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Ontario

Lithogeochemistry Mataris Lake Showing Area

Connaught Township
NW. Shining Tree Area
District of Sudbury, NE Ontario

NTS 41P/11

A.W. Beecham
8th Dec. 2015

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TABLES

Appendix 1 Analyses reports

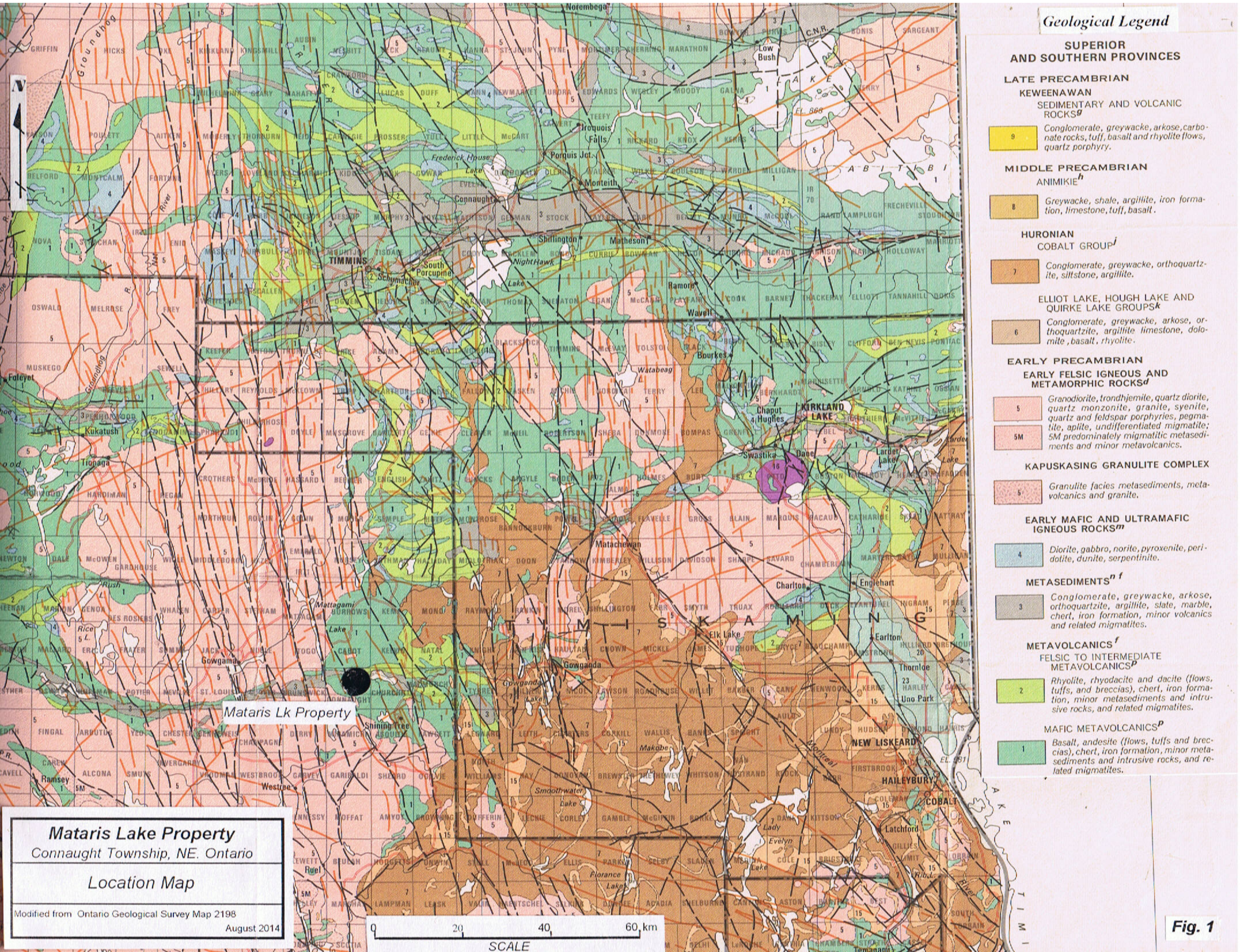
INTRODUCTION

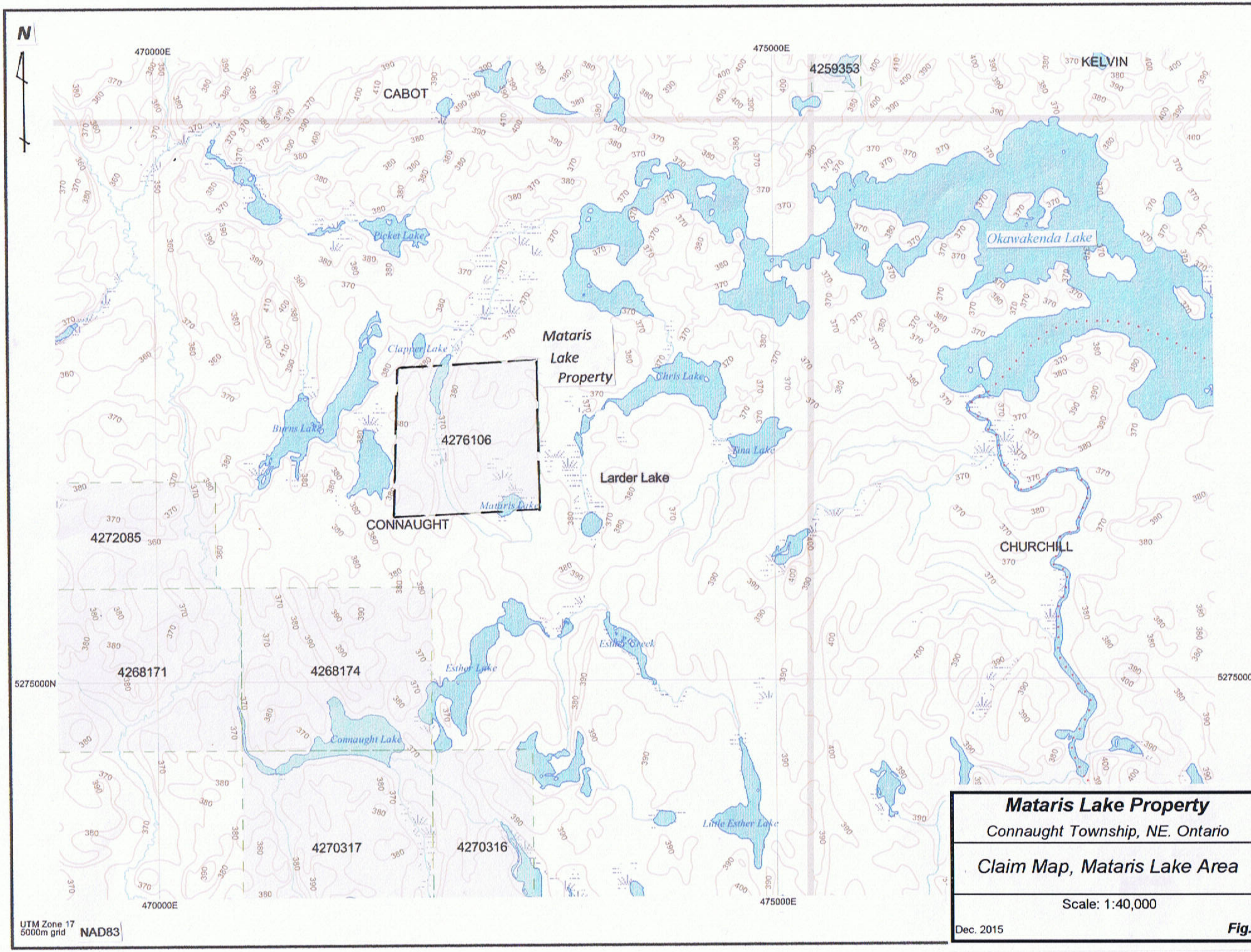
The property is located 130 km NNW of Sudbury, 90 km south of Timmins and 115km WSW of Kirkland Lake in the west Shining Tree area. It is presently accessible from Highway 560 by a 16 km. water route, through Michiwakenda and Okawakenda Lakes, with one portage between the two lakes. The Mataris showings lie 1.4 km south of the western end of Okawakenda Lake. An alternate access could be had from the south; an existing logging road running north from Highway 560 past Elephant Head Lake comes to within 4km to the south of property. Access for the historic drilling was either from the power line road at Wire Lake, some 5km to the west or by way of a winter road passing westward from the Grassy Road on the north side of Okawakenda Lake. These roads are now overgrown and are inaccessible even by ATV.

In June 2014, a 9-unit claim was staked to cover the Mataris copper-zinc showing. Significant concentrations of pyrite, chalcopyrite and sphalerite are exposed in the old pits and trenches. Chlorite alteration is present with the sulphide mineralization in the pits. It is also widely reported in the older diamond drill holes. The mineralization is hosted in what visually are described as felsic to intermediate volcanic rocks and the mineralization appears to be hosted in a typical VMS setting.

Regional geology is shown by Ayer et al, 2003 in the Ontario Geological Survey map P.3527, Geological Compilation of the Matachewan Area, Abitibi Greenstone Belt. The Archean volcanics in this area pinch out to the west between the large Kinogamissi granitic batholith (8 km.) to the northwest and the Miramichi 'granitic' batholith (3 km) to the southwest. The compilation by Ayer et al (2003) suggests that the volcanics on the property belong to the Pacaud Assemblage, with the nearest age date, in NW Fawcett Township being 2741 Ma +/-10Ma. The lastest description of the local and immediately surrounding geology is by Johns (1999, Map P.3420). He shows the area to be mainly underlain by 110°-trending Archean volcanics. Johns shows most of the volcanics to be mafic types with a band of felsic volcanics lying south of the property. NNW trending occurrences of Proterozoic Gowganda Formation overlies small areas of the Archean rocks west of the property. The Gowganda Formation is accompanied by a sheet of Nipissing Gabbro. To the north, an east-west-trending belt of Temiskaming-type clastic sediments truncates the mafic/felsic volcanics. These sediments are recognized as marking the deformation zone known in the Swayze belt to the west as the Ridout Fault or 'break' with which significant gold mineralization is associated. To the east, this deformation zone it is thought to correlate with the Tyrrell Shear with which gold mineralization is also associated. A number of north to north-northwest, Matachawan swarm diabase dykes cut the Archean rocks.

The west boundary of the claims coincides, with the Arctic-Atlantic water shed with the area to west draining to the Matagami River and James Bay and that to east draining to the Montreal River and St. Lawrence basin. Local relief is only about 15m with slightly higher relief coincident with Proterozoic rocks to the west. Most of the claims are covered with mature, deciduous and mixed forest. Lesser areas of coniferous forest occupies lower parts of the property. Exposure is sparse in the main showing area, with most of the exposures due to pitting and trenching. Mineralization appears to be exposed only in the pits and trenches.


Geological Legend
SUPERIOR AND SOUTHERN PROVINCES
LATE PRECAMBRIAN
KEWEENAWAN
SEDIMENTARY AND VOLCANIC ROCKS
9 Conglomerate, greywacke, arkose, carbonate rocks, tuff, basalt and rhyolite flows, quartz porphyry.
MIDDLE PRECAMBRIAN
ANIMIKIE
8 Greywacke, shale, argillite, iron formation, limestone, tuff, basalt.
HURONIAN
COBALT GROUP
7 Conglomerate, greywacke, orthoquartzite, siltstone, argillite.
ELLIOT LAKE, HOUGH LAKE AND QUIRKE LAKE GROUPS
6 Conglomerate, greywacke, arkose, orthoquartzite, argillite limestone, dolomite, basalt, rhyolite.
EARLY PRECAMBRIAN
EARLY FELSIC IGNEOUS AND METAMORPHIC ROCKS
5 Granodiorite, trondhjemite, quartz diorite, quartz monzonite, granite, syenite, quartz and feldspar porphyries, pegmatite, aplite, undifferentiated migmatite;
5M 5M predominately migmatitic metasediments and minor metavolcanics.
KAPUSKASING GRANULITE COMPLEX
Granulite facies metasediments, metavolcanics and granite.
EARLY MAFIC AND ULTRAMAFIC IGNEOUS ROCKS
4 Diorite, gabbro, norite, pyroxenite, peridotite, dunite, serpentinite.
METASEDIMENTS
3 Conglomerate, greywacke, arkose, orthoquartzite, argillite, slate, marble, chert, iron formation, minor volcanics and related migmatites.
METAVOLCANICS
FELSIC TO INTERMEDIATE METAVOLCANICS
2 Rhyolite, rhyodacite and dacite (flows, tuffs, and breccias), chert, iron formation, minor metasediments and intrusive rocks, and related migmatites.
MAFIC METAVOLCANICS
1 Basalt, andesite (flows, tuffs and breccias), chert, iron formation, minor metasediments and intrusive rocks, and related migmatites.
Mataris Lk Property
TIMMINS
KIRKLAND LAKE
NEW LISKEARD
HAILEYBURY
COBALT
Gowganda
Matachewan
T I M I S K A M I N G
0 20 40 60 km
SCALE
Mataris Lake Property
Connaught Township, NE. Ontario
Location Map
Modified from Ontario Geological Survey Map 2198
August 2014
Fig. 1



Mataris Lake Property

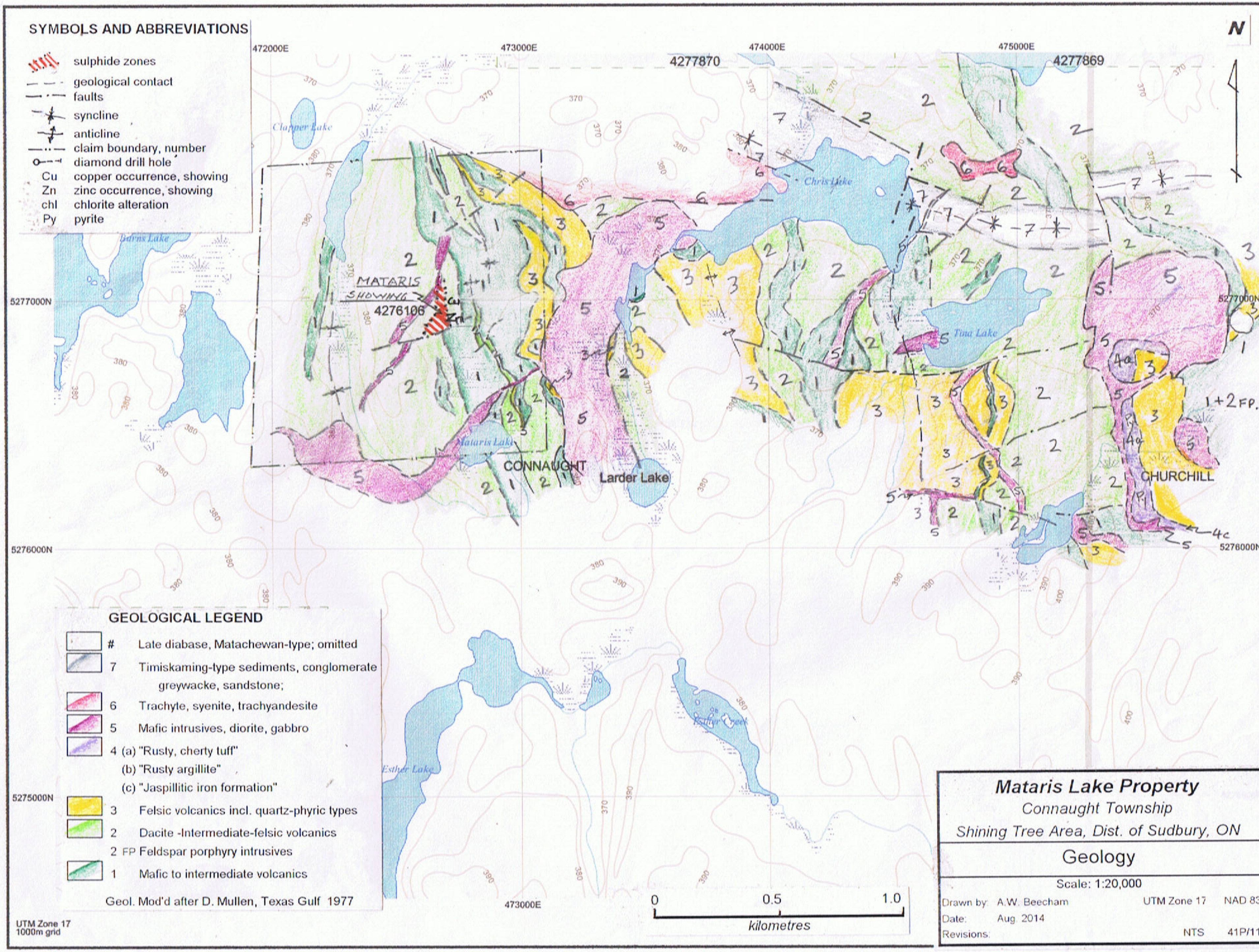
Connaught Township, NE. Ontario

Claim Map, Mataris Lake Area

Scale: 1:40,000

Dec. 2015

Fig.2



SYMBOLS AND ABBREVIATIONS
sulphide zones
geological contact
faults
syncline
anticline
claim boundary, number
diamond drill hole
Cu copper occurrence, showing
Zn zinc occurrence, showing
chl chlorite alteration
Py pyrite
GEOLOGICAL LEGEND
Late diabase, Matachewan-type; omitted
7 Timiskaming-type sediments, conglomerate greywacke, sandstone;
6 Trachyte, syenite, trachyandesite
5 Mafic intrusives, diorite, gabbro
4 (a) "Rusty, cherty tuff"
(b) "Rusty argillite"
(c) "Jaspillitic iron formation"
3 Felsic volcanics incl. quartz-phyric types
2 Dacite -Intermediate-felsic volcanics
2 FP Feldspar porphyry intrusives
1 Mafic to intermediate volcanics
Geol. Mod'd after D. Mullen, Texas Gulf 1977
472000E
473000E
474000E
475000E
4277870
4277869
4276106
5277000N
5276000N
5275000N
MATARIS SHOWING
Clapper Lake
Burns Lake
Chris Lake
Tina Lake
Mataris Lake
Larder Lake
Esther Lake
Esther Creek
CONNAUGHT
CHURCHILL
N
UTM Zone 17
1000m grid
0
0.5
1.0
kilometres
Mataris Lake Property
Connaught Township
Shining Tree Area, Dist. of Sudbury, ON
Geology
Scale: 1:20,000
Drawn by: A.W. Beecham
UTM Zone 17 NAD 83
Date: Aug. 2014
Revisions:
NTS 41P/11

Fig. 3

PROPERTY DESCRIPTION

Claim #	Units	Due Date	Recorded Claimholder
4276106	9	27 June2016	A.W. Beecham Client #106450 P.O. Box 867, Haileybury, ON P0J 1K0 Tel: 705 672 5023

PREVIOUS WORK

1913, 1916; John Mataris: Showing discovered and several pits (excavations from bedrock) put down (according to Laird, 1934); As there are few natural exposures in the showing area, it is not known how the original discoveries were made. No records of this work found in assessment files.

1927; Noah Timmins; 200 FT reported by Liard H.C. 1934; no record found in assessment files;

1956: Banks; Drilled 11 short vertical and two, 60° holes on Mataris showings; No assays found in assessment files and drill plan missing from Kirkland Lake files;

1957; Bardyke M.L.; Drilled 9 holes on Mataris Showing; Reported significant Cu mineralization as follows:

DH. B-2: 0.35%Cu/14.3m
1.21%Cu/5.18m
DH. B-4: 1.19%Cu/2.44m

Drill sections at 040° to 060°, with earlier holes drilled toward SW and later holes toward NE; Presumably they interpreted the mineralization to dip SW.

1965: Monarch G.M. L.; 2 diamond drill holes tested an apparent east-west, vertical loop EM conductor, at estimated locations of about 50 and 275m east of the showings;

1972, 1973; Coniston Expl: 9 drill holes that tested EM-16 (VLF EM) conductors; The EM data were interpreted as marking EM conductors some of which coincided with the Mataris mineralization and holes were drilled from N to S; According to author's compilation holes were drilled over and to the E and W of the Mataris mineralization; No assays are recorded but numerous zones of pyrite +/-chalcopyrite mineralization are reported, but interpretation of these zones is uncertain; their apparent mineralization model had an E-W trend;

1976, 1977; Texas Gulf Canada: Horizontal loop EM and Magnetics over an area including Mataris showing; no HLEM conductors found; Mataris sulphides not conductive; A 1.5km N-S by 4 km E-W rectangle over and extending 1 km west and 3 km east of the Mataris showing was explored. Geophysics and geological mapping at 1:2400 by D. Mullen was done on N-S picket lines; Mataris mineralization was chip sampled; Some of better averages are as follows:

0.67%Cu; 1.20%Zn/7.62m
1.75%Cu; 1.12%Zn/3.05m
1.28%Cu; 0.02%Zn/3.05m

Detailed geological mapping by Mullen, provided a sound geological model with 170° trending volcanic stratigraphy, but with uncertain dip;

1988; Asquith Resources: magnetic survey over large block including the Mataris showings;

1992, 1993; Noranda Exploration: covered Mataris showing area and area to NE with IP surveys; Tested an IP chargeability anomaly coincident with Mataris showing with 4 drill holes, 2 drilled from east to west appear to have been drilled 'down-dip'; Two holes drilled from west to east intersected significant pyrite and copper mineralization; Correlating this mineralization with the surface chargeability anomaly indicates a 40° west dip or plunge to the mineralization;

2008: Slocan Minerals (Lang Group); 100m-spaced, 045° flight lines, magnetic and VTEM survey over area from Elephant Head Lake in the south to Claw Lake in the north, including the Mataris showing area. The Mataris showing did not show up as conductors in the survey;

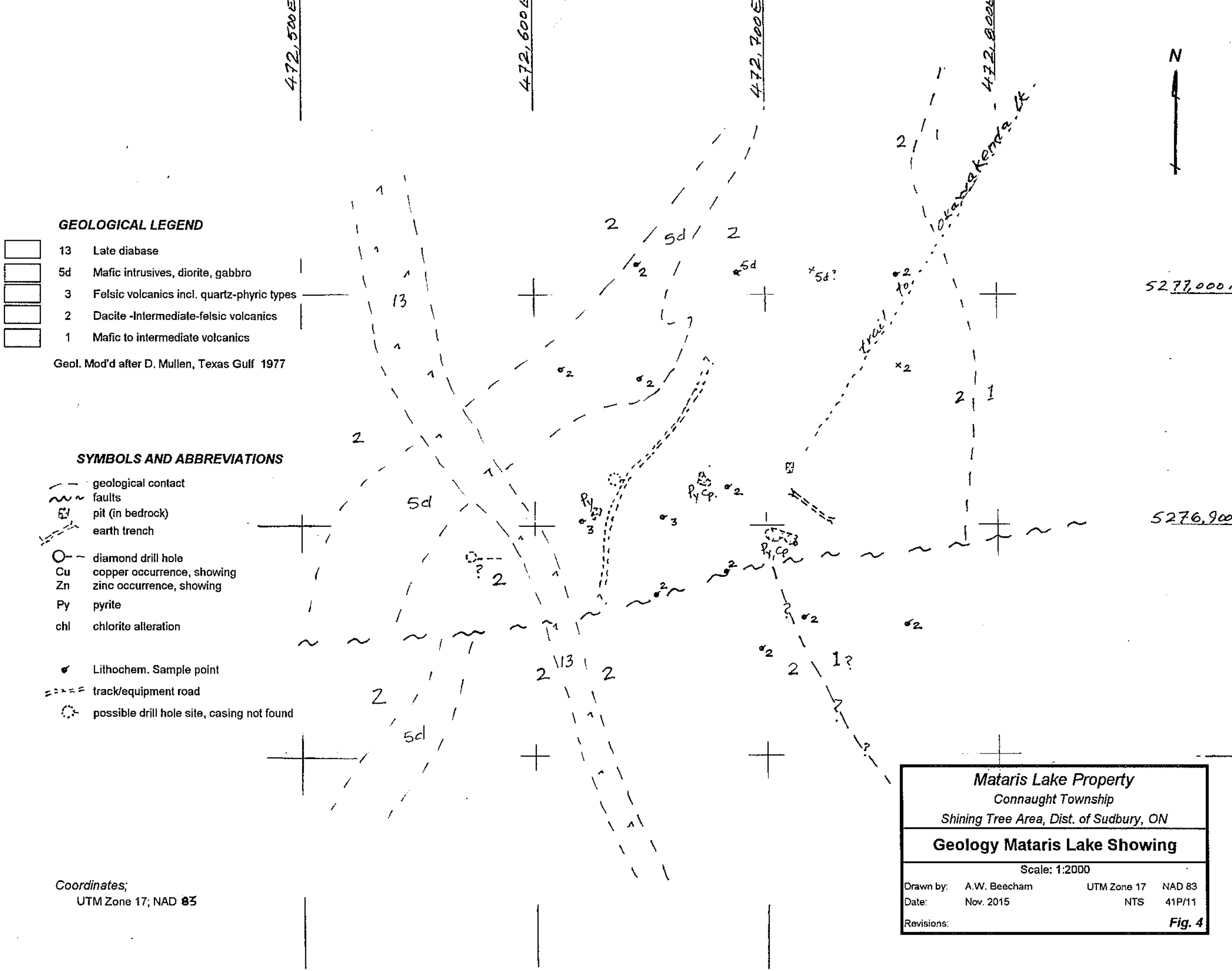
PROPERTY GEOLOGY AND MINERAL DEPOSITS

The geology of the property is well described by Mullen (1977). This includes a map at 1:2400 covering the existing property and a large area to the east. Mullen's map, based on detailed outcrop observation, contrasts sharply with the Ontario Geological Survey by Johns. Mullen shows a north to NNW trending sequence of mafic-intermediate-felsic volcanics with a number of gabbro intrusives, folded about a NNW axis and cut off to the north by younger Temiskaming-type rocks. Fig. 3 is a simplification of Mullen's map.

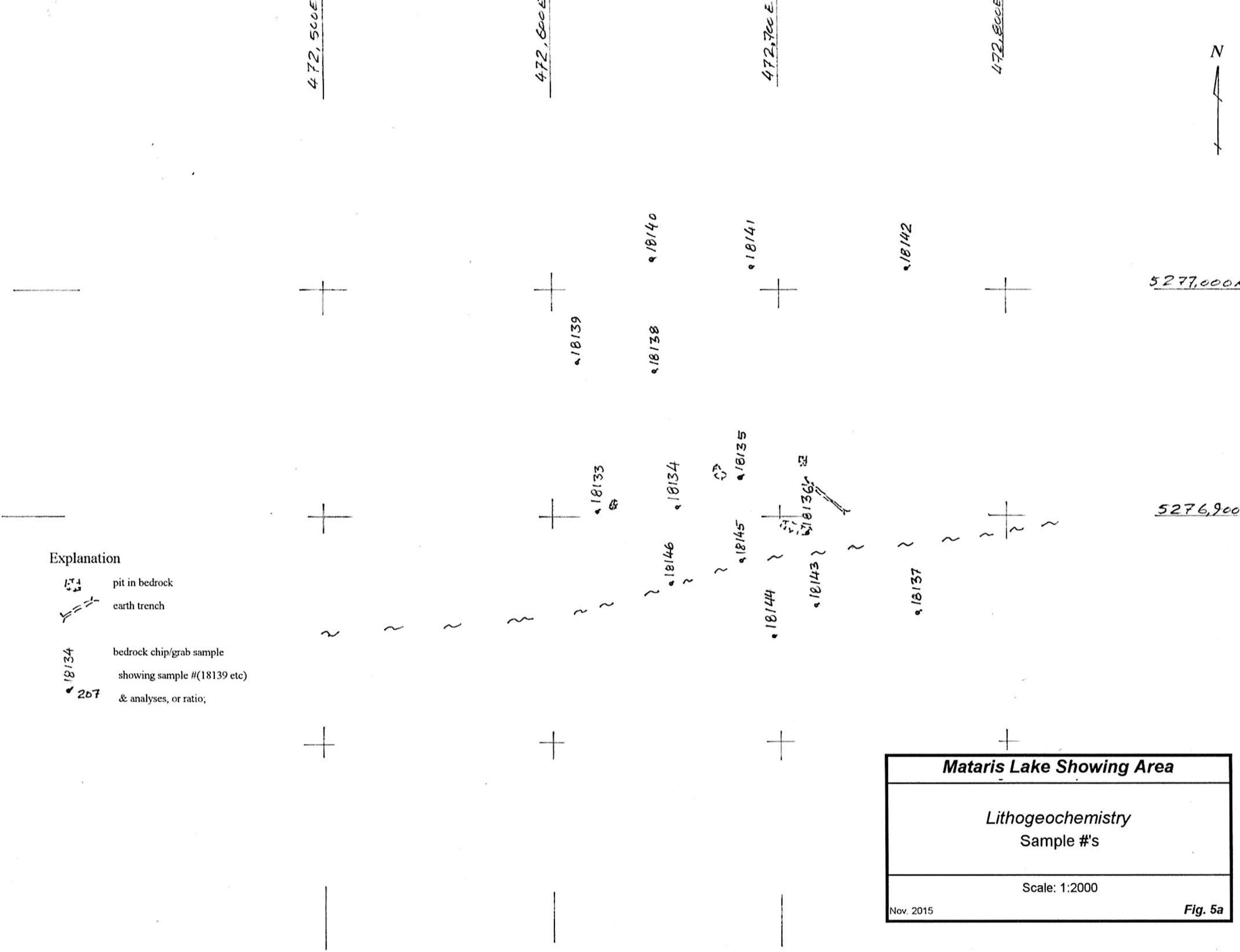
The Mataris showings, consist of disseminations and veinlets of pyrite, chalcopyrite and sphalerite with fairly extensive chlorite alteration. On surface, where exposed in pits, trenches and outcrop, the combination of sulphide mineralization and anomalous Cu and Zn concentrations, extends discontinuously over a triangular area roughly 175m north-south, along the volcanic strike by 60 or 70m east-west across strike. The author's impression, however, is that the best sulphide concentrations are within a broad E-W trending band along the south side of this triangle. Extensive sulphide mineralization is reported in drill holes by Bardyke Mines, Coniston Exploration and Noranda Exploration. Significant copper and zinc values are present, as noted above (Previous Work). The mineralization appears to die out gradually to the north, but to the south it may be terminated by an E-NE fault. Attempts by the author to make detailed hole to hole correlation of the mineralization have not been successful. However, correlating mineralization in Noranda holes #4 and #5, with the IP chargeability and the surface showings suggests a 50m+/- thick 40° west dipping zone of discontinuous mineralization. The sulphide concentrations in the Bardyke and Conisil holes seem to fit roughly into this 50m thick zone. Whether the mineralization is conformable or cross-cutting the volcanic units is unclear. However, correlating the lithology in the Noranda drill holes with the Texas Gulf's surface geology fits reasonably well with a western dip for the lithology. No definite lithological contact with which the sulphides are associated, has been recognized.

DESCRIPTION OF WORK

On 18th July 2015, boat access to the property was made by the author and R. Steward, and an access trail from the far west bay of Okawakenda Lake was marked out. A reconnaissance of the Mataris showing was made and 3 of the pits were sampled. Between 8th and 10th August 2015, the author and Joerg Kleinboeck of North Bay, set up a camp on an island in the far west bay of Okawakenda Lake, blazed and flagged the trail to the Mataris showings and ran 4 east-west traverses across the Mataris Showing area. Systematic bed rock sampling was done by J. Kleinboeck along these traverse lines. Samples were taken from all pits and outcrop. A number of these samples were split to preserve specimens and 13 samples were analyzed for a VMS/base metal package of major oxides and trace elements by Activation Laboratories in Ancaster, ON. The purpose was to determine the size and character of the alteration zone and the geochemistry of the host rocks of the Cu-Zn mineralization. Pits and trenches were mapped in, and an unsuccessful search was made for 2 of the Noranda Exploration drill hole collars. Although some apparent drill sites were located, no drill casings were found. It appears, unfortunately, that the casings, at least from 93-4 and 93-5, were pulled. Although no detailed, systematic search was made, no casings from the older drill holes, close to the showings, were noted.



GEOLOGICAL LEGEND
13 Late diabase
5d Mafic intrusives, diorite, gabbro
3 Felsic volcanics incl. quartz-phyric types
2 Dacite -Intermediate-felsic volcanics
1 Mafic to intermediate volcanics
Geol. Mod'd after D. Mullen, Texas Gulf 1977
SYMBOLS AND ABBREVIATIONS
geological contact
faults
pit (in bedrock)
earth trench
diamond drill hole
Cu copper occurrence, showing
Zn zinc occurrence, showing
Py pyrite
chl chlorite alteration
Lithochem. Sample point
track/equipment road
possible drill hole site, casing not found
Coordinates;
UTM Zone 17; NAD 83
472,500E
472,600E
472,700E
472,800E
N
5277,000N
5276,900N
Okawakenda Lk.
trail to
Py Cp.
Py, Cp
Mataris Lake Property
Connaught Township
Shining Tree Area, Dist. of Sudbury, ON
Geology Mataris Lake Showing
Scale: 1:2000
Drawn by: A.W. Beecham
UTM Zone 17 NAD 83
Date: Nov. 2015
NTS 41P/11
Revisions:
Fig. 4



Mataris Lake Showing Area

Lithogeochemistry
Sample #'s

Scale: 1:2000

Nov. 2015

Fig. 5a

Table I: Sample Descriptions

Sample #	UTM E	UTM N	Sam. Type	Spec.	Rock Type	Description	Alter'n	% Py Range		Cp	Sph	WRA	WRA+REE
18133	472620	5276902	c		fel volcanic	lt grey, fine fragmental	sil?	5	10		tr ?	x	x
(18133)	*472620*	*5276902*		*x*	*fel volcanic*	*Sample split; lt grey, fine fragmental*	sil?	5	10			none	none
18134	472655	5276904	c		Intermed.-felsic Volc	fine, (5mm) bx with interstitial Py		2	3			x	
18135	472683	5276917	c		Intermed. Bx	dark clasts in lt. grey, sil. Matrix; Fragments chloritized	chl	3	4	tr		x	x
18136	472712	5276892	c		Fel. Volc. Bx	lt grey with dark chl in matrix	chl	2	4	1		x	
(18136)	*472712*	*5276892*	*g*	*x*	*fel volc+ SMS*	*Sample split to retain spec 2 -3cm band heavy Py & Sph with diss'd Cp, Bn?*	chl	40	50	2	3 to 4	none	none
18137	472760	5276857	g		Interm. Volc	massive to fine bx; a little chl outlining fragments	chl	0	0			x	
18138	472645	5276964	c		massive, Interm. Volc	soft' grey, minor chl between 'grains'	-chl	0	0			x	
18139	472611	5276968	c		massive, Interm. Volc	soft' grey, minor chl between 'grains'	-chl	0	0			x	
18140	472644	5277013	c		massive, Interm. Volc	f.g. med. Grey, relatively soft		0	0			x	
(18141)	*472688*	*5277010*	*c*	*x*	*m-cg gabbro*	*fsp porph'ic; fsp up to 5mm; clusters of fsp phenoX's*		0	0			none	none
18142	472756	5277009	c		interm fragmental	dk green, (chl); angular fragments in lt grey, felsic matrix; minor calcite on fr's	-chl	0	0			x	
18143	472716	5276860	c		massive, Interm to felsic volc	lt. grey, hard, minor chl 'threads' & 1mm spots; Py with chl	chl	2	2			x	
18144	472697	5276857	c		fine, intermediate fragmental	lt grey, hard, felsic matrix with 25% mm size to cm size, angular, dk , chl'd fragments	chl	1	1			x	
18145	472683	5276880	c		intermed, fine grained volc	med grey, hardness 3.5 to 4		tr	tr			x	
18146	472652	5276870	c		intermed, lapilli tuff	2 to 4 mm, lt grey, angular clasts in med grey to dk green matrix with a little chl -lithic tuff; Py in chl.	-chl	tr	1			x	

Explanation:

Sample type: c = chip; g = grab

"Spec." x = specimen kept.

Alteration: -chl = minor chl; chl =weak chl alteration

sil = silicification

Py = pyrite; Cp = chalcopyrite; Sph + sphalerite;

UTM Coordinates: Zone 17, NAD83

Bn = bornite

WRA = whole rock analyses; REE = rare earth analyses

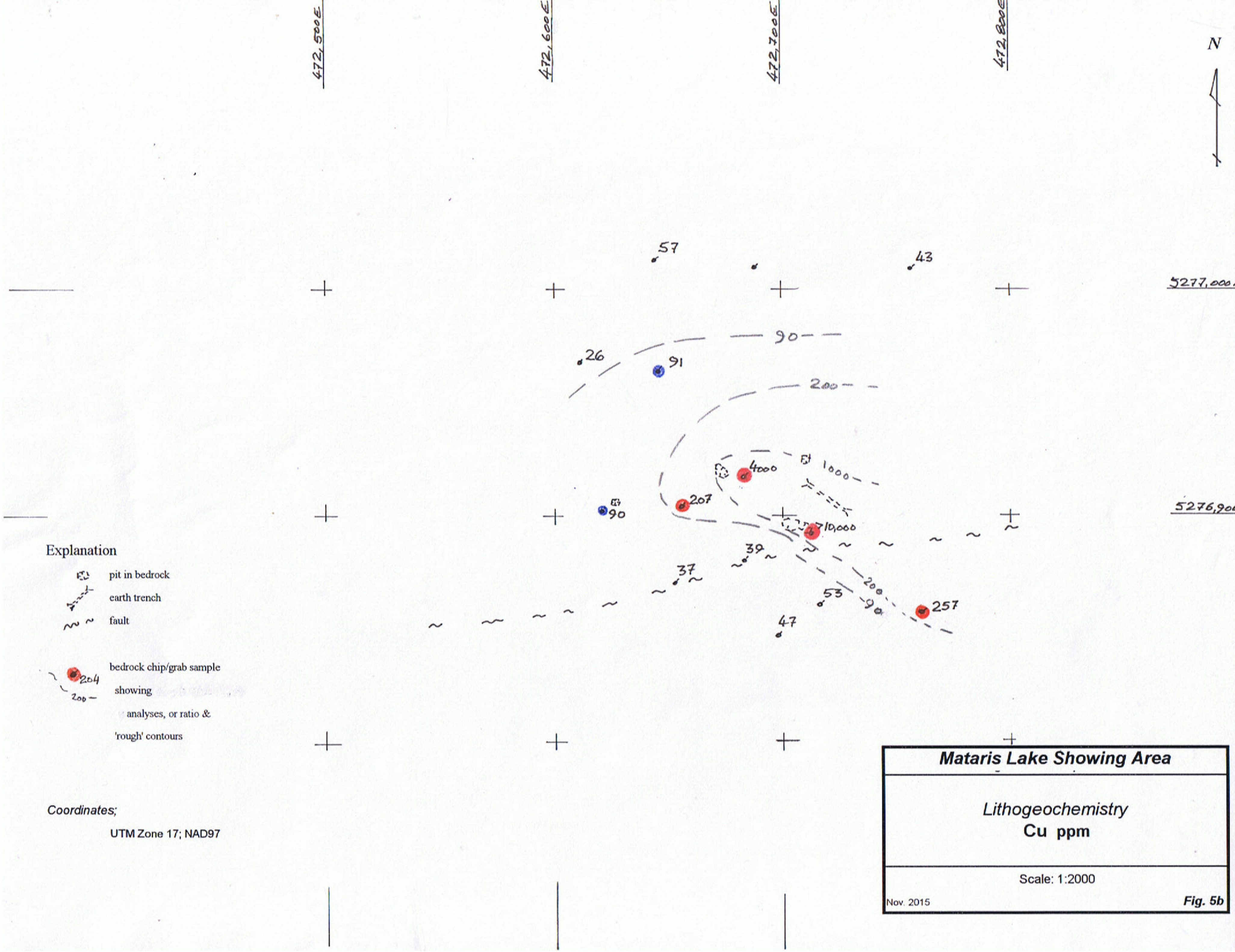
A.W. Beecham 27-Nov-15

Table II Summary of Analyses

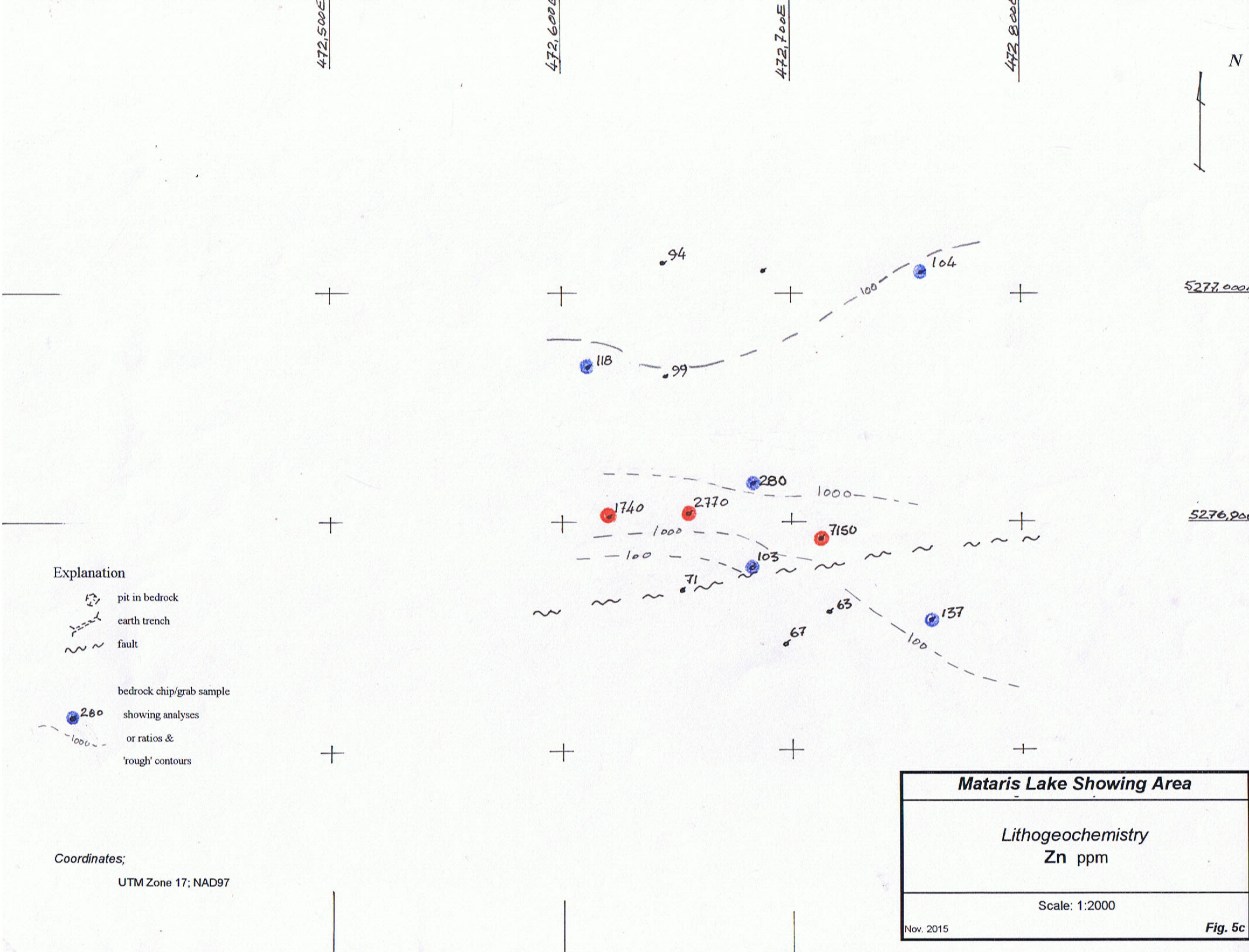
Symbol	SiO_2	Al_2O_3	Fe_2O_3(T)	MnO	MgO	CaO	Na_2O	K_2O	TiO_2	P_2O_5	LOI	Total	Y	Zr	Zr/Y	Ishikawa
Units	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm		Index
Det'n Lim	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	1	2	ratio	MgO+K2Ox100
Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP		(Na2O+K2O+CaO+MgO)
18133	57.96	13.22	**13.39**	0.042	3.62	**0.14**	**0.09**	2.31	0.461	0.03	7.71	98.95	15	174	11.60	96.27
18134	65.04	12.9	**11.42**	0.043	3.11	**0.12**	**0.08**	2.06	0.456	0.05	4.67	99.95	21	182	8.67	96.28
18135	66.09	9.99	**12.37**	0.062	5.96	**0.09**	**0.02**	0.24	0.344	0.03	4.71	99.9	13	132	10.15	98.26
18136	72.7	7.73	**10.41**	0.032	2.94	**0.08**	**0.03**	0.61	0.323	< 0.01	3.57	98.41	13	105	8.08	96.99
18137	64.5	15.56	4.82	0.074	4.7	1.18	3.62	1.49	0.378	0.04	4.21	100.6	13	157	12.08	56.32
18138	64.6	15.08	4.97	0.05	5.97	**0.25**	**0.66**	2.43	0.356	0.03	4.76	99.15	13	146	11.23	90.23
18139	65	15.6	4.29	0.035	6.71	**0.14**	**0.46**	2.65	0.377	0.04	5.05	100.3	14	155	11.07	93.98
18140	63.34	15.18	4.47	0.063	5.72	1.33	2.15	2.18	0.359	0.05	5.76	100.6	18	147	8.17	69.42
18142	68.33	12.67	5.24	0.059	3.8	0.75	0.93	2.13	0.472	0.04	4.34	98.77	25	165	6.60	77.92
18143	67.94	13.68	5.65	0.049	3.03	1.42	1.21	2.46	0.544	0.03	4.21	100.2	20	175	8.75	67.61
18144	66.62	14.09	5.38	0.049	3.82	1.25	1.12	2.83	0.554	0.03	4.49	100.2	23	198	8.61	73.73
18145	63.36	14.98	6.05	0.11	4.41	1.72	1.28	2.82	0.562	0.05	5.19	100.5	29	208	7.17	70.67
18146	65.57	14.29	5.36	0.069	3.85	1.6	3.01	1.94	0.535	0.06	4.41	100.7	28	195	6.96	55.67

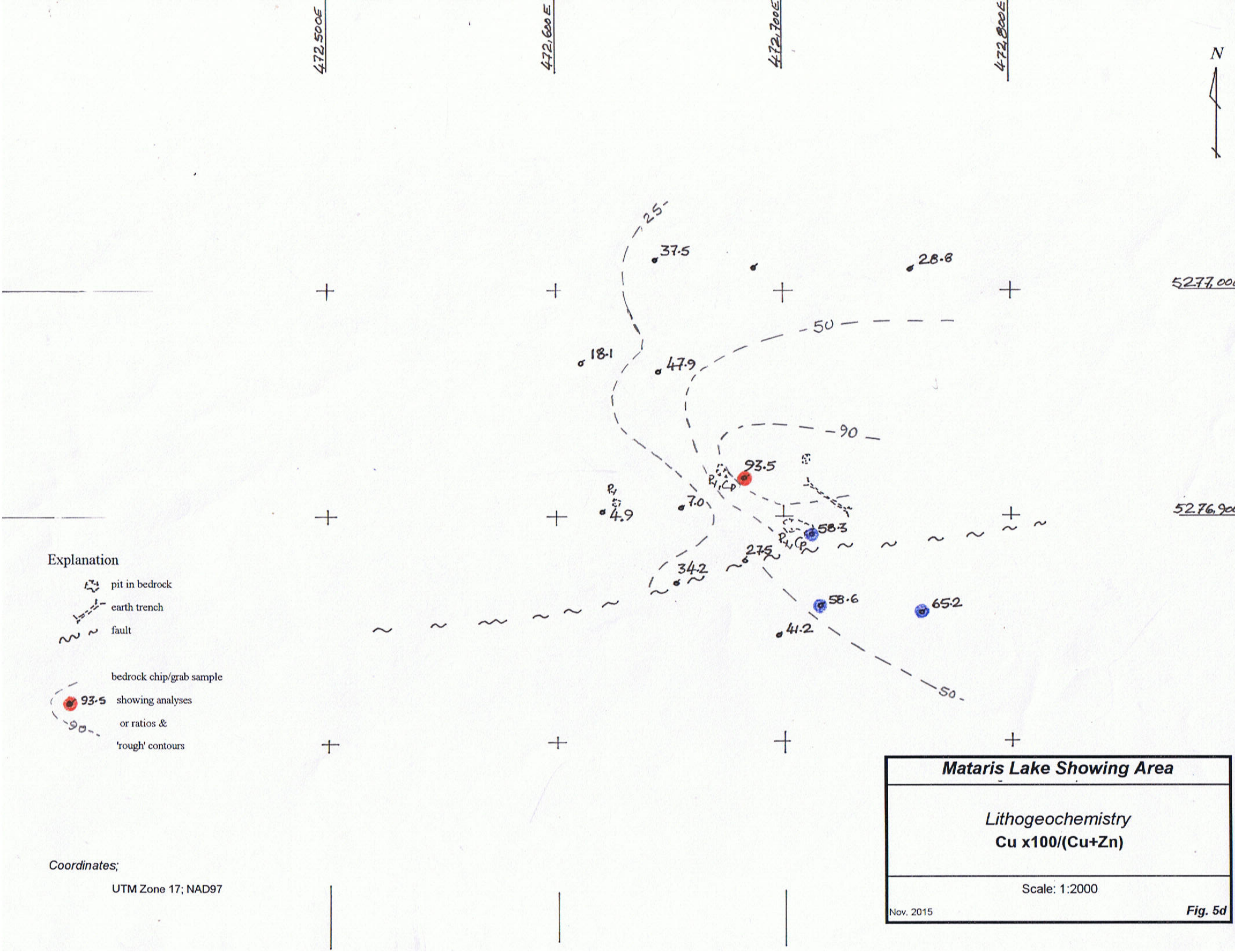
Symbol	Ag	Cd	Cu	Ni	Pb	Zn	Bi	S	Cu x 100
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	(Cu+Zn)
Det'n Lim	0.5	0.5	1	1	5	1	10	0.001	
Method	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	
18133	<0.5		90	<20	**185**	**1740**			4.92
18134	1.5	**8.5**	**207**	12	49	**2770**	< 10	**2.02**	6.95
18135	0.8		**4000**	<20	36	**280**			93.46
18136	**7.8**	**14.9**	**> 10000**	5	30	**7150**	10	**2.06**	58.31
18137	< 0.5	< 0.5	**257**	32	< 5	137	< 10	0.061	65.23
18138	< 0.5	< 0.5	91	35	< 5	99	< 10	0.038	47.89
18139	< 0.5	< 0.5	26	35	< 5	118	< 10	0.013	18.06
18140	< 0.5	< 0.5	57	34	< 5	94	< 10	0.023	37.75
18142	< 0.5	< 0.5	42	9	< 5	104	< 10	0.019	28.77
18143	< 0.5	< 0.5	89	9	< 5	63	< 10	0.156	58.55
18144	< 0.5	< 0.5	47	10	< 5	67	< 10	0.086	41.23
18145	< 0.5	< 0.5	39	11	< 5	103	< 10	0.031	27.46
18146	< 0.5	< 0.5	37	10	< 5	71	< 10	0.075	34.26

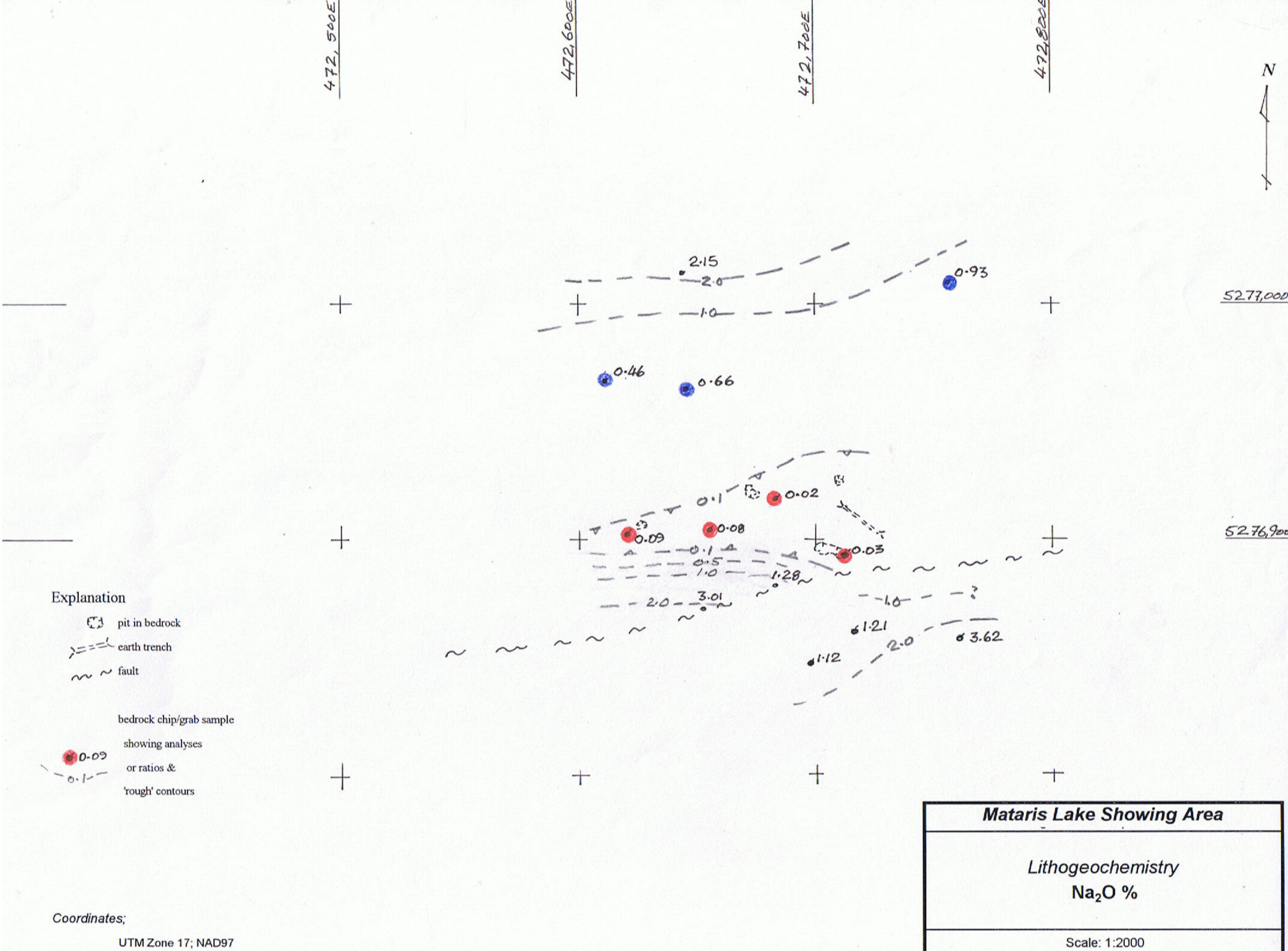
Note: Ag, Cu ,Ni, Zn analyses for
for samples #18133 and #18135
by FUS-MS



472,500E
472,600E
472,700E
472,800E
N
5277,000N
5276,900N
57
43
26
91
90
200
4000
1000
207
90
10,000
39
37
53
47
257
Explanation
pit in bedrock
earth trench
fault
204
200
bedrock chip/grab sample
showing
analyses, or ratio &
'rough' contours
Coordinates;
UTM Zone 17; NAD97
Mataris Lake Showing Area
Lithogeochemistry
Cu ppm
Scale: 1:2000
Nov. 2015
Fig. 5b


472,500E
472,600E
472,700E
472,800E
N
5277,000N
5276,900N
94
104
100
118
99
280
1000
1740
2770
1000
7150
100
103
71
63
137
67
100
Explanation
pit in bedrock
earth trench
fault
bedrock chip/grab sample
280
showing analyses
1000
or ratios &
'rough' contours
Coordinates;
UTM Zone 17; NAD97
Mataris Lake Showing Area
Lithogeochemistry
Zn ppm
Scale: 1:2000
Nov. 2015
Fig. 5c


472,500E
472,600E
472,700E
472,800E
N
5277,000N
5276,900N
25
50
90
37.5
28.8
18.1
47.9
93.5
Py, Cp
Py
4.9
7.0
58.3
Py, Cp
27.5
34.2
58.6
65.2
41.2
50
Explanation
pit in bedrock
earth trench
fault
bedrock chip/grab sample
93.5 showing analyses
90
or ratios &
'rough' contours
Coordinates;
UTM Zone 17; NAD97
Mataris Lake Showing Area
Lithogeochemistry
Cu x100/(Cu+Zn)
Scale: 1:2000
Nov. 2015
Fig. 5d



Mataris Lake Showing Area

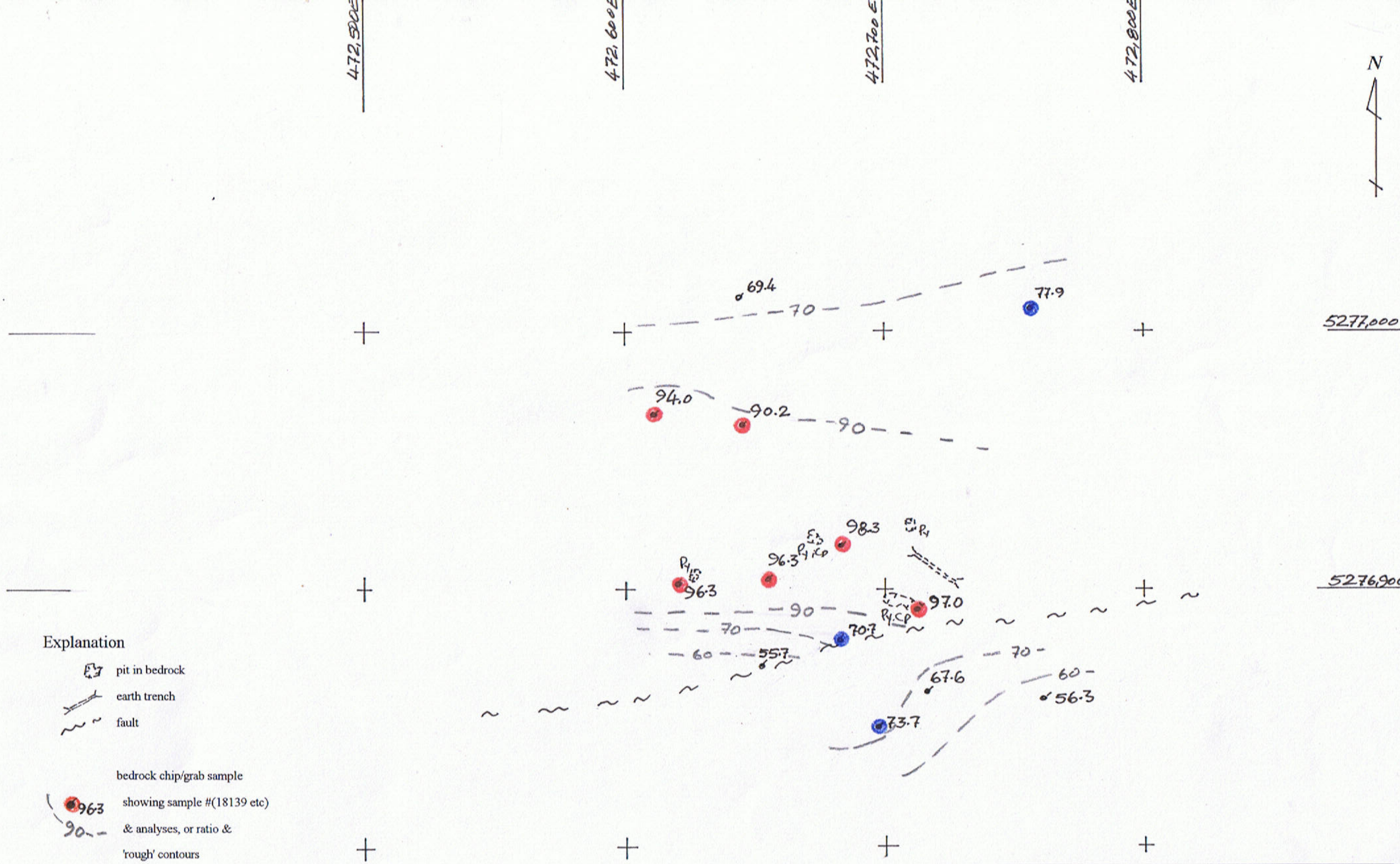
Lithogeochemistry

Na_2O %

Scale: 1:2000

Nov. 2015

Fig. 5e



Mataris Lake Showing Area

Lithogeochemistry

(MgO+K2O)x100/(Na2O+K2O+CaO+MgO)

Scale: 1:2000

Nov. 2015

Fig. 5f

Coordinates;

UTM Zone 17; NAD97

The results of some of the bedrock analyses are shown in Figures 5b to 5f. As noted previously, there are few natural outcrops in the immediate showing area, and as most of the samples were taken from pits and trenches that would have been dug only where mineralization was found, it is likely that the numbers mark peaks in an irregular distribution rather than being representative of the surrounding area. As well, the data set is very small. Hence, the contouring of Cu and Zn, in particular, should not be interpreted too literally. However, the contours for Na_2O, Cu/Cu+Zn and the Ishikawa index are probably more meaningful.

Trenches, pits and some other topographic feature were mapped using a GPS. The overlay of these features on Mullen's geology does not match very closely (due, probably, to inaccuracies in both surveys). Hence there is some uncertainty in tying Mullen's geology (summarized in Fig. 4.) to this survey.

RESULTS

All of the plots suggest an east-west anomalous area centred on the showings and lying immediately north of the inferred fault. There is insufficient coverage to close-off the contours either to the east or west. The apparent trend of the alteration and mineralization seems to cross-cut Mullen's north-northwest volcanic stratigraphy suggesting the mineralization is 'stringer' type rather than exhalative. The mineralization was, probably, once more extensive, but has been faulted off on the south side.

Copper: Contouring indicates mineralization is 'open' to the east. There is one anomalous Cu sample south of the fault.

Zinc: The Zn distribution is similar to that of the Cu.

Cu/Cu+Zn Ratio: The purpose of this plot is to indicate a vector toward the centre of the hydrothermal system. (Cu tends to centrally concentrated and Zn more peripherally distributed.) There is some indication that the centre of the mineralization system is farther to the east in an area of no outcrop.

Na_2O: In most VMS systems Na_2O is depleted. The data 'seem to contour' in an E-W direction. Here the area of the anomalous Na_2O (<1%) is about 100m N-S by 100 EW. It is closed off to the south by the interpreted fault, but is open both to the west and to east. The area of alteration is considerably larger than the Cu- Zn anomaly. CaO is also strongly depleted in a pattern similar to Na_2O.

Ishikawa Index (MgO+K2)x100/(Na2O+K2O+CaO+MgO): The distribution is similar to that of Na_2O. However, this index also outlines an area of interest south of the fault, suggesting the possibility of undiscovered mineralization.

Geochemistry of Volcanics: On the bases of the SiO_2 and TiO_2 analyses, most of the volcanics seem to have intermediate compositions and would be classified as andesites to rhyodacites. Samples #18143 and #18137 were taken in an area where Mullen shows the rocks to consist of mafic volcanics. However, the analyses show these rocks to be dacites or rhyodacites.

The TiO_2 seem to form 3 different populations. The distribution of this immobile element suggests a method of separating volcanic units. Here, the data grouping indicate NW-SE trends and that the E-W fault lies just north of samples #18143 and #18144 instead of to the south. Plots of these data are not shown

Geochemical Affinities: The Zr/Y ratios for all except two samples fall between 7 and 20 and would therefore be classified as calc-alkalic. On Lesher's Y vs Zr/Y plot they seem to fit into the F-II field. Fig. 6 is a plot of REE for samples #18133 and #18135. These curves are generally dissimilar to curves for tholeiitic felsic volcanics from typical Archean VMS deposits, such as Kidd Creek and those of the Noranda camp. In particular, they do not show the typical pronounced depletion of Eu.

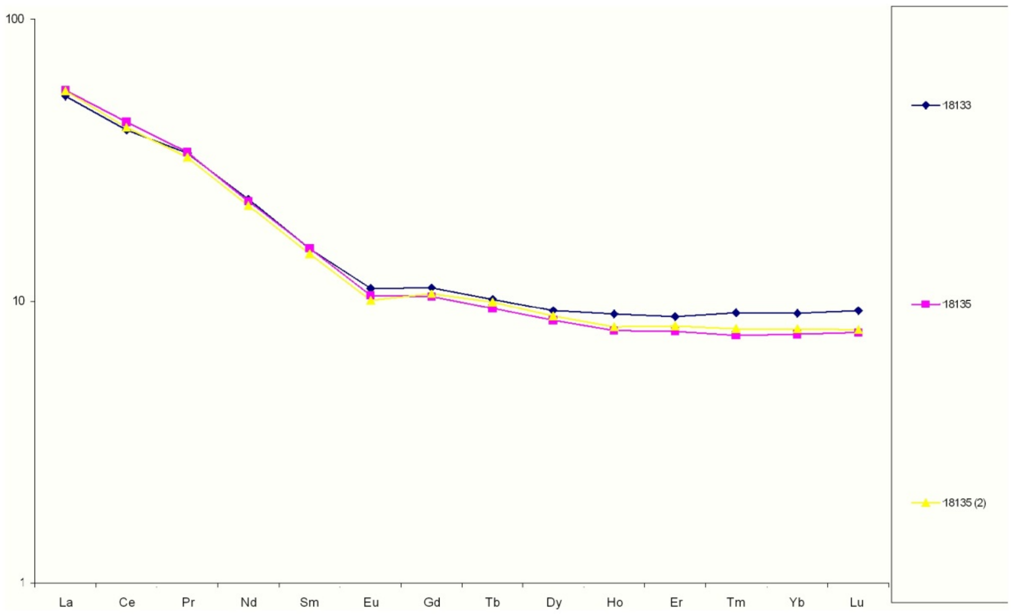


Fig. 6. REE Plots Samples #18133 & #18135

DISCUSSION & RECOMMENDATIONS

The area sampled is relatively small compared to alteration haloes mapped around known VMS deposits and more extensive sampling is required to determine the total size of the alteration halo.

The area of the pits and trenches and possible sites of drill hole casings should be mapped in more detail and to a better accurately so that all the different sets of information, surface geology and pit and trench data, drill hole data, can be more accurately compiled. A careful search should also be made for Noranda drill holes 93-1 and 93-2. Locating the Noranda drill holes would help to re-establish the Noranda grid and make it possible to accurately compile their IP and magnetic surveys. Previous work shows that the mineralization of the Mataris Lake is non-conductive and non-responsive to EM surveys. However, it does respond to IP surveys, as done by Noranda Exploration in 1992-93, and these surveys would be useful to trace the mineralization in favourable stratigraphy south-southeastward.

The alteration is not closed off, particularly to the east. The Cu/Cu+Zn ratios suggests the mineralization may extend or be increasing in that direction.

A soil geochemistry survey over the showing area, down ice (to the south) and to the east of the showings is recommended. This can be done with GPS control. This survey would be expected to detect metals from mineralized till rather than bedrock mineralization. Hence, sampling should be on E-W sample lines with samples taken every 15m to 25m.

Kidd Creek or Noranda type VMS deposits are typically not associated with the suite of calc-alkalic volcanics present on the Mataris Lake Property. However, similar rocks host the large, low grade Selbaie deposit in NW Quebec. This is also a very attractive exploration target.

A.W. Beecham

A.W. Beecham
8th December 2015

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APPENDIX I

Analyses Reports, Activation Laboratories, Ancaster, Ontario

A15007184cert&res.pdf
A15007184cert&res2.pdf
A15007184LithoPlots-1.pdf

Date Submitted:	01-Sep-15
Invoice No.:	A15-07184
Invoice Date:	18-Sep-15
Your Reference:	

A.W. Beecham GeoServices
P.O. Box 867
540 Rorke Avenue
Haileybury, ON P0J 1K0
Canada

ATTN: A.W. Beecham

CERTIFICATE OF ANALYSIS

13 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4LITHO (1-10) Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)

REPORT **A15-07184**

Notes:
Total includes all elements in % oxide to the left of total.
We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB
LAB Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Results

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Y	Sc	Zr	Be	V	Cr	Co	Ni	Cu	Zn
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	1	1	2	1	5	20	1	20	10	30
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
18133	57.96	13.22	13.39	0.042	3.62	0.14	0.09	2.31	0.461	0.03	7.71	98.95			11		1	79	30	29	< 20	90	1740
18134	65.04	12.90	11.42	0.043	3.11	0.12	0.08	2.06	0.456	0.05	4.67	99.95	301	21	11	182	1	77					
18135	66.09	9.99	12.37	0.062	5.96	0.09	0.02	0.24	0.344	0.03	4.71	99.90			7		< 1	59	< 20	12	< 20	4000	280
18136	72.70	7.73	10.41	0.032	2.94	0.08	0.03	0.61	0.323	< 0.01	3.57	98.41	86	13	8	105	< 1	62					
18137	64.50	15.56	4.82	0.074	4.70	1.18	3.62	1.49	0.378	0.04	4.21	100.6	346	13	10	157	1	65					
18138	64.60	15.08	4.97	0.050	5.97	0.25	0.66	2.43	0.356	0.03	4.76	99.15	333	13	11	146	1	64					
18139	65.00	15.60	4.29	0.035	6.71	0.14	0.46	2.65	0.377	0.04	5.05	100.3	336	14	12	155	< 1	69					
18140	63.34	15.18	4.47	0.063	5.72	1.33	2.15	2.18	0.359	0.05	5.76	100.6	424	18	11	147	1	68					
18142	68.33	12.67	5.24	0.059	3.80	0.75	0.93	2.13	0.472	0.04	4.34	98.77	468	25	10	165	1	81					
18143	67.94	13.68	5.65	0.049	3.03	1.42	1.21	2.46	0.544	0.03	4.21	100.2	361	20	12	175	1	91					
18144	66.62	14.09	5.38	0.049	3.82	1.25	1.12	2.83	0.554	0.03	4.49	100.2	459	23	12	198	1	91					
18145	63.36	14.98	6.05	0.110	4.41	1.72	1.28	2.82	0.562	0.05	5.19	100.5	592	29	12	208	2	96					
18146	65.57	14.29	5.36	0.069	3.85	1.60	3.01	1.94	0.535	0.06	4.41	100.7	403	28	12	195	1	89					

Results

Analyte Symbol	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb
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	1	1	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
18133	17	< 1	46	50	7	15	174	7	< 2	< 0.5	< 0.2	2	1.6	0.7	287	16.8	32.9	3.74	13.7	2.9	0.80	2.9	0.5
18134					7																		
18135	19	< 1	36	6	2	13	132	5	< 2	0.8	0.7	3	0.6	< 0.5	29	17.5	34.3	3.70	13.3	2.9	0.75	2.8	0.5
18136					2																		
18137					55																		
18138					12																		
18139					10																		
18140					37																		
18142					23																		
18143					31																		
18144					27																		
18145					27																		
18146					47																		

Results

Analyte Symbol	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
18133	3.0	0.6	1.9	0.29	1.9	0.31	3.9	0.6	3	0.2	185	< 0.4	4.2	1.0
18134														
18135	2.8	0.6	1.7	0.25	1.7	0.25	3.1	0.6	5	0.2	36	5.3	3.2	0.8
18136														
18137														
18138														
18139														
18140														
18142														
18143														
18144														
18145														
18146														

QC

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Ba	Sr	Y	Sc	Zr	Be	V	LOI	Total	V	Cr	Co	Ni
Unit Symbol	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	2	2	1	1	2	1	5		0.01	5	20	1	20
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS
NIST 694 Meas	11.41	1.92	0.74	0.013	0.34	42.68	0.86	0.55	0.120	30.32							1640			1640			
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2							1740			1740			
NIST 694 Meas	11.41	1.92	0.74	0.013	0.34	42.68	0.86	0.55	0.120	30.32													
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2													
DNC-1 Meas	47.15	18.38	10.10	0.150	9.88	11.51	1.89	0.22	0.490	0.04	105	141	15	31	36		149			149	280		270
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070	118	144.0	18.0	31	38		148			148	270		247
DNC-1 Meas	47.15	18.38	10.10	0.147	9.88	11.51	1.89	0.22	0.488	0.04				31									
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070				31									
GBW 07113 Meas	71.81	12.70	3.27	0.148	0.14	0.61	2.46	5.41	0.278	0.02	498	39	46	5	387	4	6			6			
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500	506	43.0	43.0	5.00	403	4.00	5.00			5.00			
GBW 07113 Meas	71.81	12.70	3.27	0.148	0.14	0.61	2.46	5.41	0.278	0.02				5		4							
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500				5.00		4.00							
LKSD-3 Meas																					80	29	
LKSD-3 Cert																					87.0	30.0	
TDB-1 Meas																					260		100
TDB-1 Cert																					251		92
BaSO4 Meas											587100												
BaSO4 Cert											588356												
W-2a Meas	52.78	15.30	11.04	0.164	6.25	11.10	2.21	0.62	1.084	0.11	174	191	18	36	92	< 1	260			260	100	44	
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130	182	190	24.0	36.0	94.0	1.30	262			262	92.0	43.0	
W-2a Meas	52.78	15.30	11.04	0.164	6.25	11.10	2.21	0.62	1.084	0.11				36		< 1							
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130				36.0		1.30							
DTS-2b Meas																					> 10000	127	3530
DTS-2b Cert																					15500	120	3780
SY-4 Meas	50.53	20.76	6.32	0.107	0.50	8.15	7.04	1.68	0.295	0.10	351	1223	117	< 1	533	3	9			9			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131	340	1191	119	1.1	517	2.6	8.0			8.0			
SY-4 Meas	50.53	20.76	6.32	0.107	0.50	8.15	7.04	1.68	0.295	0.10				< 1		3							
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131				1.1		2.6							
CTA-AC-1 Meas																							
CTA-AC-1 Cert																							
BIR-1a Meas	47.37	15.55	11.61	0.167	9.35	13.42	1.78	0.02	0.977	< 0.01	7	105	12	43	15	< 1	315			315	380		160
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021	6	110	16	44	18	0.58	310			310	370		170
BIR-1a Meas	47.37	15.55	11.61	0.167	9.35	13.42	1.78	0.02	0.977	< 0.01				43		< 1							
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021				44		0.58							
NCS DC86312 Meas																							
NCS DC86312 Cert																							
ZW-C Meas																							
ZW-C Cert																							
NCS DC86316 Meas																							
NCS DC86316 Cert																							
NCS DC70009 (GBW07241) Meas																							
NCS DC70009 (GBW07241) Cert																							
OREAS 100a (Fusion) Meas																						17	
OREAS 100a (Fusion) Cert																						18.1	
OREAS 101a																						51	

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Ba	Sr	Y	Sc	Zr	Be	V	LOI	Total	V	Cr	Co	Ni
Unit Symbol	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm
Lower Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	2	2	1	1	2	1	5		0.01	5	20	1	20
Method Code	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS
(Fusion) Meas																							
OREAS 101a (Fusion) Cert																						48.8	
OREAS 101b (Fusion) Meas																						45	< 20
OREAS 101b (Fusion) Cert																						47	9
JR-1 Meas																					< 20		< 20
JR-1 Cert																					2.83		1.67
SARM 3 Meas																							
SARM 3 Cert																							
18135 Orig	66.04	9.98	12.35	0.062	5.95	0.09	0.02	0.24	0.343	0.03				7		< 1		4.71	99.81	59	30	12	< 20
18135 Dup	66.14	9.99	12.39	0.062	5.98	0.10	0.02	0.24	0.345	0.03				8		< 1		4.71	100.0	59	< 20	11	< 20
Method Blank																					< 20	< 1	< 20

QC

Analyte Symbol	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu
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	10	30	1	1	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
NIST 694 Meas																							
NIST 694 Cert																							
NIST 694 Meas																							
NIST 694 Cert																							
DNC-1 Meas	100					5	141	15	36								105						
DNC-1 Cert	100					5	144.0	18.0	38								118						
DNC-1 Meas																							
DNC-1 Cert																							
GBW 07113 Meas							39	46	387								498						
GBW 07113 Cert							43.0	43.0	403								506						
GBW 07113 Meas																							
GBW 07113 Cert																							
LKSD-3 Meas	30	140			25	81					< 2					2.3		50.4	95.4		47.9	8.1	1.60
LKSD-3 Cert	35.0	152			27.0	78.0					2.00					2.30		52.0	90.0		44.0	8.00	1.50
TDB-1 Meas	350	170																17.6	41.1		24.9		2.10
TDB-1 Cert	323	155																17	41		23		2.1
BaSO4 Meas																							
BaSO4 Cert																							
W-2a Meas	110	90	18	2	< 5	19	191	18	92		< 2	< 0.5			0.8	0.9	174		24.5		13.4	3.4	
W-2a Cert	110	80.0	17.0	1.00	1.20	21.0	190	24.0	94.0		0.600	0.0460			0.790	0.990	182		23.0		13.0	3.30	
W-2a Meas																							
W-2a Cert																							
DTS-2b Meas																							
DTS-2b Cert																							
SY-4 Meas							1223	117	533								351						
SY-4 Cert							1191	119	517								340						
SY-4 Meas																							
SY-4 Cert																							
CTA-AC-1 Meas	60																	> 2000	> 3000		1120	163	45.2
CTA-AC-1 Cert	54.0																	2176	3326		1087	162	46.7

Analyte Symbol	Cu	Zn	Ga	Ge	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Cs	Ba	La	Ce	Pr	Nd	Sm	Eu
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	10	30	1	1	5	2	2	2	4	1	2	0.5	0.2	1	0.5	0.5	3	0.1	0.1	0.05	0.1	0.1	0.05
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-ICP	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-ICP	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
BIR-1a Meas	130	70	17				105	12	15								7	0.6	1.9		2.4	1.2	0.56
BIR-1a Cert	125	70	16				110	16	18								6	0.63	1.9		2.5	1.1	0.55
BIR-1a Meas																							
BIR-1a Cert																							
NCS DC86312 Meas																		> 2000	184		1660		
NCS DC86312 Cert																		2360	190		1600		
ZW-C Meas		1050	97			> 1000				199						254							
ZW-C Cert		1050.000	99			8500				198						260							
NCS DC86316 Meas																							
NCS DC86316 Cert																							
NCS DC70009 (GBW07241) Meas	920	100	17	11	67	520								> 1000				25.3	63.7	8.50	34.3	13.6	
NCS DC70009 (GBW07241) Cert	960	100	16.5	11.2	69.9	500								1701				23.7	60.3	7.9	32.9	12.5	
OREAS 100a (Fusion) Meas	160										25							285		50.7	165		4.08
OREAS 100a (Fusion) Cert	169										24.1							260		47.1	152		3.71
OREAS 101a (Fusion) Meas	430										22							836	1460	135	415	53.2	8.38
OREAS 101a (Fusion) Cert	434										21.9							816	1396	134	403	48.8	8.06
OREAS 101b (Fusion) Meas	410										21							805	1390	129	386	50.0	8.10
OREAS 101b (Fusion) Cert	416										20.9							789	1331	127	378	48	7.77
JR-1 Meas	< 10		16		15	272				15	2	< 0.5	< 0.2	2	1.2	21.6		20.5	49.3		25.0	6.4	0.28
JR-1 Cert	2.68		16.1		16.3	257				15.2	3.25	0.031	0.028	2.86	1.19	20.8		19.7	47.2		23.3	6.03	0.30
SARM 3 Meas										948													
SARM 3 Cert										978													
18135 Orig	4090	300	19	< 1	37	6	2	14	131	5	< 2	0.7	0.7	3	0.5	< 0.5	29	17.6	35.1	3.78	13.5	3.0	0.76
18135 Dup	3910	260	18	< 1	34	6	2	13	134	5	< 2	0.8	0.7	3	0.6	< 0.5	29	17.5	33.5	3.62	13.1	2.8	0.73
Method Blank	< 10	< 30	< 1	< 1	< 5	< 2				< 1	< 2	< 0.5	< 0.2	< 1	< 0.5	< 0.5		< 0.1	< 0.1	< 0.05	< 0.1	< 0.1	< 0.05

QC

Analyte Symbol	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
NIST 694 Meas																
NIST 694 Cert																
NIST 694 Meas																
NIST 694 Cert																
DNC-1 Meas							2.1						7			
DNC-1 Cert							2.0						6.3			
DNC-1 Meas																
DNC-1 Cert																
GBW 07113 Meas																
GBW 07113 Cert																

Analyte Symbol	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
GBW 07113 Meas																
GBW 07113 Cert																
LKSD-3 Meas		0.9	5.4						4.9	0.8	1				11.7	
LKSD-3 Cert		1.00	4.90						4.80	0.700	2.00				11.4	
TDB-1 Meas							3.3								2.7	
TDB-1 Cert							3.4								2.7	
BaSO4 Meas																
BaSO4 Cert																
W-2a Meas		0.6		0.8			2.1	0.31	2.4	0.5	< 1	< 0.1	8	< 0.4	2.2	0.5
W-2a Cert		0.630		0.760			2.10	0.330	2.60	0.500	0.300	0.200	9.30	0.0300	2.40	0.530
W-2a Meas																
W-2a Cert																
DTS-2b Meas																
DTS-2b Cert																
SY-4 Meas																
SY-4 Cert																
SY-4 Meas																
SY-4 Cert																
CTA-AC-1 Meas	124	13.9					12.1								23.8	4.2
CTA-AC-1 Cert	124	13.9					11.4								21.8	4.4
BIR-1a Meas	1.9						1.7	0.31	0.6				< 5			
BIR-1a Cert	2.0						1.7	0.3	0.60				3			
BIR-1a Meas																
BIR-1a Cert																
NCS DC86312 Meas	227	33.9	197	37.5	95.3	14.6	91.2	12.9							24.8	
NCS DC86312 Cert	225.0	34.6	183	36	96.2	15.1	87.79	11.96							23.6	
ZW-C Meas										83.6	333	34.2				
ZW-C Cert										82	320	34				
NCS DC86316 Meas									732							
NCS DC86316 Cert									712							
NCS DC70009 (GBW07241) Meas	15.9	3.4	22.6	4.7	13.2			2.50			2140				28.8	
NCS DC70009 (GBW07241) Cert	14.8	3.3	20.7	4.5	13.4			2.4			2200				28.3	
OREAS 100a (Fusion) Meas	22.8	3.8			15.1			2.43							52.5	142
OREAS 100a (Fusion) Cert	23.6	3.80			14.9			2.26							51.6	135
OREAS 101a (Fusion) Meas		5.4	33.4	6.8	18.4	2.90	19.1	2.74							34.6	414
OREAS 101a (Fusion) Cert		5.92	33.3	6.46	19.5	2.90	17.5	2.66							36.6	422
OREAS 101b (Fusion) Meas		5.2	31.6	6.3	18.8	2.72	17.7	2.65							36.7	392
OREAS 101b (Fusion) Cert		5.37	32.1	6.34	18.7	2.66	17.6	2.58							37.1	396
JR-1 Meas		1.0				0.71	5.0	0.77	4.4	1.9		1.4	19		26.6	8.9
JR-1 Cert		1.01				0.67	4.55	0.71	4.51	1.86		1.56	19.3		26.7	8.88
SARM 3 Meas																
SARM 3 Cert																

Analyte Symbol	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Tl	Pb	Bi	Th	U
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.04	0.2	0.1	1	0.1	5	0.4	0.1	0.1
Method Code	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS	FUS-MS
18135 Orig	2.7	0.5	2.8	0.6	1.7	0.24	1.6	0.25	2.9	0.5	5	0.2	36	5.3	3.2	0.8
18135 Dup	2.8	0.5	2.9	0.6	1.7	0.25	1.7	0.26	3.2	0.6	4	0.2	35	5.3	3.1	0.7
Method Blank	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.04	< 0.2	< 0.1	< 1	< 0.1	< 5	< 0.4	< 0.1	< 0.1

Date Submitted:	01-Sep-15
Invoice No.:	A15-07184 (i)
Invoice Date:	02-Oct-15
Your Reference:	

A.W. Beecham GeoServices
P.O. Box 867
540 Rorke Avenue
Haileybury, ON P0J 1K0
Canada

ATTN: A.W. Beecham

CERTIFICATE OF ANALYSIS

13 Rock samples were submitted for analysis.

The following analytical package was requested: Code 4LITHO (1-10) Major Elements Fusion ICP(WRA)/Trace Elements Fusion ICP/MS(WRA4B2)
Code 4B (11+) Major Elements Fusion ICP(WRA)

REPORT **A15-07184 (i)**

Notes:
Total includes all elements in % oxide to the left of total.
We recommend using option 4B1 for accurate levels of the base metals Cu, Pb, Zn, Ni and Ag. Option 4B-INAA for As, Sb, high W >100ppm, Cr >1000ppm and Sn >50ppm by Code 5D. Values for these elements provided by Fusion ICP/MS, are order of magnitude only and are provided for general information. Mineralized samples should have the Quant option selected or request assays for values which exceed the range of option 4B1. Total includes all elements in % oxide to the left of total.

CERTIFIED BY:

Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB
LAB Accrédité CCN

ACTIVATION LABORATORIES LTD.

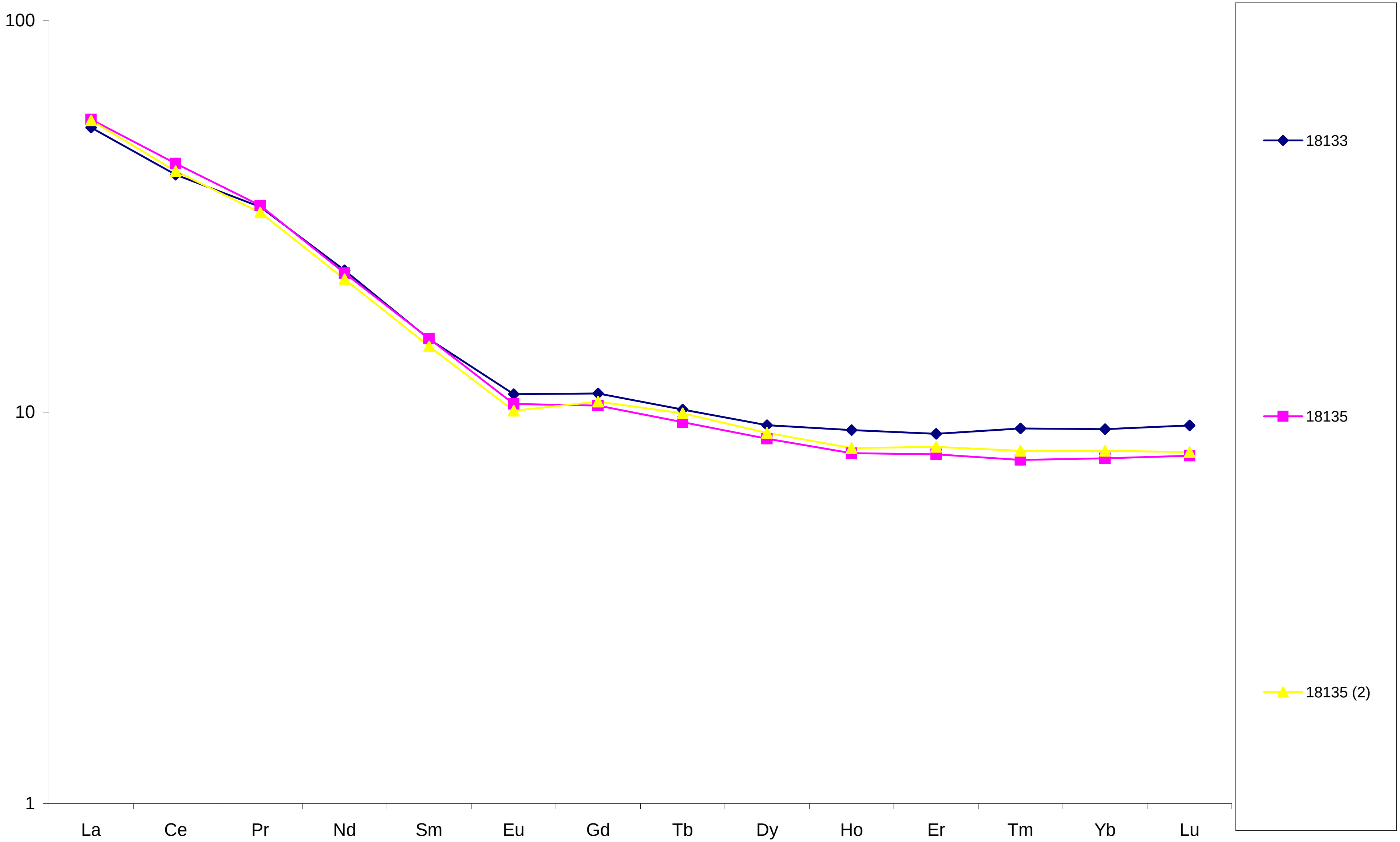
41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5
TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Results

Analyte Symbol	Ag	Cd	Cu	Ni	Pb	Zn	Bi	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Lower Limit	0.5	0.5	1	1	5	1	10	0.001
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
18134	1.5	8.5	207	12	49	2770	< 10	2.02
18136	7.8	14.9	> 10000	5	30	7150	10	2.06
18137	< 0.5	< 0.5	257	32	< 5	137	< 10	0.061
18138	< 0.5	< 0.5	91	35	< 5	99	< 10	0.038
18139	< 0.5	< 0.5	26	35	< 5	118	< 10	0.013
18140	< 0.5	< 0.5	57	34	< 5	94	< 10	0.023
18142	< 0.5	< 0.5	42	9	< 5	104	< 10	0.019
18143	< 0.5	< 0.5	89	9	< 5	63	< 10	0.156
18144	< 0.5	< 0.5	47	10	< 5	67	< 10	0.086
18145	< 0.5	< 0.5	39	11	< 5	103	< 10	0.031
18146	< 0.5	< 0.5	37	10	< 5	71	< 10	0.075

QC

Analyte Symbol	Ag	Cd	Cu	Ni	Pb	Zn	Bi	S
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
Lower Limit	0.5	0.5	1	1	5	1	10	0.001
Method Code	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP	TD-ICP
GXR-1 Meas	28.9	2.7	1070	41	670	673	1260	0.220
GXR-1 Cert	31.0	3.30	1110	41.0	730	760	1380	0.257
GXR-4 Meas	3.5	< 0.5	6480	45	47	68	30	1.80
GXR-4 Cert	4.0	0.860	6520	42.0	52.0	73.0	19.0	1.77
SDC-1 Meas			33	39	26	98		
SDC-1 Cert			30.000	38.0	25.00	103.00		
GXR-6 Meas	< 0.5	< 0.5	64	27	82	113	< 10	0.015
GXR-6 Cert	1.30	1.00	66.0	27.0	101	118	0.290	0.0160
DNC-1a Meas			100	262	5	53		
DNC-1a Cert			100.00	247	6.3	70.0		
SBC-1 Meas		0.6	34	93	29	177	< 10	
SBC-1 Cert		0.40	31.0000	82.8	35.0	186.0	0.70	
SdAR-M2 (U.S.G.S.) Meas		5.3	242	59	846	813	< 10	
SdAR-M2 (U.S.G.S.) Cert		5.1	236.0000	48.8	808	760	1.05	
18143 Orig	< 0.5	< 0.5	89	9	< 5	63	< 10	0.159
18143 Dup	< 0.5	< 0.5	89	9	< 5	64	< 10	0.154
Method Blank	< 0.5	< 0.5	< 1	< 1	< 5	< 1	< 10	0.001
Method Blank	< 0.5	< 0.5	< 1	< 1	< 5	< 1	< 10	< 0.001
Method Blank	< 0.5	< 0.5	< 1	< 1	< 5	< 1	< 10	< 0.001


100
10
1
La
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18133
18135
18135 (2)