	150	0.041	1.57	0.098	0.31	0.5	31.3	6	7.1	2.8	0.8	<0.1	<1	4	13.3	1.1	12.3	0.8
IMA 1798	Pulp		284	4.63	47	0.475	7.80	1.298	0.20	0.2	28.8	7	0.6	16.1	1.8	0.1	<1	36	14.8	<0.1	8.1	1.0
IMA 1799	Pulp		98	1.42	488	0.451	7.68	3.065	1.48	0.2	142.5	32	0.5	14.9	6.5	0.4	<1	10	37.2	<0.1	52.8	3.7
IMA 1800	Pulp		493	5.99	547	0.093	7.44	0.891	2.41	<0.1	16.7	4	0.2	10.4	0.4	<0.1	<1	25	43.3	<0.1	78.2	0.5
IMA 1801	Pulp		95	0.69	896	0.150	7.22	3.542	2.36	0.2	82.9	18	0.9	4.2	2.3	0.1	2	3	12.4	<0.1	69.9	2.3
IMA 1802	Pulp		74	1.13	840	0.326	8.61	3.986	4.42	0.6	127.0	23	1.3	10.0	5.0	0.4	2	8	17.5	<0.1	143.1	3.1
IMA 1803	Pulp		109	0.71	967	0.158	7.22	3.751	2.50	0.7	88.7	16	1.0	4.2	2.4	0.1	2	4	21.1	<0.1	58.8	2.6
IMA 1804	Pulp		73	1.61	308	0.213	7.46	2.589	1.02	0.2	113.3	45	0.6	11.5	3.8	0.3	<1	6	40.0	0.1	40.1	2.7
IMA 1805	Pulp		92	0.97	612	0.230	7.18	3.315	1.76	0.3	106.9	22	0.4	9.4	3.7	0.2	<1	6	15.3	<0.1	69.6	2.6
IMA 1806	Pulp		61	2.63	93	0.674	7.16	1.449	0.55	0.8	68.5	19	0.6	50.2	5.8	0.3	<1	39	18.8	0.6	29.7	1.9
IMA 1807	Pulp		49	2.89	144	0.952	7.49	1.788	0.76	0.4	91.5	19	0.8	41.5	7.0	0.4	<1	49	22.6	0.3	36.6	2.6
IMA 1808	Pulp		282	5.52	84	0.478	8.75	1.875	0.30	0.2	28.4	8	0.6	20.9	1.8	0.1	<1	45	39.1	<0.1	9.4	1.2
IMA 1809	Pulp		65	1.93	69	0.935	6.97	1.221	0.41	0.9	106.1	31	1.0	60.1	8.5	0.5	<1	43	10.2	0.5	14.2	2.8
IMA 1810	Pulp		233	4.09	84	0.315	8.62	1.772	0.61	0.3	23.4	8	0.6	15.8	1.8	0.1	<1	38	17.5	<0.1	32.8	0.7
IMA 1811	Pulp		538	5.49	486	0.167	9.38	1.878	2.07	0.1	15.9	4	0.3	8.6	0.9	<0.1	<1	23	62.7	<0.1	58.5	0.5
IMA 1812	Pulp		79	1.58	415	0.257	8.29	1.403	2.42	0.2	104.9	21	0.5	7.3	3.0	0.3	<1	8	50.7	<0.1	91.5	2.9
IMA 1813	Pulp		182	4.19	67	0.206	8.23	1.286	1.14	0.3	21.2	10	0.5	11.4	1.6	<0.1	<1	34	81.9	0.1	42.4	0.6
IMA 1814	Pulp		224	4.41	354	0.320	8.35	3.852	1.07	0.4	65.4	31	0.7	13.1	2.6	0.2	<1	27	30.0	<0.1	41.9	1.7
IMA 1815	Pulp		59	2.78	7	0.014	0.38	0.056	0.10	0.6	5.1	3	3.4	7.9	0.4	<0.1	1	<1	0.6	2.1	5.4	0.1
IMA 1816	Pulp		211	0.60	7	0.021	0.75	0.018	0.03	0.6	10.5	4	4.6	4.8	0.5	<0.1	1	4	12.8	4.7	1.2	0.2
IMA 1817	Pulp		41	0.69	820	0.395	6.73	1.926	2.09	0.3	193.2	69	1.5	24.7	9.6	0.5	1	10	11.1	<0.1	49.7	5.5



BUREAU MINERAL LABORATORIES
VERITAS Canada

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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

Project: None Given
Report Date: January 26, 2016

Page: 4 of 4

Part: 3 of 3

CERTIFICATE OF ANALYSIS

VAN16000153.1

Method	Analyte	Unit	MA200	MA200	MA200	MA200	MA200
			In	Re	Se	Te	Tl
			ppm	ppm	ppm	ppm	ppm
			MDL	MDL	MDL	MDL	MDL
			0.05	0.005	1	0.5	0.5
IMA 1797	Pulp		0.75	<0.005	6	1.9	0.6
IMA 1798	Pulp		0.07	<0.005	<1	<0.5	<0.5
IMA 1799	Pulp		<0.05	<0.005	<1	<0.5	<0.5
IMA 1800	Pulp		<0.05	<0.005	<1	0.7	0.7
IMA 1801	Pulp		<0.05	<0.005	<1	<0.5	<0.5
IMA 1802	Pulp		<0.05	<0.005	<1	<0.5	1.0
IMA 1803	Pulp		<0.05	<0.005	<1	<0.5	<0.5
IMA 1804	Pulp		<0.05	<0.005	<1	<0.5	<0.5
IMA 1805	Pulp		<0.05	<0.005	<1	<0.5	<0.5
IMA 1806	Pulp		0.07	0.006	1	<0.5	<0.5
IMA 1807	Pulp		0.09	<0.005	<1	<0.5	<0.5
IMA 1808	Pulp		<0.05	<0.005	<1	0.6	<0.5
IMA 1809	Pulp		0.16	<0.005	<1	<0.5	<0.5
IMA 1810	Pulp		<0.05	<0.005	<1	<0.5	<0.5
IMA 1811	Pulp		<0.05	<0.005	<1	0.5	<0.5
IMA 1812	Pulp		0.05	<0.005	<1	<0.5	0.6
IMA 1813	Pulp		<0.05	<0.005	<1	<0.5	<0.5
IMA 1814	Pulp		<0.05	<0.005	<1	0.6	<0.5
IMA 1815	Pulp		0.28	<0.005	2	0.8	<0.5
IMA 1816	Pulp		0.65	<0.005	14	3.9	<0.5
IMA 1817	Pulp		0.08	<0.005	<1	<0.5	<0.5



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9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client:

MacGregor, R.A.

28 Ford St.

Sault Ste. Marie ON P6A 4N4 CANADA

Project:

None Given

Report Date:

January 26, 2016

Page:

1 of 1

Part:

1 of 3

QUALITY CONTROL REPORT

VAN16000153.1

Method Analyte Unit MDL		MA200																			
		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		0.1	0.1	0.1	1	0.1	0.1	0.2	1	0.01	1	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.001
Pulp Duplicates																					
IMA 1770	Pulp	1.1	7.8	19.7	59	<0.1	5.4	3.5	424	2.35	3	1.4	5.7	244	0.1	<0.1	<0.1	14	0.88	0.030	41.3
REP IMA 1770	QC	1.0	7.6	19.4	56	0.1	5.7	3.7	432	2.43	3	1.2	5.6	225	0.2	<0.1	<0.1	14	0.92	0.028	40.4
IMA 1806	Pulp	2.8	204.3	4.2	67	0.2	35.9	40.5	1483	8.85	2	0.2	0.8	156	<0.1	0.2	0.3	278	5.82	0.051	6.3
REP IMA 1806	QC	3.1	205.5	4.4	68	0.2	37.7	40.1	1486	8.89	1	0.2	0.8	160	0.1	0.3	0.3	279	5.92	0.053	6.7
IMA 1817	Pulp	1.3	9.3	19.7	69	0.1	12.1	7.6	647	3.45	1	1.4	5.7	318	0.3	0.1	<0.1	64	1.68	0.093	21.7
REP IMA 1817	QC	1.3	8.9	18.1	69	0.1	11.6	8.1	604	3.31	2	1.4	5.2	303	0.2	<0.1	<0.1	66	1.58	0.089	20.4
Reference Materials																					
STD OREAS25A-4A	Standard	2.4	33.9	26.3	46	0.2	49.8	8.6	512	6.77	10	2.9	15.9	48	0.1	0.7	0.4	164	0.27	0.051	23.1
STD OREAS25A-4A	Standard	2.9	40.8	28.2	49	<0.1	52.6	8.7	536	7.24	12	3.1	16.6	52	0.2	0.7	0.4	180	0.31	0.055	22.7
STD OREAS25A-4A	Standard	2.3	36.7	25.4	45	<0.1	48.8	7.5	526	6.66	9	2.8	15.9	49	<0.1	0.6	0.4	163	0.30	0.050	23.3
STD OREAS45E	Standard	2.2	820.1	17.9	43	0.4	491.4	59.5	588	24.98	17	2.4	12.6	17	<0.1	1.0	0.3	332	0.06	0.034	10.9
STD OREAS45E	Standard	2.6	832.7	21.0	48	0.3	509.1	63.7	606	26.33	17	2.7	13.7	17	<0.1	1.2	0.4	349	0.08	0.034	10.6
STD OREAS45E	Standard	2.7	821.1	19.8	50	0.3	501.5	61.7	604	25.98	16	2.6	13.9	18	0.1	1.0	0.3	343	0.06	0.035	11.5
STD OREAS25A-4A		2.55	33.9	26.6	44.4		45.8	8.2	500	6.7	10.7	2.94	15.8	48.5		0.67	0.35	163	0.283	0.0495	21.8
STD OREAS45E Expected		2.4	780	18.2	46.7	0.311	454	57	570	24.12	16.3	2.41	12.9	15.9	0.06	1	0.28	322	0.065	0.034	11
BLK	Blank	<0.1	0.3	0.1	<1	<0.1	<0.1	<0.2	4	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001	<0.1
BLK	Blank	<0.1	0.1	<0.1	<1	<0.1	0.1	<0.2	1	<0.01	<1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001	<0.1
BLK	Blank	<0.1	0.5	0.1	<1	<0.1	<0.1	<0.2	2	<0.01	1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.001	<0.1



BUREAU VERITAS MINERAL LABORATORIES
Canada

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Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

Project: None Given
Report Date: January 26, 2016

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Page: 1 of 1

Part: 2 of 3

QUALITY CONTROL REPORT

VAN16000153.1

	Method	Analyte	Unit	MDL	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200	MA200			
					Cr	Mg	Ba	Ti	Al	Na	K	W	Zr	Ce	Sn	Y	Nb	Ta	Be	Sc	Li	S	Rb	Hf
					ppm	%	ppm	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm
					1	0.01	1	0.001	0.01	0.001	0.01	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.1
Pulp Duplicates																								
IMA 1770	Pulp		146	0.39	2809	0.259	7.66	3.668	3.87	0.3	217.2	83	1.2	23.6	11.3	0.4	2	11	13.7	<0.1	95.3	4.6		
REP IMA 1770	QC		142	0.36	2788	0.254	7.84	3.674	3.54	0.2	223.4	81	1.3	22.8	11.6	0.4	2	11	13.6	<0.1	89.8	4.7		
IMA 1806	Pulp		61	2.63	93	0.674	7.16	1.449	0.55	0.8	68.5	19	0.6	50.2	5.8	0.3	<1	39	18.8	0.6	29.7	1.9		
REP IMA 1806	QC		70	2.65	102	0.659	7.24	1.482	0.58	0.8	73.3	19	0.7	51.7	6.3	0.4	<1	39	19.8	0.6	32.2	2.3		
IMA 1817	Pulp		41	0.69	820	0.395	6.73	1.926	2.09	0.3	193.2	69	1.5	24.7	9.6	0.5	1	10	11.1	<0.1	49.7	5.5		
REP IMA 1817	QC		40	0.66	805	0.394	6.24	1.841	2.01	0.3	205.4	62	1.8	23.6	9.7	0.5	2	9	9.7	<0.1	45.5	5.7		
Reference Materials																								
STD OREAS25A-4A	Standard		123	0.34	151	0.982	9.17	0.142	0.51	2.0	153.1	51	4.1	10.9	19.6	1.4	<1	14	40.0	<0.1	60.7	4.2		
STD OREAS25A-4A	Standard		132	0.35	162	1.080	9.69	0.159	0.56	2.2	175.6	53	4.4	11.7	23.4	1.6	1	14	40.9	<0.1	63.1	4.7		
STD OREAS25A-4A	Standard		126	0.34	148	0.928	9.06	0.133	0.53	1.8	146.3	52	3.8	10.4	18.9	1.3	<1	13	36.7	<0.1	59.7	3.9		
STD OREAS45E	Standard		1040	0.16	252	0.535	6.96	0.056	0.34	0.9	93.7	24	1.4	8.2	6.1	0.5	<1	99	6.9	<0.1	21.1	2.8		
STD OREAS45E	Standard		1065	0.17	279	0.580	7.28	0.062	0.37	1.1	107.2	24	1.6	8.3	6.6	0.6	<1	100	7.8	<0.1	22.7	3.5		
STD OREAS45E	Standard		1056	0.17	253	0.551	7.23	0.054	0.37	1.1	97.9	25	1.3	8.3	6.4	0.5	<1	101	7.0	<0.1	21.6	3.3		
STD OREAS25A-4A			120	0.327	151	0.977	8.87	0.134	0.5	2	155	48.9	4.2	10.5	20.9	1.5	0.93	13.7	36.7	0.047	61	4.28		
STD OREAS45E Expected			979	0.156	252	0.559	6.78	0.059	0.324	1.07	97	23.5	1.32	8.28	6.8	0.54		93	6.58	0.046	21.2	3.11		
BLK	Blank		3	<0.01	<1	<0.001	<0.01	0.003	<0.01	<0.1	0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	0.2	<0.1	<0.1	<0.1		
BLK	Blank		1	<0.01	<1	<0.001	<0.01	0.003	<0.01	<0.1	0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1	<0.1	<0.1		
BLK	Blank		2	<0.01	<1	<0.001	<0.01	<0.001	<0.01	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<1	<1	<0.1	<0.1	<0.1	<0.1		



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Bureau Veritas Commodities Canada Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

PHONE (604) 253-3158

Client: **MacGregor, R.A.**
28 Ford St.
Sault Ste. Marie ON P6A 4N4 CANADA

Project: None Given
Report Date: January 26, 2016

Page: 1 of 1

Part: 3 of 3

QUALITY CONTROL REPORT

VAN16000153.1

Method		MA200	MA200	MA200	MA200	MA200
Analyte		In	Re	Se	Te	Tl
Unit		ppm	ppm	ppm	ppm	ppm
MDL		0.05	0.005	1	0.5	0.5
Pulp Duplicates						
IMA 1770	Pulp	0.07	<0.005	<1	<0.5	0.5
REP IMA 1770	QC	<0.05	<0.005	<1	<0.5	0.6
IMA 1806	Pulp	0.07	0.006	1	<0.5	<0.5
REP IMA 1806	QC	0.07	<0.005	1	<0.5	<0.5
IMA 1817	Pulp	0.08	<0.005	<1	<0.5	<0.5
REP IMA 1817	QC	0.07	<0.005	<1	<0.5	<0.5
Reference Materials						
STD OREAS25A-4A	Standard	0.11	<0.005	2	<0.5	<0.5
STD OREAS25A-4A	Standard	0.08	<0.005	2	<0.5	<0.5
STD OREAS25A-4A	Standard	0.08	<0.005	2	<0.5	<0.5
STD OREAS45E	Standard	0.11	<0.005	3	<0.5	<0.5
STD OREAS45E	Standard	0.07	<0.005	3	<0.5	<0.5
STD OREAS45E	Standard	0.08	<0.005	3	<0.5	<0.5
STD OREAS25A-4A		0.09		2.5		0.35
STD OREAS45E Expected		0.099		2.97	0.1	0.09
BLK	Blank	<0.05	<0.005	<1	<0.5	<0.5
BLK	Blank	<0.05	<0.005	<1	<0.5	<0.5
BLK	Blank	<0.05	<0.005	<1	<0.5	<0.5

Appendix III

Cost Receipts

BILL TO:
R.A. MacGregor, P.Eng.
28 Ford Street
Sault Ste. Marie
ON, P6A 4N4
Sault Ste. Marie, ON P4A 4N4

Invoice # 11

INVOICED BY:
Jim Laidlaw
Geological Technician
307 Riggs Road, R3
Madoc ON, K0K 2K0
(613)-473-5065

Description

CARDIFF CLAIMS SOIL SAMPLING - FIELD WORK

Collect 43 B-horizon soil samples.

<u>Sample Numbers</u>	<u>Number of Samples</u>	<u>Claim</u>	<u>Date</u>
13601 to 13615	15	1500895	06 Sep 2015
13616 to 13619	4	1500896	06 Sep 2015
13620 to 13634	15	1500897	10 Sep 2015
13635 to 13641	7	1500222	30 Oct 2015
13642 to 13643	2	1500553	30 Oct 2015

AMOUNTS

Jim Laidlaw		
6 and 10 Sep and 30 Oct, 2015	24 HOURS X \$35/HOUR	\$840.00
	13% HST	\$109.20
	SUB TOTAL	\$949.20
Rebecca Laidlaw		
6 and 10 Sep and 30 Oct, 2015	24 Hours X \$20.00/Hour	\$480.00
	SUB TOTAL	\$1,429.20

CARDIFF CLAIMS SOIL SAMPLING - OFFICE WORK

GPS files and field grid plan maps, field data map reduction and
Maps and preliminary report rendering.

Jim Laidlaw		
August 25 and 27, 2015	GPS files and field grid plan maps: 14 Hours X \$20.00/Hour	\$280.00
07 Sep, 2015, 27 Jan and 01 Feb, 2016	Field data map reduction: 10 Hours X \$20.00/Hour	\$200.00
02, 05, 06, 08, 09 and 24 Feb, 2016	Maps and preliminary report rendering: 33 Hours X \$20.00/Hour	\$660.00
	SUB TOTAL	\$1,140.00
	13% HST	\$148.20
	SUB TOTAL	\$1,288.20

GRAND TOTAL	\$2,717.40
--------------------	-------------------

Jim Laidlaw
Madoc ON

Jim Laidlaw
23 March
2016

Billing Date: 23 March 2016
HST No. 864087739

paid 24/03/16
check 1364



Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St.
Vancouver, BC Canada V6P 6E5
Phone 604 253 3158 Fax 604 253 1716
GST # 843013921 RT
QST # 1219972641

Bill To: MacGregor, R.A.
28 Ford St.
Sault Ste. Marie, ON P6A 4N4
CANADA

Invoice Date: January 26, 2016
Invoice Number: **VANI246291**
Submitted by: R.A. MacGregor
Email: macgregor.robert@shaw.ca
Job Number: VAN16000154
Order Number:
Project Code: None Given
Shipment ID:
Quote Number:

Item	Package	Description	Sample No.	Unit Price	Amount
1	SLBHP	Sort, label and box pulp samples	50	\$0.60	\$30.00
2	MA200	0.25g 4 Acid Digestion ICP-MS	50	\$18.75	\$937.50
3	DRPLP	Dispose or return handling of pulps	50	\$0.10	\$5.00
			Net Total		\$972.50
			Ontario HST		\$126.43
			Grand Total	CAD	\$1,098.93

Invoice Stated In Canadian Dollars

Payment Terms:

Due upon receipt of invoice. Please pay the last amount shown on the invoice.

For **cheque payments**, please remit payable to:
Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St.
Vancouver BC, V6P 6E5

Please specify invoice number on cheque remittance.

For **electronic payments**, please contact AccountReivable.VAN@acmelab.com for banking details.

For any enquiries please contact us at AccountReivable.VAN@acmelab.com

Recd. 2/16
Sked 1357

Quality Analysis ...



Innovative Technologies

This is your final copy. If you require an original to be mailed by post please advise, otherwise this email will be deemed sufficient.

Invoice No.: A16-02228
Purchase Order:
Invoice Date: 11-Apr-16
Date submitted: 17-Mar-16
Your Reference:
GST #: R121979355

R.A. McGregor
28 Ford Street
Sault Ste. Marie Ontario P6A 4N4
Canada

ATTN: R.A. MacGregor

INVOICE

No. samples	Description	Unit Price	Total
71	UT-4	\$ 25.00	\$ 1,775.00
		Subtotal: :	\$ 1,775.00
		HST-13% :	\$ 230.75
		AMOUNT DUE: (CAD) :	\$ 2,005.75

Speed Bank Transfer
April 19/16

Net 30 days. 1 1/2 % per month charged on overdue accounts.

Bank Transfers can be made to:
ACTIVATION LABORATORIES LTD at
ROYAL BANK OF CANADA
59 WILSON STREET WEST
ANCASTER, ONTARIO CANADA L9G 1N1
TRANSIT #: 00102 003 ACCOUNT #: 100 154 4
SWIFT CODE#: ROYCCAT2

Please reference the invoice number when making a payment by Bank/Wire transfer. Intermediary Bank Fees are the responsibility of the client.
Thank you!



ACTIVATION LABORATORIES LTD.

41 Bittern Street, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or
+1.888.228.5227 FAX +1.905.648.9613

E-MAIL ancaster@actlabs.com ACTLABS GROUP WEBSITE <http://www.actlabs.com>



Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St.
Vancouver, BC Canada V6P 6E5
Phone 604 253 3158 Fax 604 253 1716
GST # 843013921 RT
QST # 1219972641

Bill To: MacGregor, R.A.
28 Ford St.
Sault Ste. Marie, ON P6A 4N4
CANADA

Invoice Date: January 26, 2016
Invoice Number: **VANI246283**
Submitted by: R.A. MacGregor
Email: macgregor.robert@shaw.ca
Job Number: VAN16000153
Order Number:
Project Code: None Given
Shipment ID:
Quote Number:

Item	Package	Description	Sample No.	Unit Price	Amount
1	SLBHP	Sort, label and box pulp samples	81	\$0.60	\$48.60
2	MA200	0.25g 4 Acid Digestion ICP-MS	81	\$18.75	\$1,518.75
3	DRPLP	Dispose or return handling of pulps	81	\$0.10	\$8.10
			Net Total		\$1,575.45
			Ontario HST		\$204.81
			Grand Total	CAD	\$1,780.26

Invoice Stated In Canadian Dollars

Payment Terms:

Due upon receipt of invoice. Please pay the last amount shown on the invoice.

For **cheque payments**, please remit payable to:
Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St.
Vancouver BC, V6P 6E5

Please specify invoice number on cheque remittance.

For **electronic payments**, please contact AccountReceivable.VAN@acmelab.com for banking details.

For any enquiries please contact us at AccountReceivable.VAN@acmelab.com

Due 2/16
Shard 1357

Colex Explorations Inc.
28 Ford Street
Sault Ste. Marie, Ont. P6A 4N4
Telephone (705) 949-4250
Fax (705) 949-2427

March 22, 2016

In Account with Skead Holdings Ltd.

Airdry soil samples, screen to -80 mesh, sample, rescreen to -200 mesh
and -80 to + 200 mesh, place in 20 dram plastic vials for storage

43 samples @ \$25 / sample	1075.00
HST 13%	<u>139.75</u>
Total	\$ 1,214.75

paid on Skead
1363

WORK REPORT

Reconnaissance Soil Sampling Survey

Claims 1500222, 1500553, 1500895,
1500896 and 1500897

Cardiff Township (G-3044)

Southern Ontario Mining Division

N.T.S. 31D/16 and 31E/01

INTRODUCTION

Robert A. MacGregor P.Eng., (client number 162287) engaged Jim Laidlaw of Madoc Ontario to conduct a reconnaissance soil sampling survey: on claims 1500895, 1500896 and 1500897 Cardiff Township (G-3044) N.T.S. 31D/16 and; on claims, 1500222 and 1500553 N.T.S. 31E/01, located in the Southern Ontario Mining Division.

CLAIM HOLDER

The claims are held in 100% in the name of Skead Holdings Ltd. (client number 194897).

CLAIMS, DATES WORKED AND PERSONNEL

CLAIM	DATE	PERSONNEL
1500895 and 1500896	6 September 2015	Jim Laidlaw and Rebecca Laidlaw
1500897	10 September 2015	Jim Laidlaw and Rebecca Laidlaw
1500222 and 1500896	30 October 2015	Jim Laidlaw and Rebecca Laidlaw

WORK PERFORMED

This soil sample program used survey control lines and sample stations that were compassed and paced over the target claim areas. An approximate sample weight of 400 grams of B-Horizon soil material was obtained from hand-dug pits using a shovel at the sample stations. The collected samples were placed and sealed in pre-labelled numbered Kraft paper soil bags. The station locations were determined using a Garmin GPSmap76CSx hand-held GPS unit; recording UTM Easting and Northing coordinates (Map Datum NAD 83) for all soil sample or observation points.

Systematic soil sample field notes with the following data-fields were recorded at the sample sites: Sample-Waypoint, UTME, UTMN, Recon Line, Depth in cm, Soil Horizon, Contamination, Slope Aspect, Slope, Colour, Composition, Drainage, Vegetation, Overburden Thickness, Overburden Type, Outcrop Direction, Outcrop Distance in m, NTS, Claim, Remarks, Photos and Date.

A total of 43 samples were collected over a 3 day period; 6 and 10 September 2015 and 30 October 2015 and is summarily tabulated below.

<u>Sample Numbers</u>	<u>Number of Samples</u>	<u>Claim</u>	<u>Date</u>
13601 to 13615	15	1500895	6 September 2015
13616 to 13619	4	1500896	6 September 2015
13620 to 13634	15	1500897	10 September 2015
13635 to 13641	7	1500222	30 October 2015
13642 to 13643	2	1500553	30 October 2015

As well, 8 field observations were recorded; WP001, WP002, WP005, WP011, WP016, WP039, WP050 and WP051 (some with photographs).

All soil sample and field note records are tabulated in Table 1 - Field notes from Reconnaissance Soil Sampling Survey, Claims 1500222, 1500553, 1500895, 1500896 and 1500897 Cardiff Township (G-3044), Southern Ontario Mining Division, N.T.S. 31D/16 and 31E/01, that is appended to this report.

WORK PERFORMED cont.

Figure plots accompanying the report are as follows:

Figure 1A, Sample Numbers 13601 to 13619, Reconnaissance Soil Sampling Survey, Claims 1500895 and 1500896;

Figure 1B, Way Point Locations (WP001, WP002, WP005 WP011, and WP016); and Soil Sampling Stations, Claims 1500895 and 1500896;

Figure 2A, Sample Numbers 13620 to 13634, Reconnaissance Soil Sampling Survey and; Way Point Location (WP039) Claim 1500897;

Figure 3A, Sample Numbers 13635 to 13643, Reconnaissance Soil Sampling Survey and; Way Point Location (WP050 and WP051) Claims 1500222 and 1500553

SAMPLE WAYPOINT	UTME	UTMN	RECON LINE	DEPTH cm	SOIL HORIZON	CONTAMINATION	SLOPE ASPECT	SLOPE	COLOUR	COMPOSITION	DRAINAGE	VEGETATION	OVERBURDEN THICKNESS	OVERBURDEN TYPE	OUTCROP DIRECTION	OUTCROP DISTANCE m	NTS	CLAIM	REMARKS	PHOTOS	DATE
13601	725236	4986279	Line 4	10	B	YES	339°	LEVEL	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500895	Old logging trail. Start L04	*	6 September, 2015
13602	725264	4986186	Line 4	10	B	YES	339°	LEVEL	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500895	Logged area.	*	6 September, 2015
13603	725317	4986118	Line 4	10	B	NO	69°	LEVEL	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500895	Logged and scarified area.	*	6 September, 2015
13604	725354	4986032	Line 4	15	B	YES	249°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HEMLOCK	THIN	TILL	*	NO	31D/16	1500895	Logged and scarified area to the east and swampy low area to the west.	*	6 September, 2015
13605	725362	4985945	Line 4	15	B	NO	69°	MODERATE	BROWN-RED	SAND	GOOD	PINE	THIN	TILL	*	NO	31D/16	1500895	Granite erratics on surface.	*	6 September, 2015
13606	725383	4985859	Line 4	10	B	YES	159°	MODERATE	BROWN-RED	SAND	GOOD	PINE	THIN	TILL	S	20	31D/16	1500895	Reforested area. North of Hwy 121.	*	6 September, 2015
13607	725443	4985778	Line 4	15	B	YES	69°	LEVEL	BROWN	SAND	GOOD	PINE	THIN	TILL	*	NO	31D/16	1500895	Logged and scarified area. Disturbed area from former road construction.	*	6 September, 2015
13608	725452	4985715	Line 4	10	B	YES	159°	STEEP	BROWN	SAND	GOOD	PINE	THIN	TILL	*	NO	31D/16	1500895	Logged and scarified area.	*	6 September, 2015
13609	725518	4985621	Line 4	15	B	NO	159°	LEVEL	BROWN-RED	CLAY SILTY-SANDY	POOR	SPRUCE-GRASS	THICK	CLAY	*	NO	31D/16	1500895	Low area, grass covered, old pond(?).	*	6 September, 2015
13610	725539	4985529	Line 4	10	B	NO	69°	MODERATE	BROWN-BLACK	SAND SILTY-CLAYEY	MODERATE	SPRUCE	THIN	TILL	*	NO	31D/16	1500895	Low area east of swamp, blow down.	*	6 September, 2015
13611	725570	4985446	Line 4	10	B	YES	69°	LEVEL	BROWN-RED	SANDY-SILT	GOOD	SPRUCE	THICK	TILL	*	NO	31D/16	1500895	Man-made road or fence pile(?). End L04.	*	6 September, 2015
13612	725726	4985749	Line 3	10	B	NO	69°	LEVEL	BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500895	Start of L03.	*	6 September, 2015
13613	725634	4985719	Line 3	10	B	YES	159°	MODERATE	BROWN-RED	SAND SILTY-CLAYEY	GOOD	PINE	THIN	TILL	*	NO	31D/16	1500895	Logged and scarified area. Boulder piles.	*	6 September, 2015
13614	725536	4985699	Line 3	10	B	YES	249°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	PINE	THIN	TILL	*	NO	31D/16	1500895	Logged and scarified area.	*	6 September, 2015
13615	725425	4985669	Line 3	10	B	YES	159°	STEEP	BROWN-RED	SANDY-SILT	GOOD	PINE	THIN	TILL	*	NO	31D/16	1500895	Logged and scarified area.	*	6 September, 2015
13616	725337	4985623	Line 3	10	B	YES	69°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	W	50	31D/16	1500896	Logged area and metal wire debris.	*	6 September, 2015
13617	725248	4985607	Line 3	10	B	NO	249°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	W	50	31D/16	1500896	Outcrop area.	*	6 September, 2015
13618	725138	4985555	Line 3	10	B	NO	69°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500896	No comment.	*	6 September, 2015
13619	725074	4985527	Line 3	10	O	NO	249°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500896	End of L03.	*	6 September, 2015
13620	726493	4985608	Line 1	10	B	YES	69°	STEEP	BROWN-BLACK	SANDY-SILT	GOOD	HARDWOODS	NONE	TILL	OUTCROP AREA	0	31D/16	1500897	Sheet-washed surface, boulders on surface, outcrop area. Start L01.	*	10 September, 2015
13621	726529	4985541	Line 1	15	B	NO	55°	STEEP	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500897	No comment.	*	10 September, 2015
13622	726602	4985439	Line 1	15	B	NO	50°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500897	No comment.	*	10 September, 2015
13623	726656	4985349	Line 1	10	B	NO	15°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500897	No comment.	*	10 September, 2015
13624	726702	4985268	Line 1	10	B	NO	230°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500897	End of L01.	*	10 September, 2015
13625	726706	4984746	Line 2	15	B	YES	20°	UNDULATING	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	E	10	31D/16	1500897	Outcrop area. Start L02.	*	10 September, 2015
13626	726678	4984841	Line 2	15	B	NO	20°	UNDULATING	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500897	No comment.	*	10 September, 2015
13627	726623	4984938	Line 2	15	B	NO	40°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500897	No comment.	*	10 September, 2015
13628	726599	4985028	Line 2	15	B	NO	40°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	W	10	31D/16	1500897	No comment.	*	10 September, 2015
13629	726544	4985113	Line 2	15	B	NO	40°	MODERATE	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	W	10	31D/16	1500897	No comment.	*	10 September, 2015
13630	726516	4985203	Line 2	15	B	NO	40°	UNDULATING	BROWN-RED	ORGANIC	GOOD	HARDWOODS	THIN	TILL	W	10	31D/16	1500897	No comment.	*	10 September, 2015
13631	726491	4985303	Line 2	15	B	NO	120°	MODERATE	BROWN-RED	SAND SILTY-CLAYEY	GOOD	HARDWOODS	THIN	TILL	W	10	31D/16	1500897	Edge of creek.	*	10 September, 2015
13632	726459	4985402	Line 2	15	B	NO	160°	UNDULATING	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	W	10	31D/16	1500897	No comment.	*	10 September, 2015
13633	726437	4985481	Line 2	15	B	NO	339°	STEEP	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	W	10	31D/16	1500897	No comment.	*	10 September, 2015
13634	726383	4985584	Line 2	15	B	NO	339°	STEEP	BROWN-RED	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	W	10	31D/16	1500897	Garbage dump located downslope of station. End of L05.	*	10 September, 2015
13635	723283	4989157	Line 5	15	B	NO	300°	MODERATE	BROWN-RED	SANDY-SILT w/ORGANICS	GOOD	SPRUCE	THIN	TILL	*	NO	31E/01	1500222	Start of L05.	*	30 October, 2015
13636	723235	4989264	Line 5	15	B	NO	270°	LEVEL	GRAY	SAND SILTY-CLAYEY	MODERATE	HARDWOODS	THICK	TILL	*	NO	31E/01	1500222	No comment.	*	30 October, 2015
13637	723205	4989355	Line 5	15	B	NO	260°	STEEP	ORANGE-BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31E/01	1500222	Boulder till.	*	30 October, 2015
13638	723190	4989457	Line 5	15	B	NO	260°	STEEP	ORANGE-BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	*	NO	31E/01	1500222	Blowdown and thick bush.	*	30 October, 2015
13639	723175	4989573	Line 5	15	B	NO	260°	STEEP	ORANGE-BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	OUTCROP AREA	10	31E/01	1500222	Blowdown and thick bush. Mafic gneiss.	*	30 October, 2015
13640	723165	4989654	Line 5	20	B	NO	260°	LEVEL	ORANGE-BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	OUTCROP AREA	10	31E/01	1500222	Feldspar pegmatite in mafic gneiss.	*	30 October, 2015
13641	723124	4989748	Line 5	15	B	NO	260°	STEEP	ORANGE-BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	OUTCROP AREA	10	31E/01	1500222	Talus boulders of mafic gneiss.	*	30 October, 2015
13642	723104	4989841	Line 5	15	B	NO	260°	STEEP	ORANGE-BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	OUTCROP AREA	10	31E/01	1500553	Feldspar gneiss.	*	30 October, 2015
13643	723111	4989935	Line 5	15	B	NO	260°	STEEP	ORANGE-BROWN	SANDY-SILT	GOOD	HARDWOODS	THIN	TILL	OUTCROP AREA	10	31E/01	1500553	Feldspar gneiss.	*	30 October, 2015
WP002	725267	4986143	Line 4	*	*	NO	0	0	0	0	0	0	0	0	*	*	31D/16	1500895	2 DDH collars (casings, no labels), azm 150° incl -45°, old access trail to the S; no ID tags observed; twinned hole.	20150906_113232_wp002	6 September, 2015
WP005	725298	4986150	Line 4	*	B	YES	69°	LEVEL	*	*	GOOD	HARDWOODS	THIN	TILL	*	NO	31D/16	1500895	1 DDH collar (BQ casing, no label), azm 150° incl -45°, about 35 m east of WP002	No photo.	6 September, 2015

Table 1 - Field notes from Reconnaissance Soil Sampling Survey, Claims 1500222, 1500553, 1500895, 1500896 and 1500897 Carleton Township (G-3044), Southern Ontario Mining Division, N.T.S. 31D/16 and 31E/01

SAMPLE WAYPOINT	UTME	UTMN	RECON LINE	DEPTH cm	SOIL HORIZON	CONTAMINATION	SLOPE ASPECT	SLOPE	COLOUR	COMPOSITION	DRAINAGE	VEGETATION	OVERBURDEN THICKNESS	OVERBURDEN TYPE	OUTCROP DIRECTION	OUTCROP DISTANCE m	NTS	CLAIM	REMARKS	PHOTOS	DATE
WP011	725466	4985718	Line 4	*	*	YES	159°	MODERATE	*	*	GOOD	HARDWOODS	THIN	TILL	OUTCROP AREA	OC	31D/16	1500895	Shaft-like pit, about 3 m square, 3 m deep and spoil pile on west side of opening. Quartz-feldspar pegmatite.	20150906_134641 and 20150906_134648_wp011	6 September, 2015
WP016	725700	4985512	Line 4	*	B	YES	159°	MODERATE	*	*	GOOD	PINE	THIN	TILL	*	NO	31D/16	1500895	Past grow-op location about 10 to 15 black plastic wrapped grow medium. About 2 to 3 years old. Site has been opened up with a chainsaw, an area 4m x 15m in an alder-spruce-tamarack-grass sedge bush, with a south facing exposure.	20150906_152100_wp016	6 September, 2015
WP001	725337	4985830	Line 4	*	*	0	0	0	*	0	*	0	0	0	*	*	31D/16	1500895	Safe parking area on north side of Hwy 121; compass declination 12°W; UTM grid variance, 002°E.	No photo.	6 September, 2015
WP039	726396	4985558	Line 2	*	B	YES	0	LEVEL	*	*	GOOD	HARDWOODS	THICK	TILL	*	NO	31D/16	1500897	1 DDH collar (NQ casing, no label), azm 160° incl- 45°; garbage debris. Photos.	20150910_143349wp039	10 September, 2015
WP050	722969	4989763	*	*	*	*	*	*	*	*	*	*	*	*	*	*	31E/01	1500222	Skiddoo trail, wide cut trail.	No photo.	30 October, 2015
WP051	723155	4989039	*	*	*	*	*	*	*	*	*	*	*	*	*	*	31E/01	1500222	Bridge over Cope River.	20151030_141705wp051	30 October, 2015