# ASSESSMENT REPORT ON MAPPING & PROSPECTING CLAIM 4256762 BORDEN LAKE PROJECT

# COCHRANE TOWNSHIP PORCUPINE DISTRICT, ONTARIO

Submitted to:
GEOSCIENCE ASSESSMENT OFFICE
Ministry of Northern Development and Mines and Forestry
933 Ramsey Lake Road
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Date: 17 November 2012

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#### INTRODUCTION

During the spring of 2012, Probe Mines Limited conducted mapping, prospecting and sampling on the Borden Lake Project. This report details the activities completed on one claim, 4256762, located in Cochrane township.

A surface gold showing is present on the Borden Lake Project and has been identified over an area 150 metres long by up to 45 metres wide, hosted by a highly altered and metamorphosed suite of rocks within the volcano-sedimentary horizon. Grab samples from selected outcrop returned values of up to 3.4 g/t gold, and the property is considered to have excellent potential to host a low-grade, bulk tonnage-type of gold deposit. Limited exploration work investigating the base metal potential of the volcanic horizon was previously undertaken by Noranda. Sulphide mineralized felsic fragmental units were identified which returned anomalous base metal concentrations, suggesting good potential for hosting volcanogenic massive sulphide ("VMS") deposits.

In July 2010, a drill program was completed to test the extent of the surface showing. Results indicated that there was excellent potential to host a low-grade, bulk tonnage gold deposit on the property. Additional drilling on the property has continued to illustrate this potential and Probe released an updated NI 43-101 compliant Resource Estimate in May 2012 on the Borden Lake Deposit. Previous assessment for the Project was filed under work report W1060.02610 in November 2010, W1160.00098 in January 2011 and W1160.02058 in September 2011. Additional drilling was filed in August 2012 under work report W1260.02025.

The property is located in the Borden and Cochrane Townships, approximately 9 km east-northeast of the town of Chapleau, Ontario.

All maps coordinates are UTM Nad 83, Zone 17. All costs are in Canadian dollars.

#### **LOCATION AND ACCESS**

The Borden Lake project is located in the Borden Lake area of the 1:50,000 NTS topographic sheet 41O/14, approximately 160 km southwest of the city of Timmins and 9 km east-northeast of the town of Chapleau, Ontario (Figure 1). Access to the property is via Highway 101.

The current report details work applicable to claim 4256762 located in Cochrane Township. An airborne geophysical survey was previously completed on this claim and assessment applied in September 2011 (W1160.02058).

The amount of credits applied from the work completed as detailed in this report is \$2562 and is being used towards keeping the claim in good standing.

Claim Due Applied Assess Required Claim# District Township G-Plan NTS Units Date Required Previously Now 30-Nov-12 COCHRANE G-1085 41014 4 \$1,600.00 \$1,042.00 4256762 POR \$558.00

**Table 1 – Mineral Claim Information** 

#### **GEOLOGY**

The Borden Lake Project is located in the Superior Province of Northern Ontario. The Superior Province is divided into numerous Subprovinces, bounded by linear faults and characterized by differing lithologies, structural/tectonic conditions, ages and metamorphic conditions. The Subprovinces are divided into 4 categories: Volcano-plutonic; Metasedimentary; Gneissic/plutonic; and High-grade gneissic (Thurston, 1991). The rocks range in age from 3.5Ga to less than 2.76 Ga and form an east-west trending pattern of alternating terranes.

Regionally (Figure 2), the Kapuskasing Structural Zone (KSZ), an elongate north to northeast trending structure, transects the Wawa Subprovince to the west, and the Abitibi Subprovince to the east. The KSZ is approximately 500km long, extending from James Bay at its northeast end to the east shore of Lake Superior at its southwest end. Typically the KSZ is represented by high metamorphic grade granulite and amphibolite facies paragneiss, tonalitic gneisses and anorthosite-suite gneisses occurring along a moderate northwest dipping crustal scale thrust fault believed to have resulted from an early Proterozoic event (Percival and McGrath 1986).

The Wawa and Abitibi Subprovinces, which abut the KSZ, are volcano-plutonic terranes comprising low metamorphic grade metavolcanic-metasedimentary belts. They contain lithologically diverse metavolcanic rocks with various intrusive suites and to a lesser extent chemical and clastic metasedimentary rocks. The individual greenstone belts within the subprovinces have been intruded, deformed and truncated by felsic batholiths.

The east trending Abitibi and Swayze greenstone belts of the Abitibi subprovince have historically been explored and mined for a variety of commodities; while the Wawa subprovince hosts the east-trending Wawa greenstone belt and the Mishibishu greenstone belt where much exploration and mining has occurred.

Several alkalic rocks such as carbonatite complexes along with lamprohyric dykes intruded along the KSZ, approximately 1022 to 1141 Ma ago. The carbonatite occurrences appear to display close spatial relationships with major northeast-striking shear zones. Proximal to the project area, on the northern side of the KSZ, three (3) such complexes are known to occur. These include the Borden Township carbonatite complex, the Nemegosenda Lake alkalic complex; and the Lackner Lake alkalic complex.

#### **LOCAL GEOLOGY**

The Borden Lake greenstone belt is in Borden and Cochrane Townships. It is a west trending belt of supracrustal rocks, approximately 3 km wide, that includes mafic to ultramafic gneiss, pillow basalt, felsic metavolcanic rocks, felsic porphyries and tonalites which are overlain by a +30 m thick suite of Timiskaming-aged clastic metasediments (Moser 1989, Moser 1994, Moser 2008, Percival 2008). The metasediments comprise greywackes, arkose, arenite, quartz pebble conglomerate and polymictic cobble conglomerate, metamorphosed to upper amphibolite facies. Gneissic fabrics are evident and the rocks appear to have been affected by regional deformation. Several episodes of deformation are reflected in the structural imprint of the rocks, with the last deformation being related to the development of the KSZ.

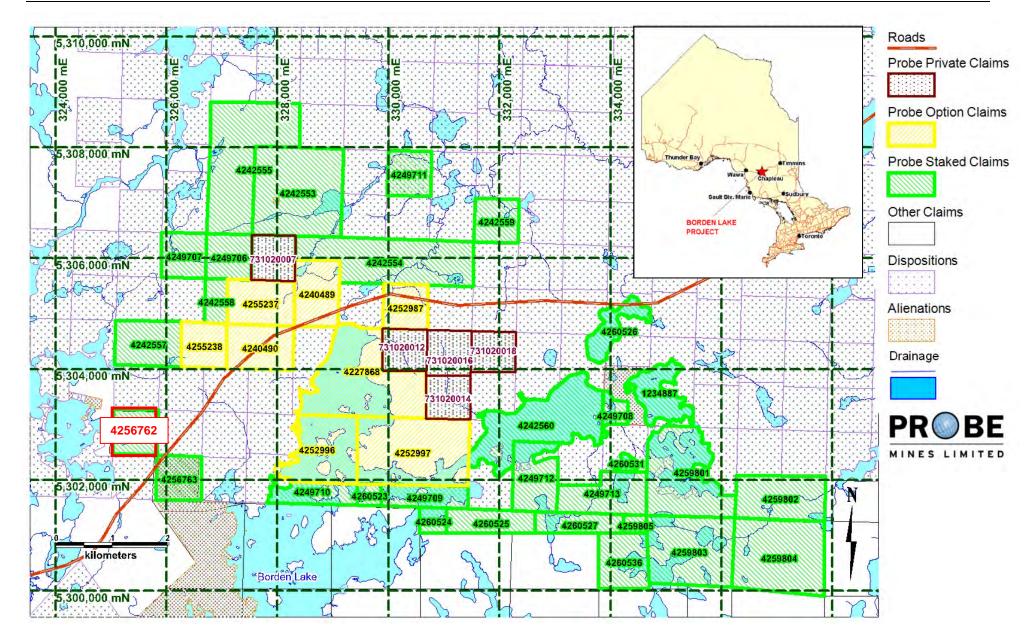


Figure 1- Location of the Borden Lake Project (Claim 4256762 is highlighted in red)

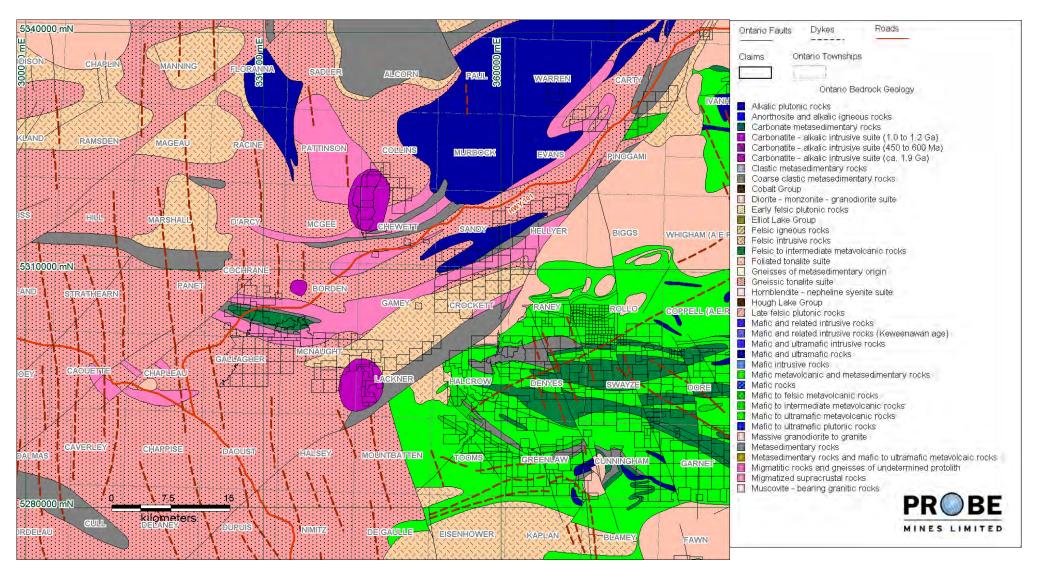


Figure 2 – General Geology of the Borden Lake Area

#### **PREVIOUS WORK**

Minimal previous work has been completed on the property. In the early to mid 1980s Noranda Exploration Co. Ltd. carried out an exploration program in the west-northwest section of the project area. The program consisted of geological mapping and geophysical surveys including magnetic and Max-min EM. A drill program was also conducted. AFRIs 41O14SW1003, 41O14SW0003 and 41O14SW0004 detail the results of this work.

Various assessment reports were also filed by M. Tremblay in the early 1990s. Work included VLF surveys, soil geochemical sampling and overburden stripping. The AFRIs that detail the work completed include 41O14SW9179, 41O14SW9180, 41O14SW9184, 41O14SW9200, 41O15NE0001 and 41O14SW0001.

In July 2010, Probe Mines completed a diamond drill program comprising eight holes and totaling 790m on claim number 4227868. An assessment report on the drilling was filed in November 2010 under work report W1060.02610. Results indicated that there is excellent potential to host a low-grade, bulk tonnage gold deposit on the property. A Geotech VTEM survey was flown by Probe Mines between January 5 and January 20 2011. Additional drilling in 2011 was filed under work report W1260.02025 in August 2012.

### MAPPING, PROSPECTING AND SAMPLING

In the spring of 2012, Probe Mines initiated a property wide mapping and prospecting program on the Borden Lake Project. Where applicable, sediment sampling was also completed. These field activities were completed by Probe geologists Breanne Beh and Daniel LaFontaine. Sharon Allan, consulting geologist for Probe Mines, planned, coordinated and supervised the 2012 programs, which also included data compilation, analysis and interpretation, and is the author of this report.

### Mapping & Prospecting

Claim 4256762 is located in the south western area of Cochrane Township. On July 18 and 19, 2012, the claim was accessed by truck off of highway 101, and then traversed in east-west lines on foot to locate any outcrop present within the claim boundaries.

Figure 3 illustrates the personnel tracks recorded by the GPS (Global Positioning Device) on July 18 in a purple dotted line and on July 19 in a pink dotted line. Twelve outcrops were discovered on the traverses and eight were sampled for geochemical analysis. The details of the outcrops are listed in Table 2.

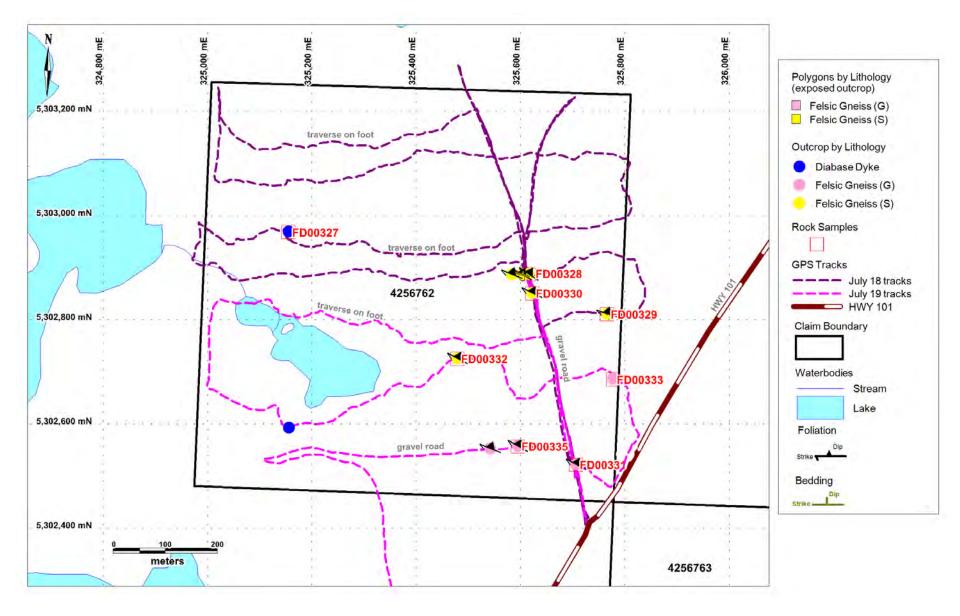


Figure 3 – Map of Claim 4256762 with locations of Rock Outcrops & Samples (see Appendix I for 1:3,000 map)

WAY		%	%	%	%		S1		S0					
POINT	LITHOLOGY	Biotite	Garnet	Pyrite	Pyrrhotite	FABRIC	STRIKE	S1 DIP	STRIKE	S0 DIP	SAMPLE	Other DESCRIPTION	UTME	UTMN
1	Diabase Dyke	0	0	0.5	0.5	Massive						sm ridge striking 126	325156	5302593
2	Diabase Dyke	0	0	0.0	0.0	Massive					FD00327		325155	5302970
3	Felsic Gneiss (S)	5	0	0.5	0.0	Moderately-slightly foliated	300	84	284	64		S0 with crosscutting fg(g)	325603	5302887
4	Felsic Gneiss (S)	5	0	0.5	0.0	Moderately-slightly foliated	304	64			FD00328		325616	5302888
5	Felsic Gneiss (S)	5	0	0.0	0.0	Moderately-slightly foliated	292	78					325583	5302888
6	Felsic Gneiss (S)	10	0	0.0	0.5	Moderately-slightly foliated	288	76			FD00329		325766	5302812
7	Felsic Gneiss (S)	10	0	0.0	0.0	Moderately-slightly foliated	296	78			FD00330		325622	5302852
8	Felsic Gneiss (G)	10	0	0.0	0.0	Well foliated	298	76			FD00331		325707	5302523
9	Felsic Gneiss (S)	10	0	0.0	0.0	Moderately-slightly foliated	298	76			FD00332		325479	5302726
10	Felsic Gneiss (G)	5	0	0.0	0.0	Massive					FD00333		325778	5302687
11	Felsic Gneiss (G)	10	0	0.0	0.0	Well foliated	300			•	FD00335		325595	5302558
12	Felsic Gneiss (G)	10	0	0.0	0.0	Well foliated	290						325542	5302553

**Table 2– Rock Outcrops & Sample Descriptions** 

Two of the outcrops were diabase dyke. Both were massive in fabric and contained minor pyrite and pyrrhotite (0.5%). One of the outcrops, in the southwestern part of the claim, occurred as a small ridge striking at  $126^{\circ}$ . A prospecting sample, FD00327, was collected from the outcrop in the northwest-central part of the claims.

Four of the outcrops were Felsic Gneiss (G), the G denoting granite as the inferred protolith, and as such an orthogneiss. Typically these were well foliated with one location having a massive fabric. No garnet, pyrite or pyrrhotite was observed in the outcrops and biotite ranged from 5-10%. Three of the outcrops were sampled (FD00331, 333, 335). Foliation measurements, S1, were recorded at three of the outcrops and are listed in Table 2 and illustrated in the 1:3,000 scale map in Appendix I. At two of the locations, no dip measurements were recorded, only strike.

The other six outcrops were Felsic Gneiss (S), the S denoting an inferred sedimentary protolith and as such a paragneiss. All were moderately to slightly foliated and none contained garnet. Biotite content varied from 5-10% and pyrite was present (0.5%) in two outcrops, pyrrhotite (0.5%) present in only one location. Foliation measurements, S1, were recorded at all locations, and bedding measurements, S0, were recorded at one location. These are listed in Table 2 and illustrated in the 1:3,000 scale map in Appendix I. Prospecting samples FD00328, 329, 330, 332 were collected at four of the outcrops.

Throughout the course of the summer, rock samples were sent in batches of 37 samples, along with 3 QAQC samples that comprised 2 certified standard materials and 1 blank sample. Batches were sent to Activation Laboratories in Timmins, ON to be crushed and pulverized, and then analyzed by gold Fire Assay (AA finish) and Aqua regia-MS Ultratrace 1.

### Description of Analysis - Rock Assays

In Fire Assay Fusion, 30 g of the pulverized rock sample is mixed with fire assay fluxes (borax, soda ash, silica, litharge) and with Ag added as a collector. After being placed in a fire clay crucible, the mixture is preheated at 850°C, intermediate to 950°C and finished at 1060°C, with the full process lasting approximately 60 minutes. The crucibles are removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button is placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag (doré bead) + Au. With an AA Finish, the entire Ag doré bead is dissolved in aqua regia and the gold content is determined by Atomic Absorption (AA). This is an instrumental method of determining element concentration by introducing an element in its atomic form, to a light beam of appropriate wavelength causing the atom to absorb light – atomic absorption. The reduction in the intensity of the light beam directly correlates with the concentration of the elemental atomic species. Detection limits for Fire Assay with AA finish are 5 to 3000ppb Au (<a href="https://www.actlabs.com">www.actlabs.com</a>).

Ultratrace I, a fifty-nine (59) multi-element package, is an aqua regia partial digestion which utilizes a mixture of hydrochloric and nitric acids to dissolve sulphides, some oxides and some altered silicates. Base metals will normally be totally dissolved but this is dependent on mineralogy. A 0.5 g sample is digested in aqua regia at 90 ° C in a microprocessor controlled digestion block for 2 hours. Digested samples are diluted and analyzed by Perkin Elmer Sciex ELAN 6000, 6100 or 9000 ICP/MS (<a href="www.actlabs.com">www.actlabs.com</a>). Detection Limits and the suite of elements for Ultratrace I are presented in Table 3.

Table 3- Detection Limits and the suite of elements for Ultratrace I

Element	Units	Detection	Element	Units	Detection
Li	ppm	0.1	In	ppm	0.02
Ве	ppm	0.1	Sn	ppm	0.05
В	ppm	1	Sb	ppm	0.02
Na	%	0.001	Те	ppm	0.02
Mg	%	0.01	Cs	ppm	0.02
Al	%	0.01	Ва	ppm	0.5
K	%	0.01	La	ppm	0.5
Bi	ppm	0.02	Ce	ppm	0.01
Ca	%	0.01	Pr	ppm	0.1
Sc	ppm	0.1	Nd	ppm	0.02
V	ppm	1	Sm	ppm	0.1
Cr	ppm	0.5	Eu	ppm	0.1
Mn	ppm	1	Gd	ppm	0.1
Fe	%	0.01	Tb	ppm	0.1
Со	ppm	0.1	Dy	ppm	0.1
Ni	ppm	0.1	Но	ppm	0.1
Cu	ppm	0.01	Er	ppm	0.1
Zn	ppm	0.1	Tm	ppm	0.1
Ga	ppm	0.02	Yb	ppm	0.1
Ge	ppm	0.1	Lu	ppm	0.1
As	ppm	0.1	Hf	ppm	0.1
Se	ppm	0.1	Та	ppm	0.05
Rb	ppm	0.1	W	ppm	0.1
Sr	ppm	0.5	Re	ppm	0.001
Υ	ppm	0.01	Au	ppb	5
Zr	ppm	0.1	TI	ppm	0.02
Nb	ppm	0.1	Pb	ppm	0.01
Мо	ppm	0.01	Th	ppm	0.1
Ag	ppm	0.002	U	ppm	0.1
Cd	ppm	0.01			

### **RESULTS**

Certificates of Analysis for the 8 prospecting rock samples are presented in Appendix II. Maps illustrating concentration ranges for select elements including Gold (Au), Silver (Ag), Copper (Cu) and Zinc (Zn) are presented in Appendix III.

None of the 8 rocks returned anomalous values of gold, silver, copper or zinc.

#### **CONCLUSIONS & RECOMMENDATIONS**

The objective of the 2012 summer mapping, prospecting and sampling program was to assess the potential for gold mineralization in other areas of the Borden Lake Property.

The results for the 8 rock assays collected would suggest that the potential for gold mineralization within the boundaries of this claim is low. However, it is recommended that a soil sampling geochemical survey be completed on the claim to further evaluate the potential.

#### REFERENCES

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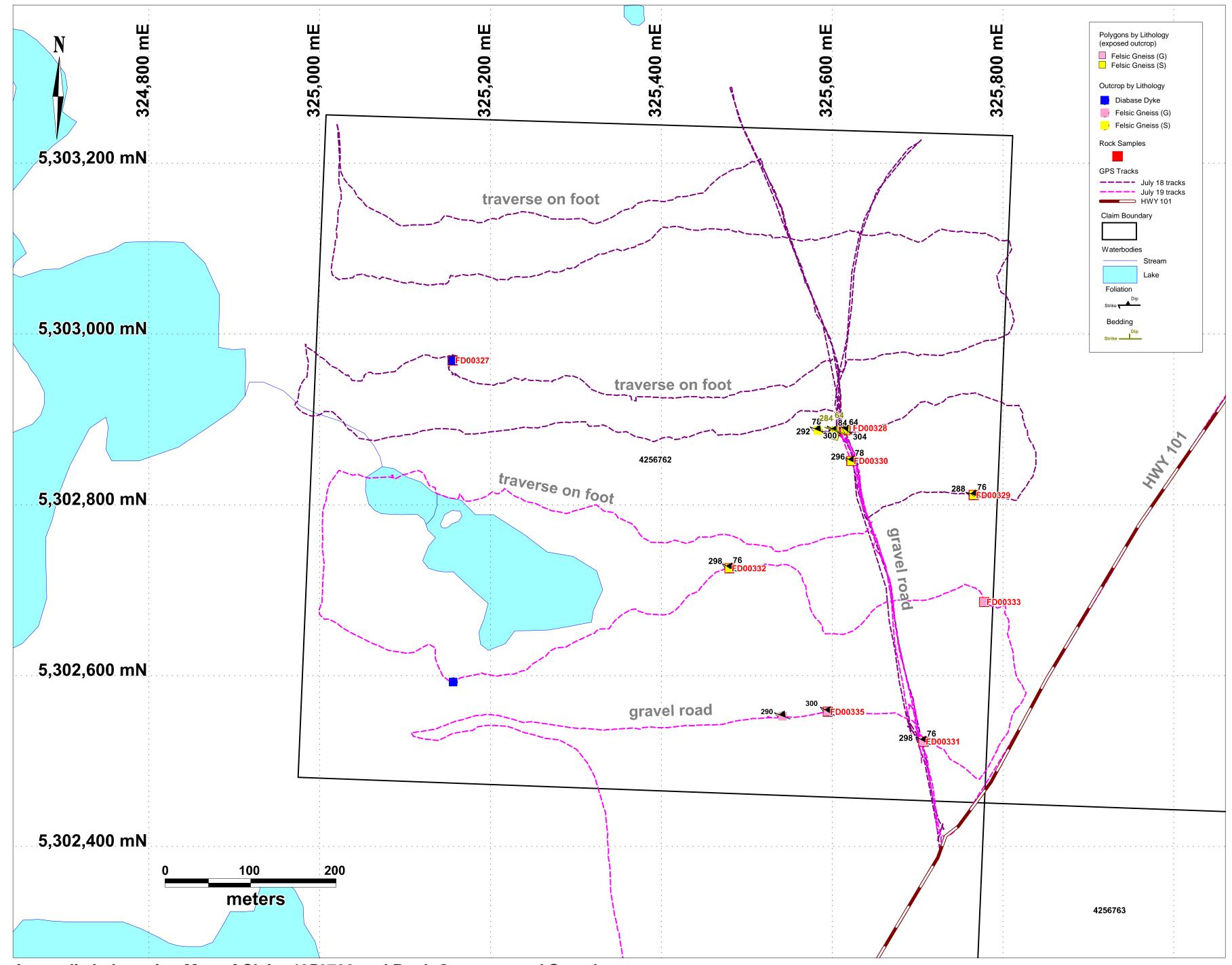
Percival, J. 2008. Field Guide to the Kapuskasing Uplift, Chapleau-Foleyet Transect: A window on the deep crust, in Geological Society of America Field Forum "Late Archean Crust: Magmatism and Tectonics of the Abitibi Subprovince, Canadian Shield" p. 46-76.

Thurston, P.C., 1991, Archean geology of Ontario: Introduction, in Geology of Ontario, Ontario Geological Survey, Special Volume 4, Part I, p.73-78

Activation Laboratories Website (http://www.actlabs.com/page.aspx?menu=74&app=243&cat1=759&tp=2&lk=no)

# APPENDIX I

Large Scale Location Map Claim 4256762 Scale 1:3000



Appendix I: Location Map of Claim 4256762 and Rock Outcrops and Samples Scale 1:3000

# APPENDIX II

Certificate of Analyses

# Quality Analysis ...



### Innovative Technologies

Date Submitted: 24-Jul-12 Invoice No.: A12-07926

Invoice Date: 08-Aug-12

Your Reference: Borden Lake

Probe Mines
2 Toronto St.
Suite 306
Toronto Ontario M5C 2B6

ATTN: David Palmer-Res/Inv/Conf

# **CERTIFICATE OF ANALYSIS**

2 Pulp samples and 38 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 1A2-Timmins Au - Fire Assay AA

Code UT-1-0.5g Aqua Regia ICP/MS

REPORT **A12-07926** 

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

#### Notes:

Assays are recommended for values >10,000 for Cu and Au. Due to matrix change used in AR-MS analysis, the detection limts for Au has been modified to 5ppb. The AU from AR-MS is only semi-quantitative. For accurate Au data,fire assay is recommended.

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

Emmanuel Eseme , Ph.D.

**Quality Control** 

**CERTIFIED BY:** 





							Α	ctivati	on Lal	borato	ries Lt	td.	Repo	ort:	A12-07	7926								
Analyte Symbol	Au	Ü	Ве	В	Na	Mg	Al	K	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	NI	Cu	Zn	Ga	Ge	As	Se	Rb
Unit Symbol	ppb	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm								
Detection Limit	5	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	0.5	1	0.01	0.1	0.1	0.01	0.1	0.02	0.1	D. 1	0.1	0.1
Analysis Method	FA-AA	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS						

FD0327	< 5	10.9	0.2	< 1	0,238	0.91	2,54	0.08	0.03	2.14	6.2	115	70.7	386	3.21	16,9	29.3	68,3	37.8	7.64	< 0.1	3.1	0,2	9.0
FD0328	< 5	6.0	0.2	< 1	0,222	1.25	1,39	0,25	0,24	1,80	9.7	76	92.9	432	2.74	15.0	53.8	26.2	36.7	5.71	< 0.1	1.0	0.5	9,0
FD0329	< 5	30.9	0.3	1	0.218	1.64	2.21	0.34	0.25	2.09	10.0	85	78.2	476	3.05	18.4	69.0	22.1	48.4	7.11	< 0.1	0.2	0.2	19.1
FD0330	< 5	23,5	0.2	1	0,162	0.57	0,93	0.32	0.04	0.31	3,3	33	7.1	122	1.48	5.9	8.5	42.6	26.2	5.59	< 0 1	0.7	0.2	13,5
FD0331	< 5	17.0	0.3	< 1	0.148	0.76	1.19	0,60	0.03	0,48	5.4	91	19.4	335	1,85	8.1	19,4	1.09	58.1	6.40	< 0.1	0.9	0.3	62.3
FD0332	< 5	27.8	0.1	< 1	0.125	0.56	1.08	0.58	< 0.02	0.30	3.2	38	15.5	210	1.52	6.5	14.4	8.98	30.5	4.79	< 0.1	0.4	< 0.1	39.0
FD0333	< 5	4.4	0.2	< 1	0.095	0.03	0.36	0.21	0.05	0,07	0.3	5	< 0.5	57	0.43	0,5	0.4	1.13	8.1	1.75	< 0.1	0.5	0.1	12.7

							Α	ctivati	on Lal	orato	ries Lt	td.	Repo	ort:	A12-07	7926								
Analyte Symbol	Sr	Y	Zr	Nb	Мо	Ag	Cd	In	Sn	Sb	Те	Cs	Ва	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	На	Er
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm							
Detection Limit	0.5	0.01	0.1	0.1	0.01	0.002	0.01	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.1	0.02	0.1	D.1	0.1	0.1	D. 1	0.1	0.1
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS							

FD0327	63.7	11.0	8.3	0.3	1.07	0.069	0.08	0.02	0,41	0.02	0.04	0.56	30.0	5.4	12.2	1,5	6,81	1.7	0.5	2.0	0,3	2.1	0.4	1.2
FD0328	14.1	9.96	2.5	0.5	0.86	0.078	0.05	< 0.02	0.58	0.03	0.07	0.63	16,5	7.7	16,8	1.9	7.59	1.8	0.6	2.0	0.3	1.9	0.4	1.1
FD0329	17.3	9.90	2.3	0.2	0.74	0.080	0.08	< 0.02	0.46	< 0.02	< 0.02	0.93	65.2	9.2	20.4	2.3	8.80	1.8	0.6	2.0	0.3	1.9	0.4	1.0
FD0330	28,7	2,72	8.3	< 0.1	0,15	0.043	0,03	< 0.02	0.16	< 0.02	0.11	1,00	127	10,2	25.2	2,4	8,39	1,4	0.2	1.0	0.1	0.6	0.1	0,3
FD0331	30.7	7.16	4.2	0.4	0.13	< 0.002	0.04	0.02	1.24	0.02	0.09	2.03	64.5	22.8	60.1	5.7	20.7	3.7	0,6	2.8	0.3	1.7	0.3	0.7
FD0332	28.1	2.32	5.7	0.3	107	0.002	< 0.01	< 0.02	0.40	< 0.02	0.09	2.07	257	5.0	14.1	1.1	4.17	8.0	0.2	0.7	< 0.1	0.5	< 0.1	0.2
FD0333	15.7	1 00	17.2	< 0.1	1,30	0.044	0.03	< 0.02	0.08	< 0.02	0.09	0,59	37.5	< 0.5	1.56	0.1	0.44	0,1	< 0.1	0.2	< 0.1	0.2	< 0.1	0.1

							Α	ctivati	on Lai	orato	ries Lt	d.	Report:	A12-07926	
Analyte Symbol	Tm	Yb	Lu	Hf	Та	W	Re	Au	TI	Pb	Th	u		-1 - 1 - 1	
Unit Symbol	ppm	ppb	ppm	ppm	ppm	ppm									
Detection Limit	0.1	0.1	0.1	0.1	0.05	0.1	0.001	5	0.02	0.01	0.1	0.1			
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS										

FD0327	0,2	1.0	0.2	0 2	< 0.05	< 0.1	0.002	< 5	0.04	2,92	1,3	0.2
FD0328	0.2	1.0	0.2	< 0.1	< 0.05	< 0.1	0,002	< 5	0.05	1.37	1.8	0.5
FD0329	D.1	0.9	0.1	< 0.1	< 0.05	< 0.1	0.001	< 5	0.07	2.73	1.6	0.3
FD0330	< 0,1	0,2	< 0.1	0,1	< 0,05	< 0.1	0,001	< 5	0.06	1.50	2,2	0.2
FD0331	< 0.1	0.6	< 0.1	0.1	< 0.05	< 0.1	0.001	< 5	0.41	5,90	19.6	0.3
FD0332	< 0.1	0.2	< 0.1	0.1	< 0.05	< 0.1	0 010	< 5	0.20	2.40	2.2	0.3
FD0333	< 0 1	0.1	< 0.1	0.6	< 0.05	< 0.1	0 001	< 5	0.06	8.25	15,2	2.6

							Α	ctivati	on Lab	orato	ries Lt	d.	Repo	ort:	A12-07	926								
Quality Control																								
Analyte Symbol	Au	Li	Ве	В	Na	Mg	Al	K	Bi	Са	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	R
Unit Symbol	ppb	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppn							
Detection Limit	5	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0:1	1	0.5	-1	0.01	0_1	0.1	0.01	D.1	0.02	0.1	D. 1	0.1	0.
Analysis Method	FA-AA	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
GXR-1 Meas		5.3	0.9	13	0.048	0.16	0.37	0.04	1350	0.81	1.3	77	7.1	836	23.3	7.6	37.1	1250	759	4.77		366	16.1	2.3
GXR-1 Cert		8.20	1,22	15.0	0.0520	0.217	3,52	0.050	1380	0.960	1.58	80.0	12.0	852	23.6	8.20	41.0	1110	760	13.8		427	16.6	14.
GXR-4 Meas		8.2	1.3	2	0.107	1 44	2.53	1,52	19.7	0.75	6.1	70	49.7	134	2.60	12.6	33.4	5430	60.4	9.67		81.4	4.8	86.
GXR-4 Cert		11.1	190	4.50	0.564	1.66	7.20	4.01	19.0	1.01	7.70	87.0	64.0	155	3.09	14.6	42.0	6520	73.0	20.0		98.0	5.60	16
GXR-6 Meas									< 0.02															
GXR-6 Cert									0,290															
OxD87 Meas	399																							
OxD87 Cert	417.000																							
OxD87 Meas	399																							
OxD87 Cert	417.000																							

								X 41 1 2 1 1 1 1	201 22-21				Repo			7-7								
Quality Control																								
Analyte Symbol	Sr	Υ	Zr	Nb	Mo	Ag	Cd	In	Sn	Sb	Te	Cs	Ва	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Но	E
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm							
Detection Limit	0.5	0.01	0.1	0.1	0.01	0.002	0.01	0.02	0.05	0.02	0.02	0.02	0.5	0,5	0.01	0.1	0.02	0.1	D.1	0.1	0.1	D.1	0.1	0.1
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS							
GXR-1 Meas	196	27.7	9.2	< 0.1	18.0	30,8	2.35	0.69	27.8	114	13.8	2.56	199	4.9	10.5		5.70	2.1	0.5	3.4	0.6	4.4		
GXR-1 Cert	275	32,0	38.0	0.800	18.0	31.0	3,30	0.770	54.0	122	13,0	3.00	750	7.50	17.0		18.0	2.70	0.690	4.20	0.830	4.30		
GXR-4 Meas	62.4	10.4	7.1	0.2	283	2,88	0.11	0.17	5.43	4.11	0.83	2.20	29.4	39,3	77.8		29.7	4.8	1.1	3.9	0.5	2.3		
GXR-4 Cert	221	14.0	186	10.0	310	4.00	0.860	0.270	5.60	4.80	0.970	2.80	1640	64.5	102		45.0	6.60	1.63	5.25	0.360	2.60		
GXR-6 Meas																								
GXR-6 Cert																								
OxD87 Meas																								
OxD87 Cert																								
OxD87 Meas																								
OxD87 Cert																								

							Α	ctivati	on Lab	orato	ries Lt	d.	Report:	A12-07926
Quality Control														
Analyte Symbol	Tm	Yb	Lu	Hf	Та	W	Re	Au	TI	Pb	Th	U		
Jnit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm		
Detection Limit	0.1	0.1	0.1	0.1	0.05	0.1	0.001	5	0.02	0.01	0.1	0.1		
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS		
XR-1 Meas	0.4	2.1	0.3	0.1	< 0.05	148		3240	0.32	593	1.8	28.3		
XR-1 Cert	0.430	1.90	0,280	0.960	0.175	164		3300	0.390	730	2.44	34.9		
XR-4 Meas	0.1	0.8	0.1	0.2	< 0.05	10,2		409	2.34	39.8	16.0	4.1		
XR-4 Cert	0.210	1.60	0.170	6.30	0.790	30.8		470	3.20	52.0	22.5	6.20		
XR-6 Meas									< 0.02	< 0.01	< 0.1	< 0.1		
XR-6 Cert									2.20	101	5,30	1.54		
xD87 Meas														
xD87 Cert														
xD87 Meas														
xD87 Cert														

< 0.1 < 0.1 < 0.1 < 0.1 < 0.05 < 0.1 < 0.001 < 5 < 0.02 < 0.01 < 0.1 < 0.1

Method Blank

# Quality Analysis ...



# Innovative Technologies

Date Submitted: 25-Jul-12
Invoice No.: A12-07974
Invoice Date: 14-Aug-12

Your Reference: Borden Lake

Probe Mines
2 Toronto St.
Suite 306
Toronto Ontario M5C 2B6

ATTN: David Palmer-Res/Inv/Conf

# **CERTIFICATE OF ANALYSIS**

2 Pulp samples and 38 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 1A2-Timmins Au - Fire Assay AA

Code UT-1-0.5g Aqua Regia ICP/MS

REPORT **A12-07974** 

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

#### Notes:

Assays are recommended for values >10,000 for Cu and Au. Due to matrix change used in AR-MS analysis, the detection limts for Au has been modified to 5ppb. The AU from AR-MS is only semi-quantitative. For accurate Au data,fire assay is recommended.

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

CERTIFIED BY:

Emmanuel Eseme , Ph.D.

Quality Control



							Α	ctivati	on Lai	oorato	ries Lt	d.	Repo	ort:	A12-07	974 re	2V 1							
Analyte Symbol	Au	U	Ве	В	Na	Mg	AL	K	Bi	Са	Sc	V	Cr	Mn	Fe	Co	NI	Cu	Zn	Ga	Ge	As	Se	Rb
Unit Symbol	ppb	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	5	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	0.5	-1	0.01	0.1	0.1	0.01	D.1	0.02	0.1	D. 1	0.1	0.1
Analysis Method	FA-AA	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS						
FD00335	< 5	0.2	< D.1	< 1	0.022	0.02	0.34	< 0.01	0.02	0 51	0.6	11	2.1	19	0 40	0.1	0.4	0.32	0.6	2.69	< 0.1	0.9	0.3	1.5

		Activation Laboratories Ltd. Report: A12-07974 rev 1																						
Analyte Symbol	Sr	Y	Zr	Nb	Мо	Ag	Cd	In	Sn	Sb	Те	Cs	Ва	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Но	Er
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	ppm
Detection Limit	0.5	0.01	0.1	0.1	0.01	0.002	0.01	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.1	0.02	0.1	0.1	0.1	0.1	D. 1	0.1	0.1
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
FD00335	93.0	4.93	1.8	0.8	0.32	0.079	< 0.01	< 0.02	0.63	0.03	< 0.02	0.15	6.3	11.2	35 4	2.8	9.73	1.9	0.6	1.9	0.2	1.1	0.2	0.5

							Α	ctivati	on Lai	orato	ries Lt	d.	Report:	A12-07974 rev 1
Analyte Symbol	Tm	Yb	Lu	Hf	Та	W	Re	Au	TI	Pb	Th	U		
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm		
Detection Limit	0.1	0.1	0.1	0.1	0.05	0.1	0.001	5	0.02	0.01	0.1	0.1		
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS		
FD:00335	< □.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 5	< 0.02	1.01	13.8	0.3		

							Α	Activation Laboratories Ltd. Report: A12-07974 rev 1																
Quality Control																								
Analyte Symbol	Au	Li	Ве	В	Na	Mg	Al	K	Bi	Са	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Rb
Unit Symbol	ppb	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm								
Detection Limit	5	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	0.5	1	0.01	0_1	0.1	0.01	D.1	0.02	0.1	D. 1	0.1	0.1
Analysis Method	FA-AA	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
GXR-1 Meas		4.5	0.7	11	0.042	0.13	0.32	0.03	1260	0.76	1.0	68	6.7	765	21.9	7.3	35.7	1050	701	3.99		356	16.7	2.0
GXR-1 Cert		8.20	1,22	15.0	0.0520	0.217	3 52	0.050	1380	0.960	1.58	80.0	12.0	852	23.6	8.20	41.0	1110	760	13.8		427	16.6	140
GXR-4 Meas		8.6	1.4	5	0.123	1.55	2.61	1.55	19.5	0.80	6.5	78	53,5	132	2,75	13.4	36.4	6140	69.1	10.8		92.9	5.6	93.1
GXR-4 Cert		11.1	1.90	4.50	0.564	1.66	7.20	4.01	19.0	1.01	7.70	87.0	64.0	155	3.09	14.6	42.0	6520	73.0	20.0		98.0	5.60	160
GXR-6 Meas		23.7	0.9	5	0.061	0.35	6.96	1.11	0.21	0.13	21.5	154	73.6	979	5.16	12.3	21.3	60.6	117	15.2		190	0.7	64.7
GXR-6 Cert		32,0	1,40	9.80	0.104	0.609	17.7	1,87	0,290	0.180	27,6	186	96.0	1010	5,58	13.8	27.0	66.0	118	35,0		330	0.940	90.0
OxD87 Meas	424																							
OxD87 Cert	417.000																							

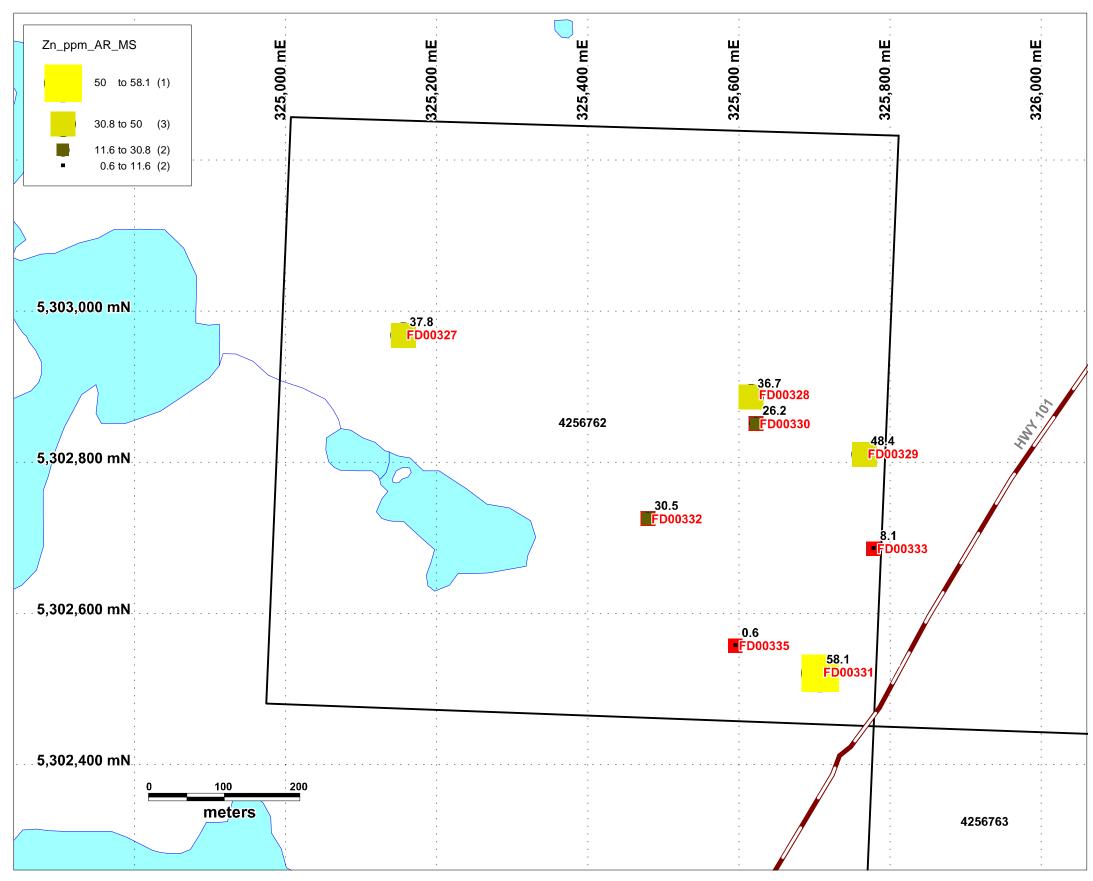
							Α	ctivati	on Lab	orato	ries Lt	d.	Repo	ort:	A12-07	974 re	ev 1							
Quality Control																								
Analyte Symbol	Sr	Υ	Zr	αИ	Mo	Ag	Cd	In	Sn	Sb	Te	Cs	Ва	La	Ce	Pr	Nd	Sm	Eu	Gd	Tb	Dy	Но	E
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppr							
Detection Limit	0.5	0.01	0.1	0.1	0.01	0.002	0.01	0.02	0.05	0.02	0.02	0.02	0.5	0,5	0.01	0.1	0.02	0.1	D.1	0.1	0.1	D. 1	0.1	0.
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS							
GXR-1 Meas	187	25.2	8.6	< 0.1	16.4	30.3	2.24	0.63	24.3	87.0	13.2	2.36	300	4.8	10.0		5.29	1.9	0.4	3.0	0.6	3.9		
GXR-1 Cert	275	32.0	38.0	0.800	18.0	31,0	3,30	0.770	54.0	122	13,0	3,00	750	7,50	17.0		18.0	2.70	0.690	4.20	0.830	4.30		
GXR-4 Meas	71.2	11.9	9.3	0.2	294	3.49	0.14	0.19	6.14	2.82	0.75	2.26	19.0	46.0	89.4		34.8	5.5	1.2	4.1	0.5	2.4		
GXR-4 Cert	221	14.0	186	10.0	310	4.00	0.860	0.270	5.60	4.80	0.970	2.80	1640	64.5	102		45.0	6.60	1.63	5.25	0.360	2.60		
GXR-6 Meas	29.6	6.39	5.6	< 0.1	0.61	0.221	0.10	0.06	0.99	0.67	0.08	3.27	856	10.7	31.4		10.7	2.2	0.5	1.0	0.2	1.4		
GXR-6 Cert	35,0	14.0	110	7,50	2,40	1.30	1.00	0.260	1.70	3,60	0,0180	4.20	1300	13,9	36.0		13.0	2.67	0.760	2.97	0.415	2,80		
OxD87 Meas																								
OxD87 Cert																								

Activation Laboratories Ltd. Report: A12-07974 rev 1												A12-07974 rev 1			
Quality Control															
Analyte Symbol	Tm	Yb	Lu	Hf	Ta	W	Re	Au	TI	Pb	Th	U			
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm			
Detection Limit	0.1	0.1	0.1	0.1	0.05	0:1	0.001	5	0.02	0.01	0.1	D.1			
Analysis Method	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS			
GXR-1 Meas	0.3	1.8	0.2	0.1	< 0.05	132		3270	0.29	571	1.8	27.0			
GXR-1 Cert	0.430	1.90	0,280	0.960	0,175	164		3300	0.390	730	2.44	34.9			
GXR-4 Meas	0.1	0.8	0.1	0.3	< 0.05	11.5			2.76	43.7	19.8	4.5			
3XR-4 Cert	0.210	1.60	0.170	6.30	0.790	30.8			3.20	52.0	22.5	6.20			
SXR-6 Meas	0.1	0.8	0.1	< 0.1	< 0.05	< 0.1		49	1_73	94.3	3.8	0.0			
SXR-6 Cert	0.0320	2,40	0,330	4,30	0,485	1 90		95.0	2.20	101	5,30	1.54			
0xD87 Meas															
0xD87 Cert															

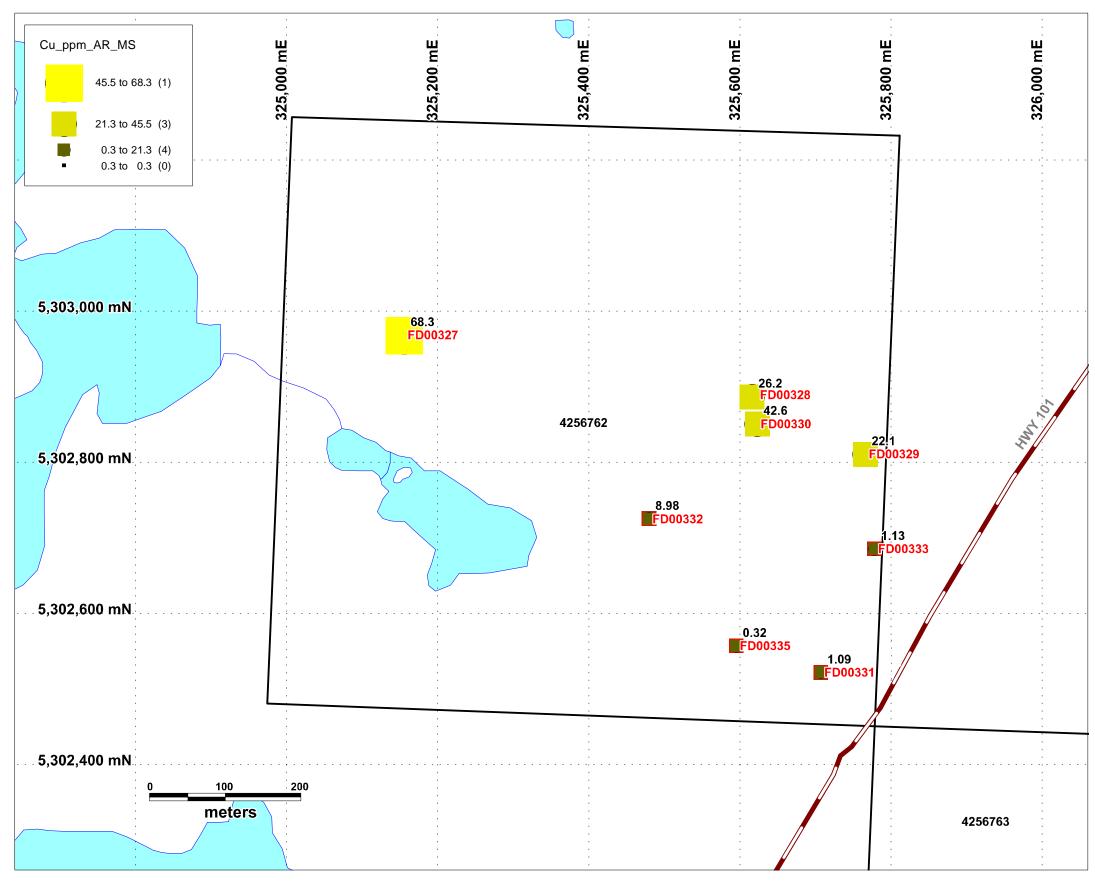
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# APPENDIX III

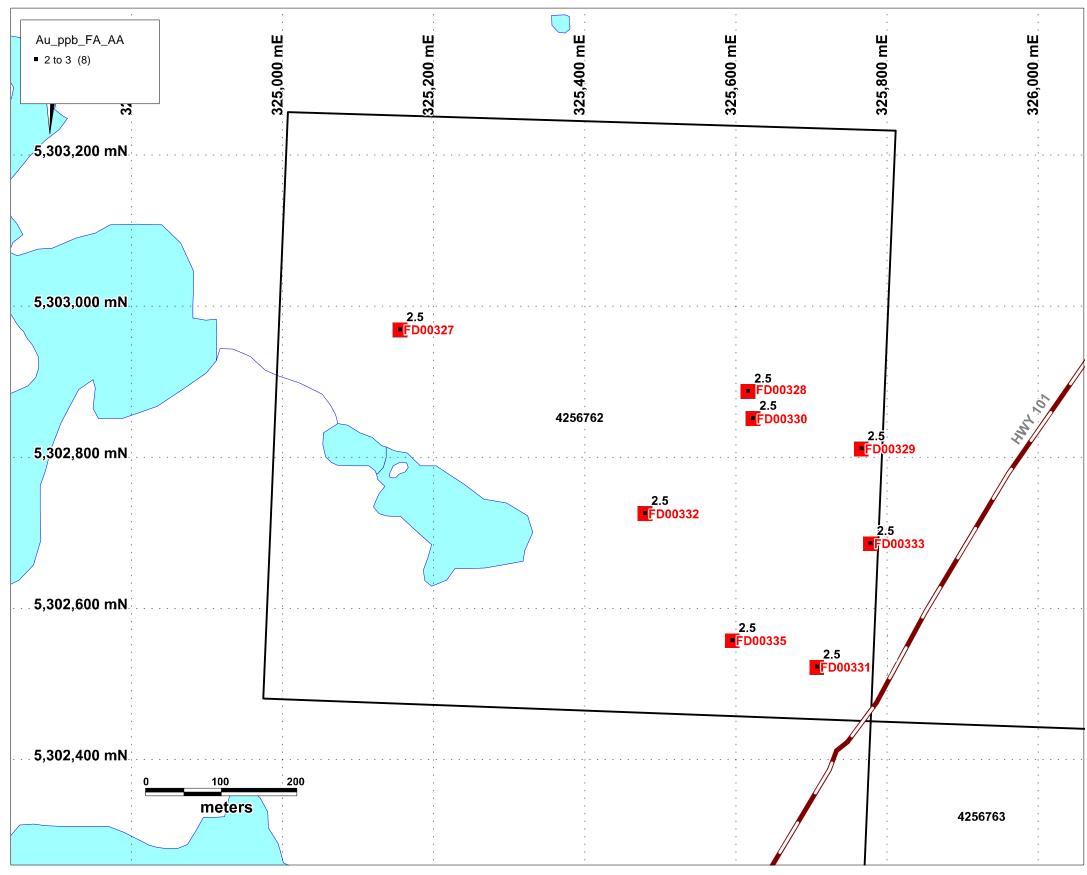
Results Maps
Ranged Concentrations FA-AA & Ar-MS
Au, Ag, Cu, Zn
Scale 1:5000



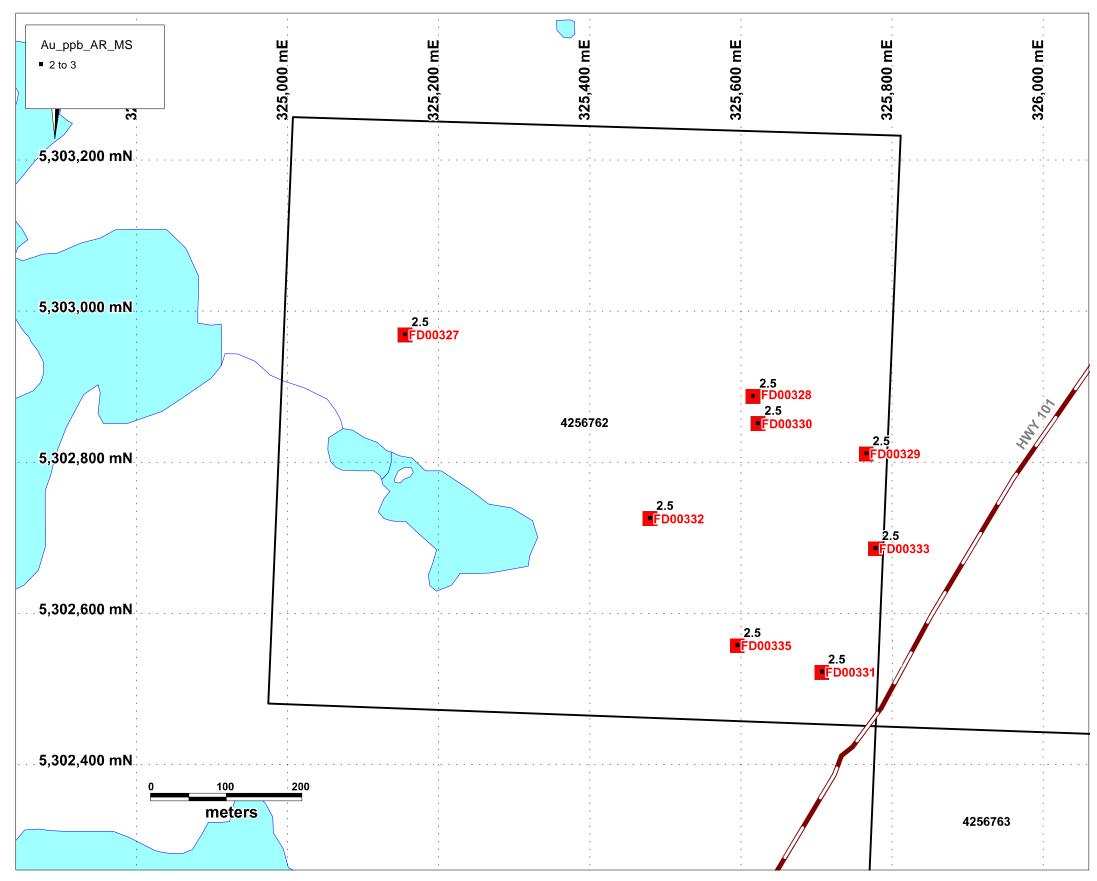
Appendix III: Rock Assays; Zn by AR-MS Scale 1:5000



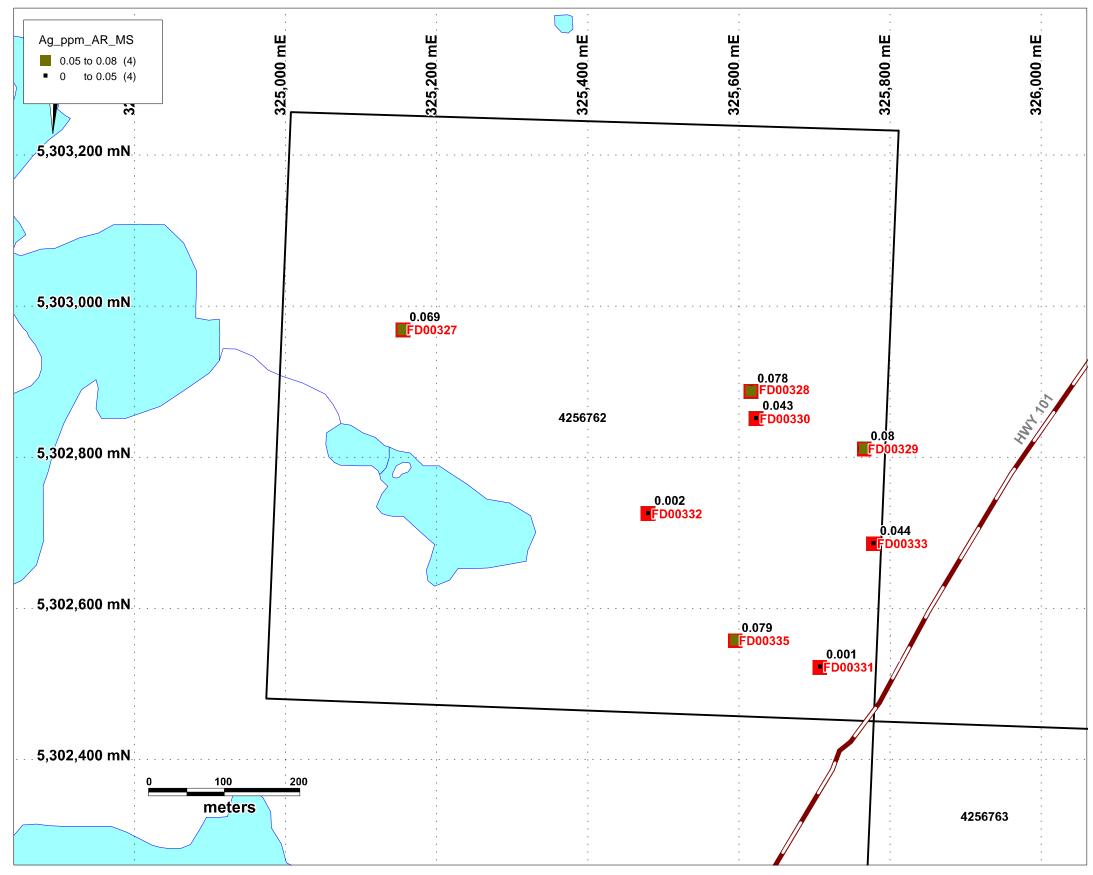
Appendix III: Rock Assays; Cu by AR-MS Scale 1:5000



Appendix III: Rock Assays; Au by FA-AA Scale 1:5000



Appendix III: Rock Assays; Au by AR-MS Scale 1:5000



Appendix III: Rock Assays; Ag by AR-MS Scale 1:5000