SERENGETI
RESOURCES INC.

ASSESSMENT REPORT

including

Geochemical Soil Sampling

on the

Mt Polley Claim

CARIBOO MINING DIVISION,
British Columbia
NTS: 93A-12
Latitude 52°37' N, Longitude 121°47' W

Prepared for:
SERENGETI RESOURCES INC
1700-1750 West Pender Street
Vancouver, BC, Canada V6C 2T8

By:
H. Clarke,
B.A., EurGeol
16 Dec 2013
Vancouver, B.C.

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(1) Introduction and Terms of Reference

Serengeti Resources Inc. (Serengeti) acquired the Mt Polley claims by staking in October, 2012. The claims were acquired due to their proximity to the Mt Polley Mine (14 km to the SE) and because the project lies in a favorable geological setting in the prospective Quesnel Trough. The objective of the 2013 exploration on the Mt Polley property was to complete a field investigation following up on the reported mineral occurrences on and around the property and to gain an understanding of the geological setting of the mineral occurrences. In addition, soil sampling was carried out in order to test for geochemical anomalism in soil that is known to be in an area of glacial cover and also over a sequence of Nicola basalts that are known to cover bedrock prospective for porphyry Cu-Au mineralization over a large area of south-central British Columbia (Bissig et al. 2013).

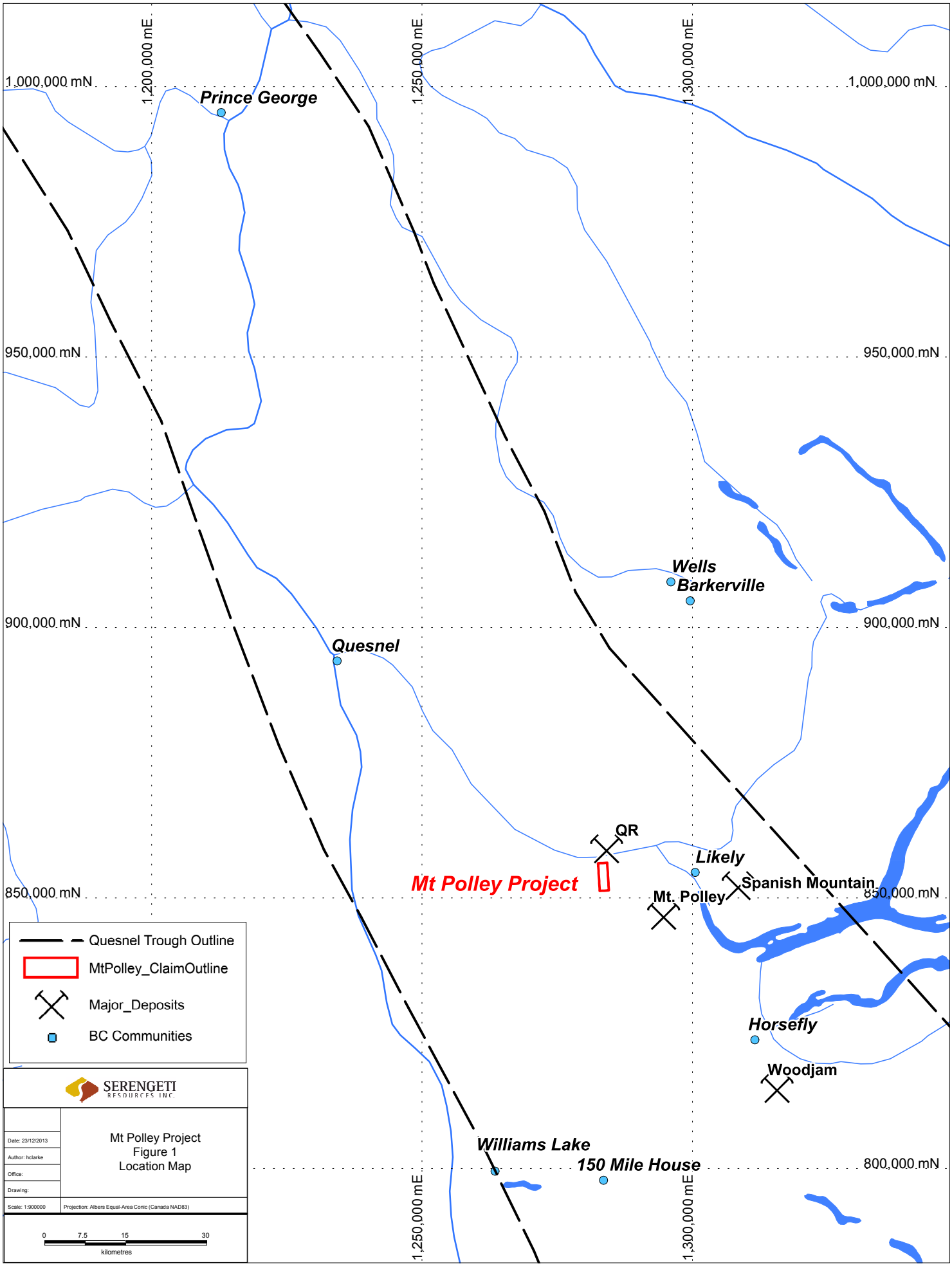
On September 18-19th, 2012, two staff members from Serengeti completed a site visit at the Mt Polley project and collected a total of 19 B Horizon soil samples and 7 Ah Horizon samples. The cost of the site visit, analysis, and accompanying report totaled $4,686.

(2) Property Description and Location

The Mt Polley 1 property is 100% owned by Serengeti Resources Inc. It is located in the Cariboo Mining Division of central British Columbia, Canada, 16 km west of Likely, at 52° 37' north latitude and 121° 47' west longitude (Figure 1). The mineral claim which comprise the property covers an area of 863.68 hectares (Figure 2). Additional information regarding the individual claim can be referenced in Table 1.

Project	*Tenure #*	*Claim Name*	*Hectares*	*Expiry Date*	*NTS*	*Record Date*	*Mining Division*	*Owner*
MT. POLLEY	1013801	MT POLLEY 1	863.6806	**14-Mar-2015**	093A	16-Oct-2012		SIR
1	**claim**		**863.6806**					

Table 1: Tenure Details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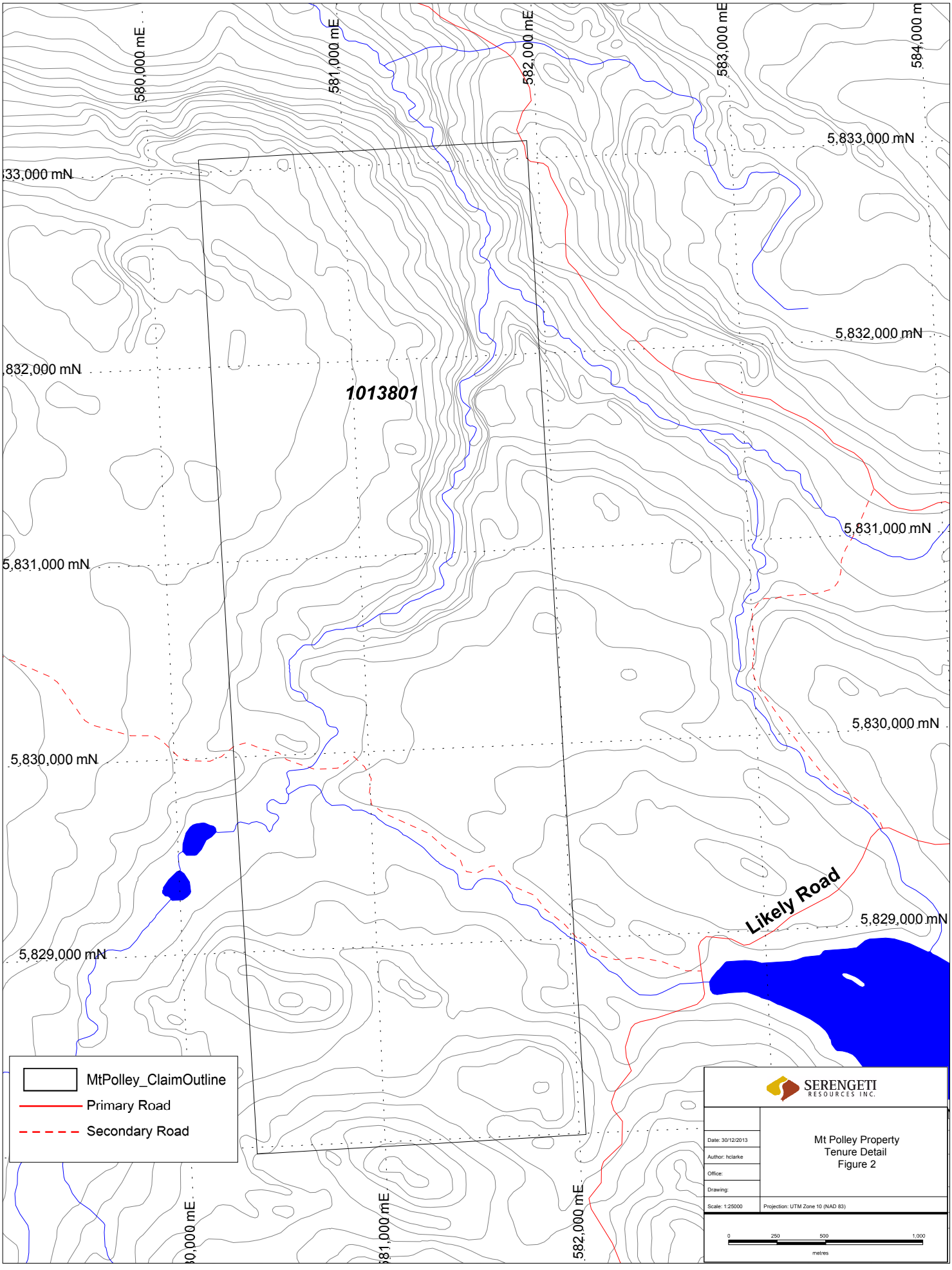
1,250,000 mE
1,300,000 mE
Prince George
Wells
Barkerville
Quesnel
QR
Likely
Mt Polley Project
Spanish Mountain
Mt. Polley
Horsefly
Woodjam
Williams Lake
150 Mile House
Quesnel Trough Outline
MtPolley_ClaimOutline
Major_Deposits
BC Communities
SERENGETI RESOURCES INC.
Date: 23/12/2013
Author: hclarke
Office:
Drawing:
Mt Polley Project
Figure 1
Location Map
Scale: 1:900000
Projection: Albers Equal-Area Conic (Canada NAD83)
0
7.5
15
30
kilometres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581,000 mE
582,000 mE
583,000 mE
584,000 m
5,833,000 mN
5,832,000 mN
5,831,000 mN
5,830,000 mN
5,829,000 mN
1013801
Likely Road
MtPolley_ClaimOutline
Primary Road
Secondary Road
SERENGETI RESOURCES INC.
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:25000
Projection: UTM Zone 10 (NAD 83)
Mt Polley Property
Tenure Detail
Figure 2
0
250
500
1,000
metres

(3) Accessibility, Local Resources, Infrastructure, Climate and Physiography

Access to the property is via Likely Road, a highway that connects 150 Mile House to Likely. Approximately 16 km west of Likely and 55 km north of 150 Mile House, a logging road branches off the paved highway. Several inactive but passable logging roads access various portions of the property (Figure 2).

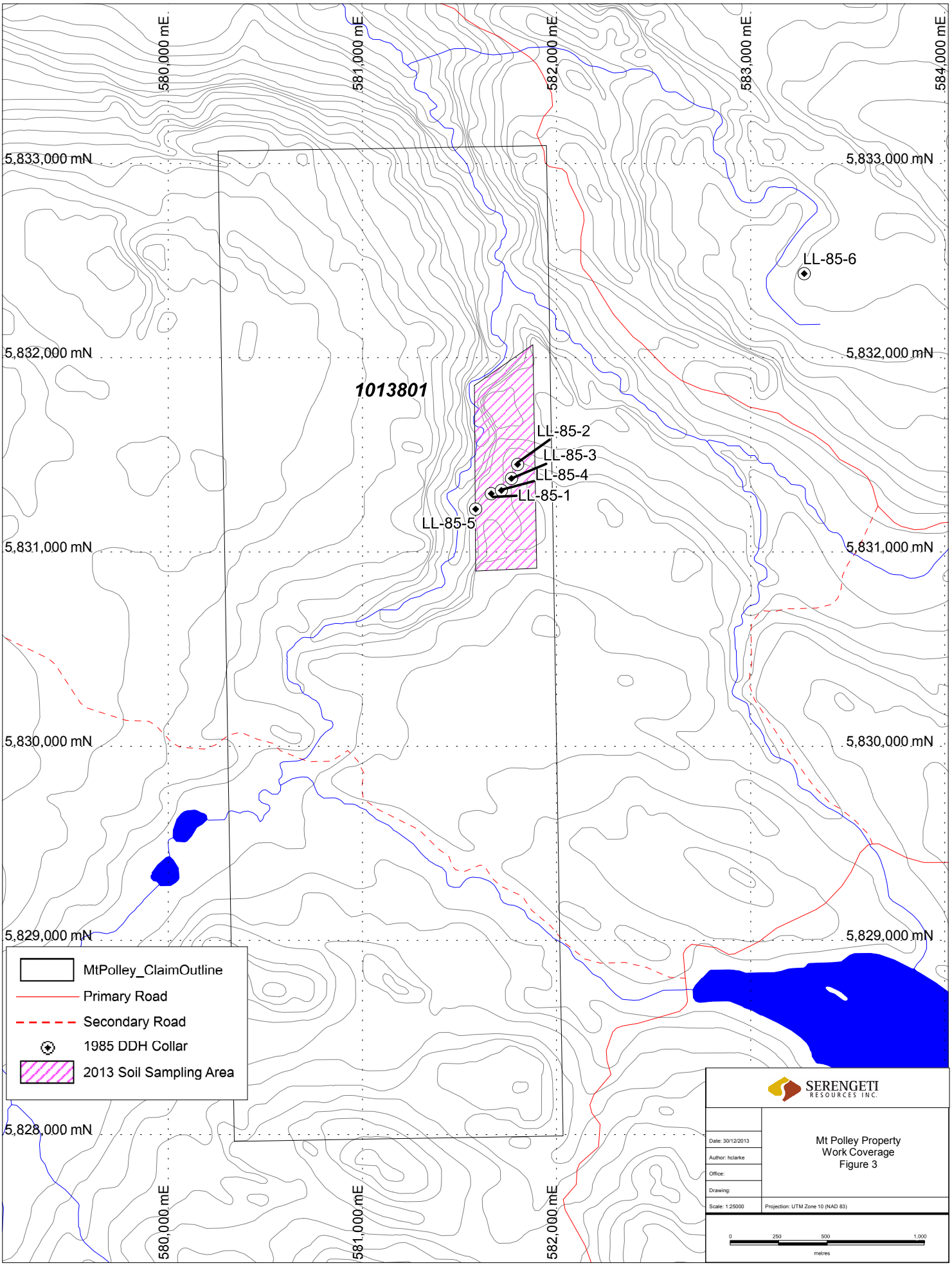
Topography is characterized by low to moderate relief and is covered by extensive glacial-fluvial overburden. Relief increases from 820 m in central portion of the claim, to 1000 m in the western areas. The vegetation on the property is best characterized by the presence of pine and fir forests with swampy grasslands occurring in low-lying areas. The climate of the region is typical of middle latitudes in Canada as the winters are cold (-5 to -25 degrees Celsius) and summers are warm (20-25 degrees Celsius).

(4) History

According to several assessment reports available in the public record, the area covered by the Mt Polley claim was mainly investigated for its placer gold mining potential. Placer deposits within the claim area were worked sporadically between 1896 and 1939 and produced 825 to 838 ounces of gold. The Bullion Mine, some five kilometers northeast of the property operated from 1894 to 1905 producing 59,700 ounces from over 12 million yards of Pleistocene gravels (Arnold, 1985). The discovery of porphyry mineralization at the nearby Mt Polley mine in 1964 (then Caribou-Bell) resulted in the completion of extensive porphyry focused exploration in the area in the decades that followed.

The most pertinent work to current exploration at the property includes work completed by Golden Lake Explorations (Operator) and E and B Explorations (Owner) in 1984 and 1985. These two companies completed limited geological mapping, rock sampling, and some ineffective B-Horizon soil sampling, followed by a 6 hole, 435 m reverse circulation drilling program. The drilling completed in 1985 encountered one area of particular interest as the most northerly hole in the main fence, DH 85-2, intersected 9.1 m grading 104 ppb Au within a hematite-altered monzonite with minor quartz stockwork (Figure 3).

In 2011 Serengeti completed prospecting and rock sampling over the property (ARIS 32706). The rock sampling and field observations indicated the presence of an extensive zone of iron-carbonate alteration associated with a monzonitic to quartz-monzonitic stock. Assay results from the rock sampling showed only weakly anomalous Au result (51.4 ppb Au) occurring in a strongly iron-carbonate altered felsic intrusive; however, the drilling completed in 1985 demonstrated that the anomalous mineralization is open to the north. The area to the east of the creek and to the north of DH 85-2 is entirely covered by thick quaternary glacial sediments and it is entirely possible that a mineral system occur in this area. The presence of widespread alteration observed in outcrop and a geologic setting that is considered highly permissive to host a porphyry system.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583,000 mE
584,000 mE
5,833,000 mN
5,832,000 mN
5,831,000 mN
5,830,000 mN
5,829,000 mN
5,828,000 mN
1013801
LL-85-6
LL-85-2
LL-85-3
LL-85-4
LL-85-1
LL-85-5
MtPolley_ClaimOutline
Primary Road
Secondary Road
1985 DDH Collar
2013 Soil Sampling Area
SERENGETI RESOURCES INC.
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:25000
Projection: UTM Zone 10 (NAD 83)
Mt Polley Property
Work Coverage
Figure 3
0
250
500
1,000
metres

(5) Geology

Regional Geology:

The Mt Polley property lies within the early Mesozoic-aged Quesnel Trough, a large regional depositional feature extending 2000 kilometres from the U.S. border in the south to the Stikine River in the north. The Quesnel Trough assemblage hosts numerous deposits of porphyry gold-copper style mineralization generally related to dioritic or monzonitic sub-volcanic intrusive bodies (Barr, et al., 1976) including the Mount Polley, Quesnel River (QR), Kwanika, and Mt Milligan deposits.

The Quesnel Trough includes equivalent rocks of the Upper Triassic to Lower Jurassic, Takla, Nicola and Stuhini groups consisting of sediments and volcanic assemblages intruded by coeval and comagmatic plutons (Mortimer, 1986). The volcanic assemblages have a wide range of chemical compositions including alkalic, sub-alkalic and calc-alkalic rocks.

Property Geology:

The claims are underlain by a sequence of Late Triassic Nicola maroon basaltic volcanic rock with minor limestone and siltstone (Figure 4). These have been intruded in the central part of the claim by a Late Triassic to Early Jurassic intrusion with composition ranging from monzonite to syenite to syenodiorite. Extensive glacial cover exists on the property (2-60 m observed in 1985 drilling). The outcrops observed by the author were located in the NNE oriented river that transects the property.

(6) Geochemical Soil Sampling

On September 18th and 19th, 2013, two staff members from Serengeti Resources completed a site visit on the Mt Polley claims. The purpose of the field work was to confirm the presence of potentially significant mineral occurrences, which were reported in publically available MEMPR assessment reports. In addition, the field crew sought to investigate the general geological setting of the area. Of particular interest for follow up was DH 85-2, which intersected 9.1 m grading 104 ppb Au within a hematite-altered monzonite with minor quartz stockwork (Figure 3). The presence of anomalous mineralization within a permissive geological environment and porphyry type alteration were thought to indicate potential for a significant hydrothermal system to exist.

Two 1.5 line kilometer lines of soil sampling were completed in the vicinity of DH 85-2. Sampling was completed on two 150 m spaced lines running north-south and sample spacing was 100 m. Sampling of both sample media was planned on both lines, however where soil disturbance is noted (in cut block areas for example) no Ah layer is sampled due to the effects this disturbance would have on sample quality. A total of 9 B-Horizon samples were taken and 7 Ah layer samples.

The locations and sample numbers of the collected soil samples are shown in Figure 5 and 8. Note that Cu is reported in ppb for the B Horizon samples (Bioleach method) and in ppm for the Ah Layer samples. Au is reported as ppb for both types of sample medium.

(7) Sample Collection Methodology

Samples were analysed by the typical analytical method of ICP-Mass Spec for both types of sample- however, the AH samples were prepared using Aqua Regia digestion at ACME Labs Vancouver and the B-horizon soil samples were prepared using a proprietary selective Bioleach method at Activation Laboratories. This was done as a test of the Bioleach method for achieving ultra-low detection limits for samples over thick cover sequence. Research using this method on the nearby Woodjam Property can be referred to in the Technical Report published by GeoScienceBC 2013-17.

Bioleach is a proprietary technology developed by Activation Laboratories Ltd. (Actlabs) to dissolve remnant proteins that bacteria have left behind when they die. These proteins contain elements related to concealed mineral deposits, and they are considered to migrate upward by a variety of processes and become adsorbed on soil particles. Bioleach is designed to digest this soil component which can be analyzed by ICP/MS. Refer to Appendix E for further description of selective leaching methods.

i) 'B' Horizon Soil Sample Collection

B soil samples were collected by geologists and field technicians in accordance with guidelines for sampling outlined by David Heberlein in his Geoscience BC Report 2010-08. The procedure was as follows: Prior to collecting the samples, sampling equipment was brushed to eliminate residue from previous samples and was flushed with soils from the new sample area. At each site a 20 by 20 centimetre hole was excavated down to the B and occasionally the C horizon to expose the complete soil profile. Sampling was completed by hand or with a small garden trowel from the upper B horizon. Approximately 600 grams of material was placed in a Kraft waterproofed paper sample bag to allow it to breathe and to prevent decomposition prior to arrival at the laboratory. Each station was located with the use of a handheld GPS.

Sample Shipment and Analysis

B Horizon Samples (Activation Laboratories): The B soil samples were packaged by the field staff on site and shipped via a local expediting company to Act Labs facility in Kamloops, British Columbia. The Code 7- **Bioleach method** was used for these samples. A 0.75 g sample of -80 mesh upper B soil horizon material is leached in proprietary matrix at 30 $^{\circ}$C for 1 hour. Two controls for every 49 samples are leached in the same procedure. The solutions are analyzed on a Perkin Elmer ELAN 6000, 6100 or 9000 ICP/MS. One matrix blank is analyzed per 49 samples. Two controls are run at the beginning and end of the group of 49 samples. Duplicate samples are leached and run every 10 samples. Results for copper are reported in ppb and for gold as ppb.

ii) Ah Soil Sample Collection

Ah soil samples were collected by geologists and field technicians in accordance with guidelines for sampling outlined by David Heberlein in his Geoscience BC Report 2010-03. The procedure was as follows: Prior to collecting the samples, sampling equipment was brushed to eliminate residue from previous samples and was flushed with soils from the new sample area. Ah samples were collected from several spots around the sample site so as to ensure they were not contaminated with material from other

soil horizons. Sampling was completed by hand or with a small garden trowel by peeling back the top layer of moss and leaf litter as to expose the black decomposing material at the mineral soil interface. Approximately 400 grams of material was placed in a Kraft waterproofed paper sample bag to allow it to breathe and to prevent decomposition prior to arrival at the laboratory.

The Ah soil samples were packaged by the field staff on site and shipped via a local expediting company to Acme Labs prep facility in Smithers, British Columbia. Samples were air dried at 35 ºC to 40 ºC and digested in an aqua regia solution. Acme Labs modified aqua regia digestion (Acme Code 1F05-15g sample, 1F04- 0.5g sample) utilizes a 1:1:1 HCl:HNO3:H2O combination to achieve ultra-low detection limits for ICP-MS analysis. Results for copper are reported in ppm and for gold as ppb.

(8) Results and Discussion

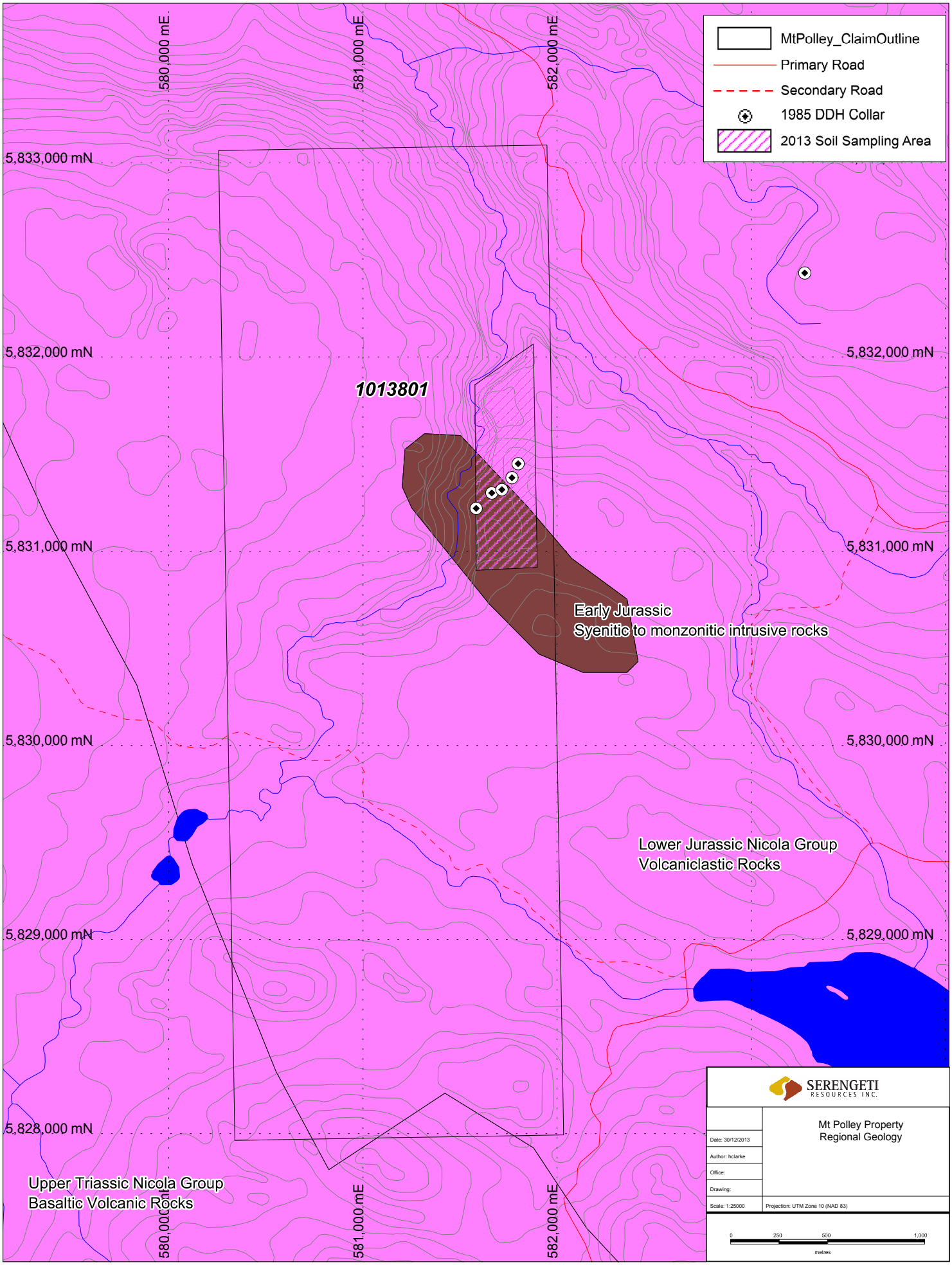
Geochemical Results

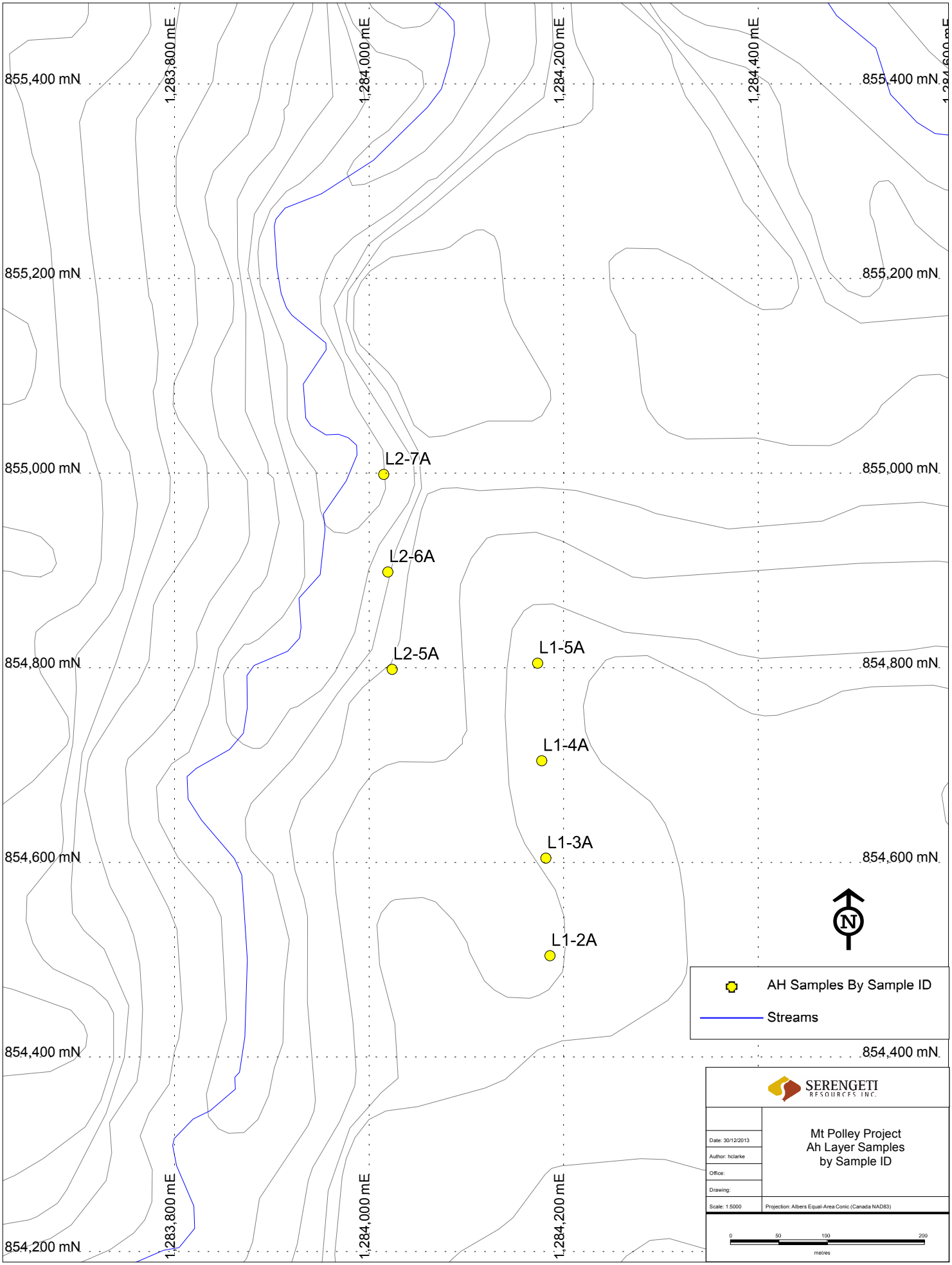
In order to test for the geochemical signature of a covered mineral deposit, a total of 7 Ah soil samples (Aqua Regia) and 19 B horizon soil samples (bioleach extraction) were collected from the Mt Polley property during the September 2013 site visit parallel to a north south trending creek that transects the property.

Thematic maps of the B and Ah soil assay results for Copper and Gold, are shown in Figures 5 to 10 with Sample ID's shown in Figures 5 and 8. The full 30 element ICP results can be found in Appendix C. The complete sample listing and assay results are presented in Appendix D.

Ah sampling coverage was less extensive than originally planned owing to the amount of disturbance in the planned area. Seven samples were taken with a highest value of 9.3 ppb Au and 38.5 ppm Cu and a mean of 4 ppb Au and 30.3 ppm Cu (Figure 6 and 7). These results are not known to be considered strongly anomalous in Serengeti's experience in British Columbia however, the effect of basalt cover over areas of potential mineralization as is known for the Mt Polley Mine and the Woodjam property is not yet known.

B horizon sampling returned one relatively anomalous sample with 0.07 ppb Au within a range of 19 samples with a mean of 0.03 ppb Au (Figure 9). It is noted that the Bioleach analytical method returned sample values of lower magnitude than the Aqua Regia solution method and this is thought to be due to the extraction method used. Cu values returned a maximum of 1,730 ppb Cu with a mean of 298 ppb Cu from 19 samples (Figure 10). Four anomalous samples occur in a 150 x 100 m cluster at the northern end of the grid with four samples with a mean of 654 ppb Cu. The source of this anomalism is not determined.


MtPolley_ClaimOutline
Primary Road
Secondary Road
1985 DDH Collar
2013 Soil Sampling Area
580,000 mE
581,000 mE
582,000 mE
5,833,000 mN
5,832,000 mN
5,831,000 mN
5,830,000 mN
5,829,000 mN
5,828,000 mN
1013801
Early Jurassic
Syenitic to monzonitic intrusive rocks
Lower Jurassic Nicola Group
Volcaniclastic Rocks
Upper Triassic Nicola Group
Basaltic Volcanic Rocks
SERENGETI RESOURCES INC.
Mt Polley Property
Regional Geology
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:25000
Projection: UTM Zone 10 (NAD 83)
0
250
500
1,000
metres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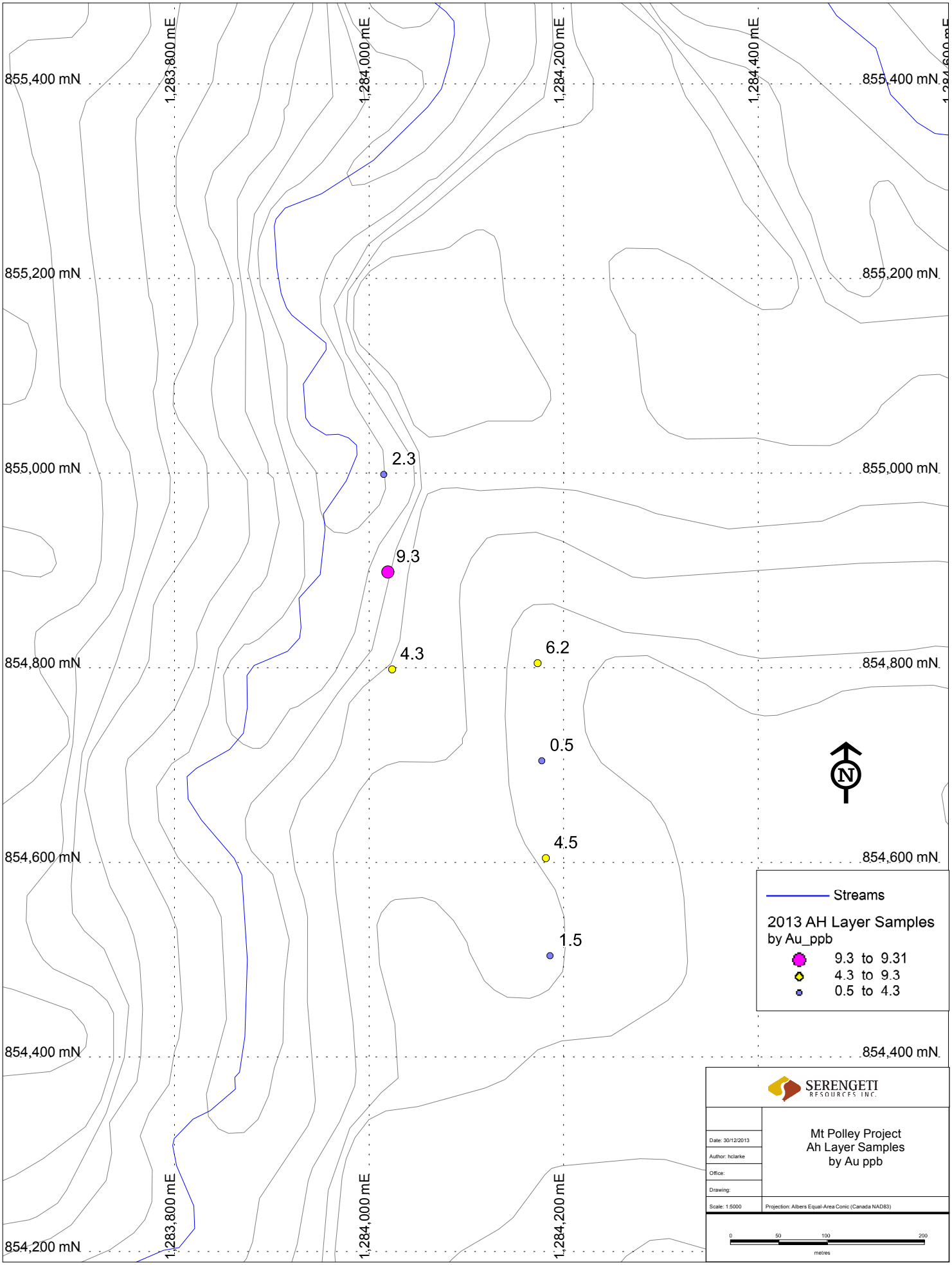
1,284,200 mE
1,284,400 mE
L2-7A
L2-6A
L2-5A
L1-5A
L1-4A
L1-3A
L1-2A
N
AH Samples By Sample ID
Streams
SERENGETI RESOURCES INC.
Mt Polley Project
Ah Layer Samples
by Sample ID
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:5000
Projection: Albers Equal-Area Conic (Canada NAD83)
0
50
100
200
metres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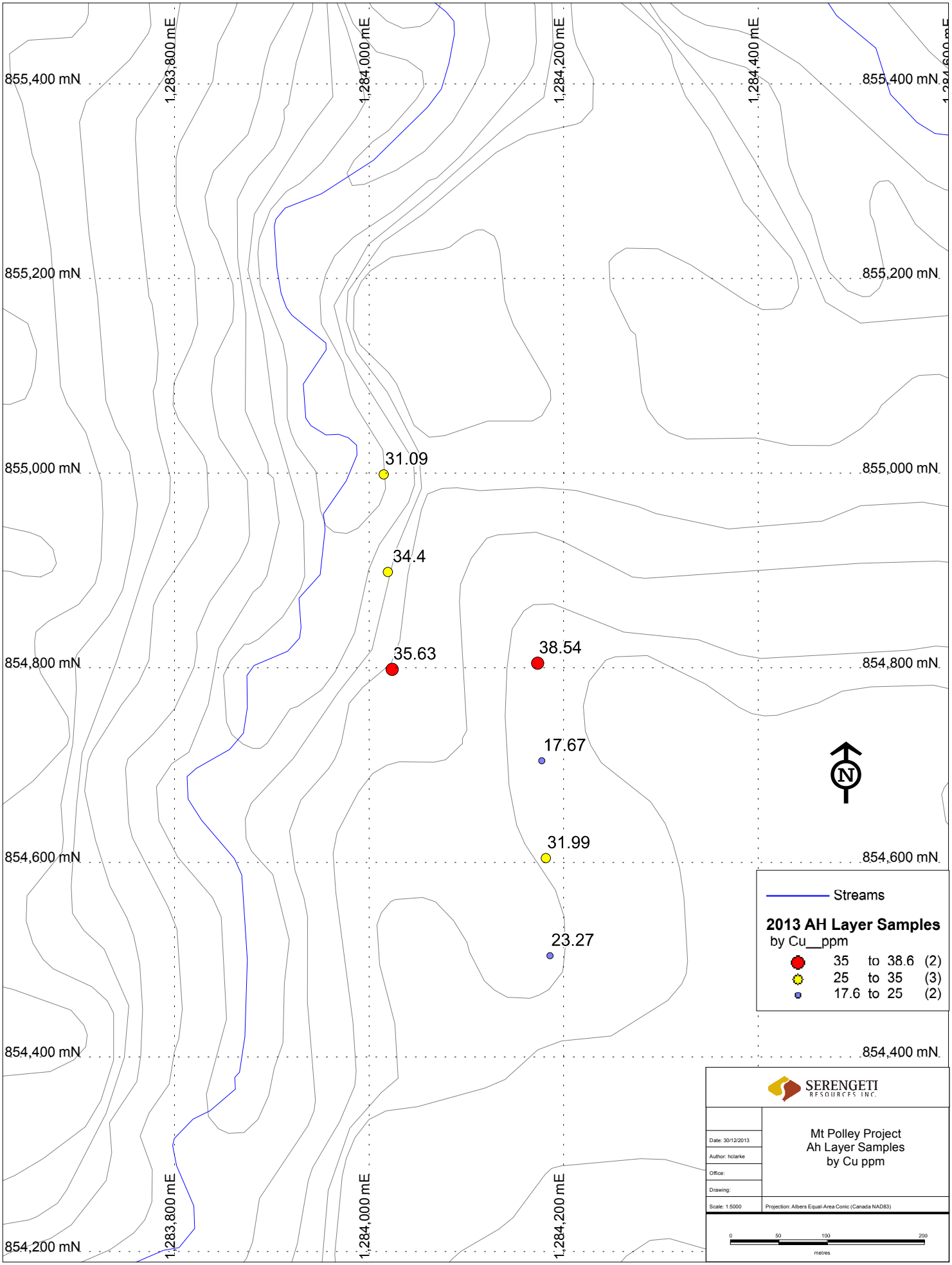
2.3
9.3
4.3
6.2
0.5
4.5
1.5
N
Streams
2013 AH Layer Samples
by Au_ppb
9.3 to 9.31
4.3 to 9.3
0.5 to 4.3
SERENGETI
RESOURCES INC.
Mt Polley Project
Ah Layer Samples
by Au ppb
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:5000
Projection: Albers Equal-Area Conic (Canada NAD83)
0
50
100
200
metres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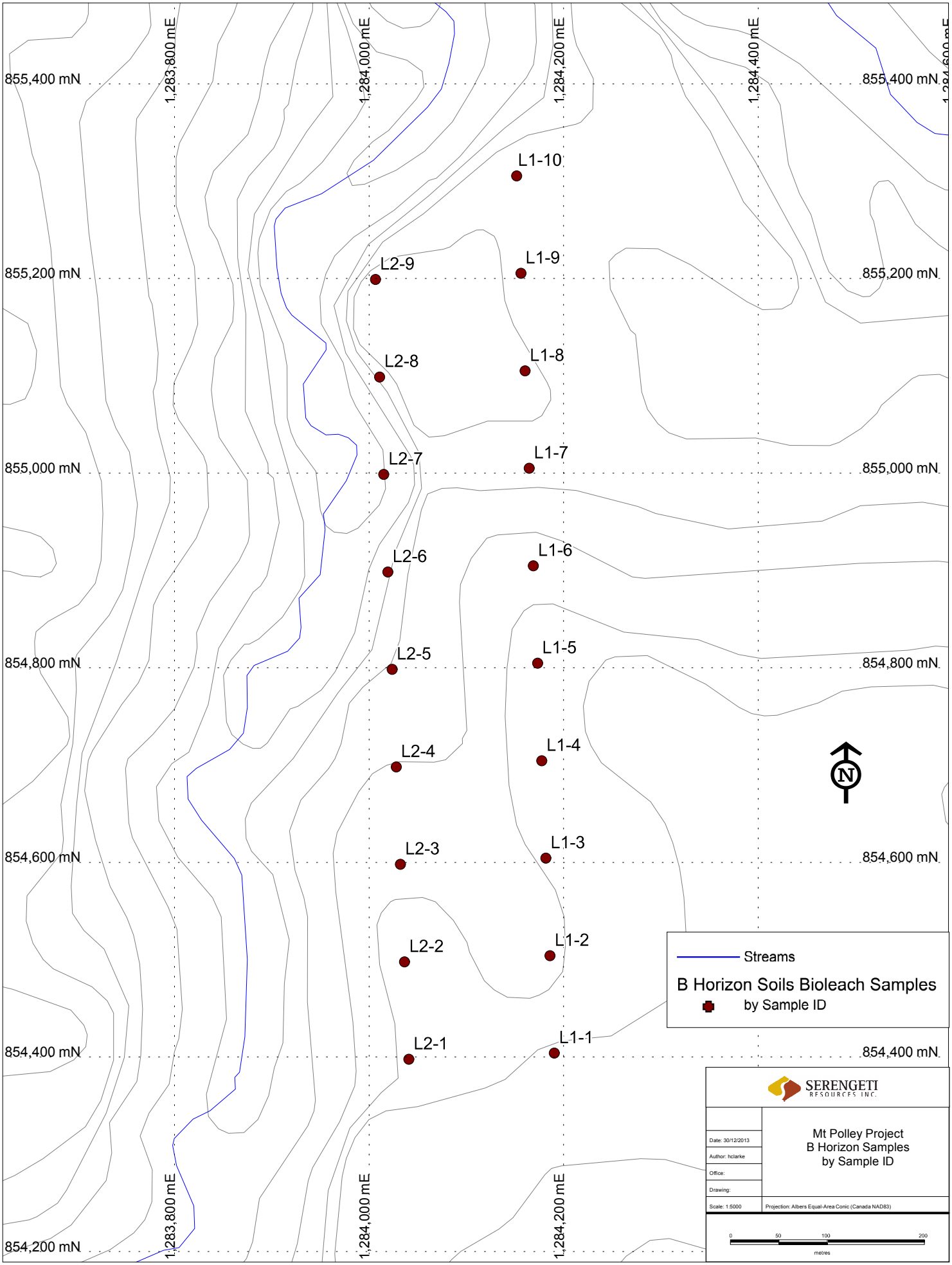
855,000 mN
854,800 mN
854,600 mN
854,400 mN
854,200 mN
1,283,800 mE
1,284,000 mE
1,284,200 mE
1,284,400 mE
31.09
34.4
35.63
38.54
17.67
31.99
23.27
N
Streams
2013 AH Layer Samples
by Cu__ppm
35 to 38.6 (2)
25 to 35 (3)
17.6 to 25 (2)
SERENGETI RESOURCES INC.
Mt Polley Project
Ah Layer Samples
by Cu ppm
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:5000
Projection: Albers Equal-Area Conic (Canada NAD83)
0 50 100 200
metres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1,284,400 mE
L1-10
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L1-8
L1-7
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L1-4
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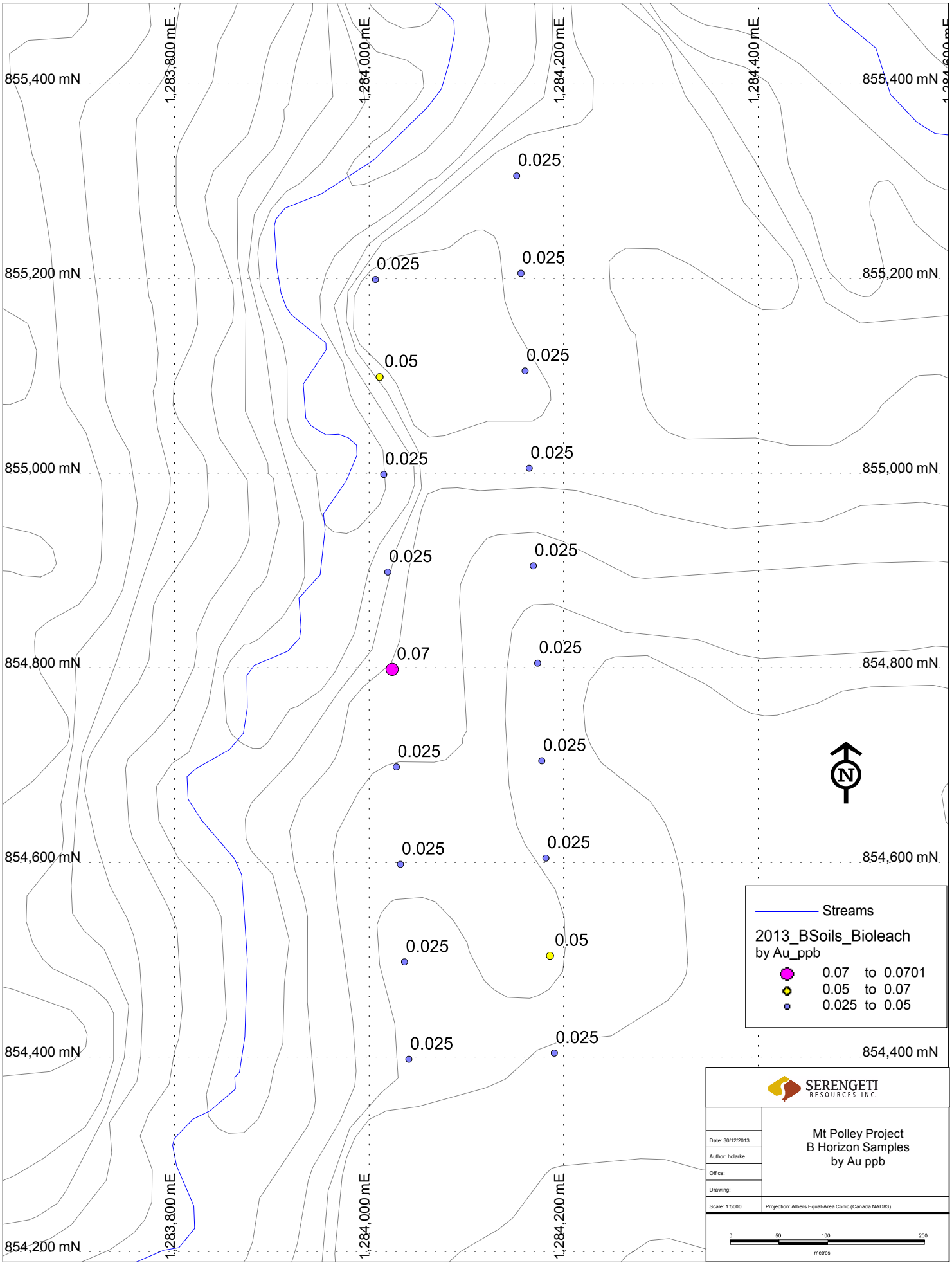
L1-2
L1-1
L2-9
L2-8
L2-7
L2-6
L2-5
L2-4
L2-3
L2-2
L2-1
N
Streams
B Horizon Soils Bioleach Samples
by Sample ID
SERENGETI RESOURCES INC.
Mt Polley Project
B Horizon Samples
by Sample ID
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:5000
Projection: Albers Equal-Area Conic (Canada NAD83)
0
50
100
200
metres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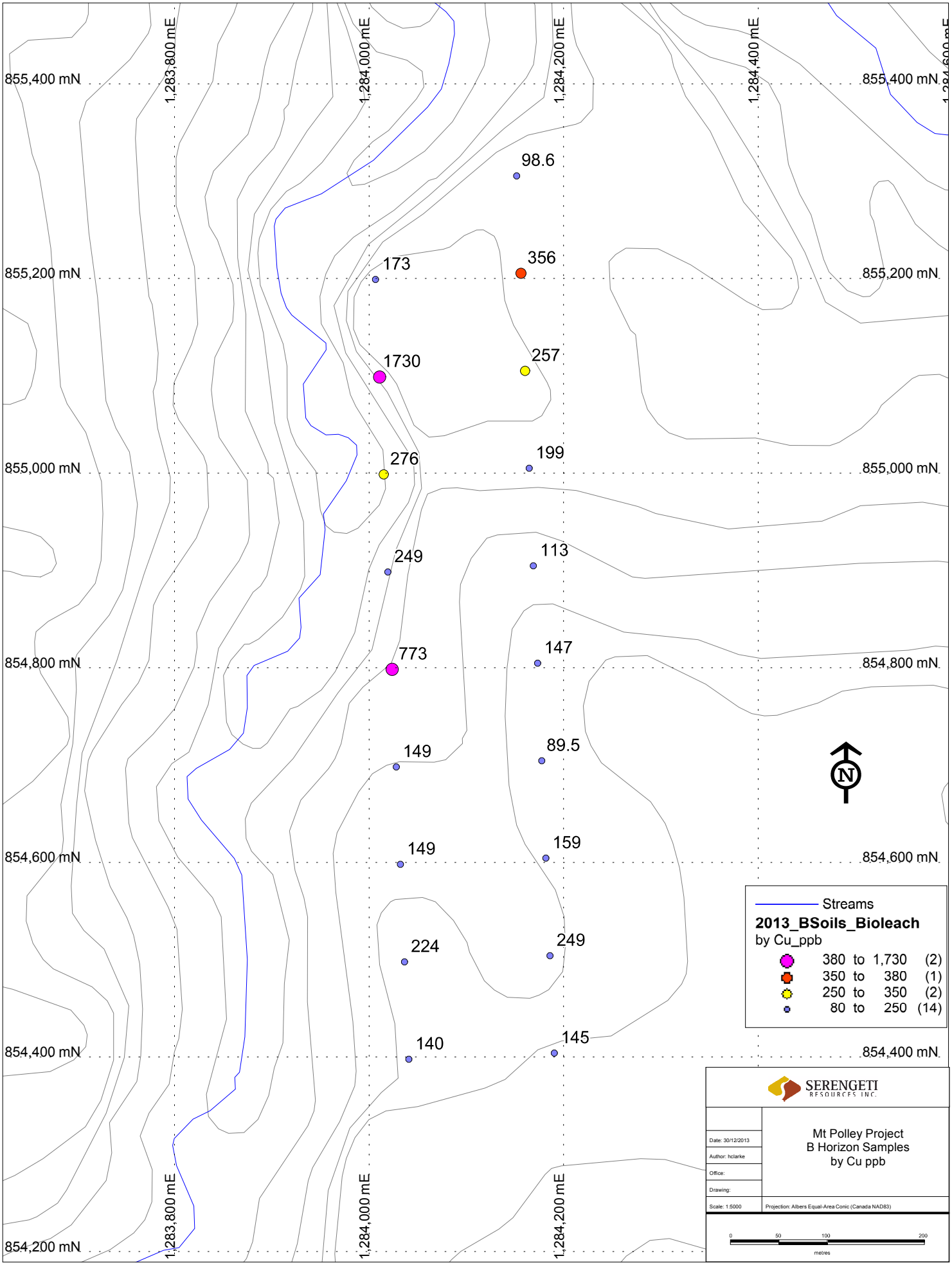
0.05
0.07
N
Streams
2013_BSoils_Bioleach
by Au_ppb
0.07 to 0.0701
0.05 to 0.07
0.025 to 0.05
SERENGETI
RESOURCES INC.
Mt Polley Project
B Horizon Samples
by Au ppb
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:5000
Projection: Albers Equal-Area Conic (Canada NAD83)
0
50
100
200
metres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855,200 mN
855,000 mN
854,800 mN
854,600 mN
854,400 mN
854,200 mN
1,283,800 mE
1,284,000 mE
1,284,200 mE
1,284,400 mE
98.6
173
356
1730
257
276
199
249
113
773
147
149
89.5
149
159
224
249
140
145
N
Streams
2013_BSoils_Bioleach
by Cu_ppb
380 to 1,730 (2)
350 to 380 (1)
250 to 350 (2)
80 to 250 (14)
SERENGETI RESOURCES INC.
Mt Polley Project
B Horizon Samples
by Cu ppb
Date: 30/12/2013
Author: hclarke
Office:
Drawing:
Scale: 1:5000
Projection: Albers Equal-Area Conic (Canada NAD83)
0
50
100
200
metres

(9) Recommendations

1) A review of the assessment records indicated that past exploration has identified significant strongly anomalous Au occurring within an altered and quartz stockworked felsic intrusive.
2) The extent of the alteration and mineralization has not yet been defined to the north of DH 85-2; an area which is entirely covered by Quaternary glacial sediments. Mineralization drilled in the 1989 drilling was not replicated by this 2013 soil sampling.
3) The 2013 soil sampling did not detect extensive mineralization, however the area of geochemical coverage was relatively small. Based on indications from past exploration results and field observations from the 2013 site visit, there remains a potential for the discovery of an Au-bearing hydrothermal system at the Mt Polley 1 project.

It is therefore recommended to plan the next exploration steps. These steps may include geophysical surveying, completion of a more extensive deep penetrating geochemical survey, and diamond drill follow up.

(10) References

Arnold, R. W. (1985): Assessment Report # 14401 – Reverse Circulation Drilling, Ministry of Energy, Mines, and Petroleum Resources.

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Samson, H. R. (2012): Assessment Report 32706 – Assessment Report including Prospecting on the Mt Polley 1 Claims, Ministry of Energy, Mines, and Petroleum Resources.

Bissig, T., Heberlein, D.R., and Dunn, C. (2013): Geochemical Techniques for Detection of Blind Porphyry Copper-Gold Mineralization under Basalt Cover, Woodjam Property, South-Central British Columbia (NTS 093A/03, 06); Geoscience BC, Report 2013-17, 53 p.

Appendix A – Expenditure Statement

Mt Polley - Cost Statement, September 2013				
Dates Worked:	Sept 18-19, 2013			
Claims Worked:	1013801			
Staff:				
Senior Geologist - 2 days @ $450/day			H. Clarke	$ 900.00
Sampler - 2 days @ $250/day			J. Abraham	$ 500.00
Accomodation				
1 night - $100/day ppers room and board			Moorehead Lake	$ 200.00
Groceries & Field Supplies				$ 200.00
Soil Samples:				
19 B Horizon (bioleach) samples @ $35/sample				$ 665.00
7 Ah Horizon samples @ $30/sample				$ 210.00
Truck Rental:				
2 days @ $150/day				$ 300.00
Fuel				$ 200.00
Assessmnet Report:		Senior Geologist	H. Clarke	
2 days @ $450				$ 900.00
Total Expenditure:				**$ 4,075.00**
Admin - 15%				$ 611.25
Total after Admin				**$ 4,686.25**
PAC - 30%				$ 1,222.50
Total to file:				**$ 5,908.75**

Appendix B – Geologist's Certificate

GEOLOGIST`S CERTIFICATE

I, Hilary C. Clarke of #1331 West Georgia Street, Vancouver, in the province of British Columbia, DO HEREBY CERTIFY:

1. THAT I am Serengeti Resources Inc.'s Senior Project Geologist.

2. THAT I am a 2004 graduate of Trinity College Dublin with an Honours BA.

3. THAT I have practised in the field of Geosciences since my graduation from University.

4. THAT this report is based on fieldwork carried out on July 10th to 2nd September, 2012, by Hilary Clarke and staff of Serengeti Resources Inc.

5. THAT this report was written by myself under the supervision and direction of David W. Moore, President and CEO of Serengeti Resources Inc. and a Professional Geoscientist (P. Geo) registered and in good standing with the Association of Professional Engineers and Geoscientists of the Province of British Columbia (#28163).

DATED at Vancouver, British Columbia this 10th day of May, 2013.

Hilary C. Clarke, B.A. (Hons.)

David W. Moore, P. Geo

Appendix C – Analytical Certificates

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

www.acmelab.com

Client: **Serengeti Resources**
1700 - 750 W. Pender Street
Vancouver BC V6C 2T8 CANADA

Submitted By: Hilary Clarke and Dave Moore
Receiving Lab: Canada-Smithers
Received: September 27, 2013
Report Date: October 09, 2013
Page: 1 of 2

CERTIFICATE OF ANALYSIS SMI13000329.1

CLIENT JOB INFORMATION

Project: MP
Shipment ID:
P.O. Number
Number of Samples: 7

SAMPLE DISPOSAL

RTRN-PLP Return
STOR-RJT-SOIL Store Soil Reject - RJSV Charges Apply

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
Air Dry	7	Air Dry			SMI
SS80	7	Dry at 60C sieve 100g to -80 mesh			SMI
RJSV	7	Saving all or part of Soil Reject			SMI
1F05	7	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	15	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: Serengeti Resources
1700 - 750 W. Pender Street
Vancouver BC V6C 2T8
CANADA

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
CLARENCE LEONG
Country Manager - Canada

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. Acme 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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1700 - 750 W. Pender Street
Vancouver BC V6C 2T8 CANADA

Project: MP
Report Date: October 09, 2013

CERTIFICATE OF ANALYSIS SMI13000329.1

Method		1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
Analyte		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
Unit		ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
MDL		0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
L1 2A	Soil	1.11	23.27	5.77	30.1	399	3.1	2.1	968	0.30	1.6	<0.1	1.5	<0.1	144.6	0.54	0.24	0.05	9	1.97	0.079
L1 3A	Soil	1.93	31.99	9.93	25.1	100	4.9	3.3	772	0.98	1.6	<0.1	4.5	0.2	136.9	0.38	0.26	0.07	33	1.07	0.075
L1 4A	Soil	1.77	17.67	7.39	13.0	138	3.5	1.1	138	0.25	2.3	<0.1	0.5	<0.1	88.5	0.14	0.14	0.06	7	0.85	0.084
L1 5A	Soil	2.12	38.54	7.49	54.5	118	6.5	4.1	1989	1.15	2.7	0.1	6.2	0.1	117.3	0.45	0.34	0.07	37	1.22	0.073
L2 5	Soil	0.70	35.63	5.22	49.5	49	14.2	9.5	1278	2.66	6.2	0.3	4.3	1.0	115.1	0.46	0.30	0.07	87	1.13	0.105
L2 6	Soil	0.72	34.40	5.19	52.9	48	16.7	10.1	1270	2.74	6.3	0.3	9.3	0.9	107.5	0.46	0.29	0.06	90	1.03	0.100
L2 7	Soil	0.66	31.09	4.53	45.4	31	17.2	9.4	700	2.37	6.1	0.2	2.3	1.0	40.7	0.23	0.24	0.06	58	0.74	0.076

Acme Analytical Laboratories (Vancouver) Ltd.
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1700 - 750 W. Pender Street
Vancouver BC V6C 2T8 CANADA

Project: MP
Report Date: October 09, 2013

CERTIFICATE OF ANALYSIS SMI13000329.1

Method		1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
Analyte		La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
Unit		ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
MDL		0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
L1 2A	Soil	0.8	5.1	0.14	120.4	0.011	10	0.15	0.007	0.05	<0.1	0.4	<0.02	0.15	283	0.2	<0.02	0.7	0.23	<0.1	<0.02
L1 3A	Soil	1.8	12.8	0.12	141.6	0.038	5	0.40	0.007	0.09	0.1	1.1	<0.02	0.09	165	0.2	<0.02	1.9	0.40	<0.1	0.03
L1 4A	Soil	0.6	6.8	0.11	55.3	0.010	4	0.16	0.004	0.06	<0.1	0.6	<0.02	0.13	206	<0.1	<0.02	0.4	0.18	<0.1	<0.02
L1 5A	Soil	1.9	13.9	0.20	141.5	0.042	7	0.54	0.006	0.08	0.1	1.1	<0.02	0.09	156	0.1	<0.02	2.1	0.39	<0.1	0.03
L2 5	Soil	4.5	31.9	0.38	170.9	0.096	7	1.25	0.007	0.09	0.2	3.3	0.04	0.02	99	<0.1	0.02	4.5	0.79	<0.1	0.09
L2 6	Soil	4.3	35.5	0.39	164.2	0.102	7	1.34	0.007	0.10	0.1	3.2	0.04	<0.02	80	<0.1	<0.02	4.9	0.87	<0.1	0.10
L2 7	Soil	5.9	25.0	0.36	168.2	0.032	7	0.95	0.006	0.12	0.3	4.3	0.04	0.02	72	<0.1	<0.02	2.8	0.39	<0.1	0.02

Acme Analytical Laboratories (Vancouver) Ltd.
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1700 - 750 W. Pender Street
Vancouver BC V6C 2T8 CANADA

Project: MP
Report Date: October 09, 2013

CERTIFICATE OF ANALYSIS SMI13000329.1

Method		1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
Analyte		Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
MDL		0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2
L1 2A	Soil	0.15	1.6	<0.1	<0.05	0.5	0.42	1.5	<0.02	<1	<0.1	0.8	<10	<2
L1 3A	Soil	0.39	3.1	0.2	<0.05	1.2	0.99	3.3	<0.02	<1	0.1	2.2	<10	<2
L1 4A	Soil	0.11	1.3	0.1	<0.05	0.6	0.43	1.1	<0.02	<1	<0.1	0.5	<10	<2
L1 5A	Soil	0.40	2.8	0.2	<0.05	1.1	1.19	3.6	<0.02	<1	<0.1	3.2	<10	<2
L2 5	Soil	0.68	5.2	0.2	<0.05	3.6	2.89	9.2	<0.02	<1	0.3	9.2	<10	<2
L2 6	Soil	0.70	5.6	0.3	<0.05	3.8	2.75	8.4	<0.02	<1	0.3	10.4	<10	<2
L2 7	Soil	0.55	5.9	0.2	<0.05	1.3	4.75	13.2	<0.02	<1	0.3	7.5	<10	<2

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Client: **Serengeti Resources**
1700 - 750 W. Pender Street
Vancouver BC V6C 2T8 CANADA

Project: MP
Report Date: October 09, 2013

QUALITY CONTROL REPORT SMI13000329.1

	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
Pulp Duplicates																					
L2 6	Soil	0.72	34.40	5.19	52.9	48	16.7	10.1	1270	2.74	6.3	0.3	9.3	0.9	107.5	0.46	0.29	0.06	90	1.03	0.100
REP L2 6	QC	0.71	33.74	5.11	52.2	46	16.4	10.0	1326	2.61	6.1	0.3	2.1	0.9	107.9	0.48	0.28	0.06	86	1.06	0.098
Reference Materials																					
STD DS10	Standard	14.74	153.9	132.3	335.3	1975	76.5	13.0	837	2.70	43.6	2.2	81.1	6.6	58.5	2.45	7.83	10.18	44	1.06	0.072
STD DS10 Expected		14.69	154.61	150.55	352.9	1960	74.6	12.9	861	2.7188	43.7	2.59	91.9	7.5	67.1	2.48	9.51	11.65	43	1.0355	0.073
BLK	Blank	<0.01	<0.01	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001

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Project: MP
Report Date: October 09, 2013

QUALITY CONTROL REPORT SMI13000329.1

	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
Pulp Duplicates																					
L2 6	Soil	4.3	35.5	0.39	164.2	0.102	7	1.34	0.007	0.10	0.1	3.2	0.04	<0.02	80	<0.1	<0.02	4.9	0.87	<0.1	0.10
REP L2 6	QC	4.2	32.3	0.39	164.1	0.097	7	1.38	0.007	0.10	0.1	3.2	0.04	0.02	88	<0.1	<0.02	4.8	0.87	<0.1	0.08
Reference Materials																					
STD DS10	Standard	15.2	54.6	0.76	336.5	0.073	6	1.06	0.064	0.34	3.2	2.9	4.78	0.27	296	2.0	4.58	4.1	2.52	<0.1	0.07
STD DS10 Expected		17.5	54.6	0.7651	349	0.0817		1.0259	0.0638	0.3245	3.34	2.8	4.79	0.2743	289	2.3	4.89	4.3	2.63	0.08	0.05
BLK	Blank	<0.5	<0.5	<0.01	<0.5	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02

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QUALITY CONTROL REPORT SMI13000329.1

	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
	Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
	MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2
Pulp Duplicates														
L2 6	Soil	0.70	5.6	0.3	<0.05	3.8	2.75	8.4	<0.02	<1	0.3	10.4	<10	<2
REP L2 6	QC	0.72	5.6	0.3	<0.05	3.6	2.60	8.5	<0.02	<1	0.2	10.2	<10	<2
Reference Materials														
STD DS10	Standard	1.67	28.2	1.3	<0.05	2.3	7.69	32.0	0.18	48	0.7	18.1	118	186
STD DS10 Expected		1.33	27.7	1.6		2.3	7.77	36	0.22	50	0.6	19.1	110	188
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2

Quality Analysis ... *Innovative Technologies*

Date Submitted: 26-Sep-13
Invoice No.: A13-11645
Invoice Date: 10-Oct-13
Your Reference: MP2013-2

Serengeti Resources
1700-750 W Pender St
Vancouver B.C. V6C 2T8
Canada

ATTN: Hilary Clarke

CERTIFICATE OF ANALYSIS

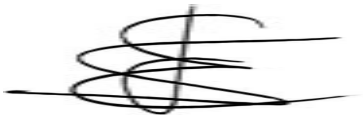
19 Soil samples were submitted for analysis.

The following analytical package was requested: Code 7-Bioleach Bioleach ICPMS

REPORT **A13-11645**

Notes:

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, 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 www.actlabs.com

Activation Laboratories Ltd. Report: A13-11645

Analyte Symbol	Ag	As	Au	Ba	Be	Bi	Br	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Ge	Hf	Hg	Ho	I	In
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.2	0.5	0.05	1	0.07	0.1	5	0.05	0.02	0.1	2	0.01	0.5	0.01	0.01	0.01	0.1	0.03	0.05	0.04	0.05	0.01	1	0.1
Analysis Method	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS
L1-1B	1.3	55.7	< 0.05	969	11.0	< 0.1	220	5.84	82.1	23.9	89	0.42	145	12.0	6.05	4.61	49.0	13.9	1.50	3.59	0.75	2.17	11	0.3
L1-2B	0.9	66.7	0.05	1380	20.1	0.4	270	6.28	221	26.6	233	0.36	249	30.4	14.1	11.5	57.1	32.4	< 0.05	5.00	1.31	5.32	49	0.5
L1-3B	0.8	82.0	< 0.05	1140	8.93	< 0.1	149	6.09	106	26.0	113	0.65	159	9.64	4.74	3.61	51.9	10.4	1.29	3.34	0.86	1.71	30	0.3
L1-4B	1.0	93.3	< 0.05	567	13.4	< 0.1	245	1.90	86.7	20.2	81	0.52	89.5	10.8	5.27	3.99	43.6	11.6	< 0.05	3.07	0.70	1.93	49	0.2
L1-5B	0.9	159	< 0.05	3130	12.0	0.2	183	1.98	95.4	45.3	285	1.22	147	9.90	4.81	3.69	103	10.1	0.59	4.73	0.87	1.78	39	0.5
L1-6B	0.7	92.4	< 0.05	1300	16.0	< 0.1	208	3.07	65.0	18.6	175	0.59	113	9.68	4.62	3.53	50.6	9.46	< 0.05	4.20	0.68	1.69	41	0.4
L1-7B	1.2	97.9	< 0.05	1390	10.7	0.1	228	4.20	178	30.5	175	0.83	199	25.8	13.5	9.86	55.8	28.8	< 0.05	5.67	1.57	4.85	47	0.3
L1-8B	1.1	153	< 0.05	3320	17.6	0.5	180	7.14	200	55.5	345	1.26	257	20.0	8.61	7.31	112	22.0	< 0.05	4.67	0.68	3.41	38	0.4
L1-9B	1.6	193	< 0.05	4090	30.5	0.5	285	14.8	711	158	426	0.83	356	41.5	17.8	14.6	104	45.4	1.47	7.01	0.97	6.74	42	0.5
L1-10B	1.0	86.2	< 0.05	2250	13.9	0.1	90	4.98	448	37.2	180	0.25	98.6	25.2	11.5	8.45	51.6	28.1	< 0.05	5.50	0.47	4.26	21	0.2
L2-1B	1.0	82.9	< 0.05	1110	14.2	0.1	291	2.80	120	33.9	163	4.55	140	16.4	7.95	5.80	62.6	16.5	< 0.05	4.97	0.77	2.91	51	0.3
L2-2B	0.8	170	< 0.05	2890	11.8	0.3	307	6.85	78.2	46.7	250	2.01	224	13.0	6.24	4.18	134	12.4	< 0.05	4.75	1.08	2.34	44	0.5
L2-3B	0.7	153	< 0.05	7920	11.8	0.3	167	7.04	39.5	36.8	165	2.61	149	5.21	2.54	2.24	193	5.15	1.67	5.24	0.65	0.94	30	0.5
L2-4B	0.9	82.4	< 0.05	1070	10.5	0.1	238	7.28	51.0	41.0	233	0.50	149	7.58	3.75	2.68	61.6	7.76	< 0.05	3.22	0.90	1.34	39	0.3
L2-5B	1.1	114	0.07	1680	14.5	< 0.1	195	3.89	451	26.6	39	0.63	773	81.0	38.0	37.4	41.6	106	0.65	3.92	1.64	14.3	32	0.1
L2-6B	0.6	229	< 0.05	1200	9.51	0.1	184	3.93	95.7	20.9	73	0.93	249	12.3	6.04	4.33	40.7	13.9	0.17	3.12	0.70	2.17	38	0.2
L2-7B	0.7	95.1	< 0.05	4460	18.7	0.3	118	7.44	310	40.1	135	1.47	276	83.7	41.5	32.4	95.5	93.4	0.56	4.71	0.39	15.4	19	0.4
L2-8B	2.6	293	0.05	4790	86.1	0.2	251	3.73	673	32.9	133	2.31	1730	252	127	85.7	170	256	3.49	16.4	0.38	46.5	55	0.7
L2-9B	0.9	175	< 0.05	1920	23.0	0.2	121	3.49	143	38.7	126	0.83	173	8.88	4.18	3.26	60.5	9.76	< 0.05	4.99	0.44	1.56	22	0.3

Analyte Symbol	La	Li	Lu	Mn	Mo	Nb	Nd	Ni	Os	Pb	Pd	Pr	Pt	Rb	Re	Ru	Sb	Sc	Se	Sm	Sr	Ta	Tb	Te
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.01	0.1	2	0.2	0.03	0.2	1	0.1	0.5	0.01	0.5	0.1	0.01	0.05	0.2	0.5	1	0.03	0.1	0.01	0.01	1
Analysis Method	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS
L1-1B	35.8	0.6	0.80	6450	16	2.8	46.8	36.4	< 1	63.5	< 0.5	10.4	< 0.5	30.5	< 0.01	< 0.05	6.3	49.7	7	14.6	924	0.19	2.32	< 1
L1-2B	80.0	3.3	1.92	1880	23	3.9	122	62.1	< 1	33.5	< 0.5	26.9	< 0.5	13.9	< 0.01	< 0.05	2.9	79.5	8	35.1	1270	0.30	5.78	< 1
L1-3B	40.6	0.7	0.66	8950	18	4.2	43.9	34.5	< 1	19.4	< 0.5	10.6	< 0.5	33.2	< 0.01	< 0.05	2.0	58.8	5	11.4	1390	0.29	1.84	< 1
L1-4B	39.1	0.4	0.67	1640	25	2.6	48.1	21.4	< 1	10.5	< 0.5	11.5	< 0.5	25.9	< 0.01	< 0.05	1.3	45.1	5	13.0	816	0.19	2.05	< 1
L1-5B	43.8	11.0	0.59	5760	13	8.6	43.8	54.5	< 1	48.9	< 0.5	10.7	< 0.5	33.8	< 0.01	< 0.05	1.3	51.6	5	11.3	1960	0.35	1.84	< 1
L1-6B	28.4	2.1	0.62	2200	17	3.5	35.9	37.7	< 1	22.2	< 0.5	8.38	< 0.5	22.1	< 0.01	< 0.05	1.5	55.4	4	10.4	1150	0.20	1.81	< 1
L1-7B	71.8	2.1	1.97	1510	21	3.4	114	34.8	< 1	25.3	< 0.5	24.5	< 0.5	26.0	0.01	< 0.05	5.5	77.2	12	31.2	1170	0.23	4.74	< 1
L1-8B	106	7.6	0.97	4870	15	8.8	97.3	70.4	< 1	60.4	< 0.5	24.3	< 0.5	51.1	< 0.01	< 0.05	3.9	80.6	9	24.1	2480	0.55	3.85	< 1
L1-9B	173	13.0	2.04	11700	26	5.1	191	133	< 1	85.3	< 0.5	48.1	< 0.5	35.2	0.04	< 0.05	7.8	168	14	51.7	3410	0.23	8.15	< 1
L1-10B	159	1.8	1.31	5660	15	2.7	136	46.5	< 1	24.7	< 0.5	35.3	< 0.5	6.8	< 0.01	< 0.05	3.0	162	7	32.2	2400	0.15	4.90	< 1
L2-1B	49.8	1.7	1.01	3070	17	5.4	64.5	27.6	< 1	19.7	< 0.5	15.1	< 0.5	32.6	0.04	< 0.05	2.3	63.0	6	18.6	757	0.35	3.08	< 1
L2-2B	38.1	12.0	0.80	14400	19	10.6	45.2	72.1	< 1	49.9	< 0.5	10.4	< 0.5	28.8	0.01	< 0.05	5.2	52.8	8	13.0	1980	0.51	2.35	< 1
L2-3B	21.0	7.4	0.34	16000	18	8.4	20.0	64.4	< 1	37.5	< 0.5	4.62	< 0.5	79.1	0.01	< 0.05	4.5	55.1	2	5.19	2830	0.46	0.96	< 1
L2-4B	25.4	2.3	0.50	4300	19	3.4	29.1	48.1	< 1	28.3	< 0.5	6.86	< 0.5	12.9	< 0.01	< 0.05	4.0	49.8	6	8.28	937	0.23	1.38	< 1
L2-5B	436	< 0.2	4.86	4320	10	1.0	473	36.5	< 1	14.0	< 0.5	110	< 0.5	32.9	0.02	< 0.05	6.8	177	13	117	4280	0.10	16.3	< 1
L2-6B	55.1	4.8	0.84	1400	11	3.0	59.4	51.7	< 1	19.6	< 0.5	13.7	< 0.5	16.6	< 0.01	< 0.05	8.2	49.3	6	15.1	2230	0.14	2.34	< 1
L2-7B	240	13.0	5.60	4420	9	1.9	304	156	< 1	33.4	< 0.5	66.0	< 0.5	25.1	< 0.01	< 0.05	9.0	320	11	92.2	1520	0.19	15.7	< 1
L2-8B	603	30.0	16.9	7150	12	2.8	838	90.2	< 1	71.5	< 0.5	182	< 0.5	60.6	0.01	< 0.05	14.2	665	32	257	2500	0.29	46.2	< 1
L2-9B	56.8	5.9	0.53	1790	7	3.4	47.1	61.6	< 1	32.8	< 0.5	11.9	< 0.5	26.4	< 0.01	< 0.05	1.6	64.6	6	10.8	2460	0.15	1.69	< 1

Analyte Symbol	Th	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.02	0.2	0.01	0.01	1	0.01	0.02	0.02	2	0.5
Analysis Method	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS
L1-1B	10.9	< 0.2	0.78	20.3	235	2.61	57.3	5.75	172	59.6
L1-2B	12.4	0.3	1.88	39.4	348	2.34	142	14.2	158	112
L1-3B	11.4	0.3	0.60	16.6	353	2.93	50.4	4.68	221	79.3
L1-4B	8.72	< 0.2	0.66	17.1	332	3.54	57.4	5.28	42	74.0
L1-5B	7.20	< 0.2	0.61	12.8	485	3.28	50.2	4.62	147	114
L1-6B	7.65	< 0.2	0.61	17.9	303	2.65	48.6	4.72	173	95.0
L1-7B	10.6	0.3	1.80	21.1	366	2.30	145	13.6	74	141
L1-8B	9.44	0.4	1.03	24.5	752	2.23	95.3	7.65	540	132
L1-9B	22.9	0.4	2.29	40.7	672	2.15	179	16.9	1030	207
L1-10B	20.5	< 0.2	1.44	15.4	431	2.18	115	10.8	150	139
L2-1B	8.56	0.3	1.04	20.5	376	4.34	87.7	7.65	137	123
L2-2B	3.91	< 0.2	0.82	15.7	597	3.98	67.5	6.14	447	125
L2-3B	2.48	< 0.2	0.31	14.5	346	2.05	32.4	2.46	1230	116
L2-4B	8.94	< 0.2	0.47	18.6	485	2.40	36.8	3.43	241	68.9
L2-5B	24.5	1.1	4.61	22.9	212	4.59	487	34.0	358	104
L2-6B	8.89	0.2	0.80	17.2	348	2.70	71.9	5.76	176	77.3
L2-7B	21.5	< 0.2	5.26	14.9	213	1.92	556	40.0	455	127
L2-8B	28.3	< 0.2	16.1	42.4	653	3.77	1470	122	455	438
L2-9B	10.4	0.6	0.54	15.2	492	2.08	49.2	4.15	144	128

Quality Control

Analyte Symbol	Ag	As	Au	Ba	Be	Bi	Br	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Ga	Gd	Ge	Hf	Hg	Ho	I	In
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.2	0.5	0.05	1	0.07	0.1	5	0.05	0.02	0.1	2	0.01	0.5	0.01	0.01	0.01	0.1	0.03	0.05	0.04	0.05	0.01	1	0.1
Analysis Method	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS
TILL-1 Meas		187	0.12	1370	33.6		869		781	41.1	119	0.65	1690		65.9	56.8				3.31	1.49			
TILL-1 Cert		18000	13	702000	2400.0		6400.0		71000	18000	65000	1000.0	47000		3600.0	1300.0				13000	90.0			
TILL-2 Meas		603	0.11	2950	129		3500		1540	95.6	498	17.2	4460		60.1	41.6				11.6	1.84			
TILL-2 Cert		26000	2	540000	4000.0		12200.0		98000	15000	74000	12000	150000		3700.0	1000.0				11000	70.0			
L1-10B Orig	0.9	86.1	< 0.05	2250	14.0	0.1	91	5.20	446	37.2	180	0.24	98.7	24.8	11.3	8.36	51.8	28.0	< 0.05	5.41	0.49	4.29	21	0.2
L1-10B Dup	1.0	86.3	< 0.05	2250	13.7	0.1	89	4.77	449	37.2	180	0.27	98.5	25.5	11.6	8.53	51.4	28.2	< 0.05	5.60	0.46	4.24	20	0.2
L2-9B Orig	0.9	177	< 0.05	1950	23.2	0.2	121	3.37	143	39.3	127	0.82	175	8.80	4.21	3.28	61.7	9.61	< 0.05	5.00	0.42	1.52	22	0.3
L2-9B Dup	1.0	172	< 0.05	1900	22.7	0.2	122	3.62	144	38.1	126	0.84	171	8.96	4.15	3.25	59.3	9.91	< 0.05	4.98	0.47	1.59	22	0.3
Method Blank	< 0.2	< 0.5	< 0.05	< 1	< 0.07	< 0.1	< 5	< 0.05	< 0.02	< 0.1	< 2	< 0.01	< 0.5	< 0.01	< 0.01	< 0.01	< 0.1	< 0.03	< 0.05	< 0.04	< 0.05	< 0.01	< 1	< 0.1

Quality Control

Analyte Symbol	La	Li	Lu	Mn	Mo	Nb	Nd	Ni	Os	Pb	Pd	Pr	Pt	Rb	Re	Ru	Sb	Sc	Se	Sm	Sr	Ta	Tb	Te
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.01	0.2	0.01	0.1	2	0.2	0.03	0.2	1	0.1	0.5	0.01	0.5	0.1	0.01	0.05	0.2	0.5	1	0.03	0.1	0.01	0.01	1
Analysis Method	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS
TILL-1 Meas	970	1.9	8.34	57100	18	4.0	1130	63.6		149				38.0			82.2	236		267	382	0.33	32.1	
TILL-1 Cert	28000	15000	600.0	1420000	2000	10000	26000	24000		22000				44000			7800.0	13000		5900.0	291000	700.0	1100.0	
TILL-2 Meas	862	37.0	7.13	15800	126	20.7	773	112		435				253			3.5	191		188	572	1.37	27.5	
TILL-2 Cert	44000	47000	600.0	780000	14000	20000	36000	32000		31000				143000			800.0	12000		7400.0	144000	1900.0	1200.0	
L1-10B Orig	159	1.7	1.29	5620	15	2.7	136	46.4	< 1	24.2	< 0.5	35.4	< 0.5	6.7	< 0.01	< 0.05	2.9	163	8	32.2	2410	0.15	4.88	< 1
L1-10B Dup	159	1.9	1.32	5710	15	2.7	137	46.5	< 1	25.2	< 0.5	35.2	< 0.5	6.9	< 0.01	< 0.05	3.1	161	7	32.3	2390	0.16	4.93	< 1
L2-9B Orig	56.7	6.0	0.55	1820	8	3.5	47.2	62.9	< 1	32.6	< 0.5	11.9	< 0.5	26.8	< 0.01	< 0.05	1.7	65.6	7	10.7	2490	0.16	1.69	< 1
L2-9B Dup	56.8	5.8	0.51	1760	7	3.4	47.0	60.4	< 1	32.9	< 0.5	11.9	< 0.5	26.1	< 0.01	< 0.05	1.5	63.6	5	10.9	2420	0.14	1.68	< 1
Method Blank	< 0.01	< 0.2	< 0.01	< 0.1	< 2	< 0.2	< 0.03	< 0.2	< 1	< 0.1	< 0.5	< 0.01	< 0.5	< 0.1	< 0.01	< 0.05	< 0.2	< 0.5	< 1	< 0.03	< 0.1	< 0.01	< 0.01	< 1

Quality Control

Analyte Symbol	Th	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
Unit Symbol	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Detection Limit	0.02	0.2	0.01	0.01	1	0.01	0.02	0.02	2	0.5
Analysis Method	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS	Bioleach-MS
TILL-1 Meas	83.4			81.0	212		900	62.3	578	47.2
TILL-1 Cert	5600.0			2200.0	99000		38000	3900.0	98000	502000
TILL-2 Meas	227			236	291	69.3	719	56.0	668	307
TILL-2 Cert	18400.0			5700.0	77000	5000	40000	3700.0	130000	390000
L1-10B Orig	20.4	< 0.2	1.43	15.3	429	2.24	115	10.7	155	139
L1-10B Dup	20.6	< 0.2	1.45	15.5	434	2.13	115	10.9	145	138
L2-9B Orig	10.3	0.6	0.55	15.0	497	2.11	49.2	4.10	148	130
L2-9B Dup	10.4	0.6	0.53	15.5	488	2.05	49.2	4.20	141	127
Method Blank	< 0.02	< 0.2	< 0.01	< 0.01	< 1	< 0.01	< 0.02	< 0.02	< 2	< 0.5

Bioleach

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Bioleach

Bioleach is a proprietary technology developed by Activation Laboratories Ltd. (Actlabs) to dissolve remnant proteins that bacteria have left behind when they die. These proteins contain elements related to concealed mineral deposits, and they are considered to migrate upward by a variety of processes and become adsorbed on soil particles. Bioleach is designed to digest this soil component which can be analyzed by ICP/MS.

Woodjam Case Study

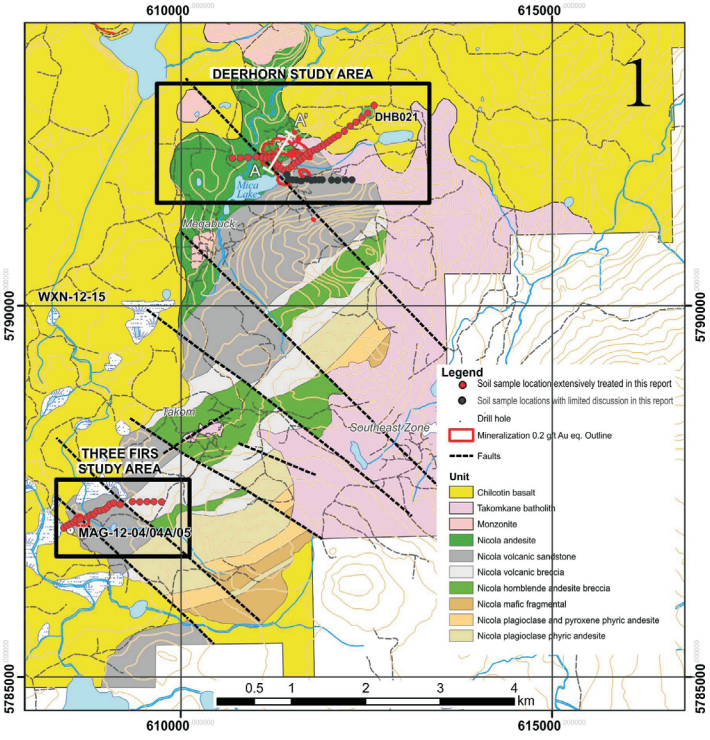
Thomas Bissig, Dave Heberlein and Colin Dunn performed a study for a Geoscience BC report of multiple Selective Extractions and near total extractions on B-horizon soils including the following packages:

Analytical Package Description
Standard Aqua Regia leach (AR)
Ultra Trace AR high sensitivity
4 acid strong leach (near total digestion)
Super-trace level gold (0.01 ppb)
Ionic leach buffered to ph 8.5
Enzyme Leach (amorphous oxide coating) (Actlabs)
SGH - organic compounds (Actlabs)
OSG - sulphur compounds (Actlabs)
Bioleach - remnant from bacteria (Actlabs)
MMI - loosely bound surface coatings
Ultra Trace AR on vesicle infill (high sensitivity)
Lithium borate fusion and complete characterization

Enzyme Leach, SGH, OSG and Bioleach are all selective extractions offered by Activation Laboratories Ltd. (Actlabs) and are very weak leaches designed to capture the organic and associated inorganic signals added to various soil components. As the overburden is unrelated to mineralization, we want to preclude analysis of bulk soil itself.

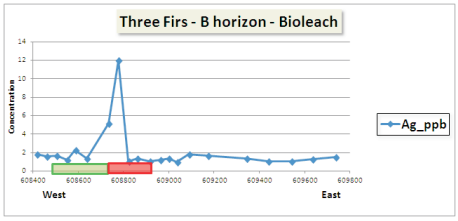
General Geology

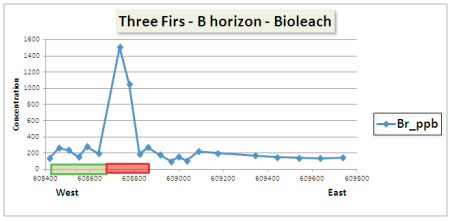
The following Figure shows the bedrock geology of the Woodjam South prospect, south-central British Columbia (modified from Blackwell et al. 2012; Rainbow et al. 2013). Red outlines denote surface projection of the +0.2 g/t Au equivalent mineralization.

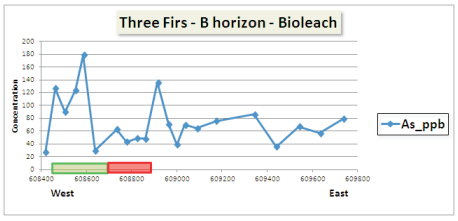


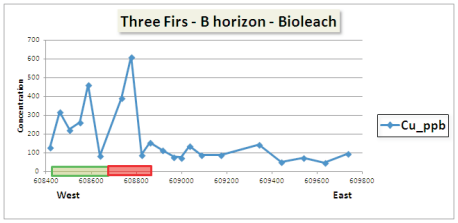
Some of the Three Firs Bioleach profiles are shown on the reverse page. This area was chosen for depiction as distribution of mineralization is apparently simpler, making for an easier interpretation of the results.

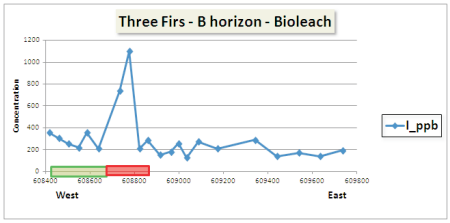
Bioleach

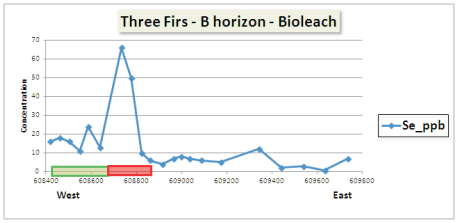


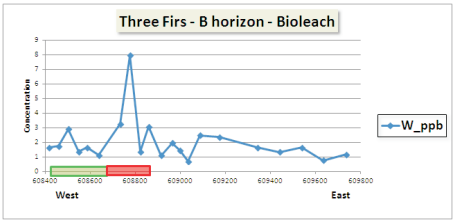


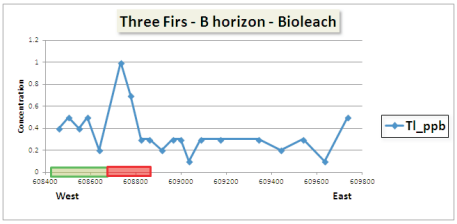












The above graphs show response of Bioleach to mineralization over the Three Firs study area. The green bars represent basalt cover and the red bars represent mineralization under cover. Mineralization in this area is overlain by up to 70 metres of glacial tills and up to 30 metres of cover volcanics. Several elements, including As, Se, W, Cu, Th, Br, and I show apical anomalies over mineralization. Arsenic shows a "rabbit ear" halo over the mineralization. A similar response was also obtained over the Deerhorn Study area. The reader is advised to refer to the entire publication for full details of the study.

Conclusion from Bissig, T., Heberlein, D.R., and Dunn, C. (2013): Geochemical Techniques for Detection of Blind Porphyry Copper-Gold Mineralization under Basalt Cover, Woodjam Property, South-Central British Columbia (NTS 093A/03, 06); Geoscience BC, Report 2013-17, 53 p.

"The geochemical techniques applied in this study indicate that detection of mineralization under basalt cover is possible.

Partial Leach techniques on B-Horizon soils, above all bioleach, but also Enzyme Leach, Ionic Leach and to a lesser extent aqua regia digestions gave good contrast anomalies in soils attributable to concealed mineralization. In this context, elements that yielded compelling anomalies over mineralized areas in B-horizon soils at Deehorn, Three Firs or both include: As, Cu, Zn, Ni, Se, W, Ag, REE, Tl, In and others."

Recommendations from Bissig, T. et al.

"B-horizon soils if analysed using partial leach techniques work well for the identification of trace element anomalies related to mineralization. Partial leach techniques, above all, Bioleach and Enzyme Leach, but also aqua regia gave the best results in the study. Aggressive 4 acid near total digestion, while of limited use for detecting anomalies related to mineralization, may work well for defining the extent of geological units. Plant geochemistry promised rapid identification of potassic alteration zones and some commodity elements under cover as well definition of the distribution of some geological units."

Link to full report
http://www.geosciencebc.com/i/project_data/GBCReport2013-17/GBCReport2013-17_Report.pdf

Selective Leach

Many 'blind' orebodies are buried beneath thick sequences of exotic overburden, lake beds, barren bedrock or younger volcanic rocks. Selective extractions using surface materials can be used to extract a specific component of the soil that may have been added by degassing biological activity or electrochemical cells. Bioleach, a technology that Actlabs has developed, dissolves remnant proteins that bacteria have left behind when the die. These proteins migrate directly above mineral deposits by a variety of processes and bioleach is designed to digest this soil component which can then be analyzed by ICP/MS or for most effectiveness by high resultion ICP/MS. Enzyme Selective Extraction dissolves metals that have been adsorbed onto amorphous manganese dioxides (but not from crystaline managanese oxides which comprise the bulk of manganese but is more related to parent material). Sodium pyrophosphate will digest organic material. Sodium acetate pH5 or pH7 will digest exchangeable cations adsorbed on clay or co-precipitated on carbonates. There are also a number of leaches like hot and cold hydroxylamine leaches that will dissolve amorphous and crystalline iron and manganese oxides. Generally to be most effective at depth penetration, the weakest leaches are best including Bioleach and Enzyme Selective Extraction.

- 7 - BioLeach
- 7 - Enhanced Enzyme Selective Extraction
- 7 - Enzyme Selective Extraction - ICP/MS
- 7 - High Salt Enzyme Selective Extraction
- 7 - Hydroxylamine Cold Leach
- 7 - Hydroxylamine Hot Leach
- 7 - Sequential Leach
- 7 - Sodium Acetate Leach
- 7 - Sodium Pyrophosphate Leach
- 7 - TerraSol
- 7 - Water (Cold or Hot) Leach

Appendix D – Field Notes and Results

My Polley 2013
B Horizon Soil Samples

Property	Type	Sample ID	Ticket #	Zone	Easting (NAD83)	Northing (NAD83)	Date	Slope	Environment	Moisture	Depth	Colour	Sampler	Notes	Method_ICP MS	ACTLABS Job #	Sample # (2)	Ag_ppb
MTPOLLEY	B	L1-1	L1-1B	10	581801.75	5830999.85	18/09/2013	1	CB	2	10	Brown	HC/JA	no ah, in cutblock	Bioleach	A13-11645	L1-1B	1.3
MTPOLLEY	B	L1-2	L1-2B	10	581801.75	5831099.85	18/09/2013	1	2	2	30	brown	HC/JA		Bioleach	A13-11645	L1-2B	0.9
MTPOLLEY	B	L1-3	L1-3B	10	581801.75	5831199.85	18/09/2013	2	2	1	30	dark brown	HC/JA	f cutblock, slashed area,some small rocks i	Bioleach	A13-11645	L1-3B	0.8
MTPOLLEY	B	L1-4	L1-4B	10	581801.75	5831299.85	18/09/2013	2	2	1	30	range brown	HC/JA	some rocks close to B sample	Bioleach	A13-11645	L1-4B	1
MTPOLLEY	B	L1-5	L1-5B	10	581801.75	5831399.85	18/09/2013	1	2	1	30	ght grey brow	HC/JA	in re-planted area, disturbed ground	Bioleach	A13-11645	L1-5B	0.9
MTPOLLEY	B	L1-6	L1-6B	10	581801.75	5831499.85	19/09/2013	3	CB	2	30	brown	HC	in cutblock	Bioleach	A13-11645	L1-6B	0.7
MTPOLLEY	B	L1-7	L1-7B	10	581801.75	5831599.85	19/09/2013	4	CB	2	40	Brown	HC		Bioleach	A13-11645	L1-7B	1.2
MTPOLLEY	B	L1-8	L1-8B	10	581801.75	5831699.85	19/09/2013	4	CB	3	30	Brown	HC	sticky clay	Bioleach	A13-11645	L1-8B	1.1
MTPOLLEY	B	L1-9	L1-9B	10	581801.75	5831799.85	19/09/2013	4	CB	2	30	Brown	HC		Bioleach	A13-11645	L1-9B	1.6
MTPOLLEY	B	L1-10	L1-10B	10	581801.75	5831899.85	19/09/2013	4	CB	2	30	Brown	HC		Bioleach	A13-11645	L1-10B	1
MTPOLLEY	B	L2-1	L2-1B	10	581651.75	5830999.85	19/09/2013	1	CB	1	CB	Brown	JA		Bioleach	A13-11645	L2-1B	1
MTPOLLEY	B	L2-2	L2-2B	10	581651.75	5831099.85	19/09/2013	1	CB	1	CB	Brown	JA		Bioleach	A13-11645	L2-2B	0.8
MTPOLLEY	B	L2-3	L2-3B	10	581651.75	5831199.85	19/09/2013	1	CB	1	CB	Brown	JA		Bioleach	A13-11645	L2-3B	0.7
MTPOLLEY	B	L2-4	L2-4B	10	581651.75	5831299.85	19/09/2013	2	CB	1	CB	Brown	JA		Bioleach	A13-11645	L2-4B	0.9
MTPOLLEY	B	L2-5	L2-5B	10	581651.75	5831399.85	19/09/2013	3	1	1	3	Brown	JA		Bioleach	A13-11645	L2-5B	1.1
MTPOLLEY	B	L2-6	L2-6B	10	581651.75	5831499.85	19/09/2013	3	2	1	2	Brown	JA		Bioleach	A13-11645	L2-6B	0.6
MTPOLLEY	B	L2-7	L2-7B	10	581651.75	5831599.85	19/09/2013	3	2	1	2	Brown	JA		Bioleach	A13-11645	L2-7B	0.7
MTPOLLEY	B	L2-8	L2-8B	10	581651.75	5831699.85	19/09/2013	3	2	1	2	Brown	JA		Bioleach	A13-11645	L2-8B	2.6
MTPOLLEY	B	L2-9	L2-9B	10	581651.75	5831799.85	19/09/2013	1	2	1	2	Brown	JA		Bioleach	A13-11645	L2-9B	0.9

My Polley 2013
B Horizon Soil Samples

As_ppb	Au_ppb	Ba_ppb	Be_ppb	Bi_ppb	Br_ppb	Cd_ppb	Ce_ppb	Co_ppb	Cr_ppb	Cs_ppb	Cu_ppb	Dy_ppb	Er_ppb	Eu_ppb	Ga_ppb	Gd_ppb	Ge_ppb	Hf_ppb	Hg_ppb	Ho_ppb	I_ppb	In_ppb	La_ppb	Li_ppb	Lu_ppb	Mn_ppb	Mo_ppb	Nb_ppb	Nd_ppb
55.7	0.025	969	11	0.05	220	5.84	82.1	23.9	89	0.42	145	12	6.05	4.61	49	13.9	1.5	3.59	0.75	2.17	11	0.3	35.8	0.6	0.8	6450	16	2.8	46.8
66.7	0.05	1380	20.1	0.4	270	6.28	221	26.6	233	0.36	249	30.4	14.1	11.5	57.1	32.4	0.025	5	1.31	5.32	49	0.5	80	3.3	1.92	1880	23	3.9	122
82	0.025	1140	8.93	0.05	149	6.09	106	26	113	0.65	159	9.64	4.74	3.61	51.9	10.4	1.29	3.34	0.86	1.71	30	0.3	40.6	0.7	0.66	8950	18	4.2	43.9
93.3	0.025	567	13.4	0.05	245	1.9	86.7	20.2	81	0.52	89.5	10.8	5.27	3.99	43.6	11.6	0.025	3.07	0.7	1.93	49	0.2	39.1	0.4	0.67	1640	25	2.6	48.1
159	0.025	3130	12	0.2	183	1.98	95.4	45.3	285	1.22	147	9.9	4.81	3.69	103	10.1	0.59	4.73	0.87	1.78	39	0.5	43.8	11	0.59	5760	13	8.6	43.8
92.4	0.025	1300	16	0.05	208	3.07	65	18.6	175	0.59	113	9.68	4.62	3.53	50.6	9.46	0.025	4.2	0.68	1.69	41	0.4	28.4	2.1	0.62	2200	17	3.5	35.9
97.9	0.025	1390	10.7	0.1	228	4.2	178	30.5	175	0.83	199	25.8	13.5	9.86	55.8	28.8	0.025	5.67	1.57	4.85	47	0.3	71.8	2.1	1.97	1510	21	3.4	114
153	0.025	3320	17.6	0.5	180	7.14	200	55.5	345	1.26	257	20	8.61	7.31	112	22	0.025	4.67	0.68	3.41	38	0.4	106	7.6	0.97	4870	15	8.8	97.3
193	0.025	4090	30.5	0.5	285	14.8	711	158	426	0.83	356	41.5	17.8	14.6	104	45.4	1.47	7.01	0.97	6.74	42	0.5	173	13	2.04	11700	26	5.1	191
86.2	0.025	2250	13.9	0.1	90	4.98	448	37.2	180	0.25	98.6	25.2	11.5	8.45	51.6	28.1	0.025	5.5	0.47	4.26	21	0.2	159	1.8	1.31	5660	15	2.7	136
82.9	0.025	1110	14.2	0.1	291	2.8	120	33.9	163	4.55	140	16.4	7.95	5.8	62.6	16.5	0.025	4.97	0.77	2.91	51	0.3	49.8	1.7	1.01	3070	17	5.4	64.5
170	0.025	2890	11.8	0.3	307	6.85	78.2	46.7	250	2.01	224	13	6.24	4.18	134	12.4	0.025	4.75	1.08	2.34	44	0.5	38.1	12	0.8	14400	19	10.6	45.2
153	0.025	7920	11.8	0.3	167	7.04	39.5	36.8	165	2.61	149	5.21	2.54	2.24	193	5.15	1.67	5.24	0.65	0.94	30	0.5	21	7.4	0.34	16000	18	8.4	20
82.4	0.025	1070	10.5	0.1	238	7.28	51	41	233	0.5	149	7.58	3.75	2.68	61.6	7.76	0.025	3.22	0.9	1.34	39	0.3	25.4	2.3	0.5	4300	19	3.4	29.1
114	0.07	1680	14.5	0.05	195	3.89	451	26.6	39	0.63	773	81	38	37.4	41.6	106	0.65	3.92	1.64	14.3	32	0.1	436	0.1	4.86	4320	10	1	473
229	0.025	1200	9.51	0.1	184	3.93	95.7	20.9	73	0.93	249	12.3	6.04	4.33	40.7	13.9	0.17	3.12	0.7	2.17	38	0.2	55.1	4.8	0.84	1400	11	3	59.4
95.1	0.025	4460	18.7	0.3	118	7.44	310	40.1	135	1.47	276	83.7	41.5	32.4	95.5	93.4	0.56	4.71	0.39	15.4	19	0.4	240	13	5.6	4420	9	1.9	304
293	0.05	4790	86.1	0.2	251	3.73	673	32.9	133	2.31	1730	252	127	85.7	170	256	3.49	16.4	0.38	46.5	55	0.7	603	30	16.9	7150	12	2.8	838
175	0.025	1920	23	0.2	121	3.49	143	38.7	126	0.83	173	8.88	4.18	3.26	60.5	9.76	0.025	4.99	0.44	1.56	22	0.3	56.8	5.9	0.53	1790	7	3.4	47.1

Ni_ppb	Os_ppb	Pb_ppb	Pd_ppb	Pr_ppb	Pt_ppb	Rb_ppb	Re_ppb	Ru_ppb	Sb_ppb	Sc_ppb	Se_ppb	Sm_ppb	Sr_ppb	Ta_ppb	Tb_ppb	Te_ppb	Th_ppb	Tl_ppb	Tm_ppb	U_ppb	V_ppb	**W_ppb**	**Y_ppb**	**Yb_ppb**	**Zn_ppb**	**Zr_ppb**
36.4	0.5	63.5	0.25	10.4	0.25	30.5	0.005	0.025	6.3	49.7	7	14.6	924	0.19	2.32	0.5	10.9	0.1	0.78	20.3	235	2.61	57.3	5.75	172	59.6
62.1	0.5	33.5	0.25	26.9	0.25	13.9	0.005	0.025	2.9	79.5	8	35.1	1270	0.3	5.78	0.5	12.4	0.3	1.88	39.4	348	2.34	142	14.2	158	112
34.5	0.5	19.4	0.25	10.6	0.25	33.2	0.005	0.025	2	58.8	5	11.4	1390	0.29	1.84	0.5	11.4	0.3	0.6	16.6	353	2.93	50.4	4.68	221	79.3
21.4	0.5	10.5	0.25	11.5	0.25	25.9	0.005	0.025	1.3	45.1	5	13	816	0.19	2.05	0.5	8.72	0.1	0.66	17.1	332	3.54	57.4	5.28	42	74
54.5	0.5	48.9	0.25	10.7	0.25	33.8	0.005	0.025	1.3	51.6	5	11.3	1960	0.35	1.84	0.5	7.2	0.1	0.61	12.8	485	3.28	50.2	4.62	147	114
37.7	0.5	22.2	0.25	8.38	0.25	22.1	0.005	0.025	1.5	55.4	4	10.4	1150	0.2	1.81	0.5	7.65	0.1	0.61	17.9	303	2.65	48.6	4.72	173	95
34.8	0.5	25.3	0.25	24.5	0.25	26	0.01	0.025	5.5	77.2	12	31.2	1170	0.23	4.74	0.5	10.6	0.3	1.8	21.1	366	2.3	145	13.6	74	141
70.4	0.5	60.4	0.25	24.3	0.25	51.1	0.005	0.025	3.9	80.6	9	24.1	2480	0.55	3.85	0.5	9.44	0.4	1.03	24.5	752	2.23	95.3	7.65	540	132
133	0.5	85.3	0.25	48.1	0.25	35.2	0.04	0.025	7.8	168	14	51.7	3410	0.23	8.15	0.5	22.9	0.4	2.29	40.7	672	2.15	179	16.9	1030	207
46.5	0.5	24.7	0.25	35.3	0.25	6.8	0.005	0.025	3	162	7	32.2	2400	0.15	4.9	0.5	20.5	0.1	1.44	15.4	431	2.18	115	10.8	150	139
27.6	0.5	19.7	0.25	15.1	0.25	32.6	0.04	0.025	2.3	63	6	18.6	757	0.35	3.08	0.5	8.56	0.3	1.04	20.5	376	4.34	87.7	7.65	137	123
72.1	0.5	49.9	0.25	10.4	0.25	28.8	0.01	0.025	5.2	52.8	8	13	1980	0.51	2.35	0.5	3.91	0.1	0.82	15.7	597	3.98	67.5	6.14	447	125
64.4	0.5	37.5	0.25	4.62	0.25	79.1	0.01	0.025	4.5	55.1	2	5.19	2830	0.46	0.96	0.5	2.48	0.1	0.31	14.5	346	2.05	32.4	2.46	1230	116
48.1	0.5	28.3	0.25	6.86	0.25	12.9	0.005	0.025	4	49.8	6	8.28	937	0.23	1.38	0.5	8.94	0.1	0.47	18.6	485	2.4	36.8	3.43	241	68.9
36.5	0.5	14	0.25	110	0.25	32.9	0.02	0.025	6.8	177	13	117	4280	0.1	16.3	0.5	24.5	1.1	4.61	22.9	212	4.59	487	34	358	104
51.7	0.5	19.6	0.25	13.7	0.25	16.6	0.005	0.025	8.2	49.3	6	15.1	2230	0.14	2.34	0.5	8.89	0.2	0.8	17.2	348	2.7	71.9	5.76	176	77.3
156	0.5	33.4	0.25	66	0.25	25.1	0.005	0.025	9	320	11	92.2	1520	0.19	15.7	0.5	21.5	0.1	5.26	14.9	213	1.92	556	40	455	127
90.2	0.5	71.5	0.25	182	0.25	60.6	0.01	0.025	14.2	665	32	257	2500	0.29	46.2	0.5	28.3	0.1	16.1	42.4	653	3.77	1470	122	455	438
61.6	0.5	32.8	0.25	11.9	0.25	26.4	0.005	0.025	1.6	64.6	6	10.8	2460	0.15	1.69	0.5	10.4	0.6	0.54	15.2	492	2.08	49.2	4.15	144	128

Mt Polley 2013
AH Soil Geochemistry

Property	Line	Sample #	Slope	Environment	Moisture	Notes	Certificate #	Ticket # (2)	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppb)	Ni (ppm)	Co (ppm)	Mn (ppm)	Fe (%)
MTPOLLEY	1	L1-2A	1	2	2	Organic rich- edge of clearcut, deadfall	SMI13000329	L1 2A	1.11	23.27	5.77	30.1	399	3.1	2.1	968	0.30
MTPOLLEY	1	L1-3A	2	2	1	poor ah development, thin- with some ash	SMI13000329	L1 3A	1.93	31.99	9.93	25.1	100	4.9	3.3	772	0.98
MTPOLLEY	1	L1-4A	2	2	1	good Ah dev,	SMI13000329	L1 4A	1.77	17.67	7.39	13.0	138	3.5	1.1	138	0.25
MTPOLLEY	1	L1-5A	1	2	1	not good Ah dev, thin- some orgs	SMI13000329	L1 5A	2.12	38.54	7.49	54.5	118	6.5	4.1	1989	1.15
MTPOLLEY	2	L2-5A	3	1	1		SMI13000329	L2 5	0.70	35.63	5.22	49.5	49	14.2	9.5	1278	2.66
MTPOLLEY	2	L2-6A	3	1	1		SMI13000329	L2 6	0.72	34.40	5.19	52.9	48	16.7	10.1	1270	2.74
MTPOLLEY	2	L2-7A	3	1	1		SMI13000329	L2 7	0.66	31.09	4.53	45.4	31	17.2	9.4	700	2.37

As (ppm)	U (ppm)	Au (ppb)	Th (ppm)	Sr (ppm)	Cd (ppm)	Sb (ppm)	Bi (ppm)	V (ppm)	Ca (%)	P (%)	La (ppm)	Cr (ppm)	Mg (%)	Ba (ppm)	Ti (%)	B (ppm)	Al (%)	Na (%)	K (%)	W (ppm)	Sc (ppm)	Tl (ppm)	S (%)
1.6	0.1	1.5	0.1	144.6	0.54	0.24	0.05	9	1.97	0.079	0.8	5.1	0.14	120.4	0.011	10	0.15	0.007	0.05	0.1	0.4	0.01	0.15
1.6	0.1	4.5	0.2	136.9	0.38	0.26	0.07	33	1.07	0.075	1.8	12.8	0.12	141.6	0.038	5	0.40	0.007	0.09	0.1	1.1	0.01	0.09
2.3	0.1	0.5	0.1	88.5	0.14	0.14	0.06	7	0.85	0.084	0.6	6.8	0.11	55.3	0.010	4	0.16	0.004	0.06	0.1	0.6	0.01	0.13
2.7	0.1	6.2	0.1	117.3	0.45	0.34	0.07	37	1.22	0.073	1.9	13.9	0.20	141.5	0.042	7	0.54	0.006	0.08	0.1	1.1	0.01	0.09
6.2	0.3	4.3	1.0	115.1	0.46	0.30	0.07	87	1.13	0.105	4.5	31.9	0.38	170.9	0.096	7	1.25	0.007	0.09	0.2	3.3	0.04	0.02
6.3	0.3	9.3	0.9	107.5	0.46	0.29	0.06	90	1.03	0.100	4.3	35.5	0.39	164.2	0.102	7	1.34	0.007	0.10	0.1	3.2	0.04	0.01
6.1	0.2	2.3	1.0	40.7	0.23	0.24	0.06	58	0.74	0.076	5.9	25.0	0.36	168.2	0.032	7	0.95	0.006	0.12	0.3	4.3	0.04	0.02

Hg (ppm)	Se (ppm)	Te (ppm)	Ga (ppm)	Cs (ppm)	Ge (ppm)	Hf (ppm)	Nb (ppm)	Rb (ppm)	Sn (ppm)	Ta (ppm)	Zr (ppm)	Y (ppm)	Ce (ppm)	In (ppm)	Re (ppb)	Be (ppm)	Li (ppm)	Pd (ppb)	Pt (ppb)
283	0.2	0.01	0.7	0.23	0.1	0.01	0.15	1.6	0.1	0.03	0.5	0.42	1.5	0.01	1	0.1	0.8	01	1
165	0.2	0.01	1.9	0.40	0.1	0.03	0.39	3.1	0.2	0.03	1.2	0.99	3.3	0.01	1	0.1	2.2	01	1
206	0.1	0.01	0.4	0.18	0.1	0.01	0.11	1.3	0.1	0.03	0.6	0.43	1.1	0.01	1	0.1	0.5	01	1
156	0.1	0.01	2.1	0.39	0.1	0.03	0.40	2.8	0.2	0.03	1.1	1.19	3.6	0.01	1	0.1	3.2	01	1
99	0.1	0.02	4.5	0.79	0.1	0.09	0.68	5.2	0.2	0.03	3.6	2.89	9.2	0.01	1	0.3	9.2	01	1
80	0.1	0.01	4.9	0.87	0.1	0.10	0.70	5.6	0.3	0.03	3.8	2.75	8.4	0.01	1	0.3	10.4	01	1
72	0.1	0.01	2.8	0.39	0.1	0.02	0.55	5.9	0.2	0.03	1.3	4.75	13.2	0.01	1	0.3	7.5	01	1