NTS 092J09

ASSESSMENT REPORT ON THE POPA BEAR PROPERTY, LILLOOET MINING DISTRICT, BRITISH COLUMBIA

Approximate Property Location
Latitude: 50° 31'79''N
Longitude: 122° 23'09''W

Prepared For:
Mr. Don Rogers
5854,41 Street Crescent
Red Deer, Alberta, CanadaDecember 18, 2013
T4N 1B6

Prepared by:
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December 18, 2013
Vancouver, British Columbia, Canada

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1 Summary

This Report is written for the Popa Bear Property (the "Property"). This assessment report presents the results of, and expenditures related to, exploration work conducted by APEX Geoscience Limited (APEX) on behalf of Mr. Don Rogers during 2013. The Popa Bear Property is located in the Lillooet Mining District in southwestern British Columbia, approximately 38 kilometres (km) northeast of the town of Pemberton, and 5 km east of the community of D'Arcy at Anderson Lake. The Property consists of two mineral claims which cover 2198.09 hectare (ha) which are held 100% by Mr. Don Rogers.

The Popa Bear Property lies within the southeastern Coast Belt, an approximately 100 km wide NW trending belt of distinct supracrustal rocks formed in oceanic basin, volcanic arc and clastic basin environments. The supracrustal rocks are intruded by partly coeval mid-Cretaceous through Early Tertiary stocks and dykes of mainly felsic to intermediate composition, which are collectively juxtaposed across a complex system of contractional, strike-slip and extensional faults of mainly Cretaceous to Tertiary age. In the area of the property and extending NW to Bralorne, the Bridge River Terrane is represented by the Bridge River Complex (BRC); an assemblage of variably metamorphosed and structurally imbricated chert and mafic volcanic (greenstone), and lesser argillite, tuff, limestone, sandstone, conglomerate, gabbro and serpentinite rocks that lack a coherent stratigraphy.

2013 exploration program consisted of a geological mapping, geochemical rock grab sampling and soil sampling during the period September 13 to 20, 2013. The purpose of the 2013 Popa Bear property exploration program was to assess the potential for Bridge River Complex sedimentary, volcanic, and ultramafic rocks within the claims to host "Bralorne" style mafic-ultramafic hosted gold bearing quartz vein mineralization. A total of 155 soil samples and 40 rock grab samples were collected from the property. The total cost to complete 2013 exploration program at the Popa Bear Property was CDN$ 42,277.80.

Results from 2013 soil sampling returned a total of 8 anomalous samples with greater than 7.7 part-per-billion (ppb) gold (Au; >95th percentile), and up to 69.7 ppb Au. Of the 40 rock grab samples collected during 2013 a total of five (5) samples returned anomalous gold values greater than 10 ppb Au and up to 283.8 ppb Au (sample 13DRP005). A total of six (6) samples returned values greater than 200 parts-per-million (ppm) copper (Cu) and up to 0.14% Cu (sample 13KRP113); and a total of three (3) samples returned values greater than 2 ppm silver (Ag) and up to 22.2 ppm Ag (13DRP005).

The results of geologic mapping have defined two distinct chert-shale horizons hosting sheared serpentine-quartz-ankerite-fuchsite altered ultramafic rocks. The two horizons are inferred to occur near the stratigraphic base and top of an approximately 600 m true-thickness structurally bound section of northeast dipping, weakly to moderately foliated BRC volcanic and sedimentary rocks. Discrete north-northwest trending steeply northeast dipping quartz-carbonate-fuchsite (±pyrite-arsenopyrite)

altered shear zones intersect stratigraphy at low angles and produce gold-silver and arsenic in rock and soil anomalies and may have formed in a structural setting analogous to shear zones hosting gold bearing quartz veins at Bralorne. In the area of the 1970 Steep Creek Copper Showing, pyritic granodiorite intrudes siliceous chert-phyllite sediments and produce highly anomalous gold-silver plus copper-lead-zinc rock values.

Based on the presence of gold-silver and multi-element base metal and pathfinder element soil and rock geochemical anomalies and favourable geology the Popa Bear property is considered a high priority for follow-up exploration. The 2014 exploration program should include but not to be limited to: (A) Completion of planned 2013 reconnaissance contour soil sampling lines extending southeast over prospective BRC lithologies (50 soil samples). (B) Collection select infill soil geochemical samples over spot >10 ppb Au anomalies and broad multi-element anomalies in the northwest and south-central grid areas (100 soil samples) The collection of 100 infill soil samples

Follow-up prospecting and geologic mapping designed to investigate spot gold in soil geochemical anomalies in the Haylmore basin (13KCS002), and unsourced gold in soil anomalies in rocks mapped regionally as Cyoosh Assemblage in the southwest grid area (13KCS009, 13CGS020, and 13KCS038). (C) In addition, prospecting and reconnaissance geologic mapping in the Steep Creek Copper Showing, Haylmore Creek Headwaters multi-element soil geochemical anomaly, and untested southeast areas of the Popa Bear property (50 rock samples). The total cost to complete the recommended exploration is approximately CDN$33,000.00.

2 Introduction and Terms of Reference

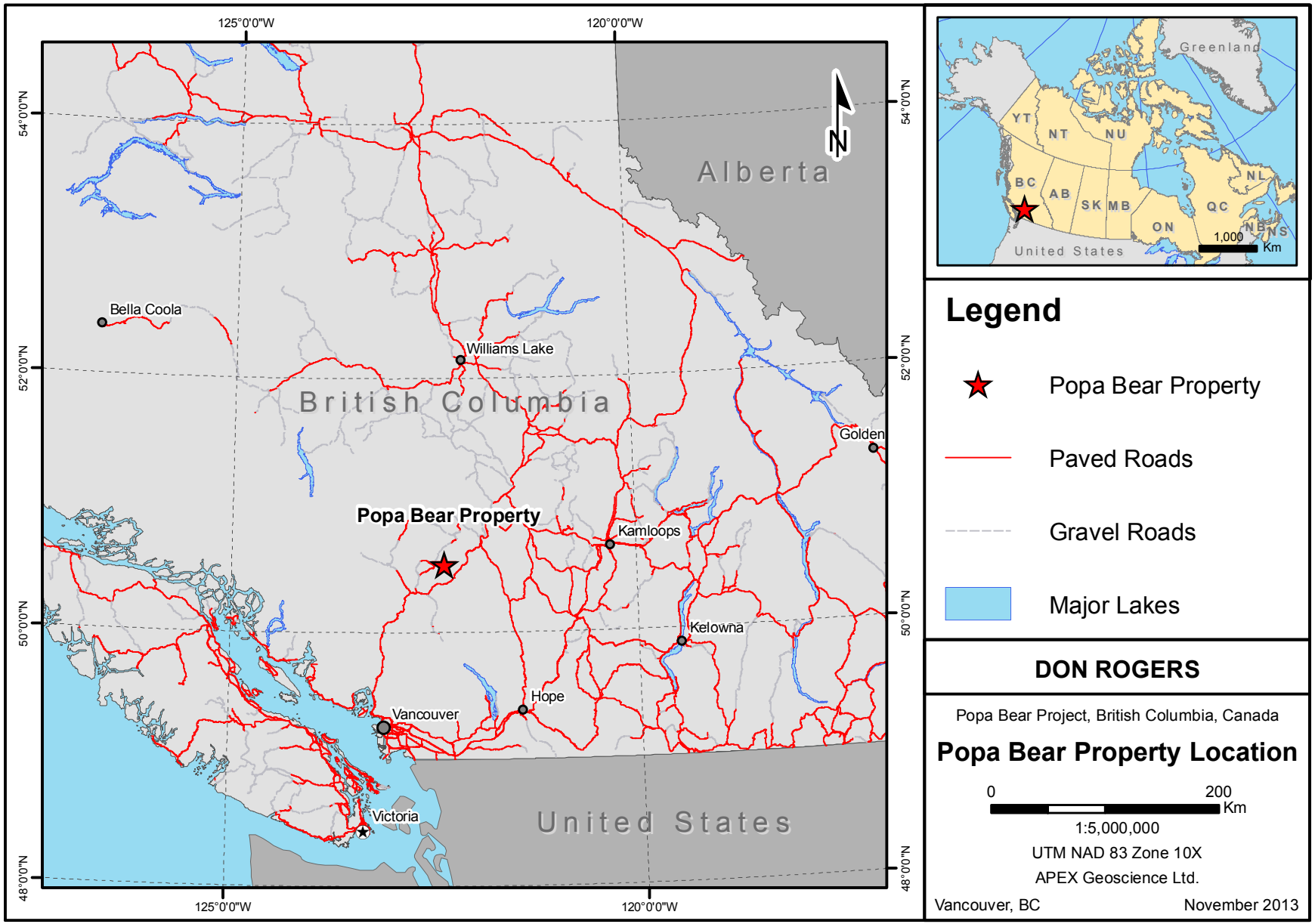
This Report is written for the Popa Bear Property (the "Property"). This assessment report presents the results of, and expenditures related to, exploration work conducted by APEX Geoscience Limited (APEX) on behalf of Mr. Don Rogers during 2013.

APEX was retained by Mr. Don Rogers during September 2013 as consultants to complete exploration program at the Popa Bear Property and write this report (the "Report"). Mr. Kristopher Raffle, P.Geo., Principal and Consultant of APEX and a qualified Person, supervised the exploration program.

Any reference in the Report to the 'current author' refers to Mr. Raffle or Mr. Rantala. In writing the Report, the author has used those publications listed in the reference section as sources of information. Unless otherwise indicated, all coordinates are presented in the North American Datum (NAD) 1983, Universal Transverse Mercator (UTM) Zone 10N coordinate system. All dollar amounts referred to in the Report are in Canadian currency.

3 Property Description and Location

The Popa Bear Property is located in the Lillooet Mining District in southwestern British Columbia, approximately 38 kilometres (km) northeast of the town of Pemberton, and 5 km east of the community of D'Arcy at Anderson Lake (Figure 1). The Property consists of two mineral claims which cover 2198.09 hectare (ha) (Figure 2 and Table 1) which are held 100% by Mr. Don Rogers. The Popa Bear 1 claim (513.39 ha) was acquired on June 29, 2012. A second claim (1684.70 ha) was acquired south of the initial claim block on May 5, 2013. The approximate centre of the Property is located at 51º31'79" north latitude and 122º23'09" west longitude, and UTM NAD 1983, Zone 10 coordinates 543,600 metres (m) east / 5,597,725 north.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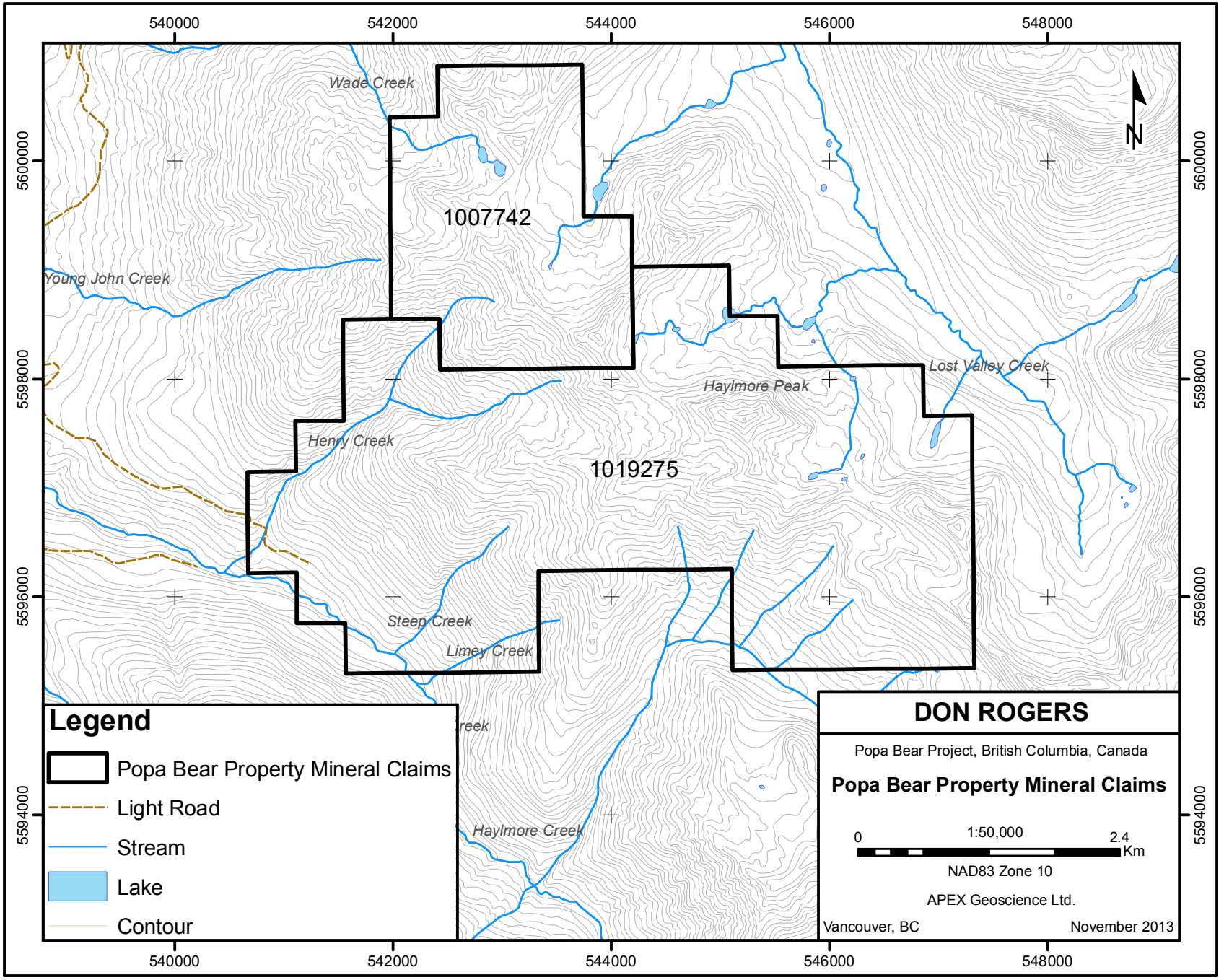
54°0'0"N
52°0'0"N
50°0'0"N
48°0'0"N
Alberta
British Columbia
United States
Bella Coola
Williams Lake
Golden
Popa Bear Property
Kamloops
Kelowna
Hope
Vancouver
Victoria
Greenland
YT
NT
NU
BC
AB
SK
MB
ON
QC
NL
NB
NS
United States
1,000
Km
Legend
Popa Bear Property
Paved Roads
Gravel Roads
Major Lakes
DON ROGERS
Popa Bear Project, British Columbia, Canada
Popa Bear Property Location
0
200
Km
1:5,000,000
UTM NAD 83 Zone 10X
APEX Geoscience Ltd.
Vancouver, BC
November 2013

Figure 1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5596000
5594000
Wade Creek
1007742
Young John Creek
Haylmore Peak
Lost Valley Creek
Henry Creek
1019275
Steep Creek
Limey Creek
Haylmore Creek
N
Legend
Popa Bear Property Mineral Claims
Light Road
Stream
Lake
Contour
DON ROGERS
Popa Bear Project, British Columbia, Canada
Popa Bear Property Mineral Claims
0
1:50,000
2.4
Km
NAD83 Zone 10
APEX Geoscience Ltd.
Vancouver, BC
November 2013

Figure 2.

Table 1. Mineral Claims

Tenure Number	Claim Name	Issue Date	Good To Date	Owner	Area (ha)
1019275	POPPA BEAR	05/05/2013	05/05/2014	Don Rogers	1684.70
1007742	POPA BEAR 1	29/06/2012	29/06/2016	Don Rogers	513.39
				Total	**2,198.09**

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Access to the Property is via helicopter or by hiking SE from existing logging roads along Wade Creek a distance of 2.5 km (a 700 metre (m) elevation gain) to the northern claim block. Depending on road conditions, it may be possible to access the western edge of the southern claim block by existing logging roads along Haylmore Creek.

Terrain within Property is rugged alpine or subalpine. Haylmore Peak at 2,507 metre (m) lies at the approximate centre of the Property, and a 2,345 m sub-peak of Haylmore Peak lies within the SE corner of the north claim. A ridgeline extends NNW across the claims at approximately the 2,000 m level. On the northwest side of the ridge two small tarns occupy the cirque at the headwaters of Wade Creek draining west to Anderson Lake. On the east side of the ridge several unnamed alpine valleys drain NE into Lost Valley. Much of the southwest portion of the Property is below the tree line with several forested creek valleys (locally known as Henry, Steep and Limey creeks) draining SW into Haylmore Creek towards Anderson Lake.

5 History

Limited historic exploration activities have been carried out on or near the Popa Bear Property and are summarized below.

Copper mineralization discovered in the vicinity of Steep Creek in 1969 led to the staking of the historic Ed claims in 1970 (Dodson 1971), approximately located within the western half of the current Popa Bear claim (Figure 4). Follow up stream sediment and soil samples were collected over the claim area along the valley of Haylmore Creek. Detailed sampling was completed on a line grid (60 x 120 m) established between Limey and Henry Creeks in addition to contour traverses (120 m spacing along contours 150 to 300 m apart). A total of 995 soil and silt samples were collected. Background value for copper (Cu) on the historic Ed claims was established at 40 – 60 parts-per-million (ppm); values in excess of 80 ppm were deemed anomalous. The largest Cu anomaly is coincident with the location of the copper showing and occurs along and across the contact between Late Cretaceous suite of granodioritic intrusive rocks and Cretaceous Cayoosh assemblage sedimentary rocks (Figure 2).

Positive results while prospecting in 1976 led to the re-staking of the area covered by the lapsed Ed claims (Warshawski 1978). The mineralized outcrop first identified in 1969 was re-located, soil samples were collected and several pits were dug. Soil sample results returned Cu values of 32 to 1,770 ppm. Chalcopyrite mineralized granitic and pyritic volcanic-sedimentary rock float was encountered. Follow up prospecting

along Steep Creek resulted in the discovery of quartz vein mineralization returning 1.6 percent (%) Cu, and 23 ppm silver (Ag) (Figure 2).

Positive results while prospecting in 1979 led to the staking of the Wargold claim (Warshawski 1980), coincident with part of the lapsed ED claims. The Wargold claim was located along the valley of Haylmore Creek. Follow up stream sediment samples were collected at ~30 m along Limey Creek. Follow up soil samples were subsequently collected along the creek bank. One sample (#10285) returned 185 parts-per-billion (ppb) gold (Au) however additional upslope sampling results were negative.

In 1983, the Cay-Mel claim group was acquired to cover the silver occurrences in the Twin Lake area (southeast of the Popa Bear Property) and a potential extension of the anomalous gold/silver found southeast of the Twin Lake occurrences (Gruenwald 1984; Figure 3). These lapsed claims are located approximately 2 km southeast of the Popa Bear Property. Quartz veining is prominent throughout and is associated with granodioritic intrusions and metasediments. Quartz veining is locally stockworked, striking ~ 040 – 080˚ (NE to ENE), variable dip angles, widths from <10 cm to over 4 m, with vuggy textures and exhibiting local wallrock silicification / oxidation / bleaching / sericitization. Mineralization within veining typically consists of several % pyrite, local sphalerite-pyrrhotite-molybdenite-arsenopyrite and less commonly galena and malachite. Thirty rock samples, 151 soil samples and 6 silt samples were collected and analyzed for silver and gold. Gold results ranged from background (5 ppb) to 2400 ppb, and Ag results ranged from background (0.1 ppm) to 93 ppm (rock sample CR-03).

In 1984, the Mac Attack claim group was acquired and is located just west of the Blue Bell (lead, zinc, silver occurrence) showing (Figure 3). Five rock samples and 13 soil/silt samples were collected along logging roads, returning weakly anomalous values of up to 145 ppm Cu, and 230 ppm zinc (Zn).

6 Geological Setting and Mineralization

6.1 Regional and Property Geology

The Popa Bear Property lies within the southeastern Coast Belt, an approximately 100 km wide NW trending belt of distinct supracrustal rocks formed in oceanic basin, volcanic arc and clastic basin environments. The supracrustal rocks are intruded by partly coeval mid-Cretaceous through Early Tertiary stocks and dykes of mainly felsic to intermediate composition, which are collectively juxtaposed across a complex system of contractional, strike-slip and extensional faults of mainly Cretaceous to Tertiary age (Schiarizza et al., 1997).

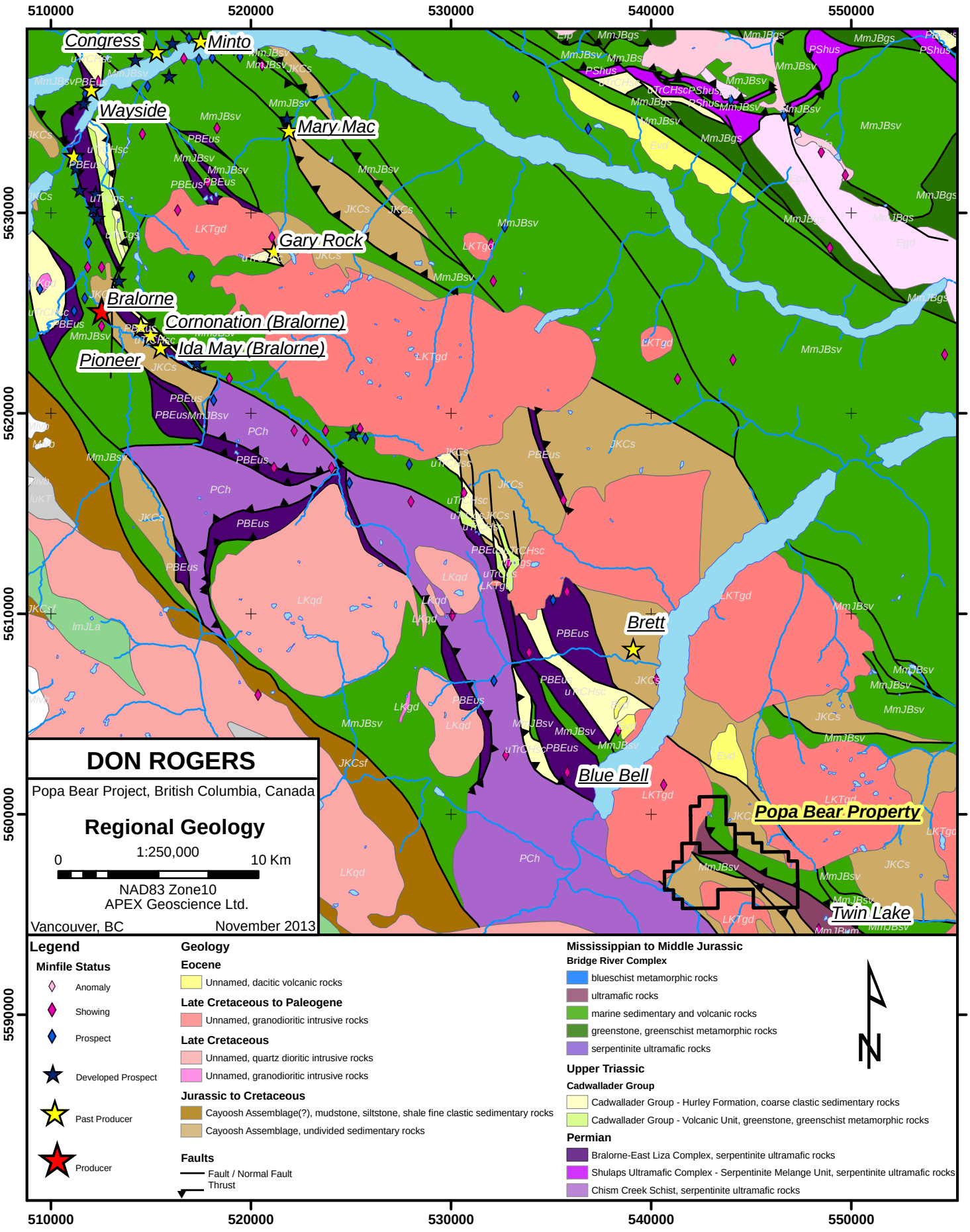
The Popa Bear Property occurs along the western edge of the Bridge River Terrane within an approximately 70 km NW trending, 5 to 10 km wide zone of deformation known as the Bralorne Fault Zone (BRFZ; Rusmore 1986). In the area of the Property and extending NW to Bralorne, the Bridge River Terrane is represented by the Bridge River Complex (BRC); an assemblage of variably metamorphosed and structurally imbricated chert and mafic volcanic (greenstone), and lesser argillite, tuff, limestone, sandstone, conglomerate, gabbro and serpentinite rocks that lack a coherent

stratigraphy (Figure 3). Based on greenstone chemical analyses suggesting an ocean island to mid-ocean ridge origin, a wide Mississippian to late Middle Jurassic age range of Bridge River chert, and the presence of local late Middle Jurassic blueschist rocks; the BRC is interpreted as an accretion-subduction complex. The BRC is conformably overlain by a thick coherent succession of Jura-Cretaceous(?) clastic sedimentary rocks known and the Cayoosh assemblage that does not display the characteristic tectonic disruption of the BRC (Schiarizza et al., 1997).

Rocks of the Cadwallader Terrane, comprising the Cadwallader Group and Bralorne East Liza Complex (BELC), occur as fault-bounded panels within the Bridge River Terrane along the BRFZ. The Cadwallader Group consists of a lower mafic volcanic unit that is conformably overlain by transitional volcanic-sedimentary and upper sedimentary turbidite units of the Hurley Formation. Pillowed and fragmental mafic volcanic rocks of the Cadwallader Group are lithologically similar to mafic volcanic units of both the BELC and BRC. The BELC includes serpentinite, gabbro, diorite, tonalite and greenstone that occur as fault-bounded panels interleaved with the Cadwallader Group. Mafic volcanic rock chemistry of the BELC is characteristic of ocean floor tholeiites, and based on its invariable spatial association with the Cadwallader Group it has been interpreted as an ophiolite succession (oceanic basement) upon which the Cadwallader Group may have been deposited (Schiarizza et al., 1997).

Rocks of the Bridge River and Cadwallader Terranes were intruded by numerous plutons and stocks of intermediate to felsic composition, as well as felsic to mafic dykes, during mid-Cretaceous through to Neogene time. Periods of intrusion coincided with major deformational events in the region and spanned the change from middle to late-Cretaceous contraction to latest Cretaceous and Tertiary dextral strike-slip and normal faulting (Schiarizza et al., 1997).,

Early subduction-accretion related deformation within the Bridge River Complex, which produced a disrupted internal stratigraphy, occurred from at least late Middle Triassic (230 Ma Ar-Ar date of Bridge River blueschist) and at least into late Middle Jurassic (age of youngest deformed chert rocks). Contractional deformation continued into the Late Cretaceous and resulted in the formation of southwest-vergent oblique-sinistral reverse faults, including the Eldorado fault NW of Bralorne, and northeast-vergent thrust faults and folds. Later deformation was dominated by dextral strike-slip during latest Cretaceous through Eocene time (Schiarizza et al., 1997).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Congress
Minto
Wayside
Mary Mac
Gary Rock
Bralorne
Cornonation (Bralorne)
Ida May (Bralorne)
Pioneer
Brett
Blue Bell
Popa Bear Property
Twin Lake
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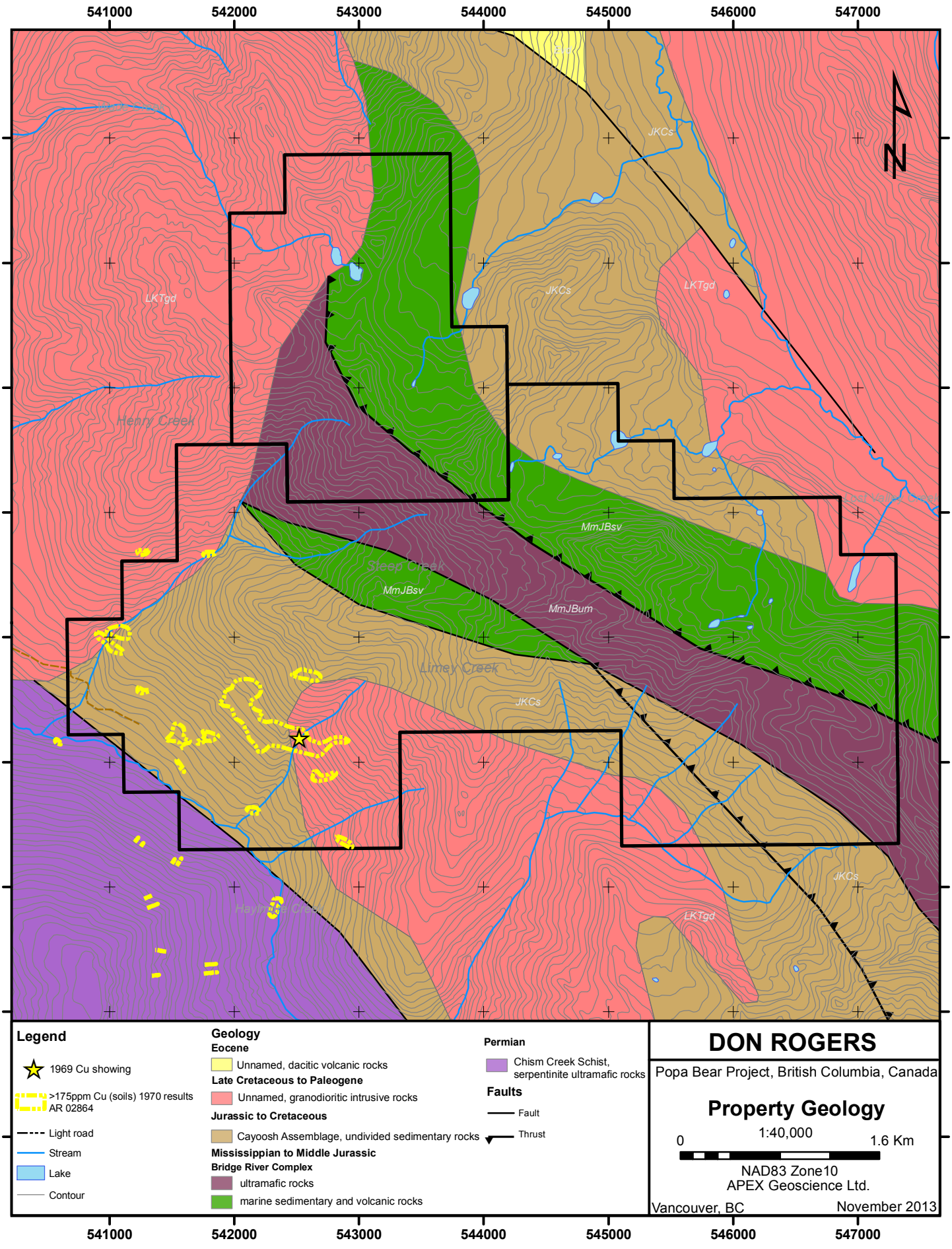
Popa Bear Project, British Columbia, Canada
Regional Geology
1:250,000
0
10 Km
NAD83 Zone10
APEX Geoscience Ltd.
Vancouver, BC
November 2013
Legend
Minfile Status
Anomaly
Showing
Prospect
Developed Prospect
Past Producer
Producer
Geology
Eocene
Unnamed, dacitic volcanic rocks
Late Cretaceous to Paleogene
Unnamed, granodioritic intrusive rocks
Late Cretaceous
Unnamed, quartz dioritic intrusive rocks
Unnamed, granodioritic intrusive rocks
Jurassic to Cretaceous
Cayoosh Assemblage(?), mudstone, siltstone, shale fine clastic sedimentary rocks
Cayoosh Assemblage, undivided sedimentary rocks
Faults
Fault / Normal Fault
Thrust
Mississippian to Middle Jurassic
Bridge River Complex
blueschist metamorphic rocks
ultramafic rocks
marine sedimentary and volcanic rocks
greenstone, greenschist metamorphic rocks
serpentinite ultramafic rocks
Upper Triassic
Cadwallader Group
Cadwallader Group - Hurley Formation, coarse clastic sedimentary rocks
Cadwallader Group - Volcanic Unit, greenstone, greenschist metamorphic rocks
Permian
Bralorne-East Liza Complex, serpentinite ultramafic rocks
Shulaps Ultramafic Complex - Serpentinite Melange Unit, serpentinite ultramafic rocks
Chism Creek Schist, serpentinite ultramafic rocks
N

Figure 3.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N
JKCs
LKTgd
Henry Creek
Steep Creek
MmJBsv
MmJBum
Limey Creek
Hayloft Creek
DON ROGERS
Legend
1969 Cu showing
>175ppm Cu (soils) 1970 results AR 02864
Light road
Stream
Lake
Contour
Geology
Eocene
Unnamed, dacitic volcanic rocks
Late Cretaceous to Paleogene
Unnamed, granodioritic intrusive rocks
Jurassic to Cretaceous
Cayoosh Assemblage, undivided sedimentary rocks
Mississippian to Middle Jurassic
Bridge River Complex
ultramafic rocks
marine sedimentary and volcanic rocks
Permian
Chism Creek Schist, serpentinite ultramafic rocks
Faults
Fault
Thrust
DON ROGERS
Popa Bear Project, British Columbia, Canada
Property Geology
1:40,000
0
1.6 Km
NAD83 Zone10
APEX Geoscience Ltd.
Vancouver, BC
November 2013

Figure 4.

6.2 Regional Mineralization

The first placer gold discoveries near Bralorne were made at Gun Creek in 1859, and shortly thereafter at Hurley River and Cadwallader Creek. The first mineral claims were staked in 1896, and between 1897 and 1900 the Lorne, Ben d'Or, Pioneer and Wayside claims groups had been staked over a series of diorite-greenstone hosted (Bralorne East Liza Complex) gold bearing quartz veins along Cadwallader Creek (McCann, 1922). The principal producing veins are north-northeast dipping shear veins that record oblique-sinistral reverse movement (Schiarizza et al., 1997). Significant lode gold production began in the late 1920's and early 1930's at the Bralorne and Pioneer Mines (40 km northwest of the Popa Bear 1 claim). The two mines produced 7 million tonnes of ore grading 18 g/t Au and 4 g/t silver (3.7 million ounces Au and 0.82 million ounces Ag).

Further to the east, gold-silver-bearing polymetallic shear-hosted veins occur within Bridge River Complex greenstone, argillite, chert and serpentinite hosted at the past producing Minto Mine. The veins are associated with Cretaceous-Paleocene dykes and stocks (69 to 63 Ma Ar-Ar Eldorado pluton north of Carpenter Lake and Bendor plutonic suite between Carpenter and Anderson lakes) apparently localized along the Castle Pass fault (Schiarizza et al., 1997) and to a lesser extent the Steep Creek fault, which may extend south through the Popa Bear 1 claim. Between 1934 and 1940 the Minto mine produced 80,650 tonnes of ore grading 6.8 g/t Au and 19.9 g/t Ag (about 16,000 ounces Au and 47,000 ounces Ag; Minfile 092JNE075). Gold is closely associated with arsenopyrite at Minto. Further to the south within the Bridge River Complex, high-level stibnite, pyrite, arsenopyrite plus sphalerite, tetrahedrite, and cinnabar (i.e. antimony, arsenic, zinc, copper, mercury) gold-silver bearing quartz veins occur along the Castle Pass and Steep Creek faults at the past producing Mary Mac (Minfile 092JNE067) and Gray Rock (Minfile 092JNE066) deposits.

10 km to the north of the Popa Bear Property at the past producing Brett Mine, a steeply west-dipping 4 to 7 m wide quartz-ankerite vein (plus arsenopyrite, chalcopyrite, sphalerite and sparse galena) is hosted within slate-phyllite rocks assigned to the Cayoosh assemblage. Mining during the period 1900 through 1904, 1910 and 1962 produced 9,177 tonnes or ore grading 2.3 g/t Au (about 624 ounces Au; Minfile 092JNE079).

During 1925, two adits were reportedly driven on polymetallic mineralization near the mouth of Wade Creek, 2 km west of the Popa Bear Property. Subsequent prospecting and limited rock sampling (including soil geochemistry and ground magnetic surveys) by Amcorp. Industries Inc. and Verdstone Gold Corp. failed to locate the historic adits. However, two anomalous quartz vein chip samples returned values of 14.4 g/t Ag, 0.32% Lead (Pb) and 0.12% Zn over 0.2 m; and 23.2 g/t Ag, 0.52% Pb over 0.1 m (Kikauka, 1995).

5 km to the southeast of the Property at the Twin Lakes (Old Century) showing (Figure 3), mineralized quartz stingers that occur within the footwall of a steeply northeast-dipping body of serpentinite are exposed in open cuts over a distance of 43

m. The veins are hosted in argillite and chert of the Bridge River Complex and strike WSW, dipping steeply north. Select high-grade argentiferous tetrahedrite and stibnite mineralized samples returned values of up to 307.2 ounces-per-ton Ag (BC Minister of Mines Annual Report, 1935). Barkley Valley Mines Ltd. initiated work at Twin Lakes during 1967 that included outcrop stripping and an 8 m (25 foot) diamond drill hole. Three additional diamond drill holes totaling 32 m (105 feet) were competed the following year (BC Minister of Mines Annual Report, 1967 and 1968).

7 2013 Exploration Work and Methodologies

2013 exploration program consisted of a geological mapping (Figure 5), geochemical rock grab sampling and soil sampling during the period September 13 to 20, 2013. A total of 155 soil samples and 40 rock grab samples were collected from the Property. Sampling areas were selected based on favourable geology and historical anomalies. The total cost to complete 2013 exploration program at the Popa Bear Property was CDN$ 42,277.80 (Appendix 5).

7.1 Soil Sampling

During the 2013 program, a total of 155 soil samples were collected on the Property including 5 quality assurance / quality control (QA/QC) field duplicates (Figures 5, 6a, 6b and 6c). Soil samples were collected at a spacing of 50 meters along topographic contour intervals of 90 m.

7.1.1 Soil Sampling Methodology

Soil samples were collected from the B soil horizon, generally at a depth of 20 cm using a shovel, and samples were placed in Kraft paper sample bag with the sample number written on both sides in permanent marker. The site position was recorded using handheld GPS receiver in UTM NAD83 Zone 10 format and a soil sample card was filled out indicating, matrix color, topographic position, sample depth, vegetation, GPS location and general remarks.

7.1.2 Soil Sample Shipping and Handling

The 2013 samples were submitted to ACME Labs (“ACME”), Vancouver, B.C for analysis. ACME is an International Standards Organization (ISO) 9001 geochemical and assaying laboratory. ACME did not report anything unusual with respect to the shipments, once received. The author and APEX maintained control over the samples at all times during transport.

7.1.3 Soil Sample Preparation and Analysis

At ACME, soil samples were dried at 60ºC and a 100 g sample was sieved to -80 mesh (0.18 mm) up to 0.5 kilogram samples, and subject to ACME’s “1DX2” method, whereby a 15 g sample split is dissolved in hot (95ºC) aqua-regia and inductively coupled plasma mass spectrometry (ICP-MS) analysis. Detection limits of 0.1 ppm to 10,000 ppm Cu and 0.5 ppb to 100 ppm Au were achieved using the 1DX2 method.

7.2 Rock Grab Sampling

In 2013, a total of 40 rock grab samples were collected on the Property (Figures 5, 6a, 6b and 6c).

7.2.1 Rock Grab Sampling Methodology

The 2013 Rock samples were collected using a hammer from outcrops or from talus. Samples were placed in a poly ore bag with the sample number written on both sides in permanent marker. A sample tag marked with unique sample number was placed inside each sample bag and sealed with cable tie. The site position was recorded using a handheld GPS receiver in UTM NAD83 Zone 10 format and a rock sample card was filled out indicating lithology, grain size, alteration type and intensity, veining type, sample type, relief, GPS location and general remarks.

7.2.2 Rock Grab Sample Shipping and Handling

The 2013 rock samples were submitted to ACME Labs, Vancouver, BC for analysis. ACME is an International Standards Organization (ISO) 9001 geochemical and assaying laboratory. ACME did not report anything unusual with respect to the shipments, once received. The author and APEX maintained control over the samples at all times during transport.

7.2.3 Rock Grab Sample Preparation and Analysis

Rock samples were submitted to ACME for inductively coupled plasma emission spectrometry (ICP-ES) and gold fire assay (ACME "3A" method) analysis. Samples were crushed to 10 mesh (1.7 mm) with 80% passing using a jaw crusher. The samples were then split using riffle splitter to 250 grams, and sample splits were further pulverized to pass 200 mesh using a ring mill pulverizer to 85% passing (ACME R200-250 procedure). Samples were then subject to ACME's "1D01" method, whereby a 0.5 g sample split is dissolved in hot (95ºC) aqua-regia and subject to ICP-ES analysis. Detection limit of 1ppm to 10,000 ppm Cu was achieved using the 1D01 method. For the 3A analysis the samples are subject to Au analysis by wet digestion whereby a 15 g sample split is dissolved in hot (95ºC) aqua-regia and subject to ICP-ES analysis. Detection limit of 3A analysis is 0.5 ppb to 10 ppm Au.

8 Results

Summary results of geologic mapping, soil geochemical and rock grab sampling are presented below. Detailed soil sample and rock grab and descriptions and locations are presented in Appendices 1 and 2. The geological mapping observations are presented in Appendix 3. Copies of original rock grab sample and soil sample analytical certificates are presented in Appendix 4.

8.1 Geologic Mapping

Reconnaissance geologic mapping traverses were completed during 2013 designed to evaluate the potential of the northwest trending belt of Bridge River Complex rocks passing through the Property to host "Bralorne" style mafic-ultramafic hosted gold bearing quartz veins. Mapping progressed via a series of four (4) traverses along

prominent southwest trending ridges descending from Haylmore Peak (Figure 5). Traverses optimally transect northwest trending BRC rocks and permit validation of British Columbia Geological Survey (BCGS) regional mapping (Figure 3 and 4).

The results of reconnaissance mapping largely confirm gross lithologic domains defined by BCGS mapping. Individual domains appear to have intact internal, stratigraphy with most rocks being weakly to moderately foliated. Shearing, consequent development of intense foliation and abrupt lithologic change mark the upper and lower boundaries between domains.

Progressing from southwest to northeast, moderately northeast dipping (averaging 294/55) well bedded phyllite-shale units are punctuated by thin (<1-4m true thickness) coarse feldspar porphyritic crystal-rich tuff and rare massive fine grained brown vesicular andesite(?) flow units interpreted as Cayoosh Assemblage. The inferred upper bound of the interval is marked by series layered 1-3 m true thickness fine grained grey-brown vesicular andesite(?) flows. The andesite flows are overlain by a composite interval of strongly deformed shale, poly-deformed ribbon and massive chert rocks having a true thickness of approximately 70 m. Thin semi-continuous sub-metre lenses of serpentinized ultramafic schist in apparent faulted contact with the upper andesite flows are interpreted to mark the structural base of BRC rocks. The uppermost part of the chert shale interval is cut at an acute angle by an approximately <1-2 m true-width quartz-ankerite-carbonate-fuchsite shear zone (310/60) that can be traced intermittently over a 250 m strike length, and may correlate with a similar shear zone on the ridge immediately to the west. Progressing northeast, and marked by a prominent topographic slope change, is a thick monotonous sequence of fine-grained, volcanic derived chlorite schist and interbedded rusty chert-shale and rare <1- 2 m massive grey limestone having a true-width of perhaps 400 m.

At the base of Halymore Peak, there occurs an approximately 40 m true-width recessive sequence of deformed chert-shale including sub-metre pervasively quartz-ankerite altered ultramafic lenses and spatially associated massive fine-grained grey-brown volcanic flows. Mapping to the northeast is limited by steeply rising topography to the summit of Haylmore Peak, however its slopes appear dominated by alternating shale, fine grained volcanic units, and visually distinct light coloured course grained feldspar crystal-rich volcanic units consistent with BCGS mapping as BRC

Mapping on the ridge directly to the east defines a similar lithologic sequence dominated by fine grained chlorite schist meta-volcanic, rusty weathering shale and local thin limestone interbeds. Recessive chert-shale containing serpentinized ultramafic, and thin (<50 cm) layered grey-brown to dark green fine grained massive andesite-basalt flows and quartz-ankerite schist clearly occupy an equivalent structural-stratigraphic position as those on the ridge to the west.

The inferred BRC succession is also exposed on the two westernmost ridges where there is apparent thinning of chlorite schist derived meta-volcanic units. Here massive and banded chert and shale beds are thicker and begin to dominate the stratigraphic succession. The recessive chert-shale interval was also observed on the westernmost ridge; however ultramafic rocks were not recognized.

On the ridge directly west of Haylmore Peak, a thick approximately 25 m true width pervasively serpentine-ankerite altered coarse grained ultramafic breccia body occurs at the same structural-stratigraphic level as the recessive chert-shale intervals on adjacent ridges. Sub-metre scale relict deformed breccia clasts having sigmoidal shapes consistent with apparent dextral shear sense are common. Isolated outcrops of quartz-ankerite-fuchsite altered ultramafic rocks were also observed 350 m along strike to the southeast where thicknesses appear to be less than 10 m.

Isolated north-northwest trending shear zones were observed locally cutting the stratigraphy at acute angles. Within the prominent glacial basin west of Haylmore Peak small outcrops of intensely foliated chlorite schist rocks occur, and dip steeply to the northeast (330/72). Quartz-ankerite-fuchsite shear zones are similarly oriented. Based on this two dominant structural trends are recognized; bedding parallel (~294/55) and oblique (~330/72). Based on the extent of current mapping the relative timing of these two events is unknown, however the regional structural setting suggests southwest vergent oblique sinistral reverse faults predate later dextral strike slip deformation.

Granodiorite intrusive rocks were observed in the sub-alpine headwaters of Haylmore Creek and below treeline in the Steep Creek area. In Haylmore creek large block outcrops of coarse grained granodiorite occur between the elevations of 2160 and 2080 m. The geometry off surrounding sedimentary and volcanic rocks suggests a narrow northwest elongate intrusive body here. In Steep Creek, bleached white medium grained granodiorite containing disseminated pyrite intruded siliceous chert-phyllite sediments.

Also in Steep Creek, between the elevations of 1440 and 1640 m, orange weathering dark grey-black relatively unaltered medium to coarse grained, gabbro dykes(?) trend northwest through within weakly chlorite altered siliceous mudstone sediments (13KRP106).

8.2 Soil Sampling

A total of 155 soil geochemical samples were collected during 2013, including 5 QA/QC field duplicates. Soil samples were collected at a spacing of 50 meters along a series of three separate topographic contours at elevation intervals of 90 m. Soil lines were designed to test for precious, base metal and pathfinder element anomalies within the northwest trending belt of prospective Bridge River Complex sedimentary, volcanic and ultramafic rocks passing through the central Popa Bear Property.

Geochemical results for soil samples are calculated into breakdowns of the 70th, 90th, 95th and greater than 97.5th percentiles and shown as a thematic map for the elements Au, Cu and Ag (Figures 6a, 6b and 6c). Results from 2013 soil sampling returned a total of 8 anomalous samples with greater than 7.7 ppb Au (>95th percentile), up to 69.7 ppb Au (Table 5). Elements silver and mercury returned relatively low values with a limited range in comparison to the detection limit. As a result they may deliver poor anomaly contrast. Remaining base metal and pathfinder elements appear to exhibit sufficient variability in comparison to detection limit to permit anomaly discrimination.

Table 3: Element Percentile Calculation for 2013 Soil Samples

	Mo (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Ag (ppm)	As (ppm)	Au (ppb)	Sb (ppm)	Ba (ppm)	Hg (ppm)
70th	2.20	61.30	10.60	129.00	0.10	38.06	**1.68**	1.10	188.80	0.04
90th	3.30	77.90	13.72	154.60	0.30	78.98	**4.82**	1.80	259.00	0.05
95th	3.80	93.76	18.76	171.60	0.40	138.80	**7.63**	2.30	304.10	0.06
97.5th	5.03	112.51	25.51	197.35	0.50	169.15	**8.93**	4.20	362.40	0.06
Mean	2.15	55.31	9.88	120.13	0.13	40.42	**2.31**	1.04	159.97	0.04
Max.	6.70	319.20	29.60	355.00	0.60	537.50	**69.70**	6.50	426.00	0.08
Det. Limit	0.1	01.	0.1	1	0.1	0.5	**0.5**	0.1	1	0.01

Soil sample 13KCW002 (Figure 5, and 6a) returned the highest gold value of 69.7 ppb Au, also returned the highest arsenic (As) value at 537.5 ppm As and highest magnesium (Mg), nickel (Ni), and cobalt (Co) values of 6.18%, 0.15% and 110 ppm, respectively, suggesting a possible ultramafic source. The remaining gold in soil anomalies occur principally along the southwest margin of the surveyed area within shale dominated lithologies interpreted as Bridge River Complex (though they are in part mapped as Cayoosh Assemblage regionally by BCGS mapping).

A broad moderate intensity gold and copper-zinc-lead-molybdenum multi-element anomaly occurs at the north end of the surveyed area dominated by fine grained chloritic volcanic, black shale and ribbon chert rocks.

At the south end of the soil grid a >100 ppm copper-zinc plus gold (up to 10.8 ppb Au; 13KCS038), >100 ppm arsenic-barium multi-element soil geochemical anomaly occurs. The anomaly, having dimension of approximately 400 x 400 m occurs on a steep south facing slope underlain by chlorite schist and chert-shale rocks. The source of the anomaly remains undetermined; however given its position along strike of southeast trending mineralized quartz-carbonate-ankerite-fuchsite shear zones additional follow-up is warranted.

8.3 Rock Grab Sampling

Of the 40 rock grab samples collected during 2013 a total of five (5) samples returned anomalous gold values greater than 10 ppb Au and up to 283.8 ppb Au (sample 13DRP005, Figures 5, and 6a). A total of six (6) samples returned values greater than 200 ppm Cu and up to 0.14% Cu (sample 13KRP113, Figure 6b); and a total of three (3) samples returned values greater than 2 ppm Ag and up to 22.2 ppm Ag (13DRP005, Figure 6c).

Sheared quartz-carbonate (±malachite-chalcopyrite) veined serpentinite schist rocks at the inferred base of the BRC section returned anomalous copper and silver values of 226 ppm Cu (13KRP114) and 0.14% Cu and 3.5 ppm Ag (13KRP113). Nearby, north-northwest trending quartz-carbonate-ankerite-fuchsite (±pyrite-arsenopyrite) altered shear zones returned weakly anomalous gold and silver values of 39 ppb Au, 3.3 ppm

Ag, including 839 ppm As (13KRP121); and 25 ppb Au, including 528 ppm As (13KR125).

Limited sampling conducted in the vicinity of the 1970 Steep Creek copper showing returned highly anomalous gold, silver and base metal values of 283.8 ppb, 22.2 ppm Ag, including 231 ppm Cu, 685 ppm Pb, 0.38% Zn (13DRP005). Within the upper reaches of Steep Creek carbonate-pyrite vein mineralized orange weathering fine grained volcanic rocks returned anomalous zinc and weakly anomalous gold values of 569 ppm Zn and 13 ppb Au (13KRP105).

9 Interpretation and Conclusions

The purpose of the 2013 Popa Bear Property exploration program was to assess the potential for Bridge River Complex sedimentary, volcanic, and ultramafic rocks within the claims to host “Bralorne” style mafic-ultramafic hosted gold bearing quartz vein mineralization.

The results of geologic mapping have defined two distinct chert-shale horizons hosting sheared serpentine-quartz-ankerite-fuchsite altered ultramafic rocks. The two horizons are inferred to occur near the stratigraphic base and top of an approximately 600 m true-thickness structurally bound section of northeast dipping, weakly to moderately foliated BRC volcanic and sedimentary rocks. Based on the high level of serpentinization of the ultramafic rocks observed it is unlikely that they could undergo brittle deformation. Therefore their potential to host gold quartz vein mineralization is considered limited.

Discrete north-northwest trending steeply northeast dipping quartz-carbonate-fuchsite (±pyrite-arsenopyrite) altered shear zones intersect stratigraphy at low angles and produce gold-silver and arsenic in rock and soil anomalies. Two dominant structural trends are recognized; bedding parallel (~294/55) and oblique (~330/72). Based on the extent of current mapping the relative timing of these two events is unknown, however the regional structural setting suggests southwest vergent oblique sinistral reverse faults predate later dextral strike slip deformation. Geologic mapping and the results of rock and soil geochemical sampling indicate north-northwest trending shear zones are of a high priority for follow-up exploration and may have formed in a structural setting analogous to shear zones hosting gold bearing quartz veins at Bralorne.

In the area of the 1970 Steep Creek Copper Showing, pyritic granodiorite intrudes siliceous chert-phyllite sediments and produce highly anomalous gold-silver plus copper-lead-zinc rock values. Additional follow-up prospecting and geologic mapping is recommended in this area of steep terrain. The presence of gabbroic rocks in the Steep Creek area does not appear to be compatible with designation as Cayoosh Assemblage. Further mapping should be completed in this area to determine the nature and distribution of mafic rocks here and their potential to host gold mineralization where deformed.

10 Recommendations

Based on the presence of gold-silver and multi-element base metal and pathfinder element soil and rock geochemical anomalies and favourable geology the Popa Bear Property is considered a high priority for follow-up exploration. The 2014 exploration program should include but not to be limited to:

(A) Completion of planned 2013 reconnaissance contour soil sampling lines extending southeast over prospective BRC lithologies (50 soil samples).

(B) Collection select infill soil geochemical samples over spot >10 ppb Au anomalies and broad multi-element anomalies in the northwest and south-central grid areas (100 soil samples).

(C) Follow-up prospecting and geologic mapping designed to investigate spot gold in soil geochemical anomalies in the Haylmore basin (13KCS002), and unsourced gold in soil anomalies in rocks mapped regionally as Cyoosh Assemblage in the southwest grid area (13KCS009, 13CGS020, and 13KCS038). In addition, prospecting and reconnaissance geologic mapping in the Steep Creek Copper Showing, Haylmore Creek Headwaters multi-element soil geochemical anomaly, and untested southeast areas of the Popa Bear Property (50 rock samples).

Table 2. Proposed Budget for 2014 Exploration Program

Total days	9		
Field days	7		
Personnel			
	Senior Geologist	$	6,975.00
	Soils Samplers and Field Assistants	$	9,000.00
Accomodation/Food			
	Mob/Demob. @ $100/person-day	$	1,200.00
	Camp food @ $40/person-day	$	1,680.00
Travel			
	Helicopter (Blackcomb Aviation $2285/hr)	$	6,855.00
Fuel			
	Gasoline	$	500.00
Misc Field Supplies			
	Sample Bags	$	100.00
	Misc Field Supplies (camp supplies, GPS, compasses, etc.)	$	500.00
	Satellite Phone/radios	$	500.00
Rentals			
	Truck Rental	$	900.00
Analytical			
	Soil Samples (150)	$	3,000.00
	Rock Samples (50)	$	1,750.00
	Sub-Total	**$**	**32,960.00**
	APEX Direct Costs and Personnel	$	17,875.00
	Third Party	$	15,085.00
	TOTAL (not including HST/GST)	**$**	**32,960.00**

11 Date and Signature Page

This Report was prepared by the following Qualified Persons. The effective date of this report is December 18, 2013.

"Signed"

Kristopher J. Raffle, B.Sc., P.Geo.

"Signed"

Eemeli Rantala, M.Sc., P.Geo.

Vancouver, British Columbia, Canada
December 18, 2013

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13 Certificate of Author

1. I, Kristopher J. Raffle, residing at 1155 Seymour Street, Vancouver British Columbia, Canada do hereby certify that: I am a senior geologist at APEX Geoscience Ltd. ("APEX"), 200, 9797 – 45 Avenue, Edmonton, Alberta, Canada.

2. I am the author of this Technical Report entitled: *"ASSESSMENT REPORT ON THE POPA BEAR PROPERTY"*, and dated December 18, 2013 (the "Assessment Report").

3. I am a graduate of The University of British Columbia, Vancouver, British Columbia with a B.Sc. in Geology (2000) and have practiced my profession continuously since 2000. I have supervised exploration programs specific to gold and base metals. I have completed National Instrument 43-101 reports for projects in British Columbia and Ontario. I am a Professional Geologist registered with APEGA (Association of Professional Engineers and Geoscientists of Alberta), and APEGBC (Association of Professional Engineers and Geoscientists of British Columbia).

5. I am responsible for all sections of the Assessment Report titled *"ASSESSMENT REPORT ON THE POPA BEAR PROPERTY"*, and dated December 18, 2013. I have not received, nor do I expect to receive, any interest, directly or indirectly, in Property. I am not aware of any other information or circumstance that could interfere with my judgment regarding the preparation of the Technical Report.

8. To the best of my knowledge, information and belief, the Assessment Report contains all scientific and technical information that is required to be disclosed to make the Assessment Report not misleading.

9. I consent to the filing of the Assessment Report with the regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files or their websites.

Dated this December 18, 2013

Edmonton, Alberta, Canada

Kristopher J. Raffle, B.Sc., P.Geol.

Certificate of Author

I, Eemeli Rantala, residing Vancouver, British Columbia, Canada do hereby certify that:

I am a geologist at APEX Geoscience Ltd. ("APEX"), 200, 9797 – 45 Avenue, Edmonton, Alberta, Canada.

1. I have assisted in writing this Assessment Report entitled: **"***ASSESSMENT REPORT ON THE ENGLISH BAY PROPERTY***"**, and dated December 18, 2013 (the "Assessment Report").

2. I am a graduate of The University of Turku, Turku Finland with a B.Sc. in Geology (2009) and with a M.Sc in Geology (2011). I have practiced my profession continuously since 2009. I am registered as Non-Resident Licensee with APEGBC (Association of Professional Engineers and Geoscientists of British Columbia).

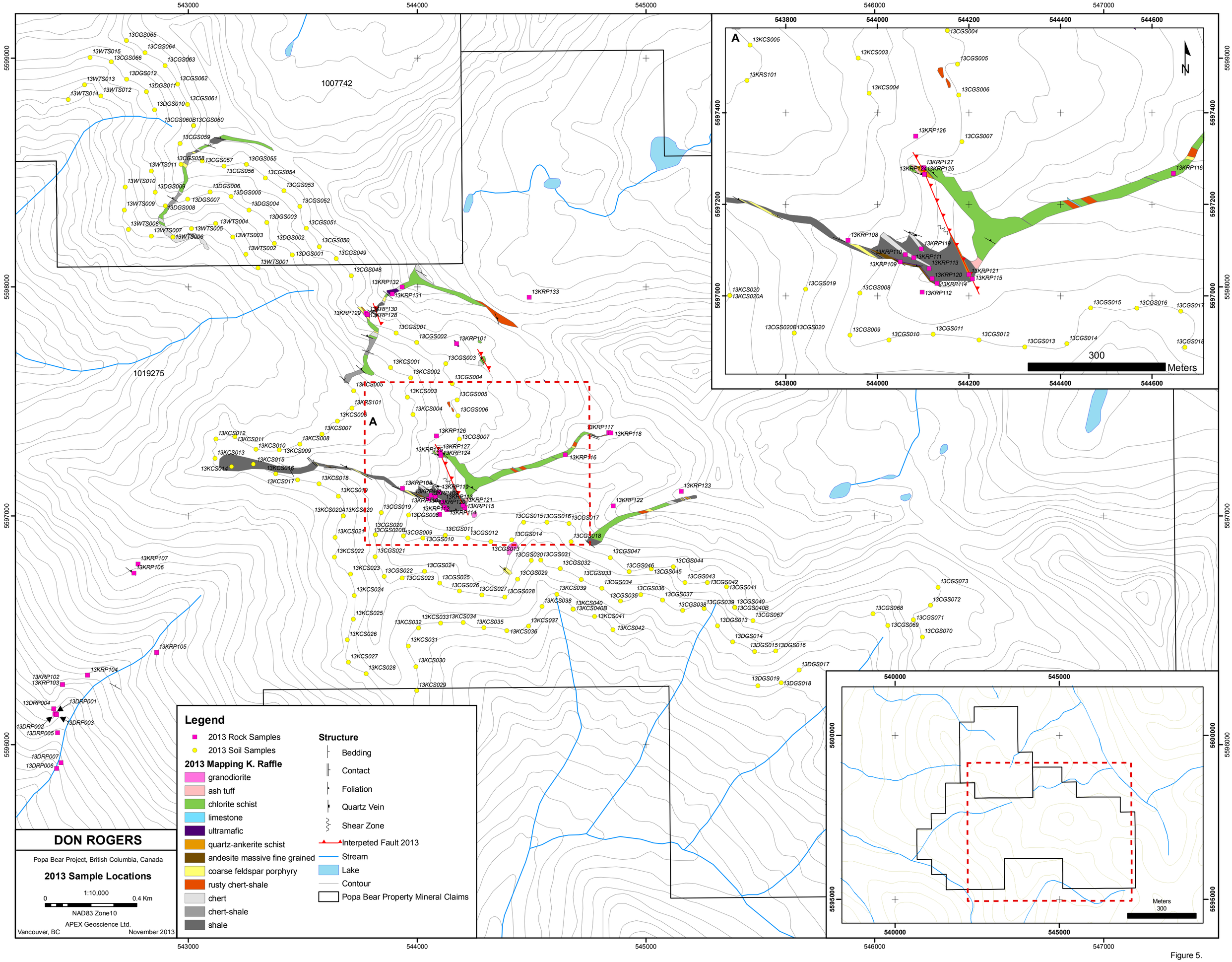
3. I have not received, nor do I expect to receive, any interest, directly or indirectly, in the Property. I am not aware of any other information or circumstance that could interfere with my judgment regarding the preparation of the Assessment Report.

4. To the best of my knowledge, information and belief, the Assessment Report contains all scientific and technical information that is required to be disclosed to make the Assessment Report not misleading.

Dated this 18 December 2013

Vancouver British Columbia, Canada

Eemeli Rantala, M.Sc., P.Geo.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13CGS018
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545000
5600000
5595000
Meters
300
Legend
2013 Rock Samples
2013 Soil Samples
2013 Mapping K. Raffle
granodiorite
ash tuff
chlorite schist
limestone
ultramafic
quartz-ankerite schist
andesite massive fine grained
coarse feldspar porphyry
rusty chert-shale
chert
chert-shale
shale
Structure
Bedding
Contact
Foliation
Quartz Vein
Shear Zone
Interpeted Fault 2013
Stream
Lake
Contour
Popa Bear Property Mineral Claims
DON ROGERS
Popa Bear Project, British Columbia, Canada
2013 Sample Locations
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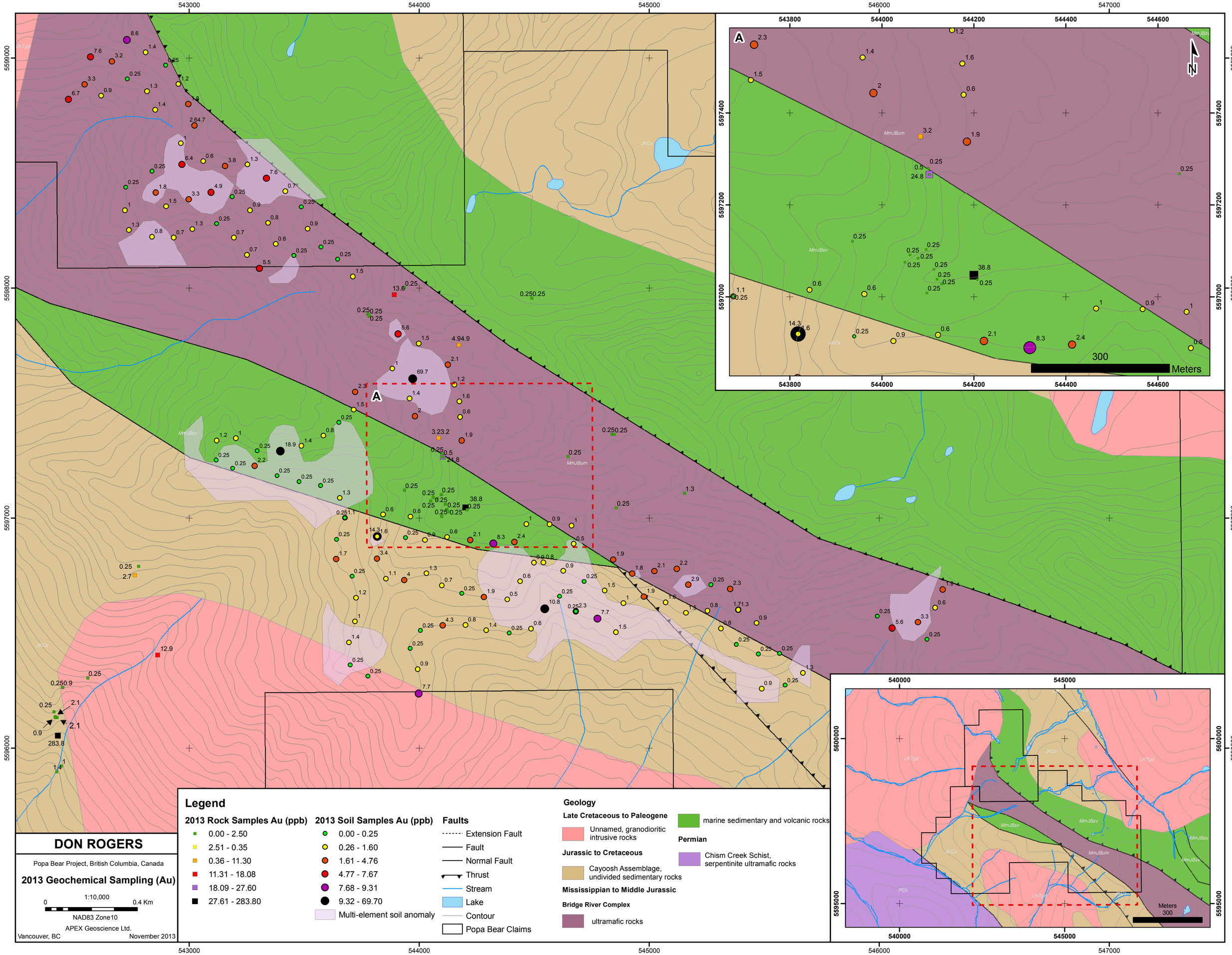
NAD83 Zone10
APEX Geoscience Ltd.
Vancouver, BC
November 2013

Figure 5.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PCh
Legend
2013 Rock Samples Au (ppb)
0.00 - 2.50
2.51 - 0.35
0.36 - 11.30
11.31 - 18.08
18.09 - 27.60
27.61 - 283.80
2013 Soil Samples Au (ppb)
0.00 - 0.25
0.26 - 1.60
1.61 - 4.76
4.77 - 7.67
7.68 - 9.31
9.32 - 69.70
Multi-element soil anomaly
Faults
Extension Fault
Fault
Normal Fault
Thrust
Stream
Lake
Contour
Popa Bear Claims
Geology
Late Cretaceous to Paleogene
Unnamed, granodioritic intrusive rocks
Jurassic to Cretaceous
Cayoosh Assemblage, undivided sedimentary rocks
Mississippian to Middle Jurassic
Bridge River Complex
ultramafic rocks
marine sedimentary and volcanic rocks
Permian
Chism Creek Schist, serpentinite ultramafic rocks
DON ROGERS
Popa Bear Project, British Columbia, Canada
2013 Geochemical Sampling (Au)
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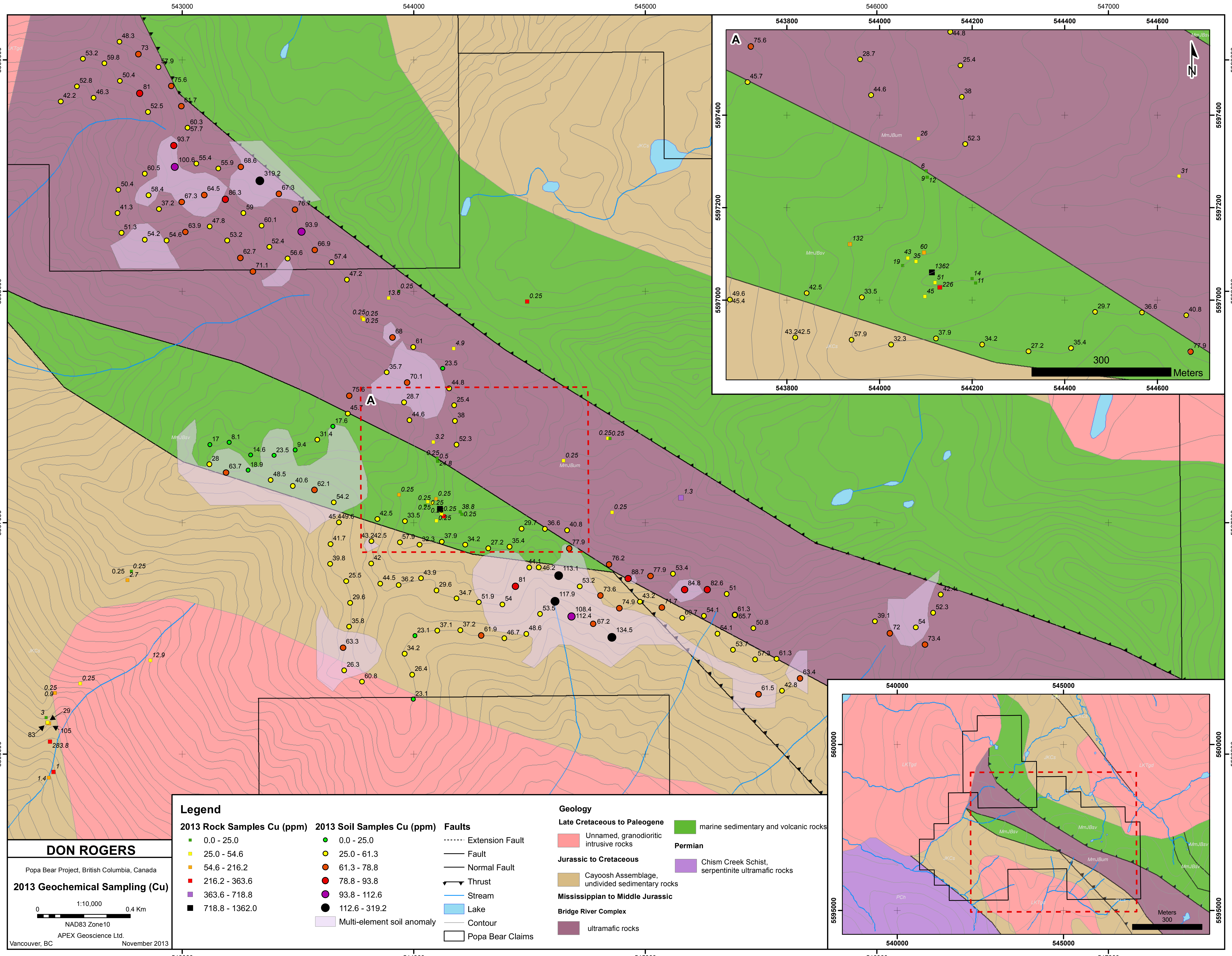
NAD83 Zone10
APEX Geoscience Ltd.
Vancouver, BC
November 2013

Figure 6a.


DON ROGERS
Popa Bear Project, British Columbia, Canada
2013 Geochemical Sampling (Cu)
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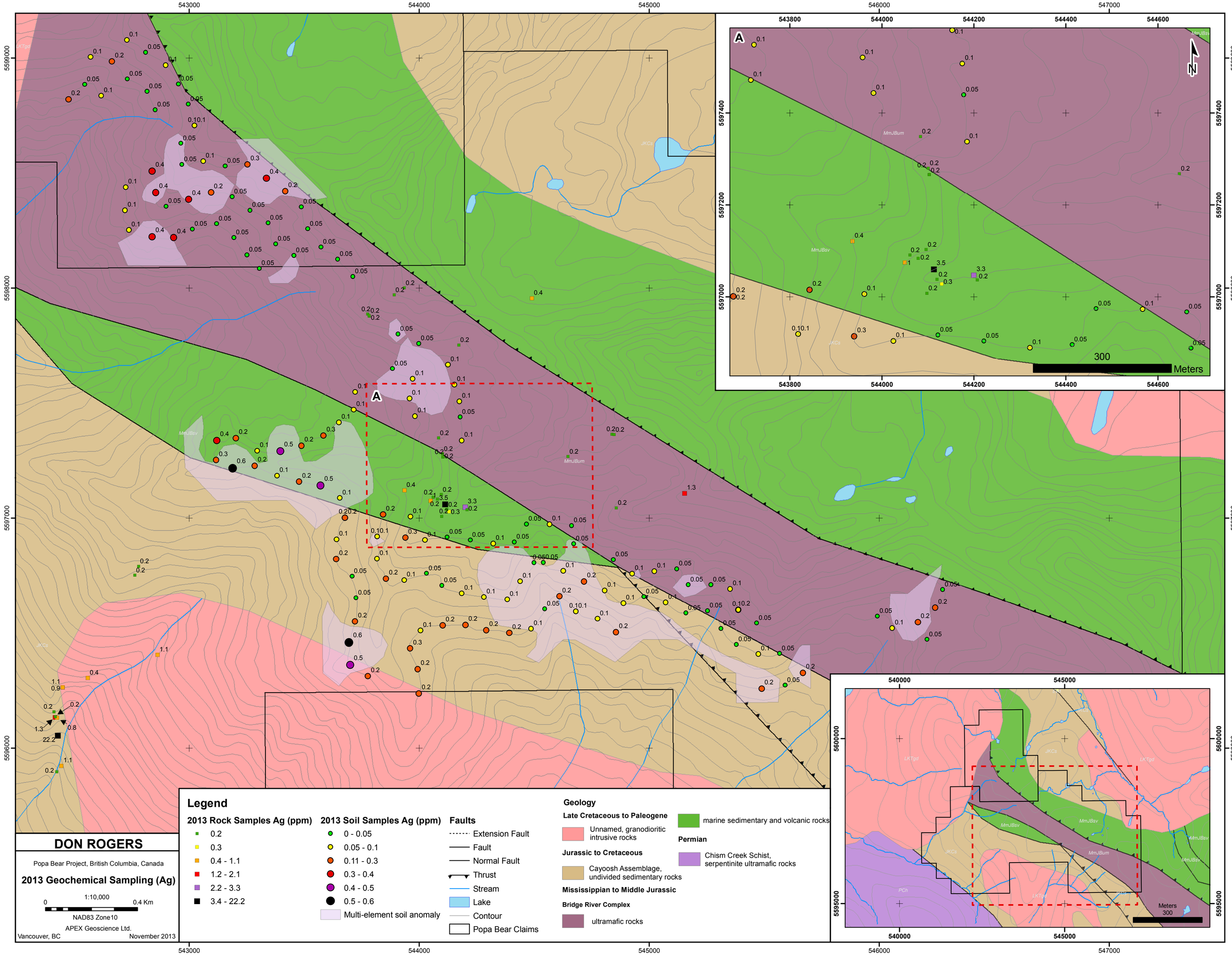
0
0.4 Km
NAD83 Zone10
APEX Geoscience Ltd.
Vancouver, BC
November 2013
Legend
2013 Rock Samples Cu (ppm)
0.0 - 25.0
25.0 - 54.6
54.6 - 216.2
216.2 - 363.6
363.6 - 718.8
718.8 - 1362.0
2013 Soil Samples Cu (ppm)
0.0 - 25.0
25.0 - 61.3
61.3 - 78.8
78.8 - 93.8
93.8 - 112.6
112.6 - 319.2
Multi-element soil anomaly
Faults
Extension Fault
Fault
Normal Fault
Thrust
Stream
Lake
Contour
Popa Bear Claims
Geology
Late Cretaceous to Paleogene
Unnamed, granodioritic intrusive rocks
Jurassic to Cretaceous
Cayoosh Assemblage, undivided sedimentary rocks
Mississippian to Middle Jurassic
Bridge River Complex
ultramafic rocks
marine sedimentary and volcanic rocks
Permian
Chism Creek Schist, serpentinite ultramafic rocks
A
300
Meters
543000
544000
545000
546000
547000
5596000
5597000
5598000
5599000

Figure 6b.



Legend

2013 Rock Samples Ag (ppm)
- 0.2
- 0.3
- 0.4 - 1.1
- 1.2 - 2.1
- 2.2 - 3.3
- 3.4 - 22.2

2013 Soil Samples Ag (ppm)
- 0 - 0.05
- 0.05 - 0.1
- 0.11 - 0.3
- 0.3 - 0.4
- 0.4 - 0.5
- 0.5 - 0.6
- Multi-element soil anomaly

Faults
- Extension Fault
- Fault
- Normal Fault
- Thrust
- Stream
- Lake
- Contour
- Popa Bear Claims

Geology

Late Cretaceous to Paleogene
- Unnamed, granodioritic intrusive rocks

Jurassic to Cretaceous
- Cayoosh Assemblage, undivided sedimentary rocks

Mississippian to Middle Jurassic

Bridge River Complex
- ultramafic rocks
- marine sedimentary and volcanic rocks

Permian
- Chism Creek Schist, serpentinite ultramafic rocks

DON ROGERS

Popa Bear Project, British Columbia, Canada

2013 Geochemical Sampling (Ag)

1:10,000

0 0.4 Km

NAD83 Zone10

APEX Geoscience Ltd.

Vancouver, BC November 2013

Figure 6c.

APPENDIX 1

2013 Popa Bear Soil Sample Locations and Descriptions

2013 Popa Bear Soil Samples

Sample ID	QA-QC	Easting*	Northing*	Vegetation Intensity	Depth	Sample Rating	Horizon	Moisture	Relief	Topo Position	Matrix color	Remarks	Cu ppm	Ag ppm	Au ppb
13CGS001		543908	5597800	sprs	20	3	B	mst	high	mid slope	med brn	medium brown, rocky soil / talus; steep slope	68.00	0.05	5.60
13CGS002		543998	5597759	sprs	20	4	B	mst	high	mid slope	dark brn	dark brown, rocky soil / talus; next to dry creek bed	61.00	0.05	1.50
13CGS003		544125	5597666	sprs	20	3	B	mst	low	mid slope	med brn	medium brown, rocky soil / talus; beside running creek	23.50	0.10	2.10
13CGS004		544153	5597580	sprs	20	3	B	mst	high	mid slope	dark brn	dark brown, rocky soil / talus	44.80	0.10	1.20
13CGS005		544175	5597507	sprs	20	4	B	mst	low	mid slope	med brn	medium brown soil / talus	25.40	0.10	1.60
13CGS006		544178	5597439		20	2		mst	high	mid slope	med brn	medium brown, rocky soil / talus	38.00	0.05	0.60
13CGS007		544185	5597337	sprs	20	3	B	mst	high	mid slope	med brn	medium brown, rocky soil / talus	52.30	0.10	1.90
13CGS008		543962	5597006		20	3	B	mst	high	mid slope	med brn	medium brown soil / talus	33.50	0.10	0.60
13CGS009		543940	5596914	sprs	20	3		mst	high	mid slope	med brn	medium brown soil / talus	57.90	0.30	0.25
13CGS010		544025	5596904	sprs	20	4	B	dry	med	mid slope	med brn	medium brown, not very rocky	32.30	0.10	0.90
13CGS011		544122	5596917	sprs	20	4	B	dry	high	mid slope	med-light brn	medium to light brown	37.90	0.05	0.60
13CGS012		544222	5596904	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, not very rocky	34.20	0.05	2.10
13CGS013		544322	5596889	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, not very rocky	27.20	0.10	8.30
13CGS014		544414	5596896	sprs	20	4	B	mst	low	mid slope	med brn	medium brown, rocky soil	35.40	0.05	2.40
13CGS015		544466	5596974	sprs	20	4	B	mst	high	mid slope	med-dark brn	medium to dark brown, rocky soil / talus	29.70	0.05	1.00
13CGS016		544567	5596973	sprs	20	2	B	dry	high	mid slope	med-dark brn	medium to dark brown, rocky soil / talus	36.60	0.10	0.90
13CGS017		544663	5596967	sprs	20	4	B	dry	high	mid slope	med-dark brn	medium to dark rocky soil / talus	40.80	0.05	1.00
13CGS018		544672	5596888	sprs	20	1	B	dry	high	mid slope	med brn	medium brown, very rocky soil / talus	77.90	0.05	0.50
13CGS019		543843	5597015	sprs	20	3		mst	high	mid slope	med brn	medium brown, rocky soil / talus	42.50	0.20	0.60
13CGS020		543818	5596919	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, rocky soil / talus	43.20	0.10	1.60
13CGS020B	13CGS020	543818	5596919	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, rocky soil / talus	42.50	0.10	14.30
13CGS021		543817	5596823	sprs	20	4	B	mst	high	mid slope	med-light brn	medium to light brown soil	42.00	0.10	3.40
13CGS022		543856	5596736	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, rocky soil / talus	44.50	0.20	1.10
13CGS023		543935	5596730	sprs	20	3	B	mst	high	mid slope	med brn	medium brown, rocky soil / talus	36.20	0.10	4.00
13CGS024		544032	5596759	mod	20	4	B	mst	high	mid slope	light brn	light brown, rocky soil / talus; near pine trees	43.90	0.05	1.30
13CGS025		544099	5596707	mod	20	4	B	dry	med	mid slope	light brn	light brown, rocky soil / talus; near pine trees	29.60	0.05	0.70
13CGS026		544185	5596672	sprs	20	4	B	mst	med	mid slope	light brn	light brown, rocky soil	34.70	0.10	0.25
13CGS027		544282	5596656	mod	20	3	B	dry	high	mid slope	light brn	light brown, rocky soil / talus; near pine trees	51.90	0.10	1.90
13CGS028		544383	5596646	mod	20	4	B	dry	high	mid slope	light brn	light brown soil / talus with a bit of gravel; near pine trees	54.00	0.10	0.50
13CGS029		544439	5596725	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, rocky soil	81.00	0.10	0.60
13CGS030		544499	5596806	sprs	20	4	B	mst	high	mid slope	med-dark brn	medium to dark brown, rocky soil	44.10	0.05	0.90
13CGS031		544540	5596807	sprs	20	3	B	mst	high	mid slope	dark brn	dark brown, rocky soil	46.20	0.05	0.80
13CGS032		544626	5596770	sprs	20	4	B	dry	high	mid slope	med brn	medium brown, rocky soil	113.10	0.10	0.90
13CGS033		544717	5596724	sprs	20	3		dry	high	mid slope	med brn	medium brown, rocky soil	53.20	0.20	0.25
13CGS034		544807	5596685	sprs	20	2	B	dry	high	mid slope	med brn	medium brown, rocky soil	73.60	0.10	1.50
13CGS035		544888	5596630	mod	20	4	B	dry	high	ridge crest	light brn	light brown, rocky soil	74.90	0.10	1.00
13CGS036		544977	5596658	sprs	20	2	B	dry	high	mid slope	med-dark brn	medium to dark brown, rocky soil	43.20	0.05	1.90

2013 Popa Bear Soil Samples

13CGS037		545072	5596633	sprs	20	3	B	dry	high	mid slope	med-light brn	medium to light brown, rocky soil / talus; near dry creek	71.70	0.10	1.60
13CGS038		545160	5596587	mod	20	2	B	dry	high	mid slope	light brn	light brown rocky soil in pine trees	60.70	0.05	1.50
13CGS039		545254	5596597	mod	20	3	B	mst	high	mid slope	med-dark brn	medium to dark brown, rocky soil / talus	54.10	0.05	0.80
13CGS040		545388	5596601	mod	20	4	B	mst	high	mid slope	light brn	light brown, rocky soil; next to pine trees	65.70	0.10	1.70
13CGS040B	13CGS040	545388	5596601	mod	20	4	B	mst	high	mid slope	light brn	light brown, rocky soil; next to pine trees	61.30	0.20	1.30
13CGS041		545352	5596692	sprs	20	3	B	dry	high	mid slope	med-dark brn	medium to dark brown, rocky soil	51.00	0.10	2.30
13CGS042		545268	5596710	mod	20	4	B	dry	high	mid slope	light brn	light brown, rocky soil / talus; near pine trees	82.60	0.05	0.25
13CGS043		545170	5596710	sprs	20	4		mst	high	mid slope	light-med brn	light to medium brown, rocky soil / talus	84.80	0.05	2.90
13CGS044		545120	5596779	sprs	20	4	B	dry	high	mid slope	light brn	light brown, rocky soil / talus	53.40	0.05	2.20
13CGS045		545023	5596769	mod	20	3	B	dry	high	mid slope	light brn	light brown, rocky soil / talus	77.90	0.10	2.10
13CGS046		544926	5596758	sprs	20	4	B	dry	high	mid slope	light brn	light brown soil	88.70	0.10	1.80
13CGS047		544844	5596819	sprs	20	3	B	dry	high	mid slope	light brn	light brown, rocky soil / talus	76.20	0.05	1.90
13CGS048		543712	5598050	sprs	20	2	B	mst	high	mid slope	dark brn	dark brown soil / talus	47.20	0.05	1.50
13CGS049		543646	5598125	sprs	20	4	B	mst	high	mid slope	dark brn	dark brown soil / talus	57.40	0.05	0.25
13CGS050		543573	5598178	sprs	20	3	B	mst	high	mid slope	med brn	medium brown, rocky soil / talus	66.90	0.05	0.25
13CGS051		543515	5598257	sprs	20	3	B	mst	high	mid slope	med-light brn	medium to light brown, rocky soil / talus	93.90	0.05	0.90
13CGS052		543487	5598353	sprs	20	4	B	mst	high	mid slope	dark brn	dark brown, rocky soil / talus	76.70	0.05	0.25
13CGS053		543418	5598421	sprs	20	5	B	mst	high	mid slope	dark brn	dark brown, rocky soil	67.30	0.20	0.70
13CGS054		543336	5598477	sprs	20	5	B	mst	high	mid slope	dark brn	dark brown, rocky soil	319.20	0.40	7.60
13CGS055		543254	5598537	sprs	20	4	B	mst	high	mid slope	dark brn	dark brown, rocky/sandy soil	68.60	0.30	1.30
13CGS056		543156	5598530	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, rocky soil	55.90	0.05	3.80
13CGS057		543061	5598551	sprs	20	1	B	mst	high	mid slope	med brn	medium brown, very rocky soil	55.40	0.10	0.60
13CGS058		542968	5598537	sprs	20	1	B	mst	high	mid slope	med brn-gry	medium brown - greyish sand/gravel soil / talus	100.60	0.05	6.40
13CGS059		542964	5598629	sprs	20	3	B	mst	high	mid slope	dark gry	dark grey, clay-like with gravel soil / talus	93.70	0.05	1.00
13CGS060		543023	5598706	sprs	20	3	B	mst	high	mid slope	med-dark brn	medium to dark brown, rocky soil / talus	57.70	0.10	2.60
13CGS060B	13CGS060	543023	5598706	sprs	20	3	B	mst	high	mid slope	med-dark brn	medium to dark brown, rocky soil / talus	60.30	0.10	4.70
13CGS061		542996	5598799	sprs	20	4	B	dry	high	mid slope	light brn-gry	light brown - greyish soil / talus	61.70	0.05	1.80
13CGS062		542953	5598887	sprs	20	4	B	mst	high	mid slope	med-dark brn	medium to dark brown soil / talus; moved point for large rock	75.60	0.05	1.20
13CGS063		542898	5598969	sprs	20	5	B	mst	high	mid slope	med-dark brn	medium to dark brown, rocky soil	57.90	0.10	0.25
13CGS064		542811	5599025	sprs	20	4	B	mst	high	mid slope	med brn	medium brown, lightly rocky soil	73.00	0.05	1.40
13CGS065		542729	5599078	mod	20	3	B	mst	high	mid slope	med-light brn	medium to light brown, rocky soil; below pines	48.30	0.10	8.60
13CGS066		542664	5598985	mod	20	4	B	mst	high	mid slope	light brn	light brown, rocky soil; in pine trees	59.80	0.20	3.20
13CGS067		545467	5596543	sprs	20	4	B	dry	high	mid slope	light brn	light brown rocky soil	50.80	0.05	0.90
13CGS068		545992	5596573	sprs	20	4	B	mst	high	mid slope	med brn	medium brown rocky soil	39.10	0.05	0.25
13CGS069		546057	5596521	wf	20	4	B	mst	high	mid slope	med-dark brn	medium to dark brown rocky soil	72.00	0.10	5.60
13CGS070		546208	5596472	wf	20	3	B	dry	high	mid slope	light brn	light brown rocky soil	73.40	0.05	0.25
13CGS071		546168	5596547	mod	20	1	B	mst	high	mid slope	dark brn	dark brown rocky soil	54.00	0.20	3.30
13CGS072		546244	5596610	mod	20	3	B	mst	high	mid slope	dark brn	dark brown rocky soil/talus	52.30	0.20	0.60
13CGS073		546276	5596689	mod	20	1	B	mst	high	mid slope	dark brn	dark brown rocky soil/talus	42.40	0.05	1.90

2013 Popa Bear Soil Samples

13DGS001		543455	5598141	mod	20	3	B	mst	med	mid slope	dark brn	dark brown soil @ 25 cm; very large boulder or side of mountain	56.60	0.05	0.25
13DGS002		543376	5598191	sprs	20	4	B	mst	med	mid slope	med brn	trees near by	52.40	0.05	0.60
13DGS003		543343	5598283	mod	20	4		mst	med	mid slope	med brn		60.10	0.05	0.80
13DGS004		543265	5598338	wf		2	B	mst	high	mid slope	light brn		59.00	0.05	0.90
13DGS005		543187	5598397	mod	20	3	B	mst	med	lower slope	dark brn		86.30	0.05	0.25
13DGS006		543095	5598416	mod	20	1		mst	high	mid slope	med brn	very bad spot; talus, very large boulders, and outcrop	64.50	0.20	4.90
13DGS007		542998	5598385	mod	20	2	B	dry	high	mid slope	light brn	talus, many boulders	67.30	0.40	3.30
13DGS008		542900	5598355	mod	20	3		mst	high	ridge crest	med brn		37.20	0.05	1.50
13DGS009		542855	5598415		20	2	B	mst	med	mid slope	dark brn-grey		58.40	0.40	1.80
13DGS010		542852	5598775	mod	20	3	B	mst	high	mid slope	med brn		52.50	0.05	1.40
13DGS011		542817	5598855	mod	20	3		mst	med	mid slope	med brn		81.00	0.05	1.30
13DGS012		542731	5598909	mod	20	3	B	mst	low	mid slope	med brn		50.40	0.05	0.25
13DGS013		545312	5596520		20	3	B	mst	med	mid slope	med brn		54.10	0.05	0.80
13DGS014		545379	5596450	mod			B	mst	med	mid slope	med brn		53.70	0.05	0.25
13DGS015		545475	5596409	mod	20	3	B	dry	med	mid slope	light brn		57.30	0.10	0.25
13DGS016		545567	5596411	mod	20	2	B	dry	high	mid slope	light brn		61.30	0.05	0.25
13DGS017		545669	5596327		20	3		mst	low	lower slope	light brn		63.40	0.20	1.30
13DGS018		545591	5596273	wf	20	3	B	dry	low	lower slope	light brn		42.80	0.05	0.25
13DGS019		545489	5596258	wf	20	2	B	dry	med	lower slope	light brn		61.50	0.20	0.90
13KCS001		543884	5597649	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown rocky soil / talus; hillside	35.70	0.05	1.00
13KCS002		543972	5597605	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; beside creek	70.10	0.10	69.70
13KCS003		543958	5597520	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside	28.70	0.10	1.40
13KCS004		543982	5597443	sprs		3	B	dry	med	mid slope	dark brn	dark brown soil / talus; hillside	44.60	0.10	2.00
13KCS005		543722	5597548	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside	75.60	0.10	2.30
13KCS006		543651	5597416	mod	20	3	B	mst	med	lower slope	light brn	light brown soil; kind of sandy	17.60	0.10	0.25
13KCS007		543584	5597358	sprs	20	3	B	mst	med	lower slope	dark brn	dark brown soil / talus; hillside, forest either side	31.40	0.30	0.80
13KCS008		543488	5597314	wf	20	3	B	mst	med	mid slope	gry	greyish sandy soil / talus; area covered in pine crocus	9.40	0.20	1.40
13KCS009		543397	5597290	wf	20		B	mst		other	dark brn	dark brown soil / talus; sample was taken from a hollow in the woods	23.50	0.50	18.90
13KCS010		543296	5597292	mod	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside with large rocks	14.60	0.10	0.25
13KCS011		543203	5597347	mod	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside forest; sample taken from moss bed	8.10	0.20	1.00
13KCS012		543120	5597337	mod	20	3	B	mst	med	mid slope	red-brn	reddish brown soil / talus	17.00	0.40	1.20
13KCS013		543117	5597252	wf	20	2	B	mst	med	mid slope	red-brn	red-brown soil / talus; GPS 10 m accuracy	28.00	0.30	0.25
13KCS014		543189	5597216	wf	20	3	B	mst	med	ridge crest	red-brn	red-brown soil / talus; 10 m down from ridge	63.70	0.60	0.25
13KCS015		543285	5597227	sprs	20	3	B	mst	low	ridge crest	light brn	light brown soil / rocky talus (?)	18.90	0.20	2.20
13KCS016		543382	5597184	mod	20	3	B	mst	med	mid slope	light brn	light brown sandy soil / talus; hillside between fallen logs	48.50	0.10	0.25
13KCS017		543478	5597158	sprs	20	3	B	mst	med	mid slope	light brn	light brown soil / talus; hillside	40.60	0.20	0.25
13KCS018		543571	5597141	sprs	20	3	B	mst	med	mid slope	light brn	light brown soil / talus; hillside	62.10	0.50	0.25
13KCS019		543655	5597087	sprs	20	3	B	mst	med	mid slope	brn	brown soil / talus; hillside	54.20	0.10	1.30
13KCS020		543677	5597001	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside near woods	45.40	0.20	1.10

2013 Popa Bear Soil Samples

13KCS020A	13KCS020	543677	5597001	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside near woods	49.60	0.20	0.25
13KCS021		543641	5596907	wf	20	3	B	mst	med	mid slope	light brn	light brown sandy / talus; hillside	41.70	0.10	0.25
13KCS022		543639	5596821	wf	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside forest; GPS 6 m	39.80	0.20	1.70
13KCS023		543708	5596747	wf	20	3	B	dry	med	mid slope	light brn	light brown soil / sandy / talus; hillside forest; GPS 5 m	25.50	0.05	0.25
13KCS024		543725	5596653	wf	20	3	B	mst	med	mid slope	light brn	light brown soil / sandy / talus; hillside forest; GPS 6 m	29.60	0.05	1.20
13KCS025		543721	5596550	wf	20	3	B	mst	med	mid slope	light brn	light brown soil / sandy / talus; hillside forest; GPS 6 m	35.80	0.20	1.00
13KCS026		543695	5596459	wf	20	3	B	mst	med	mid slope	light brn	light brown soil / sandy / talus; hillside forest; GPS 7 m	63.30	0.60	1.40
13KCS027		543700	5596361	wf	20	3	B	mst	med	mid slope	brn	brown soil / talus; hillside forest	26.30	0.50	0.25
13KCS028		543777	5596312	sprs	20	3	B	mst	med	mid slope	light brn	light brown / sandy / talus; old forest fire area	60.80	0.20	0.25
13KCS029		543998	5596237	wf	20	3	B	mst	med	mid slope	light brn	light brown soil / talus; hillside forest	23.10	0.20	7.70
13KCS030		543994	5596343	wf	20	3	B	mst	med	mid slope	dark brn	dark brown mossy soil / talus; hillside forest, lots of large boulders; GPS 10 m	26.40	0.20	0.90
13KCS031		543961	5596433	mod	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside between two patches of forest; GPS 8 m	34.20	0.30	0.25
13KCS032		544006	5596511	mod	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside between trees	23.10	0.10	0.25
13KCS033		544102	5596533	wf	20	3	B	mst	med	mid slope	light brn	light brown sandy soil / talus; hillside forest	37.10	0.20	4.30
13KCS034		544201	5596535	wf	20	3	B	mst	med	mid slope	light brn	light brown soil / talus; hillside near tree	37.20	0.20	0.80
13KCS035		544292	5596512	mod	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside meadow near trees	61.90	0.20	1.40
13KCS036		544392	5596500	sprs	20	3	B	dry	med	mid slope	brn	brown soil / talus; hillside meadow near trees	46.70	0.20	0.25
13KCS037		544487	5596519	mod	20	3	B	mst	med	mid slope	light brn	light brown soil / talus; hillside below trees, near ant hill	48.60	0.10	0.60
13KCS038		544546	5596605	sprs	20	3	B	mst	high	mid slope	dark brn	dark brown soil / sandy / talus; steep hillside	53.50	0.05	10.80
13KCS039		544610	5596659	sprs	20	3	B	dry	high	mid slope	med-light brn	medium to light brown soil / talus; steep hillside meadow	117.90	0.20	0.25
13KCS040		544681	5596594	sprs	20	3	B	mst	high	mid slope	brn	brown soil / talus; steep hillside meadow	112.40	0.10	2.30
13KCS040B	13KCS040	544681	5596594	sprs	20	3	B	mst	high	mid slope	brn	brown soil / talus; steep hillside meadow	108.40	0.10	0.25
13KCS041		544775	5596562	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown soil / talus; hillside meadow	67.20	0.10	7.70
13KCS042		544856	5596504	sprs	20	3	B	mst	high	mid slope	light brn	light brown soil / talus; rocky hillside meadow	134.50	0.20	1.50
13KRS101		543715	5597471	sprs	20	3	B	mst	med	lower slope	dark brn	dark brown rocky soil / talus; beside creek	45.70	0.10	1.50
13WTS001		543305	5598085	sprs	20	3	B	mst	med	mid slope	light brn	light brown; sidehill	71.10	0.05	5.50
13WTS002		543251	5598144	sprs	20	3	B	mst	med	mid slope	light brn	light brown; sidehill	62.70	0.05	0.70
13WTS003		543194	5598219	sprs	20	3	B	mst	med	lower slope	light brn	light brown soil	53.20	0.05	0.70
13WTS004		543119	5598279	sprs	20	3	B	mst	med	lower slope	light brn	light brown; sidehill	47.80	0.05	0.25
13WTS005		543014	5598256	sprs	20	3	B	mst	med	lower slope	brn	brown soil; sidehill	63.90	0.05	1.30

2013 Popa Bear Soil Samples

13WTS006		542933	5598219	sprs	20	3	B	mst	med	lower slope	brn	brown soil; sideslope, kinda in trees	54.60	0.40	0.70
13WTS007		542839	5598223	sprs	20	3	B	mst	med	lower slope	light brn	light brown soil; sidehill	54.20	0.40	0.80
13WTS008		542738	5598252	sprs	20	3	B	mst	med	lower slope	brn	brown, some rocks; sidehill in trees	51.30	0.10	1.30
13WTS009		542721	5598338	sprs	20	3	B	mst	med	lower slope	brn	brown soil; sidehill	41.30	0.10	1.00
13WTS010		542724	5598438	sprs	20	3	B	mst	med	lower slope	dark brn-blk	dark brown / black soil	50.40	0.10	0.25
13WTS011		542839	5598508	sprs	20	3	B	mst	med	lower slope	dark brn	dark brown soil; sidehill	60.50	0.40	0.25
13WTS012		542618	5598836	sprs	20	3	B	mst	med	lower slope	brn	brown soil; sidehill by a creek	46.30	0.10	0.90
13WTS013		542546	5598885	sprs	20	3	B	mst	med	mid slope	dark brn	dark brown soil; sidehill	52.80	0.05	3.30
13WTS014		542475	5598820	sprs	20	3	B	mst	med	mid slope	brn	brown soil; in trees, lots of surface rock	42.20	0.20	6.70
13WTS015		542571	5599004	sprs	20	3	B	mst	med	lower slope	brn	brown soil; sidehill near trees	53.20	0.10	7.60

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APPENDIX 2

2013 Popa Bear Rock Sample Locations and Descriptions

2013 Popa Bear Rock Samples

Sample ID	Easting*	Northing*	Lithology	Grain Size	Alteration Intensity	Alteration Type	Veining	Veining Type	Magnetism	Sample Type	Relief	Py	Po	Aspy	Cpy	Comments	Au ppb	Cu ppm	Ag ppm
13DRP001	542418	5596137	Granite	fine								1-2				porphyritic feldspar and biotite, disseminatite pyrite clots	0.6	29.0	0.2
13DRP002	542417	5596134	Granite	fine								1-2				porphyritic feldspar and biotite, disseminatite pyrite clots	0.9	83.0	1.3
13DRP003	542425	5596133	Granite	fine								1-2				porphyritic feldspar and biotite, disseminatite pyrite clots	2.1	105.0	0.8
13DRP004	542412	5596158	Granite	fine								1-2				porphyritic feldspar and biotite, disseminatite pyrite clots	0.3	3.0	0.2
13DRP005	542429	5596054	Quartz vein									2-5				clotty pyrite, oxidized	283.8	231.0	22.2
13DRP006	542424	5595898	Granite	fine								1-2				porphyritic feldspar and biotite, disseminatite pyrite clots	1.4	93.0	0.2
13DRP007	542444	5595923	Granite	fine								1-3				porphyritic feldspar and biotite, disseminatite pyrite clots	1.0	309.0	1.1
13KRP101	544172	5597753	Sheared Ultramafic	med	str	cbn, prop	stock		none	o/c						Carbonate - fuchsite altered & sheared ultramafic pod	4.9	45.0	0.2
13KRP102	542450	5596264	Meta-chert	fine	mod	prop, Si	low		none	talus	high	0.5				Green - maroon altered meta chert-phyllite; disseminated pyrite	0.9	177.0	1.1
13KRP103	542450	5596264	Granodiorite Dyke	fine	mod	Si, K	mod			talus	high	0.5				White, bleached, altered granodiorite; disseminated pyrite; includes meta chert-phyllite	0.3	175.0	0.9
13KRP104	542559	5596305	Quartz Vein / Felsite	crs	str	Si	mod		none	talus		0.5				Quartz vein with disseminated pyrite; coarse grained felsite	0.3	26.0	0.4
13KRP105	542862	5596405	Crystal Tuff		mod	cbn	mod	cbn	none	o/c		0.5				Orange weathering, white, foliated shale stretched pebble conglomerate (possible	12.9	26.0	1.1
13KRP106	542763	5596752	Gabbro	med	mod	prop	mod		str	o/c	mod		0.5			Med grained gabbro; disseminated pyrrhotite	2.7	171.0	0.2
13KRP107	542780	5596791	Quartz Vein	crs	str	Si	stock	Qz	none	bldr	mod	tr				Coarse 50x50 cm quartz vein boulder; trace disseminated pyrite; cm-scale cross cutting	0.3	18.0	0.2
13KRP108	543396	5597121	Chert / Quartz Vein	fine	str	Si	high	Qz	none	o/c	high	0.5				Thin 30 cm pyritic chert / quartz vein; band conformable in shale / phyllite; vuggy and gossanous	0.3	132.0	0.4
13KRP109	544050	5597075	Quartz Vein / Chert Nodule	crs	str	prop, Si	high	Qz		o/c	high					40 cm chert / quartz vein nodule; associated with thin 70-100 cm sheared serpentinite	0.3	19.0	1.0
13KRP110	544061	5597091	Chert		str	Si	stock		none	o/c		tr				Strongly deformed 10 m meta-chert schist; sulphidic and quartz tension veins (sigmoidal -	0.3	43.0	0.2
13KRP111	544079	5597084	Chert	crs	str	Si	stock		none	o/c	high	tr				Intense ptygmatic folded chert / quartz vein; sulphidized and gossanous	0.3	35.0	0.2
13KRP112	544098	5597008	Chert	crs	str	Si	high	Qz	none	o/c	high	tr				Sulphidic chert; cut by 10-30 cm bell white fusion quartz vein	0.3	45.0	0.2
13KRP113	544113	5597060	Serpentinite	med	str	cbn, Si	stock	Qz, cbn	none	talus	mod				tr	Silicified and altered serpentine ultramafic; 2-3 cm comb textured quartz vein, late carbonate (bladed) infill; malachite, trace disseminated chalcopyrite	0.3	1362.0	3.5
13KRP114	544130	5597028	Serpentinite Schist	crs	str	cbn, Si	stock	Qz, cbn		talus	high					Quartz-carbonate altered serpentine schist; ankerite, gossanous	0.3	226.0	0.3
13KRP115	544208	5597037	Gabbro (?)	crs	str	Si	stock		none	o/c	high					Pervasive / intense silica-ankerite-fuchsite alteration; ultramafic; unknown protolith; orange weathering	0.3	11.0	0.2
13KRP116	544647	5597268	Chert	crs	str	Si	high	Qz		o/c	high	0.5				Gossanous pyritic chert; quartz tension veins	0.3	31.0	0.2

2013 Popa Bear Rock Samples

13KRP117	544838	5597365	Chert	crs	str	Si	high		none	talus	mod	tr				Gossanous, rusty pyritic chert; 3 m below o/c	0.3	38.0	0.2
13KRP118	544847	5597364	Quartz Vein	crs	str	Si	high	Qz, cbn	none	o/c	mod					Probably pervasively altered ultramafic + quartz vein; bladed carbonate infill and vuggy quartz / chlorite	0.3	0.5	0.2
13KRP119	544096	5597103	Quartz Vein / Ribbon Chert	crs	str	Si	stock	Qz, cbn		o/c	high	tr				Strongly deformed ribbon chert cut by late comb textured quartz veins with ankerite / carbonate infill	0.3	60.0	0.2
13KRP120	544120	5597038	Si-Ank altered Ultramafic	med	str	cbn, Si	stock		none	talus	mod					Pervasively texturally disturbed Si-Carb-Ank altered ultramafic schist	0.3	51.0	0.2
13KRP121	544200	5597047	Quartz Vein	crs	str	Si	high	Qz	none	o/c	high	tr				Intensely weathered quartz-limonite vein; open space comb textured quartz; trace very fine pyrite; fuchsite	38.8	14.0	3.3
13KRP122	544857	5597045	Chlorite Schist	fine	mod	cbn, Si	mod	Qz, cbn		talus	mod				tr	Malachite stain; <1 cm qz-carb veins; trace disseminated chalcopyrite	0.3	40.0	0.2
13KRP123	545154	5597108	Serpentinite Schist	med	str	cbn	stock	Ank		talus						Pervasively serpentine altered ultramafic (?) schist; ankerite stockwork; just below o/c	1.3	558.0	1.3
13KRP124	544103	5597266	Ankerite Schist	crs	str	cbn, Si	stock		none	o/c	high					Quartz-carbonate-fuchsite-ankerite schist; brecciated shear / altered zone	0.5	12.0	0.2
13KRP125	544103	5597266	Ankerite Schist	crs	str	cbn, Si	stock		none	talus	mod					Same as 13KRP124; Don collected on talus slope below; fuchsite + malachite, dark grey dusty chalcocite	24.8	9.0	0.2
13KRP126	544084	5597349	Si-Ank altered Feldspar Crystal Tuff	crs	str	Si	high		none	talus	mod	tr				Pervasive Si-Ank and fuchsite alteration; disseminated pyrite and black sooty mineral (chalcocite oxide or pyrite oxidation)	3.2	26.0	0.2
13KRP127	544101	5597280	Quartz Vein	crs	str	Si	stock	Qz	none	o/c	high					10-20 cm quartz vein core to qz-ank-ser schist shear [zone?]; quartz, ankerite, fuchsite, malachite, sooty chalcocite (?)	0.3	6.0	0.2
13KRP128	543783	5597879	Qz-Ank Schist / Quartz Vein	crs	str	Si	high	Qz, cbn		fels	high					Orange weathering qz-ank-ser schist; laminated quartz (+carbonate) shear zone	0.3	35.0	0.2
13KRP129	543776	5597887	Quartz Vein		str	Si	stock	Qz, sulph	none	fels	high	tr		tr		< 1mm pyrite / arsenopyrite (?) stringers cutting pervasively si-ank altered rock; shear zone	0.3	160.0	0.2
13KRP130	543782	5597881	Quartz-Carbonate Vein		mod	cbn, Si	mod	Qz, cbn	none	fels	high	x		x		Weathered quartz-carbonate vein; < 1mm scale pyrite / arsenopyrite (?) stringers	0.3	44.0	0.2
13KRP131	543891	5597971	Serpentenite Schist	med	str	ank	stock		none	o/c	mod					Ankerite altered serpentenite schist	13.6	28.0	0.2
13KRP132	543935	5598001	Chert	crs	str	Si	high	Qz, cbn	none	o/c	high	tr				Quartz-carbonate veins cutting massive - ribbon chert in hanging wall of thick serpentinite lens	0.3	14.0	0.2
13KRP133	544490	5597956	Basalt - Andesite	fine	mod	arg	stock	py	none	talus	low	5.0				Fine grained, dark grey-green basalt-andesite cut by 1 mm scale pyrite stockwork stringers	0.3	234.0	0.4

APPENDIX 3

2013 Popa Bear Mapping Observations

2013 Popa Bear Mapping Observations

Station	Date	Easting*	Northing*	Structure	Strike	Dip	Lithology	Description
1	14/09/2013	542683	5596260	Bedding	300	60	shale	Grey, buff weathering. Meta shale-chert. Well bedded 300/60.
2	14/09/2013	542800	5596348				diorite	Medium grey, coarse grained diorite. 0.5% disseminated pyrite.
3	14/09/2013	542865	5596415				gabbro	Orange weathering, coarse grained gabbro. Ultramafic. >5 to <1 m large boulder talus (??). Magnetite, fresh.
4	14/09/2013	542841	5596480				gabbro	+5 x 30 m coarse grained gabbro. Cliff. Banding runing ~320 az uphill.
5	14/09/2013	542822	5596543				mudstone	Back into cherty mudstone, weak mud. Chlorite-hematite alteration. Grey to green-maroon.
6	14/09/2013	542743	5596768				ultramafic - mudstone	Medium grained ultramafic. Diorite-gabbro. Interlayered meta chert-mudstone. Float?
7	14/09/2013	542763	5596752	Foliation	310	70	gabbro	10 x 20 m medium grained gabbro. Black, orange weathering. Disseminated pyrrhotite. Magnetic. 310/70 Foliation strong - moderate.
8	15/09/2013	543452	5597197		330	45	phyllite - shale	Grey, locally rusty weathering. Phyllite-shale. 330/45.
9	15/09/2013	543556	5597231	Contact	310	48	phyllite - tuff	Contact of phyllite (SW) with coarse feldspar pseudo-porphyritic ash crystal-rich tuff (Dacitic?). 310/48 sharp contact. Thin 2-3 m before back into phyllite.
10	15/09/2013	543603	5597220				andesite	Massive, fine grained, andesitic flow. Chlorite-filled vesicles (dacite/andesite).
11	15/09/2013	543635	5597213	Contact	270	50	andesite -	Upper flow contact with thin interbedded phyllite. 270/50
12	15/09/2013	543703	5597208	Foliation	300	70	tuff	Coarse fledspar crystal tuff. Underlain by phyllite. Preferred alignment 300/70. Massive and resistive weathering.
13	15/09/2013	543719	5597202				tuff - phyllite	Upper contact of feldspar crystal tuff with phyllite.
14	15/09/2013	543782	5597175	Contact	300	65	tuff - shale	Mainly feldspar crystal tuff between here and Station 11. Here overlain by shale (thin). 300/65.
15	15/09/2013	543917	5597126	Fold	290	66	shale	Volcanic derived shale, becoming chloritic, gentle open folds ~ parallel to ridgeline. 290/66
16	15/09/2013	543953	5597104				shale - crystal	Shale contact with over. Feldspar crystal tuff, thick unit.
17	15/09/2013	544000	5597092				shale - andesite	Contact between shale (SW) and massive fine grained grey dacitic-andesitic flows 1-3 m thick each. 300/52 bedding.
18	15/09/2013	544050	5597075	Bedding	300	60	shale - ultramafic	Thin, ~ slope parallel, 20 - 100 cm veneer of quartz veined serpentinite ultramafic. Gash veins. On steep slope over ~ 50 m associated with serpentinite. Beds in shale host 300/60.
19	15/09/2013	544093	5597067	Foliation	265	48	ultramafic schist	Narrow 1-2 m serpentinized ultramafic schist. 265/48 foliation. Massive dacitic-andesitic flow in footwall. Chert in hanging wall.
20	15/09/2013	544114	5597065				chert	Upper band (hangingwall) of thick chert unit.
21	15/09/2013	544185	5597030	Foliation	270	60	ultramafic schist	Serpentinized schist, cataclastic breccia. Fibrous chrysotile 270/60 foliation.
22	15/09/2013	544219	5597060				shale - tuff	Contact ~ 5 m shale overlain by pink ash tuff, massive.
23	15/09/2013	544231	5597093				phyllite	Phyllite.
24	15/09/2013	544254	5597118	Foliation	300	38	schist	Chloritic cherty volcanic. Rusty. "Cherty schist". 300/38
25	15/09/2013	544328	5597162				listwanite - schist	First appearance of thin 30 cm listwanite layer/bed. Chloritic schist with thin listwanite beds/interbeds. Local 1-2 m chert (ribbon). Rusty.
26	15/09/2013	544413	5597201				mudstone - schist	Rusty cherty mudstone. Weakly chloritic. Chloritic schist. Fine interbedded shale.
27	15/09/2013	544417	5597212				listwanite	2-3 m thick grey listwanite bed.
28	15/09/2013	544453	5597208					Chloritic laminated cherty unit blocky and thick. Rusty. Probably same as outcrop in mid basin.
29	15/09/2013	544588	5597261				listwanite	2 x 1 m interbedded listwanite. Dark grey.
30	15/09/2013	544681	5597302				diorite	Light grey-buff coarse feldspar porphyritic intrusive.
31	15/09/2013	544694	5597323				shale	Light green chloritic schist. Overlying cherty/rusty shale chert.
32	15/09/2013	544713	5597346				limestone	30 cm limestone interbed
33	15/09/2013	544765	5597358				ultramafic-andesite	40 cm zone ultramafic schist between fine grained massive dacitic-andesitic flow (basalt?).

2013 Popa Bear Mapping Observations

34	15/09/2013	544803	5597348				ultramafic schist	Intense alteration. Pervasive silica/ankerite. Ultramafic, black shale schist hosted similar in texture to fuschitic sample (today). Conspicuous orange weathering.
35	16/09/2013	544819	5597354				schist - tuff	Cherty schist contact with overlying fine grained orange rusty weathering, pinkish/buff ash tuff.
36	16/09/2013	544835	5597355				tuff - shale	Ash tuff contact in overlying shaley sequence. Gossanous rusty chert.
37	16/09/2013	543946	5597238				chert	Banded to massive chert. 310/68 beds. Chert laminations. Overlain by chloritic volcanic schist? (May not be outcrop).
38a	16/09/2013	544077	5597135	Vein	110	60	chert	1 - 5 cm quartz tension veinlets, no sulphides. Common orientation 110/60. Lith = banded massive chert well foliated/deformed. Thin orange ultramafic schist in upper contact with chert here. ~ foliation parallel to chert laminations 300/60.
38b	16/09/2013	544077	5597135	Foliation	300	60	chert	1 - 5 cm quartz tension veinlets, no sulphides. Common orientation 110/60. Lith = banded massive chert well foliated/deformed. Thin orange ultramafic schist in upper contact with chert here. ~ foliation parallel to chert laminations 300/60.
39	16/09/2013	544178	5597099				quartz-ankerite	Laminated quartz-ankerite veins similar to fuschsite 13KRP121 sample
40	16/09/2013	544150	5597143	Fault	310	60	phyllite schist	Intense phyllite schist fault zone associated with quartz-ankerite veins. 50 -> 20 open crenulation folding and slickenside mineral lineation
41	16/09/2013	544254	5597013				granitoid	Coarse grained granitoid.
42	17/09/2013	544430	5596867				granitoid	Coarse grained granitoid.
43	17/09/2013	544396	5596759	Lamination	310	62	tuff	Orange weathering. Feldspar crystal tuff (?) similar to lower slopes above "***". 310/62 laminations, flattening/ feldspar crystal alignment.
44	17/09/2013	544758	5596882	Bedding	310	60	shale	Rusty weathering, chloritic locally, shale. 310/60 bedding.
45	17/09/2013	544822	5597015				chlorite schist	Below in talus. Green chloritic schist. Locally grey muddy intervals + silicic cherty shale
46	17/09/2013	544935	5597090				chlorite schist	20 cm limestone talus in chlorite schist. Contact between chlorite schist to SW and shale (rusty) to NE. Talus becoming **** vs. chlorite schist blocks/boulders.
47	17/09/2013	544974	5597106				porphyry	Light green feldspar porphyry. Talus blocky. 10 - 20 m wide to NE mixed chlorite schist. Rusty shale intervals.
48	17/09/2013	545070	5597110				chert	Thick chert interval. ~ contact with rusty shale/chloritic schist to SE.
49	17/09/2013	545103	5597099				chert - andesite	Chert contact with orange weathering, light brown fine grained massive vesicular andesite. ~ 1 m overlain by shale.
50	17/09/2013	545154	5597108				serpentinite	Sketch of multiple lithology sequence. Black shale. Ankerite ultramafic serpentinite schist. Chloritic schist. Black shale. Ribbon Chert. Dark green vesicular basalt-andesite. Conformable sharp contact - chill margin. Light green feldspar porphyritic crystal tuff. Fine grained brown mafic ****. Graphitic black shale. Serpentinite lenses.
51	17/09/2013	544103	5597265	Foliation	290	40	schist	~ 2 m wide zone (fuschsite) quartz-ankerite-sericite schist. Chlorite schist hosted shear zone. 290/40 foliation. 1-2 m fine grained vesicular broken andesite dyke/flow in hanging wall.
52	17/09/2013	544129	5597265	Foliation	310	50	schist	Chlorite schist. Foliation 310/50.
53	18/09/2013	544083	5597283				tuff	Pink fine grained ash tuff dacite (?). Orange weathering with leisgang banding. Sparse feldspar crystals, perhaps rhyolitic (?), probably not felsic enough.
54	18/09/2013	544074	5597279				schist	Back into chlorite schist.
55	18/09/2013	544272	5597661				chert	Rusty ribbon chert subcrop (?).
56	18/09/2013	544290	5597677	Foliation	330	72	schist	Chlorite schist. Strong foliation 330/72.
57	18/09/2013	544272	5597762				schist	Chlorite schist.
58	18/09/2013	544358	5597850	Foliation	340	60	shale	Rusty chloritic shale/black shale. 340/60 foliation (beds?)
59	18/09/2013	544286	5597919				schist	Chloritic schist underlying rusty black shale to NE

2013 Popa Bear Mapping Observations

60	18/09/2013	544020	5598066	Lamination	300	60	chert	Dark grey banded chert. 300/60 laminations/beds.
61	18/09/2013	543983	5598159				dyke	Light green coarse grained feldspar dyke cutting chert.
62	18/09/2013	543358	5598607				schist - chert	Orange, silicified, weathered chloritic schist contact with chert to NE. Shear zone between CM/SV**** ??
63	18/09/2013	543141	5598653	Contact	283	80	shale - schist	Rusty shale. Overlain by orange weathered silicified chloritic schist to NE 283/80 (peculiar?).
64	18/09/2013	543096	5598621	Bedding	290	37	chert	Ribbon chert. Gradational over 3 m with overlying shale. 290/37 beds/ribbons.
65	18/09/2013	543053	5598610				schist - shale	Chloritic schist/black shale mixed.
66	18/09/2013	543013	5598591				chert	Sketch of multiple lithology sequence. Shale. Ribbon chert. Shale. Brown fine grained vesicular flow. RC. Shale. Overlain chlorite schist.
67	18/09/2013	542983	5598545				chlorite schist	Chlorite schist. Contact with chert/shale.
68	18/09/2013	542982	5598537				porphyry	Light green feldspar porphyry. Medium grained, massive.
69	18/09/2013	542978	5598531				chert	Ribbon chert.
70	18/09/2013	542985	5598494				schist	Chloritic schist.
71	18/09/2013	542963	5598417				chlorite schist	Wider chert **** altered with chlorite schist.
72	18/09/2013	542957	5598408				porphyry	Light green feldspar porphyry, coarse grained.
73	18/09/2013	542945	5598382	Foliation	300	58	shale - chert	Shale + chert. 300/58 foliation/lamination.
74	18/09/2013	542920	5598360				shale - chert	Shale + chert.
75	18/09/2013	542904	5598346				schist	Chloritic schist.
76	18/09/2013	542876	5598292				chert pebble conglomerate	strange, strong foliation. Cherty, pebble conglomerate schist.
77	18/09/2013	542882	5598277				schist	Chloritic schist.
78	19/09/2013	542928	5598221				chert	Rusty ribbon chert.
79	19/09/2013	543022	5598227	****	300	50	ribbon chert	Ribbon chert. 300/50
80	19/09/2013	543685	5597597	Bedding	310	42	shale - chert	Shale +/- chert ribbons. 310/42 beds/foliation.
81	19/09/2013	543770	5597634	Foliation	310	68	schist	Chloritic schist, fine grained. 310/68 foliation.
82	19/09/2013	543786	5597722	Bedding	290	53	chert - shale	Ribbon chert/shale. 290/53 beds.
83	19/09/2013	543795	5597784	Foliation	290	45	schist - shale	Chloritic schist over shale (chert). 290/45 foliation. Cm-scale listwanite interlayers/lenses.
84	19/09/2013	543812	5597789				fine grained flow	Ribbon chert. 50 cm fine grained laminated flow (?).
85	19/09/2013	543822	5597804				porphyry	Coarse grained light green feldspar porphyry. Maybe 3-4 m wide.
86	19/09/2013	543823	5597818				schist	Chloritic schist.
87	19/09/2013	543785	5597880				quartz-ankerite schist	Sketch of multiple lithology sequence. Ribbon chert. Fine grained brown, orange quartz-ankerite-sericite shear zone. Light green coarse feldspar porphyry. Fine grained brown flow - sparse feldspar.
88	19/09/2013	543745	5597911				porphyry	Light green feldspar porphyry.
89	19/09/2013	543807	5597892	Bedding	300	48	shale	Shale. 300/48 beds.
90	19/09/2013	543820	5597895	Bedding	195	68	shale	Sketch. 195/68 beds. Changes to 300/60.
91	19/09/2013	543851	5597943				shale - porphyry	Contact. ~20 m shale, 3 m chert overlain by light green feldspar porphyry.
92	19/09/2013	543860	5597958				dyke - schist	Upper contact of dyke with chloritic schist with listwanite lenses.
93	19/09/2013	543875	5597969	Bedding	310	40	schist - chert	Chloritic schist contact with overlain chert. 310/40 beds/foliation.
94	19/09/2013	544785	5597346	Contact	290	75	andesite-schist	Upper flow contact overlain by rusty schist chert.
95	19/09/2013	543061	5598192				chert	Ribbon chert.

APPENDIX 4

2013 Popa Bear Assay Certificates

Acme Analytical Laboratories (Vancouver) Ltd.
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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Submitted By: Kris Raffle
Receiving Lab: Canada-Vancouver
Received: September 24, 2013
Report Date: October 10, 2013
Page: 1 of 3

CERTIFICATE OF ANALYSIS VAN13003868.1

CLIENT JOB INFORMATION

Project: 99160
Shipment ID:
P.O. Number
Number of Samples: 33

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT Dispose of Reject After 90 days

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
R200-250	33	Crush, split and pulverize 250 g rock to 200 mesh			VAN
3A	33	Ignite samples, acid digest, Au by ICP-MS analysis	15	Completed	VAN
1DD	33	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: APEX Geoscience Ltd.
200 - 9797 45 Ave
Edmonton AB T6E 5V8
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
CLARENCE LEONG
Country Manager - Canada

Acme Analytical Laboratories (Vancouver) Ltd.
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PHONE (604) 253-3158

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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003868.1

	Method	WGHT	3A	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	0.5	1	1	3	1	0.3	1	1	2	0.01	2	8	2	2	1	0.5	3	3	1
13KRP101	Rock	1.20	4.9	<1	45	<3	4	<0.3	1348	72	643	2.92	239	<8	<2	<2	2	<0.5	<3	<3	13
13KRP102	Rock	1.03	0.9	7	177	4	50	1.1	16	11	253	3.05	3	<8	<2	<2	48	<0.5	<3	<3	98
13KRP103	Rock	0.98	<0.5	2	175	11	25	0.9	9	3	218	1.98	8	<8	<2	<2	44	<0.5	<3	<3	52
13KRP104	Rock	1.94	<0.5	<1	26	71	203	0.4	<1	<1	466	0.93	<2	<8	<2	<2	19	1.3	<3	<3	1
13KRP105	Rock	0.80	12.9	12	26	32	569	1.1	45	12	1328	2.90	93	<8	<2	<2	277	3.8	<3	<3	15
13KRP106	Rock	0.65	2.7	2	171	3	20	<0.3	2427	112	469	4.69	32	<8	<2	<2	7	0.8	<3	<3	21
13KRP107	Rock	1.33	<0.5	<1	18	4	6	<0.3	7	<1	112	0.79	3	<8	<2	<2	2	<0.5	<3	<3	9
13KRP108	Rock	1.05	<0.5	7	132	6	19	0.4	12	2	539	3.69	13	<8	<2	<2	1	<0.5	<3	<3	31
13KRP109	Rock	1.00	<0.5	<1	19	34	14	1.0	54	3	217	0.86	7	<8	<2	<2	19	<0.5	<3	3	12
13KRP110	Rock	1.44	<0.5	2	43	<3	47	<0.3	9	7	537	3.10	8	<8	<2	<2	9	<0.5	<3	<3	89
13KRP111	Rock	1.27	<0.5	2	35	<3	44	<0.3	72	13	386	2.10	45	<8	<2	<2	5	<0.5	<3	<3	53
13KRP112	Rock	1.17	<0.5	<1	45	<3	14	<0.3	13	4	880	0.97	26	<8	<2	<2	3	<0.5	<3	<3	18
13KRP113	Rock	1.35	<0.5	<1	1362	6	32	3.5	20	7	454	1.55	31	<8	<2	<2	67	2.0	<3	<3	33
13KRP114	Rock	1.03	<0.5	<1	226	<3	68	0.3	152	38	1127	5.98	24	<8	<2	<2	47	1.7	<3	<3	155
13KRP115	Rock	1.23	<0.5	<1	11	<3	3	<0.3	1039	58	485	3.04	528	<8	<2	<2	156	<0.5	13	<3	9
13KRP116	Rock	1.27	<0.5	7	31	9	15	<0.3	14	4	111	1.01	3	<8	<2	<2	6	<0.5	<3	<3	32
13KRP117	Rock	1.05	<0.5	<1	38	<3	25	<0.3	47	4	155	1.44	3	<8	<2	<2	8	<0.5	<3	<3	7
13KRP118	Rock	1.03	<0.5	<1	<1	20	15	<0.3	53	4	588	1.40	12	<8	<2	11	160	<0.5	<3	<3	16
13KRP119	Rock	1.20	<0.5	<1	60	4	38	<0.3	29	6	645	2.52	72	<8	<2	<2	39	<0.5	<3	<3	27
13KRP120	Rock	1.19	<0.5	<1	51	<3	32	<0.3	875	49	1007	3.23	517	<8	<2	<2	172	0.8	<3	<3	32
13KRP121	Rock	1.55	38.8	<1	14	19	28	3.3	319	15	1018	1.87	839	<8	<2	<2	540	<0.5	8	<3	5
13KRP122	Rock	1.06	<0.5	<1	40	<3	4	<0.3	1602	85	1015	4.03	105	9	<2	<2	45	<0.5	<3	<3	21
13KRP123	Rock	0.80	1.3	<1	558	<3	63	1.3	16	26	1008	6.28	8	<8	<2	<2	146	1.5	<3	<3	113
13KRP124	Rock	0.84	0.5	<1	12	<3	<1	<0.3	679	50	802	3.49	57	<8	<2	<2	86	<0.5	<3	<3	6
13KRP125	Rock	1.01	24.8	<1	9	<3	12	<0.3	1300	72	689	3.99	199	<8	<2	<2	376	0.5	47	<3	6
13KRP126	Rock	1.08	3.2	<1	26	<3	8	<0.3	959	68	1175	3.19	212	<8	<2	<2	191	<0.5	<3	<3	7
13KRP127	Rock	1.31	<0.5	<1	6	<3	4	<0.3	807	51	548	3.64	73	<8	<2	<2	96	<0.5	53	<3	7
13KRP128	Rock	0.94	<0.5	<1	35	<3	<1	<0.3	743	53	344	2.75	25	<8	<2	<2	474	<0.5	<3	<3	2
13KRP129	Rock	1.08	<0.5	<1	160	<3	3	<0.3	839	100	552	3.24	13	<8	<2	<2	325	<0.5	<3	<3	3
13KRP130	Rock	0.91	<0.5	<1	44	<3	<1	<0.3	730	71	198	3.31	10	<8	<2	<2	45	<0.5	<3	<3	<1

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003868.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%
	MDL	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	0.05
13KRP101	Rock	0.08	<0.001	<1	534	8.40	51	<0.01	<20	0.24	<0.01	<0.01	<2	<0.05
13KRP102	Rock	0.68	0.053	3	30	0.97	237	0.20	<20	2.44	0.24	0.80	<2	0.44
13KRP103	Rock	0.20	0.026	4	20	0.64	92	0.09	<20	1.08	0.08	0.11	<2	0.24
13KRP104	Rock	0.43	0.015	3	4	0.09	88	<0.01	<20	0.38	0.04	0.14	<2	<0.05
13KRP105	Rock	6.59	1.424	7	4	1.07	91	<0.01	<20	0.73	<0.01	0.41	<2	1.20
13KRP106	Rock	0.05	0.002	2	471	19.68	34	<0.01	57	0.24	0.01	0.04	<2	0.23
13KRP107	Rock	<0.01	0.005	4	14	0.24	27	<0.01	<20	0.30	0.02	0.01	<2	<0.05
13KRP108	Rock	0.01	0.031	3	10	0.22	31	<0.01	<20	0.44	<0.01	0.02	<2	<0.05
13KRP109	Rock	1.16	0.005	1	10	1.26	20	<0.01	<20	0.48	<0.01	0.02	<2	<0.05
13KRP110	Rock	0.26	0.048	3	23	1.27	14	<0.01	<20	1.43	0.06	<0.01	<2	0.20
13KRP111	Rock	0.15	0.049	8	72	1.07	70	<0.01	<20	1.05	0.02	0.02	<2	0.06
13KRP112	Rock	0.10	0.050	5	10	0.16	36	<0.01	<20	0.20	<0.01	0.03	<2	<0.05
13KRP113	Rock	1.61	0.014	4	17	1.29	24	<0.01	<20	0.92	0.02	<0.01	<2	0.06
13KRP114	Rock	3.08	0.040	4	353	5.95	28	0.02	<20	4.35	<0.01	0.05	<2	<0.05
13KRP115	Rock	1.42	0.001	<1	713	13.58	19	<0.01	<20	0.16	<0.01	0.01	<2	0.10
13KRP116	Rock	0.06	0.030	5	15	0.16	32	<0.01	<20	0.30	0.03	0.05	<2	<0.05
13KRP117	Rock	0.12	0.062	5	12	0.43	96	<0.01	<20	0.53	<0.01	0.16	<2	0.12
13KRP118	Rock	3.47	0.028	2	22	1.59	61	<0.01	<20	0.48	0.02	0.06	<2	0.05
13KRP119	Rock	1.84	0.020	2	22	0.84	21	<0.01	<20	0.52	0.04	0.06	<2	0.14
13KRP120	Rock	8.10	0.011	3	898	5.58	27	<0.01	<20	1.20	<0.01	<0.01	<2	0.08
13KRP121	Rock	4.25	0.002	<1	41	2.59	126	<0.01	<20	0.09	<0.01	0.06	<2	<0.05
13KRP122	Rock	0.75	<0.001	<1	923	12.69	10	<0.01	27	0.43	<0.01	<0.01	<2	<0.05
13KRP123	Rock	6.07	0.102	7	12	2.22	33	0.17	<20	3.40	0.03	0.10	<2	<0.05
13KRP124	Rock	0.93	<0.001	1	569	14.08	8	<0.01	<20	0.12	<0.01	<0.01	<2	<0.05
13KRP125	Rock	1.67	<0.001	1	399	18.76	13	<0.01	<20	0.08	<0.01	0.03	<2	<0.05
13KRP126	Rock	3.78	<0.001	1	868	8.36	8	<0.01	<20	0.23	<0.01	<0.01	<2	0.74
13KRP127	Rock	0.51	<0.001	1	348	16.85	10	<0.01	<20	0.03	<0.01	0.01	<2	<0.05
13KRP128	Rock	2.97	<0.001	<1	371	8.73	18	<0.01	<20	0.08	<0.01	<0.01	<2	0.12
13KRP129	Rock	4.45	<0.001	<1	211	3.57	11	<0.01	<20	0.09	<0.01	<0.01	<2	1.21
13KRP130	Rock	0.95	<0.001	<1	90	3.00	11	<0.01	<20	0.02	<0.01	<0.01	<2	1.21

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003868.1

	Method	WGHT	3A	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	0.5	1	1	3	1	0.3	1	1	2	0.01	2	8	2	2	1	0.5	3	3	1
13KRP131	Rock	1.10	13.6	<1	28	<3	6	<0.3	1645	83	688	3.30	52	<8	<2	<2	2	<0.5	<3	<3	22
13KRP132	Rock	1.48	<0.5	<1	14	4	6	<0.3	10	<1	73	0.80	3	<8	<2	<2	3	<0.5	<3	<3	3
13KRP133	Rock	0.85	<0.5	<1	234	<3	166	0.4	68	62	2384	15.04	8	<8	<2	<2	15	1.6	<3	<3	396

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CERTIFICATE OF ANALYSIS VAN13003868.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%
	MDL	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	0.05
13KRP131	Rock	0.04	<0.001	1	869	14.00	4	<0.01	86	0.33	<0.01	<0.01	<2	<0.05
13KRP132	Rock	0.02	0.009	3	6	0.17	46	<0.01	<20	0.27	<0.01	0.09	<2	<0.05
13KRP133	Rock	0.28	0.077	3	32	4.25	86	0.33	<20	6.12	<0.01	2.41	<2	2.10

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Project: 99160
Report Date: October 10, 2013

QUALITY CONTROL REPORT VAN13003868.1

	Method	WGHT	3A	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	0.5	1	1	3	1	0.3	1	1	2	0.01	2	8	2	2	1	0.5	3	3	1
Pulp Duplicates																					
13KRP123	Rock	0.80	1.3	<1	558	<3	63	1.3	16	26	1008	6.28	8	<8	<2	<2	146	1.5	<3	<3	113
REP 13KRP123	QC		5.9																		
13KRP129	Rock	1.08	<0.5	<1	160	<3	3	<0.3	839	100	552	3.24	13	<8	<2	<2	325	<0.5	<3	<3	3
REP 13KRP129	QC			<1	171	<3	3	<0.3	876	107	585	3.40	13	<8	<2	<2	340	<0.5	<3	<3	3
Core Reject Duplicates																					
13KRP106	Rock	0.65	2.7	2	171	3	20	<0.3	2427	112	469	4.69	32	<8	<2	<2	7	0.8	<3	<3	21
DUP 13KRP106	QC		5.2	2	166	<3	19	<0.3	2431	108	457	4.65	31	<8	<2	<2	7	0.8	<3	<3	21
Reference Materials																					
STD DS10	Standard			13	147	149	361	2.6	69	11	871	2.63	46	<8	<2	4	63	2.6	7	11	41
STD OREAS45EA	Standard			2	617	11	24	0.4	359	45	360	23.16	9	<8	<2	7	3	2.3	<3	<3	285
STD OREAS901	Standard		410.9																		
STD DS10 Expected				14.69	154.61	150.55	352.9	1.96	74.6	12.9	861	2.7188	43.7		0.0919	7.5	67.1	2.48	9.51	11.65	43
STD OREAS45EA Expected				1.39	709	14.3	28.9	0.26	381	52	400	23.51	9			10.7	3.5				303
STD OREAS901 Expected			363																		
BLK	Blank			<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<8	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank		<0.5																		
Prep Wash																					
G1	Prep Blank		0.7	<1	<1	<3	41	0.3	3	3	509	1.82	<2	<8	<2	2	46	<0.5	<3	<3	34
G1	Prep Blank		<0.5	<1	<1	<3	42	0.4	3	3	537	2.01	<2	<8	<2	3	58	<0.5	<3	<3	36

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Report Date: October 10, 2013

QUALITY CONTROL REPORT VAN13003868.1

		Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
		Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S
		Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%
		MDL	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	0.05
Pulp Duplicates															
13KRP123	Rock		6.07	0.102	7	12	2.22	33	0.17	<20	3.40	0.03	0.10	<2	<0.05
REP 13KRP123	QC														
13KRP129	Rock		4.45	<0.001	<1	211	3.57	11	<0.01	<20	0.09	<0.01	<0.01	<2	1.21
REP 13KRP129	QC		4.63	<0.001	<1	216	3.73	12	<0.01	<20	0.10	<0.01	<0.01	<2	1.23
Core Reject Duplicates															
13KRP106	Rock		0.05	0.002	2	471	19.68	34	<0.01	57	0.24	0.01	0.04	<2	0.23
DUP 13KRP106	QC		0.06	0.002	1	457	19.22	21	<0.01	51	0.23	<0.01	0.04	<2	0.23
Reference Materials															
STD DS10	Standard		1.02	0.071	15	52	0.75	396	0.07	<20	1.00	0.06	0.32	<2	0.28
STD OREAS45EA	Standard		0.02	0.029	7	833	0.08	136	0.09	<20	2.96	0.02	0.05	<2	<0.05
STD OREAS901	Standard														
STD DS10 Expected			1.0355	0.073	17.5	54.6	0.7651	349	0.0817		1.0259	0.0638	0.3245	3.34	0.2743
STD OREAS45EA Expected			0.036	0.029	6.57	849	0.095	148	0.0875		3.13	0.02	0.053		0.036
STD OREAS901 Expected															
BLK	Blank		<0.01	<0.001	<1	<1	<0.01	<1	<0.01	<20	<0.01	<0.01	<0.01	<2	<0.05
BLK	Blank														
Prep Wash															
G1	Prep Blank		0.41	0.072	7	6	0.53	266	0.11	<20	0.87	0.07	0.44	<2	<0.05
G1	Prep Blank		0.42	0.074	8	8	0.54	239	0.12	<20	0.95	0.10	0.48	<2	<0.05

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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
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Submitted By: Kris Raffle
Receiving Lab: Canada-Vancouver
Received: September 24, 2013
Report Date: October 10, 2013
Page: 1 of 6

CERTIFICATE OF ANALYSIS VAN13003869.1

CLIENT JOB INFORMATION

Project: 99160
Shipment ID:
P.O. Number
Number of Samples: 149

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT-SOIL Immediate Disposal of Soil Reject

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
Dry at 60C	148	Dry at 60C			VAN
SS80	148	Dry at 60C sieve 100g to -80 mesh			VAN
1DX2	148	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: APEX Geoscience Ltd.
200 - 9797 45 Ave
Edmonton AB T6E 5V8
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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200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

Method		1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
Analyte		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
KRS001	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
13KRS001	Soil	3.3	45.7	7.3	80	0.1	185.7	28.4	950	4.91	40.9	1.5	0.3	10	0.2	0.9	0.2	84	0.17	0.083	8
13CGS001	Soil	3.6	68.0	15.5	128	<0.1	261.8	51.1	2131	6.85	47.3	5.6	1.3	10	0.3	0.8	0.3	165	0.25	0.105	12
13CGS002	Soil	3.4	61.0	8.3	108	<0.1	369.9	52.4	1473	5.64	27.8	1.5	0.9	19	0.3	0.8	0.2	118	0.52	0.081	10
13CGS003	Soil	1.7	23.5	6.5	68	0.1	94.4	13.7	752	3.47	11.3	2.1	<0.1	10	0.2	0.5	0.2	81	0.09	0.111	5
13CGS004	Soil	2.4	44.8	8.4	133	0.1	108.5	25.7	1403	4.49	11.0	1.2	<0.1	31	0.9	0.4	0.2	80	0.46	0.169	6
13CGS005	Soil	1.2	25.4	9.2	46	0.1	46.1	10.8	399	2.10	5.2	1.6	<0.1	12	<0.1	0.3	0.2	51	0.11	0.111	8
13CGS006	Soil	2.0	38.0	9.5	109	<0.1	83.7	28.7	2130	4.25	10.3	0.6	<0.1	15	0.4	0.6	0.2	74	0.16	0.129	6
13CGS007	Soil	3.3	52.3	7.6	113	0.1	65.5	26.8	1143	5.10	145.8	1.9	0.3	8	0.6	1.5	0.2	73	0.09	0.152	12
13CGS008	Soil	2.5	33.5	6.3	85	0.1	62.0	11.6	589	3.67	29.9	0.6	<0.1	5	0.1	1.5	1.1	63	0.04	0.125	6
13CGS009	Soil	1.8	57.9	7.4	110	0.3	51.3	22.3	1504	4.61	20.8	<0.5	<0.1	9	0.1	1.5	1.5	69	0.10	0.136	4
13CGS010	Soil	1.9	32.3	6.5	105	0.1	59.9	13.0	936	3.77	27.5	0.9	<0.1	11	0.2	1.5	0.9	60	0.10	0.121	6
13CGS011	Soil	1.8	37.9	7.5	112	<0.1	107.2	24.9	1427	4.34	38.1	0.6	0.1	21	0.5	1.3	0.6	71	0.25	0.139	8
13CGS012	Soil	1.9	34.2	7.3	118	<0.1	92.0	24.1	1487	4.29	29.3	2.1	<0.1	18	0.6	1.2	0.4	68	0.19	0.113	7
13CGS013	Soil	1.7	27.2	5.5	83	0.1	68.0	15.5	744	4.48	22.4	8.3	0.1	8	0.2	0.9	0.3	69	0.09	0.098	7
13CGS014	Soil	1.5	35.4	5.3	97	<0.1	165.8	17.9	549	4.14	39.0	2.4	0.2	7	0.1	2.3	0.4	69	0.09	0.113	10
13CGS015	Soil	1.8	29.7	9.5	108	<0.1	69.3	23.3	1846	4.47	11.4	1.0	0.2	12	0.4	0.6	0.2	75	0.12	0.126	7
13CGS016	Soil	2.2	36.6	10.2	104	0.1	95.9	21.7	1380	3.59	7.7	0.9	<0.1	27	0.7	0.4	0.2	70	0.30	0.148	7
13CGS017	Soil	2.3	40.8	9.5	116	<0.1	139.9	30.3	1632	4.16	10.9	1.0	0.1	30	1.0	0.5	0.2	84	0.35	0.129	7
13CGS018	Soil	1.9	77.9	5.2	276	<0.1	62.7	45.2	1765	6.20	30.2	0.5	0.4	24	3.6	0.7	0.5	132	0.70	0.184	6
13CGS019	Soil	1.8	42.5	12.4	111	0.2	56.2	17.8	1306	4.17	40.9	0.6	<0.1	18	0.4	1.9	1.0	57	0.17	0.172	7
13CGS020	Soil	2.3	43.2	8.8	100	0.1	57.3	21.0	1068	4.52	33.9	1.6	0.2	11	0.2	2.8	1.1	62	0.13	0.131	6
13CGS020b	Soil	2.1	42.5	9.5	104	0.1	57.6	21.3	1181	4.22	32.0	14.3	<0.1	18	0.3	2.6	1.0	60	0.24	0.151	5
13CGS021	Soil	1.8	42.0	8.4	100	0.1	66.8	17.0	943	3.66	40.2	3.4	<0.1	17	0.3	1.8	0.6	59	0.17	0.145	6
13CGS022	Soil	1.4	44.5	10.5	104	0.2	85.5	20.8	1098	3.75	48.8	1.1	0.1	31	0.3	1.5	0.6	55	0.27	0.143	7
13CGS023	Soil	1.5	36.2	11.0	118	0.1	72.8	21.7	1496	3.46	38.1	4.0	<0.1	29	0.4	1.3	0.6	52	0.26	0.181	6
13CGS024	Soil	1.8	43.9	11.7	115	<0.1	100.3	22.2	1306	3.88	52.7	1.3	0.1	33	0.2	1.8	0.7	61	0.30	0.150	7
13CGS025	Soil	1.6	29.6	10.9	98	<0.1	68.1	19.5	1356	3.44	25.1	0.7	<0.1	22	0.3	0.9	0.3	57	0.18	0.139	7
13CGS026	Soil	1.8	34.7	9.8	101	0.1	50.0	16.3	1130	3.63	25.6	<0.5	0.2	8	0.1	1.1	0.3	60	0.05	0.093	7
13CGS027	Soil	2.2	51.9	12.6	112	0.1	64.7	22.0	1387	3.96	30.8	1.9	0.2	14	0.2	1.3	0.3	54	0.12	0.112	7

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
KRS001	Soil	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.	L.N.R.
13KRS001	Soil	252	1.95	77	0.089	2	3.59	0.010	0.07	0.1	0.05	4.1	<0.1	0.05	9	0.8	<0.2
13CGS001	Soil	378	4.01	183	0.140	2	4.46	0.003	0.26	0.1	0.02	10.6	0.2	<0.05	13	<0.5	<0.2
13CGS002	Soil	539	4.56	115	0.114	2	3.85	0.004	0.16	0.2	0.02	8.7	0.1	<0.05	11	<0.5	<0.2
13CGS003	Soil	175	1.64	92	0.044	1	2.40	0.006	0.07	<0.1	0.05	2.1	0.1	<0.05	9	<0.5	<0.2
13CGS004	Soil	153	1.84	214	0.025	1	2.60	0.004	0.16	0.1	0.04	1.6	0.1	<0.05	9	0.7	<0.2
13CGS005	Soil	90	0.88	62	0.031	2	2.56	0.011	0.06	<0.1	0.03	1.2	0.2	<0.05	9	<0.5	<0.2
13CGS006	Soil	123	1.38	154	0.042	2	2.56	0.009	0.11	0.2	0.03	1.5	0.1	<0.05	9	<0.5	<0.2
13CGS007	Soil	86	1.20	93	0.031	2	2.65	0.004	0.18	0.1	0.03	3.0	0.1	<0.05	9	0.5	<0.2
13CGS008	Soil	107	1.05	79	0.012	2	2.23	0.005	0.08	<0.1	0.03	1.0	0.1	<0.05	8	<0.5	<0.2
13CGS009	Soil	86	0.88	67	0.029	2	2.12	0.006	0.16	0.1	0.06	1.9	0.1	<0.05	8	<0.5	<0.2
13CGS010	Soil	87	1.06	179	0.025	2	2.23	0.004	0.11	<0.1	0.06	1.4	<0.1	<0.05	8	<0.5	<0.2
13CGS011	Soil	147	1.53	201	0.029	2	2.41	0.004	0.15	<0.1	0.03	2.2	<0.1	<0.05	8	0.6	<0.2
13CGS012	Soil	116	1.52	189	0.030	2	2.38	0.005	0.16	<0.1	0.02	1.8	<0.1	<0.05	8	<0.5	<0.2
13CGS013	Soil	99	1.27	80	0.064	2	2.41	0.005	0.14	<0.1	0.04	2.4	<0.1	<0.05	9	<0.5	<0.2
13CGS014	Soil	216	1.83	66	0.039	2	3.54	0.006	0.10	0.2	0.03	2.6	0.1	<0.05	10	<0.5	<0.2
13CGS015	Soil	101	1.50	125	0.062	<1	2.70	0.006	0.13	0.1	0.03	2.3	<0.1	<0.05	10	0.9	<0.2
13CGS016	Soil	128	1.67	212	0.030	1	2.43	0.005	0.11	<0.1	0.04	1.7	<0.1	0.07	9	0.7	<0.2
13CGS017	Soil	186	2.29	185	0.037	1	2.85	0.006	0.11	0.1	0.03	2.2	0.1	<0.05	10	<0.5	<0.2
13CGS018	Soil	90	2.09	185	0.116	2	3.36	0.008	0.50	0.1	0.03	6.4	0.1	<0.05	11	<0.5	<0.2
13CGS019	Soil	87	0.89	167	0.014	2	2.04	0.005	0.14	<0.1	0.03	0.9	<0.1	<0.05	7	0.6	<0.2
13CGS020	Soil	81	1.03	66	0.015	2	2.33	0.005	0.12	0.1	0.04	1.7	<0.1	<0.05	7	<0.5	<0.2
13CGS020b	Soil	80	1.07	102	0.013	1	2.22	0.005	0.13	0.1	0.04	1.5	<0.1	<0.05	7	<0.5	<0.2
13CGS021	Soil	88	0.94	142	0.010	1	2.10	0.006	0.11	<0.1	0.06	0.9	<0.1	<0.05	7	<0.5	<0.2
13CGS022	Soil	113	1.07	219	0.009	2	2.11	0.006	0.09	<0.1	0.05	1.3	<0.1	<0.05	7	<0.5	<0.2
13CGS023	Soil	108	0.96	234	0.010	3	1.91	0.005	0.11	<0.1	0.03	1.1	<0.1	<0.05	7	<0.5	<0.2
13CGS024	Soil	136	1.16	323	0.013	3	2.11	0.006	0.12	<0.1	0.03	1.8	<0.1	<0.05	7	<0.5	<0.2
13CGS025	Soil	102	1.06	203	0.018	2	2.16	0.006	0.10	<0.1	0.02	1.3	<0.1	<0.05	8	<0.5	<0.2
13CGS026	Soil	78	1.13	88	0.030	<1	2.60	0.004	0.06	0.2	0.05	1.8	<0.1	<0.05	8	<0.5	<0.2
13CGS027	Soil	77	1.14	140	0.014	1	2.43	0.005	0.07	0.1	0.03	1.7	<0.1	<0.05	8	<0.5	<0.2

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Project: 99160
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CERTIFICATE OF ANALYSIS VAN13003869.1

Method		1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
Analyte		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
13CGS028	Soil	2.2	54.0	16.3	116	0.1	67.7	20.3	1439	4.09	38.9	0.5	0.2	25	0.3	2.3	0.4	56	0.29	0.126	9
13CGS029	Soil	6.7	81.0	13.6	171	0.1	64.7	33.7	2857	5.54	135.8	0.6	0.3	29	0.5	6.2	1.0	67	0.30	0.208	10
13CGS030	Soil	3.6	44.1	11.5	149	<0.1	105.2	27.3	1943	4.26	27.1	0.9	0.1	33	0.6	1.6	0.7	77	0.37	0.150	7
13CGS031	Soil	3.1	46.2	9.5	118	<0.1	133.5	29.9	1451	4.37	13.5	0.8	0.1	21	0.5	0.6	0.2	80	0.24	0.136	7
13CGS032	Soil	2.3	113.1	4.6	180	0.1	63.1	40.8	1589	6.59	100.5	0.9	0.3	28	0.5	1.5	0.7	174	0.50	0.091	3
13CGS033	Soil	1.7	53.2	4.6	156	0.2	94.7	33.0	1630	5.65	37.9	<0.5	0.3	22	0.7	0.7	0.3	124	0.47	0.117	6
13CGS034	Soil	1.5	73.6	5.5	153	0.1	87.3	38.1	1776	5.16	50.0	1.5	0.2	30	0.9	1.2	0.4	110	0.55	0.159	4
13CGS035	Soil	1.4	74.9	5.5	135	0.1	180.1	39.9	1469	5.66	77.0	1.0	0.5	24	0.4	1.4	0.4	125	0.48	0.077	6
13CGS036	Soil	1.7	43.2	7.7	135	<0.1	75.6	29.7	1967	4.89	13.3	1.9	0.2	28	0.7	0.8	0.1	94	0.41	0.154	8
13CGS037	Soil	2.5	71.7	8.6	123	0.1	214.4	44.0	1355	6.17	46.9	1.6	0.6	20	0.4	2.2	0.1	119	0.31	0.095	10
13CGS038	Soil	1.8	60.7	5.9	151	<0.1	105.5	34.5	1467	6.54	20.8	1.5	0.7	10	0.3	0.8	0.1	162	0.18	0.090	7
13CGS039	Soil	1.8	54.1	6.0	142	<0.1	78.1	34.0	2250	6.15	15.1	0.8	0.3	18	0.5	0.7	0.1	127	0.36	0.124	6
13CGS040	Soil	2.9	65.7	8.8	115	0.1	86.7	34.3	1978	5.43	26.8	1.7	0.3	16	0.4	1.1	0.2	81	0.26	0.144	15
13CGS040b	Soil	3.0	61.3	9.5	109	0.2	83.6	32.1	1874	5.03	24.1	1.3	0.3	19	0.6	1.1	0.2	73	0.28	0.151	12
13CGS041	Soil	2.3	51.0	8.6	108	0.1	127.7	33.0	1879	5.01	25.2	2.3	0.3	29	0.7	1.0	0.1	87	0.50	0.147	9
13CGS042	Soil	2.6	82.6	7.5	174	<0.1	97.3	44.2	2018	5.83	27.2	<0.5	0.5	14	0.6	0.9	0.1	108	0.28	0.109	7
13CGS043	Soil	2.5	84.8	6.3	205	<0.1	143.2	51.2	1966	6.55	35.9	2.9	0.3	13	0.5	1.8	0.1	119	0.26	0.096	7
13CGS044	Soil	2.0	53.4	6.8	129	<0.1	119.9	33.0	1717	5.84	15.4	2.2	0.5	17	0.7	1.0	<0.1	98	0.35	0.103	9
13CGS045	Soil	1.4	77.9	4.8	144	0.1	104.7	42.8	1806	6.60	15.4	2.1	0.6	14	0.3	0.4	0.2	126	0.35	0.096	5
13CGS046	Soil	0.9	88.7	3.2	196	0.1	74.9	49.9	1597	7.89	27.2	1.8	0.4	15	0.3	1.0	0.2	180	0.44	0.081	4
13CGS047	Soil	1.4	76.2	4.8	173	<0.1	64.6	37.0	1557	6.91	25.5	1.9	0.8	21	0.6	0.7	0.2	133	0.48	0.104	10
13CGS048	Soil	2.0	47.2	7.7	128	<0.1	223.2	46.0	1684	4.79	14.4	1.5	0.2	28	0.9	0.6	0.1	97	0.49	0.135	8
13CGS049	Soil	2.0	57.4	6.8	116	<0.1	166.8	33.0	1322	5.24	12.7	<0.5	0.5	26	0.4	0.5	0.1	96	0.41	0.097	7
13CGS050	Soil	2.1	66.9	6.4	111	<0.1	155.4	37.8	1540	6.00	11.8	<0.5	0.2	14	0.3	0.5	0.2	102	0.25	0.104	6
13CGS051	Soil	2.1	93.9	7.5	117	<0.1	226.4	46.2	1525	6.17	16.6	0.9	0.6	9	0.1	0.7	0.1	118	0.18	0.062	7
13CGS052	Soil	2.1	76.7	7.2	146	<0.1	78.5	43.9	2053	5.88	8.7	<0.5	0.4	19	0.4	0.6	0.1	117	0.46	0.092	5
13CGS053	Soil	2.0	67.3	10.5	156	0.2	194.2	33.2	1636	5.80	14.0	0.7	0.5	14	0.3	0.4	0.2	107	0.28	0.119	6
13CGS054	Soil	3.0	319.2	21.0	330	0.4	307.3	62.4	4390	8.06	13.3	7.6	4.4	13	0.5	0.5	0.3	201	0.16	0.087	33
13CGS055	Soil	2.3	68.6	8.1	112	0.3	236.4	39.7	1180	5.69	81.9	1.3	0.8	22	0.4	0.5	0.1	118	0.54	0.090	11
13CGS056	Soil	1.7	55.9	6.7	158	<0.1	149.8	33.3	1904	7.18	17.2	3.8	0.5	31	0.6	0.4	0.1	132	0.47	0.150	8

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
13CGS028	Soil	75	1.09	426	0.014	2	2.52	0.005	0.13	0.1	0.04	2.0	<0.1	<0.05	7	<0.5	<0.2
13CGS029	Soil	62	0.77	276	0.010	4	2.58	0.005	0.23	0.1	0.05	3.4	0.2	<0.05	7	<0.5	<0.2
13CGS030	Soil	146	1.70	234	0.035	2	2.53	0.006	0.20	<0.1	0.03	2.4	<0.1	<0.05	10	<0.5	<0.2
13CGS031	Soil	178	2.10	159	0.035	<1	2.97	0.004	0.16	<0.1	0.03	2.2	<0.1	<0.05	10	0.6	<0.2
13CGS032	Soil	81	1.89	294	0.209	2	3.30	0.010	1.00	0.2	0.02	6.5	0.8	<0.05	10	<0.5	<0.2
13CGS033	Soil	117	1.93	212	0.127	1	3.12	0.006	0.53	0.1	0.03	4.7	0.2	<0.05	10	<0.5	<0.2
13CGS034	Soil	109	1.63	309	0.102	2	2.95	0.008	0.50	<0.1	0.04	3.4	0.3	<0.05	9	<0.5	<0.2
13CGS035	Soil	201	1.92	226	0.258	3	3.09	0.008	0.39	0.1	0.03	5.5	0.3	<0.05	10	<0.5	<0.2
13CGS036	Soil	106	1.65	191	0.064	3	2.65	0.006	0.25	<0.1	0.02	3.1	<0.1	0.08	9	<0.5	<0.2
13CGS037	Soil	280	2.91	57	0.115	3	3.69	0.006	0.30	0.1	0.03	6.9	0.1	0.07	11	<0.5	<0.2
13CGS038	Soil	140	2.22	101	0.156	2	3.33	0.004	0.18	0.1	0.02	10.2	<0.1	<0.05	11	<0.5	<0.2
13CGS039	Soil	102	1.85	228	0.096	2	2.91	0.004	0.17	<0.1	0.02	5.6	<0.1	<0.05	10	<0.5	<0.2
13CGS040	Soil	101	1.68	134	0.059	2	2.83	0.005	0.16	0.1	0.04	3.6	0.1	<0.05	9	<0.5	<0.2
13CGS040b	Soil	91	1.52	146	0.048	2	2.61	0.004	0.16	<0.1	0.02	2.8	0.1	<0.05	8	<0.5	<0.2
13CGS041	Soil	180	2.27	166	0.057	3	2.80	0.004	0.21	<0.1	0.03	3.6	<0.1	0.07	9	<0.5	<0.2
13CGS042	Soil	122	1.68	139	0.105	2	2.86	0.004	0.10	0.1	0.02	5.7	<0.1	0.05	10	<0.5	<0.2
13CGS043	Soil	154	2.05	136	0.102	3	3.20	0.005	0.08	<0.1	0.02	5.3	<0.1	<0.05	10	<0.5	<0.2
13CGS044	Soil	152	2.22	112	0.142	2	3.19	0.004	0.29	<0.1	0.02	5.1	0.1	<0.05	10	<0.5	<0.2
13CGS045	Soil	143	2.15	183	0.224	3	3.66	0.006	0.38	0.1	0.04	4.6	0.2	<0.05	10	<0.5	<0.2
13CGS046	Soil	102	2.11	239	0.344	2	3.89	0.010	0.95	0.1	0.04	7.5	0.6	<0.05	11	<0.5	<0.2
13CGS047	Soil	69	1.94	125	0.197	2	3.49	0.005	0.57	0.1	0.02	7.3	0.1	<0.05	11	<0.5	<0.2
13CGS048	Soil	360	2.99	210	0.067	4	2.86	0.006	0.27	0.1	0.03	4.5	0.1	0.08	10	<0.5	<0.2
13CGS049	Soil	243	2.87	175	0.118	3	3.20	0.005	0.25	<0.1	0.02	5.1	0.2	0.05	10	<0.5	<0.2
13CGS050	Soil	228	2.84	155	0.079	1	2.88	0.003	0.24	0.1	0.02	3.7	0.1	0.08	9	<0.5	<0.2
13CGS051	Soil	322	3.43	87	0.192	2	4.19	0.005	0.19	<0.1	0.02	7.2	0.2	0.06	11	<0.5	<0.2
13CGS052	Soil	136	1.97	119	0.175	3	2.97	0.006	0.20	0.1	0.02	5.6	0.1	0.06	10	<0.5	<0.2
13CGS053	Soil	233	2.89	93	0.124	2	3.63	0.004	0.14	0.1	0.03	4.9	0.2	0.07	12	<0.5	<0.2
13CGS054	Soil	144	2.81	377	0.260	1	4.42	0.004	0.70	0.1	0.04	15.6	0.6	<0.05	16	0.9	0.2
13CGS055	Soil	311	3.92	93	0.128	2	3.89	0.004	0.15	0.1	0.05	8.8	0.2	0.06	12	<0.5	<0.2
13CGS056	Soil	217	2.16	274	0.166	3	3.66	0.005	0.71	<0.1	0.02	5.7	0.5	0.07	14	<0.5	<0.2

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

Method		1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
Analyte		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
13CGS057	Soil	3.2	55.4	10.5	134	0.1	285.4	34.7	1375	6.27	14.6	0.6	0.9	19	0.4	0.3	0.2	153	0.32	0.108	13
13CGS058	Soil	3.2	100.6	12.2	116	<0.1	257.8	43.4	1975	6.45	38.5	6.4	3.2	8	0.3	0.7	0.2	128	0.14	0.072	20
13CGS059	Soil	4.7	93.7	9.2	120	<0.1	426.4	50.5	1240	6.50	19.8	1.0	2.6	9	0.3	0.9	0.2	142	0.23	0.068	18
13CGS060	Soil	2.5	57.7	14.1	126	0.1	180.7	44.2	1446	5.60	32.6	2.6	0.5	12	0.3	1.3	0.2	84	0.18	0.097	8
13CGS060b	Soil	2.8	60.3	13.8	127	0.1	181.7	43.7	1430	5.63	32.8	4.7	0.5	13	0.3	1.3	0.2	86	0.19	0.101	9
13CGS061	Soil	2.1	61.7	10.0	143	<0.1	174.8	38.8	1804	5.56	10.9	1.8	0.4	29	0.5	0.7	0.2	90	0.51	0.137	7
13CGS062	Soil	2.2	75.6	6.9	111	<0.1	187.1	34.9	1482	5.32	11.6	1.2	0.7	11	0.2	0.5	0.1	102	0.25	0.079	6
13CGS063	Soil	1.8	57.9	7.8	128	0.1	170.6	35.1	1413	4.91	12.7	<0.5	0.3	26	0.5	0.5	0.1	92	0.38	0.103	5
13CGS064	Soil	1.3	73.0	8.2	124	<0.1	130.4	32.1	1499	4.93	11.4	1.4	0.7	10	0.1	0.5	0.1	93	0.14	0.076	6
13CGS065	Soil	1.3	48.3	9.0	109	0.1	94.5	25.8	1606	4.50	9.5	8.6	0.2	14	0.3	0.5	0.2	79	0.19	0.125	6
13CGS066	Soil	1.7	59.8	12.2	128	0.2	151.5	35.3	2500	5.32	35.1	3.2	0.4	17	0.4	1.1	0.3	105	0.24	0.120	11
13KCS001	Soil	1.8	35.7	8.3	108	<0.1	222.0	40.3	1377	4.94	31.9	1.0	0.1	21	0.5	1.0	0.1	89	0.33	0.117	7
13KCS002	Soil	2.2	70.1	5.0	61	0.1	1517	110.2	1446	5.52	537.5	69.7	0.6	11	0.4	6.5	<0.1	67	0.25	0.056	7
13KCS003	Soil	1.9	28.7	8.4	111	0.1	91.7	22.2	1408	4.49	10.3	1.4	0.2	19	0.4	0.5	0.2	87	0.22	0.113	6
13KCS004	Soil	2.2	44.6	9.0	120	0.1	109.4	35.2	1586	5.13	24.7	2.0	0.2	17	0.5	1.0	0.2	85	0.26	0.145	9
13KCS005	Soil	2.2	75.6	8.5	106	0.1	416.1	44.7	1373	5.22	57.2	2.3	0.6	24	0.5	1.3	0.2	103	0.61	0.113	11
13KCS006	Soil	2.3	17.6	11.1	87	0.1	271.4	49.3	1707	4.22	176.2	<0.5	<0.1	7	0.2	0.5	0.8	104	0.07	0.100	4
13KCS007	Soil	1.8	31.4	10.6	89	0.3	233.5	31.6	1491	4.85	123.9	0.8	0.1	8	0.2	0.9	0.5	105	0.10	0.122	7
13KCS008	Soil	0.5	9.4	8.4	24	0.2	7.2	3.0	129	1.04	20.5	1.4	<0.1	6	0.1	0.1	0.3	40	0.04	0.036	3
13KCS009	Soil	1.5	23.5	13.4	38	0.5	22.4	4.0	196	1.58	19.6	18.9	<0.1	7	0.2	0.3	0.4	35	0.05	0.104	5
13KCS010	Soil	1.2	14.6	8.0	54	0.1	12.5	7.3	766	1.95	34.2	<0.5	0.1	11	0.3	0.4	0.2	44	0.11	0.234	6
13KCS011	Soil	1.0	8.1	7.2	27	0.2	9.3	2.0	123	2.00	25.4	1.0	0.1	4	0.1	0.1	0.2	43	0.02	0.048	9
13KCS012	Soil	1.3	17.0	11.5	49	0.4	16.9	4.2	261	3.38	64.6	1.2	0.1	4	0.2	0.2	0.3	49	0.03	0.071	8
13KCS013	Soil	1.2	28.0	9.5	74	0.3	22.3	7.5	542	3.52	59.7	<0.5	0.3	11	0.4	0.3	0.2	43	0.04	0.098	11
13KCS014	Soil	2.1	63.7	29.6	156	0.6	59.7	28.8	2176	4.65	216.7	<0.5	1.0	12	0.5	1.0	0.6	50	0.06	0.107	12
13KCS015	Soil	1.6	18.9	13.8	57	0.2	18.9	5.2	239	2.51	90.0	2.2	<0.1	6	0.3	0.5	0.4	51	0.03	0.067	6
13KCS016	Soil	2.1	48.5	25.4	128	0.1	45.9	28.4	2441	4.68	98.1	<0.5	0.3	16	1.2	0.8	0.6	62	0.18	0.122	6
13KCS017	Soil	1.7	40.6	26.3	131	0.2	38.0	25.5	2517	4.33	50.4	<0.5	0.2	19	2.4	1.1	0.6	55	0.20	0.145	5
13KCS018	Soil	1.9	62.1	22.9	134	0.5	54.3	27.9	2068	4.18	49.0	<0.5	0.3	25	2.0	1.0	0.8	57	0.20	0.144	8
13KCS019	Soil	1.8	54.2	10.3	154	0.1	152.0	40.3	1733	6.17	46.3	1.3	0.4	31	1.0	0.9	0.7	117	0.48	0.134	9

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
13CGS057	Soil	377	4.70	198	0.176	2	4.28	0.004	0.37	<0.1	0.03	10.4	0.2	0.10	15	0.6	<0.2
13CGS058	Soil	324	3.92	74	0.119	3	4.41	0.003	0.11	0.1	<0.01	10.7	0.3	<0.05	13	<0.5	<0.2
13CGS059	Soil	600	6.11	66	0.221	2	4.82	0.003	0.07	<0.1	0.02	13.1	0.2	<0.05	13	<0.5	<0.2
13CGS060	Soil	206	2.34	79	0.101	2	3.44	0.005	0.07	0.1	0.04	4.5	0.1	0.06	10	<0.5	<0.2
13CGS060b	Soil	207	2.32	79	0.105	2	3.45	0.003	0.07	0.2	0.03	4.7	0.1	0.07	10	0.7	<0.2
13CGS061	Soil	222	2.82	228	0.089	3	3.24	0.004	0.37	0.1	0.02	3.8	0.2	0.06	10	<0.5	<0.2
13CGS062	Soil	232	2.27	107	0.188	2	3.03	0.005	0.16	<0.1	0.04	5.3	0.1	0.06	10	<0.5	<0.2
13CGS063	Soil	242	2.56	163	0.094	3	2.92	0.005	0.20	<0.1	0.02	4.1	0.1	0.05	10	<0.5	<0.2
13CGS064	Soil	198	2.19	85	0.163	2	2.96	0.003	0.14	<0.1	0.02	4.7	0.2	<0.05	10	<0.5	<0.2
13CGS065	Soil	142	1.58	147	0.086	1	2.63	0.005	0.12	0.1	0.03	3.3	0.1	0.06	10	<0.5	<0.2
13CGS066	Soil	231	2.43	143	0.045	3	3.81	0.005	0.10	<0.1	0.04	6.9	0.1	<0.05	12	0.9	<0.2
13KCS001	Soil	353	2.65	126	0.070	3	2.74	0.004	0.13	0.2	0.04	3.5	<0.1	0.07	9	<0.5	<0.2
13KCS002	Soil	825	6.18	71	0.031	12	1.73	0.003	0.08	0.3	0.03	10.7	<0.1	<0.05	5	<0.5	<0.2
13KCS003	Soil	163	1.70	163	0.075	2	2.54	0.007	0.16	0.1	0.02	2.5	0.2	0.12	10	1.0	<0.2
13KCS004	Soil	163	1.90	109	0.058	2	2.98	0.006	0.14	0.3	0.03	2.4	<0.1	0.09	10	0.6	<0.2
13KCS005	Soil	560	3.43	96	0.082	4	3.11	0.005	0.13	0.2	0.03	8.5	0.1	0.07	9	0.9	<0.2
13KCS006	Soil	714	3.04	76	0.039	1	2.56	0.006	0.09	<0.1	0.02	2.5	<0.1	0.06	10	0.6	<0.2
13KCS007	Soil	471	2.74	92	0.035	2	3.01	0.005	0.08	<0.1	0.04	3.4	<0.1	0.06	10	0.8	<0.2
13KCS008	Soil	16	0.21	24	0.045	<1	0.67	0.010	0.02	0.2	0.04	0.9	<0.1	<0.05	4	<0.5	<0.2
13KCS009	Soil	56	0.44	48	0.012	<1	1.63	0.012	0.05	<0.1	0.06	0.5	0.1	0.06	8	1.2	<0.2
13KCS010	Soil	26	0.30	88	0.006	2	1.55	0.013	0.06	<0.1	0.05	0.6	<0.1	0.11	6	<0.5	<0.2
13KCS011	Soil	29	0.35	23	0.010	<1	1.28	0.008	0.03	0.2	0.04	1.0	<0.1	<0.05	9	<0.5	<0.2
13KCS012	Soil	45	0.61	45	0.008	<1	2.26	0.006	0.03	0.1	0.06	0.7	<0.1	<0.05	9	<0.5	<0.2
13KCS013	Soil	39	0.77	69	0.007	<1	2.07	0.007	0.04	0.1	0.04	0.9	<0.1	<0.05	7	<0.5	<0.2
13KCS014	Soil	45	0.95	104	0.021	1	2.65	0.006	0.05	0.2	0.05	3.2	<0.1	<0.05	8	<0.5	0.3
13KCS015	Soil	37	0.58	50	0.007	1	1.63	0.006	0.03	0.1	0.04	0.7	<0.1	<0.05	8	<0.5	0.3
13KCS016	Soil	68	0.94	299	0.010	1	2.28	0.007	0.06	0.2	0.05	2.2	<0.1	<0.05	8	<0.5	<0.2
13KCS017	Soil	48	0.79	302	0.010	1	1.92	0.007	0.08	0.1	0.03	1.3	<0.1	0.07	7	<0.5	<0.2
13KCS018	Soil	55	0.92	263	0.013	<1	2.12	0.006	0.07	0.1	0.02	1.9	<0.1	0.06	7	<0.5	<0.2
13KCS019	Soil	240	2.55	376	0.081	2	3.32	0.007	0.57	<0.1	0.02	6.8	0.3	0.07	13	0.6	<0.2

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

Method		1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
Analyte		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
13KCS020	Soil	1.6	45.4	10.6	123	0.2	71.1	22.9	1502	4.55	33.8	1.1	<0.1	41	0.6	1.2	1.1	77	0.38	0.185	6
13KCS020b	Soil	1.5	49.6	10.9	115	0.2	73.7	21.8	1490	4.73	35.3	<0.5	<0.1	36	0.3	1.2	1.1	78	0.34	0.171	7
13KCS021	Soil	1.8	41.7	10.6	104	0.1	71.1	17.0	915	4.56	33.9	<0.5	0.2	16	0.5	1.1	0.7	85	0.17	0.102	7
13KCS022	Soil	1.9	39.8	8.7	80	0.2	58.1	12.5	463	4.41	43.1	1.7	0.1	13	0.2	1.3	0.5	62	0.11	0.096	8
13KCS023	Soil	1.4	25.5	8.5	75	<0.1	47.0	13.1	908	3.13	18.9	<0.5	0.2	18	0.2	0.8	0.4	61	0.13	0.089	7
13KCS024	Soil	1.6	29.6	9.5	106	<0.1	58.2	16.2	973	3.75	23.2	1.2	0.2	31	0.4	0.7	0.5	61	0.31	0.141	7
13KCS025	Soil	2.1	35.8	8.1	82	0.2	116.2	15.6	483	4.46	12.7	1.0	0.2	13	0.1	0.7	0.2	92	0.13	0.085	7
13KCS026	Soil	2.0	63.3	11.0	76	0.6	88.1	12.3	382	3.89	26.9	1.4	0.1	23	0.2	0.8	0.2	78	0.21	0.071	7
13KCS027	Soil	1.4	26.3	8.3	67	0.5	61.5	7.8	398	2.85	15.5	<0.5	0.1	8	0.1	0.4	0.2	58	0.07	0.083	10
13KCS028	Soil	1.6	60.8	12.1	118	0.2	81.8	27.1	1206	4.41	73.3	<0.5	1.3	26	0.3	1.1	0.2	56	0.30	0.154	16
13KCS029	Soil	1.4	23.1	7.1	80	0.2	150.4	13.8	429	3.08	13.8	7.7	0.2	15	0.1	0.7	0.4	71	0.13	0.060	8
13KCS030	Soil	1.3	26.4	7.9	60	0.2	24.0	5.6	359	2.38	4.8	0.9	<0.1	40	0.3	0.2	0.2	60	0.20	0.070	5
13KCS031	Soil	1.3	34.2	8.9	89	0.3	58.8	18.2	1851	3.20	7.4	<0.5	<0.1	34	0.4	0.4	0.1	68	0.40	0.087	6
13KCS032	Soil	1.3	23.1	11.0	95	0.1	26.5	12.8	1481	2.75	18.6	<0.5	<0.1	40	0.4	0.6	0.2	45	0.32	0.131	7
13KCS033	Soil	1.5	37.1	10.5	104	0.2	31.7	17.9	1750	3.35	27.3	4.3	0.1	25	0.2	0.9	0.2	45	0.24	0.097	8
13KCS034	Soil	1.4	37.2	9.1	115	0.2	36.5	15.6	905	3.53	29.2	0.8	0.2	13	0.2	0.9	0.2	55	0.11	0.079	7
13KCS035	Soil	1.9	61.9	13.4	114	0.2	45.3	25.8	1766	3.96	42.4	1.4	0.3	21	0.4	1.4	0.2	49	0.37	0.120	11
13KCS036	Soil	1.5	46.7	12.2	119	0.2	42.1	22.3	2004	3.75	33.5	<0.5	0.2	20	0.3	1.0	0.2	49	0.28	0.106	8
13KCS037	Soil	1.8	48.6	15.3	137	0.1	42.6	28.1	2052	4.12	80.3	0.6	0.3	26	0.3	1.5	0.2	52	0.17	0.122	8
13KCS038	Soil	1.6	53.5	13.2	102	<0.1	131.7	25.7	1168	4.56	14.5	10.8	0.4	22	0.2	0.8	0.1	88	0.25	0.071	10
13KCS039	Soil	2.0	117.9	5.4	355	0.2	97.3	41.3	1721	6.42	88.9	<0.5	0.3	40	1.3	1.9	0.5	145	0.93	0.127	4
13KCS040	Soil	5.2	112.4	13.0	154	0.1	105.6	44.0	2106	5.31	159.7	2.3	0.5	37	0.6	4.2	1.0	91	0.57	0.128	10
13KCS040b	Soil	5.0	108.4	13.4	153	0.1	105.2	42.4	2121	5.16	156.5	<0.5	0.5	39	0.4	4.2	1.0	91	0.62	0.128	10
13KCS041	Soil	1.7	67.2	5.3	133	0.1	74.7	35.9	1757	6.09	34.0	7.7	0.6	32	0.9	0.9	0.2	131	0.99	0.139	11
13KCS042	Soil	2.9	134.5	21.0	148	0.2	118.1	44.6	1603	6.02	167.9	1.5	1.5	25	0.8	6.2	0.9	68	0.25	0.143	11
13WTS001	Soil	2.9	71.1	10.2	151	<0.1	79.0	29.8	1990	5.95	14.1	5.5	1.2	20	1.3	0.5	0.2	101	0.31	0.093	18
13WTS002	Soil	3.3	62.7	9.9	162	<0.1	97.7	32.1	2287	6.12	15.9	0.7	0.4	21	1.4	0.6	0.2	101	0.39	0.159	14
13WTS003	Soil	2.2	53.2	8.1	120	<0.1	153.4	34.4	1509	5.18	18.3	0.7	0.4	19	0.5	0.4	0.1	115	0.41	0.086	7
13WTS004	Soil	1.9	47.8	8.6	143	<0.1	115.4	32.0	1787	5.13	10.3	<0.5	0.4	21	0.8	0.3	0.1	101	0.36	0.149	6
13WTS005	Soil	1.6	63.9	5.1	126	<0.1	104.7	44.8	2181	7.17	18.9	1.3	0.8	24	0.6	0.7	<0.1	119	0.45	0.094	10

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
13KCS020	Soil	118	1.09	205	0.021	2	2.17	0.008	0.21	<0.1	0.05	1.2	0.1	0.13	8	<0.5	<0.2
13KCS020b	Soil	127	1.13	182	0.023	2	2.30	0.007	0.19	<0.1	0.05	1.3	0.1	0.12	8	0.7	<0.2
13KCS021	Soil	113	1.06	159	0.046	2	2.33	0.007	0.12	<0.1	0.06	2.5	<0.1	0.07	9	<0.5	<0.2
13KCS022	Soil	83	0.86	70	0.018	<1	1.87	0.007	0.08	<0.1	0.03	1.2	<0.1	0.09	8	<0.5	<0.2
13KCS023	Soil	75	0.74	254	0.026	<1	1.79	0.008	0.09	<0.1	0.02	2.1	<0.1	0.05	8	<0.5	<0.2
13KCS024	Soil	90	1.00	222	0.028	1	2.24	0.008	0.09	0.2	0.04	2.3	<0.1	0.05	8	<0.5	<0.2
13KCS025	Soil	188	1.84	144	0.082	<1	2.64	0.006	0.07	0.1	0.05	3.9	<0.1	0.07	11	<0.5	<0.2
13KCS026	Soil	121	1.12	89	0.045	1	2.46	0.009	0.06	0.2	0.08	2.4	<0.1	0.07	9	<0.5	<0.2
13KCS027	Soil	112	0.95	63	0.031	<1	2.07	0.008	0.05	0.1	0.05	1.8	<0.1	<0.05	10	<0.5	<0.2
13KCS028	Soil	80	1.11	204	0.013	2	2.80	0.007	0.10	0.2	0.04	4.6	<0.1	<0.05	8	<0.5	<0.2
13KCS029	Soil	248	1.71	119	0.067	<1	2.32	0.008	0.08	0.2	0.04	2.9	0.1	<0.05	10	<0.5	<0.2
13KCS030	Soil	42	0.49	141	0.047	1	1.38	0.013	0.10	<0.1	0.05	1.1	<0.1	0.07	10	<0.5	<0.2
13KCS031	Soil	81	0.90	260	0.091	1	1.67	0.014	0.15	<0.1	0.04	1.9	0.1	0.12	8	<0.5	<0.2
13KCS032	Soil	37	0.58	360	0.017	2	1.45	0.007	0.19	<0.1	0.03	0.7	<0.1	0.10	7	<0.5	<0.2
13KCS033	Soil	35	0.70	259	0.012	<1	1.88	0.007	0.06	<0.1	0.05	1.1	<0.1	0.08	7	<0.5	<0.2
13KCS034	Soil	41	0.83	137	0.039	1	2.17	0.007	0.09	<0.1	0.03	2.2	<0.1	<0.05	8	<0.5	<0.2
13KCS035	Soil	45	0.93	186	0.016	1	2.22	0.006	0.13	<0.1	0.03	2.2	<0.1	0.08	7	<0.5	<0.2
13KCS036	Soil	43	0.95	188	0.022	<1	2.23	0.006	0.09	<0.1	0.05	2.2	<0.1	0.06	8	<0.5	<0.2
13KCS037	Soil	44	0.89	173	0.021	<1	2.21	0.007	0.07	<0.1	0.04	2.0	<0.1	0.06	8	<0.5	<0.2
13KCS038	Soil	169	1.85	376	0.066	2	2.97	0.006	0.17	<0.1	0.03	4.2	0.1	<0.05	9	<0.5	<0.2
13KCS039	Soil	131	1.83	247	0.144	5	2.84	0.009	0.67	<0.1	0.04	6.1	0.4	0.13	9	<0.5	<0.2
13KCS040	Soil	126	1.39	218	0.045	5	2.71	0.008	0.41	<0.1	0.04	6.1	0.3	0.08	7	<0.5	<0.2
13KCS040b	Soil	126	1.40	217	0.042	5	2.63	0.008	0.42	0.1	0.04	6.1	0.3	0.08	7	<0.5	<0.2
13KCS041	Soil	82	1.89	156	0.140	6	2.98	0.006	0.70	<0.1	0.03	6.9	0.2	0.12	10	<0.5	<0.2
13KCS042	Soil	94	1.36	145	0.007	1	2.89	0.006	0.14	0.1	0.06	6.2	<0.1	0.07	7	<0.5	<0.2
13WTS001	Soil	94	1.66	259	0.109	4	3.09	0.006	0.34	0.1	0.06	5.3	0.2	<0.05	10	<0.5	<0.2
13WTS002	Soil	125	1.63	175	0.064	4	2.83	0.006	0.42	<0.1	0.03	4.0	0.1	0.08	10	<0.5	<0.2
13WTS003	Soil	251	2.61	165	0.128	2	3.25	0.005	0.34	<0.1	0.02	4.9	0.1	0.07	11	<0.5	<0.2
13WTS004	Soil	182	2.00	198	0.114	2	2.96	0.006	0.29	<0.1	0.03	4.9	0.1	0.07	10	<0.5	<0.2
13WTS005	Soil	159	2.20	191	0.206	3	3.82	0.005	0.74	0.1	0.02	6.1	0.2	0.06	11	<0.5	<0.2

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Project: 99160
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CERTIFICATE OF ANALYSIS VAN13003869.1

Method		1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
Analyte		Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
Unit		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
MDL		0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
13WTS006	Soil	2.0	54.6	7.5	120	0.4	92.1	25.4	1371	4.82	14.8	0.7	0.8	12	0.4	0.5	0.1	106	0.14	0.076	9
13WTS007	Soil	5.2	54.2	10.6	134	0.4	59.7	15.5	1272	4.87	23.2	0.8	0.4	16	0.5	1.2	0.2	68	0.07	0.107	12
13WTS008	Soil	3.4	51.3	9.4	136	0.1	128.0	25.2	1524	5.08	45.1	1.3	0.3	23	0.6	0.8	0.2	85	0.21	0.117	11
13WTS009	Soil	2.6	41.3	7.7	118	0.1	106.6	26.7	1358	4.77	29.5	1.0	0.1	26	0.9	0.8	0.1	92	0.37	0.141	10
13WTS010	Soil	1.5	50.4	5.8	109	0.1	53.6	33.8	2253	5.76	44.0	<0.5	0.3	35	0.8	0.4	<0.1	110	0.95	0.128	7
13WTS011	Soil	2.1	60.5	8.3	98	0.4	183.9	27.8	1475	4.16	23.5	<0.5	0.2	55	0.7	0.5	0.1	88	1.15	0.161	98
13WTS012	Soil	3.8	46.3	11.5	155	0.1	110.1	36.9	2284	4.60	13.0	0.9	0.3	30	2.3	0.6	0.1	79	0.57	0.159	8
13WTS013	Soil	1.6	52.8	12.1	139	<0.1	168.1	41.0	2124	5.54	23.4	3.3	0.5	15	0.8	0.8	0.1	92	0.23	0.164	13
13WTS014	Soil	1.6	42.2	10.1	70	0.2	86.5	14.3	475	3.38	16.6	6.7	0.6	46	<0.1	0.6	<0.1	70	0.20	0.069	9
13WTS015	Soil	1.8	53.2	12.6	131	0.1	177.2	39.8	2512	5.52	36.2	7.6	0.4	20	0.6	1.2	0.3	113	0.33	0.130	13
13DGS001	Soil	3.7	56.6	17.8	128	<0.1	481.9	65.5	2664	6.12	45.8	<0.5	1.1	12	0.5	1.1	0.1	126	0.17	0.112	16
13DGS002	Soil	1.7	52.4	7.8	105	<0.1	155.4	32.4	1558	5.14	9.6	0.6	0.7	9	<0.1	0.4	0.1	109	0.13	0.054	8
13DGS003	Soil	2.3	60.1	9.1	128	<0.1	150.3	32.9	2005	4.93	13.1	0.8	0.8	12	0.4	0.5	0.2	115	0.26	0.079	9
13DGS004	Soil	0.8	59.0	12.0	130	<0.1	121.3	39.1	1321	7.45	9.6	0.9	1.1	22	0.2	0.3	0.1	118	0.61	0.123	9
13DGS005	Soil	1.5	86.3	8.5	125	<0.1	93.2	32.3	2554	5.73	11.2	<0.5	0.5	23	0.6	0.4	0.1	134	0.43	0.115	8
13DGS006	Soil	2.0	64.5	26.6	135	0.2	69.2	29.6	2010	5.60	61.9	4.9	0.5	37	0.4	0.9	0.2	118	0.79	0.164	17
13DGS007	Soil	2.5	67.3	10.7	141	0.4	194.6	37.2	2467	5.14	20.7	3.3	0.5	14	1.0	0.7	0.2	102	0.19	0.123	11
13DGS008	Soil	1.7	37.2	6.8	97	<0.1	113.3	26.9	1106	4.79	8.2	1.5	0.3	8	0.3	0.4	0.1	96	0.13	0.085	9
13DGS009	Soil	4.2	58.4	6.4	161	0.4	325.5	44.9	1234	5.86	21.9	1.8	0.6	19	0.3	0.7	0.2	100	0.35	0.104	10
13DGS010	Soil	1.7	52.5	7.7	106	<0.1	157.0	36.9	1428	4.44	8.1	1.4	0.3	29	0.4	0.5	0.1	96	0.53	0.109	5
13DGS011	Soil	2.0	81.0	9.0	126	<0.1	191.0	43.3	1569	5.69	44.2	1.3	0.8	18	0.3	1.1	0.1	112	0.33	0.071	9
13DGS012	Soil	2.3	50.4	9.9	120	<0.1	134.4	33.7	1555	5.06	15.0	<0.5	0.7	12	0.2	0.7	0.2	103	0.19	0.079	8
13DGS013	Soil	2.4	54.1	6.6	117	<0.1	75.2	29.4	1643	5.64	16.6	0.8	0.5	16	0.5	0.8	0.1	130	0.36	0.091	9
13DGS014	Soil	1.4	53.7	5.5	129	<0.1	66.6	32.2	1701	6.10	16.6	<0.5	0.3	15	0.3	0.5	<0.1	163	0.48	0.108	5
13DGS015	Soil	1.2	57.3	4.6	119	0.1	76.1	33.5	1880	6.46	22.2	<0.5	0.2	17	0.4	0.7	<0.1	179	0.49	0.109	5
13DGS016	Soil	1.2	61.3	4.7	125	<0.1	83.0	35.4	2244	7.26	41.6	<0.5	0.7	10	0.4	0.8	<0.1	187	0.23	0.079	5
13DGS017	Soil	1.6	63.4	8.9	109	0.2	482.8	60.7	1440	5.38	197.9	1.3	0.2	12	0.4	2.1	0.2	80	0.16	0.094	7
13DGS018	Soil	1.7	42.8	7.3	109	<0.1	134.2	30.0	1287	5.28	66.9	<0.5	0.4	15	0.3	1.3	0.1	90	0.16	0.093	6
13DGS019	Soil	1.7	61.5	26.1	140	0.2	105.2	34.7	1996	5.24	72.0	0.9	0.5	26	0.5	2.3	1.0	71	0.27	0.190	12

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Project: 99160
Report Date: October 10, 2013

CERTIFICATE OF ANALYSIS VAN13003869.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
13WTS006	Soil	122	1.59	112	0.107	2	3.21	0.007	0.15	0.1	0.04	6.0	0.1	0.05	10	<0.5	<0.2
13WTS007	Soil	79	0.83	120	0.024	1	2.20	0.011	0.10	<0.1	0.05	3.4	0.1	0.08	8	<0.5	<0.2
13WTS008	Soil	179	1.51	161	0.029	2	2.76	0.007	0.11	<0.1	0.04	3.6	<0.1	0.08	9	<0.5	<0.2
13WTS009	Soil	182	1.63	153	0.037	3	2.47	0.006	0.20	<0.1	0.04	2.2	<0.1	0.10	9	<0.5	<0.2
13WTS010	Soil	67	1.51	225	0.109	4	2.80	0.006	0.55	<0.1	0.05	4.1	0.1	0.14	9	<0.5	<0.2
13WTS011	Soil	271	2.10	121	0.036	3	2.79	0.006	0.12	<0.1	0.06	5.9	0.1	0.15	8	1.8	<0.2
13WTS012	Soil	174	1.78	164	0.035	4	2.54	0.007	0.22	<0.1	0.03	2.9	0.1	0.12	9	<0.5	<0.2
13WTS013	Soil	261	2.43	98	0.065	2	3.43	0.005	0.20	<0.1	0.04	4.5	0.1	<0.05	10	<0.5	<0.2
13WTS014	Soil	130	1.45	53	0.115	3	4.15	0.009	0.05	0.1	0.07	5.1	<0.1	0.06	12	0.6	<0.2
13WTS015	Soil	307	2.84	172	0.040	3	3.57	0.005	0.17	<0.1	0.02	5.9	0.1	0.07	11	<0.5	<0.2
13DGS001	Soil	760	5.33	206	0.038	2	4.29	0.005	0.14	<0.1	0.03	9.6	0.1	<0.05	12	0.5	<0.2
13DGS002	Soil	255	2.78	81	0.170	1	3.69	0.005	0.10	<0.1	0.03	6.6	0.1	<0.05	11	<0.5	<0.2
13DGS003	Soil	219	2.60	171	0.158	1	3.19	0.005	0.22	<0.1	0.02	6.2	0.2	<0.05	10	<0.5	<0.2
13DGS004	Soil	151	2.05	234	0.271	1	4.02	0.005	0.94	0.1	0.02	7.6	0.3	<0.05	12	<0.5	<0.2
13DGS005	Soil	140	1.90	215	0.131	3	3.30	0.006	0.38	<0.1	0.04	6.4	0.2	0.09	11	<0.5	<0.2
13DGS006	Soil	94	1.15	247	0.046	4	2.90	0.007	0.25	<0.1	0.08	5.6	0.1	0.09	11	<0.5	<0.2
13DGS007	Soil	249	2.30	139	0.059	2	3.40	0.005	0.14	<0.1	0.04	5.3	0.2	0.06	10	<0.5	<0.2
13DGS008	Soil	180	1.73	75	0.124	1	3.44	0.007	0.13	<0.1	0.05	4.5	0.1	0.09	11	<0.5	<0.2
13DGS009	Soil	388	4.18	111	0.038	3	3.93	0.002	0.15	<0.1	0.02	4.1	<0.1	<0.05	12	<0.5	<0.2
13DGS010	Soil	225	2.18	186	0.102	3	2.68	0.005	0.27	<0.1	0.02	3.5	0.1	0.08	9	<0.5	<0.2
13DGS011	Soil	286	2.91	109	0.165	2	3.51	0.005	0.24	<0.1	0.02	6.8	0.2	<0.05	11	<0.5	<0.2
13DGS012	Soil	221	2.22	123	0.157	<1	3.11	0.006	0.15	<0.1	0.03	5.1	0.2	<0.05	10	<0.5	<0.2
13DGS013	Soil	95	1.61	151	0.121	2	2.62	0.004	0.17	<0.1	0.02	6.4	<0.1	0.05	8	<0.5	<0.2
13DGS014	Soil	107	1.89	157	0.168	2	2.96	0.004	0.24	<0.1	0.04	7.3	<0.1	0.05	11	<0.5	<0.2
13DGS015	Soil	109	1.95	180	0.135	1	2.90	0.004	0.27	<0.1	0.03	9.0	0.1	0.06	10	<0.5	<0.2
13DGS016	Soil	105	2.17	152	0.197	2	3.51	0.004	0.29	0.1	0.03	12.8	0.2	<0.05	12	<0.5	<0.2
13DGS017	Soil	358	2.75	95	0.051	1	3.12	0.005	0.08	<0.1	0.03	5.2	<0.1	<0.05	8	0.8	<0.2
13DGS018	Soil	148	1.54	154	0.065	1	2.86	0.005	0.10	0.1	0.03	5.4	<0.1	<0.05	9	<0.5	<0.2
13DGS019	Soil	113	1.01	341	0.012	4	2.25	0.007	0.11	<0.1	0.04	4.0	<0.1	0.06	7	<0.5	<0.2

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QUALITY CONTROL REPORT VAN13003869.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
13CGS016	Soil	2.2	36.6	10.2	104	0.1	95.9	21.7	1380	3.59	7.7	0.9	<0.1	27	0.7	0.4	0.2	70	0.30	0.148	7
REP 13CGS016	QC	2.0	37.4	10.2	103	0.1	94.6	21.8	1380	3.62	7.8	1.3	<0.1	27	0.7	0.5	0.2	70	0.29	0.144	6
13CGS022	Soil	1.4	44.5	10.5	104	0.2	85.5	20.8	1098	3.75	48.8	1.1	0.1	31	0.3	1.5	0.6	55	0.27	0.143	7
REP 13CGS022	QC	1.7	46.1	10.5	108	0.2	93.0	22.1	1205	3.86	50.1	1.4	0.1	30	0.4	1.5	0.7	58	0.28	0.150	7
13CGS050	Soil	2.1	66.9	6.4	111	<0.1	155.4	37.8	1540	6.00	11.8	<0.5	0.2	14	0.3	0.5	0.2	102	0.25	0.104	6
REP 13CGS050	QC	2.0	67.2	6.6	115	<0.1	162.0	39.8	1557	6.18	12.1	<0.5	0.2	14	0.3	0.5	0.1	103	0.26	0.109	6
13CGS057	Soil	3.2	55.4	10.5	134	0.1	285.4	34.7	1375	6.27	14.6	0.6	0.9	19	0.4	0.3	0.2	153	0.32	0.108	13
REP 13CGS057	QC	3.2	53.5	10.8	132	0.1	282.3	34.1	1358	6.24	14.8	<0.5	0.9	19	0.3	0.3	0.1	152	0.32	0.111	13
13KCS019	Soil	1.8	54.2	10.3	154	0.1	152.0	40.3	1733	6.17	46.3	1.3	0.4	31	1.0	0.9	0.7	117	0.48	0.134	9
REP 13KCS019	QC	1.8	50.6	9.6	144	0.1	140.4	38.0	1649	5.71	43.9	<0.5	0.4	29	1.2	0.8	0.6	111	0.42	0.129	9
13KCS025	Soil	2.1	35.8	8.1	82	0.2	116.2	15.6	483	4.46	12.7	1.0	0.2	13	0.1	0.7	0.2	92	0.13	0.085	7
REP 13KCS025	QC	2.2	36.6	7.8	85	0.2	114.3	16.2	490	4.82	12.6	<0.5	0.2	13	<0.1	0.6	0.2	92	0.13	0.087	7
13WTS011	Soil	2.1	60.5	8.3	98	0.4	183.9	27.8	1475	4.16	23.5	<0.5	0.2	55	0.7	0.5	0.1	88	1.15	0.161	98
REP 13WTS011	QC	2.4	60.5	8.3	103	0.4	191.4	29.1	1504	4.13	24.0	1.4	0.2	54	0.8	0.6	0.1	89	1.17	0.167	99
13DGS003	Soil	2.3	60.1	9.1	128	<0.1	150.3	32.9	2005	4.93	13.1	0.8	0.8	12	0.4	0.5	0.2	115	0.26	0.079	9
REP 13DGS003	QC	2.5	59.6	9.1	128	<0.1	145.0	31.9	1984	4.90	12.7	<0.5	0.8	12	0.3	0.5	0.2	113	0.25	0.074	9
REP 13CGS050	QC	2.0	66.6	6.7	117	<0.1	161.7	39.0	1595	5.26	12.6	0.5	0.3	16	0.4	0.4	0.1	104	0.28	0.119	6
Reference Materials																					
STD DS10	Standard	15.6	145.7	150.9	341	1.9	70.9	12.6	854	2.73	43.6	73.1	7.4	63	2.3	8.6	10.3	44	1.01	0.071	18
STD DS10	Standard	16.7	158.0	152.0	352	2.0	75.7	12.9	904	2.79	44.1	74.8	8.1	66	2.7	8.9	9.9	47	1.07	0.072	18
STD DS10	Standard	14.9	151.8	154.7	369	2.1	72.6	12.4	893	2.83	47.5	95.5	7.5	63	2.6	9.4	10.4	44	1.06	0.080	17
STD DS10	Standard	14.8	151.3	138.4	357	1.9	73.9	13.0	866	2.72	45.0	74.1	6.9	63	2.4	8.8	10.9	45	1.03	0.074	17
STD DS10	Standard	13.5	149.5	144.2	348	1.9	71.8	12.8	843	2.77	43.3	73.4	7.3	62	2.4	8.2	11.4	42	1.02	0.070	16
STD DS10	Standard	14.5	160.8	153.1	350	2.0	73.6	13.0	873	2.83	43.9	91.0	7.4	56	2.6	9.4	9.7	45	1.02	0.071	17
STD DS10	Standard	14.5	148.8	152.4	338	1.9	73.2	11.6	846	2.67	44.7	82.9	7.2	69	2.6	10.0	12.4	43	1.00	0.069	18
STD OXC109	Standard	1.7	36.3	11.2	39	<0.1	72.2	19.3	354	2.93	1.1	219.3	1.4	111	<0.1	<0.1	0.1	48	0.61	0.105	12
STD OXC109	Standard	1.5	33.8	10.7	40	<0.1	69.6	18.1	432	2.79	0.8	214.7	1.4	140	<0.1	<0.1	<0.1	46	0.66	0.102	12
STD DS10 Expected		14.69	154.61	150.55	352.9	1.96	74.6	12.9	861	2.7188	43.7	91.9	7.5	67.1	2.48	9.51	11.65	43	1.0355	0.073	17.5

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QUALITY CONTROL REPORT VAN13003869.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
13CGS016	Soil	128	1.67	212	0.030	1	2.43	0.005	0.11	<0.1	0.04	1.7	<0.1	0.07	9	0.7	<0.2
REP 13CGS016	QC	130	1.62	208	0.029	1	2.42	0.006	0.11	<0.1	0.05	1.5	<0.1	<0.05	9	0.7	<0.2
13CGS022	Soil	113	1.07	219	0.009	2	2.11	0.006	0.09	<0.1	0.05	1.3	<0.1	<0.05	7	<0.5	<0.2
REP 13CGS022	QC	123	1.11	229	0.009	1	2.14	0.005	0.10	0.1	0.03	1.3	<0.1	<0.05	7	<0.5	<0.2
13CGS050	Soil	228	2.84	155	0.079	1	2.88	0.003	0.24	0.1	0.02	3.7	0.1	0.08	9	<0.5	<0.2
REP 13CGS050	QC	229	2.81	153	0.083	1	2.89	0.003	0.25	0.1	0.01	3.8	0.1	0.08	9	<0.5	<0.2
13CGS057	Soil	377	4.70	198	0.176	2	4.28	0.004	0.37	<0.1	0.03	10.4	0.2	0.10	15	0.6	<0.2
REP 13CGS057	QC	375	4.76	198	0.179	<1	4.34	0.005	0.38	<0.1	0.04	10.6	0.2	0.09	15	0.8	<0.2
13KCS019	Soil	240	2.55	376	0.081	2	3.32	0.007	0.57	<0.1	0.02	6.8	0.3	0.07	13	0.6	<0.2
REP 13KCS019	QC	224	2.49	350	0.074	<1	3.10	0.005	0.51	<0.1	0.05	6.4	0.3	0.07	11	<0.5	<0.2
13KCS025	Soil	188	1.84	144	0.082	<1	2.64	0.006	0.07	0.1	0.05	3.9	<0.1	0.07	11	<0.5	<0.2
REP 13KCS025	QC	185	1.75	141	0.080	<1	2.67	0.006	0.06	0.2	0.06	3.8	<0.1	0.07	11	<0.5	<0.2
13WTS011	Soil	271	2.10	121	0.036	3	2.79	0.006	0.12	<0.1	0.06	5.9	0.1	0.15	8	1.8	<0.2
REP 13WTS011	QC	274	2.15	119	0.038	4	2.77	0.006	0.12	<0.1	0.07	5.7	0.1	0.18	9	0.9	<0.2
13DGS003	Soil	219	2.60	171	0.158	1	3.19	0.005	0.22	<0.1	0.02	6.2	0.2	<0.05	10	<0.5	<0.2
REP 13DGS003	QC	221	2.51	164	0.154	1	3.20	0.004	0.21	<0.1	0.01	6.1	0.2	<0.05	10	<0.5	<0.2
REP 13CGS050	QC	231	2.54	169	0.106	4	3.05	0.005	0.26	<0.1	0.04	4.7	0.1	0.06	10	<0.5	<0.2
Reference Materials																	
STD DS10	Standard	56	0.76	376	0.082	7	1.06	0.070	0.33	3.3	0.29	3.0	4.9	0.30	5	2.5	4.6
STD DS10	Standard	59	0.81	360	0.090	7	1.13	0.073	0.34	3.2	0.28	3.1	5.0	0.30	4	2.1	5.0
STD DS10	Standard	54	0.79	361	0.081	7	1.05	0.064	0.35	3.4	0.30	3.1	4.9	0.29	4	1.8	5.0
STD DS10	Standard	56	0.77	343	0.079	7	1.02	0.057	0.31	3.0	0.28	2.8	4.6	0.22	4	2.7	4.6
STD DS10	Standard	53	0.77	348	0.075	8	1.01	0.065	0.31	3.2	0.25	2.8	4.7	0.25	4	2.3	5.1
STD DS10	Standard	55	0.78	355	0.080	7	1.00	0.050	0.32	3.7	0.28	2.6	4.8	0.31	4	2.6	4.6
STD DS10	Standard	52	0.82	345	0.079	7	1.05	0.069	0.34	3.4	0.32	3.0	5.0	0.27	4	1.6	4.6
STD OXC109	Standard	57	1.65	56	0.379	2	1.43	0.655	0.41	0.2	<0.01	0.9	<0.1	<0.05	5	<0.5	<0.2
STD OXC109	Standard	53	1.36	53	0.360	<1	1.40	0.642	0.40	0.2	<0.01	1.6	<0.1	<0.05	5	<0.5	<0.2
STD DS10 Expected		54.6	0.7651	349	0.0817		1.0259	0.0638	0.3245	3.34	0.289	2.8	4.79	0.2743	4.3	2.3	4.89

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Report Date: October 10, 2013

QUALITY CONTROL REPORT VAN13003869.1

		1DX15 Mo ppm 0.1	1DX15 Cu ppm 0.1	1DX15 Pb ppm 0.1	1DX15 Zn ppm 1	1DX15 Ag ppm 0.1	1DX15 Ni ppm 0.1	1DX15 Co ppm 0.1	1DX15 Mn ppm 1	1DX15 Fe % 0.01	1DX15 As ppm 0.5	1DX15 Au ppb 0.5	1DX15 Th ppm 0.1	1DX15 Sr ppm 1	1DX15 Cd ppm 0.1	1DX15 Sb ppm 0.1	1DX15 Bi ppm 0.1	1DX15 V ppm 2	1DX15 Ca % 0.01	1DX15 P % 0.001	1DX15 La ppm 1
STD OXC109 Expected												201									
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	0.2	<0.1	3	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	0.02	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1

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

Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 10, 2013

QUALITY CONTROL REPORT   VAN13003869.1

		1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
		ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
		1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
STD OXC109 Expected																	
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2

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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Submitted By: Kris Raffle
Receiving Lab: Canada-Vancouver
Received: October 09, 2013
Report Date: October 30, 2013
Page: 1 of 2

CERTIFICATE OF ANALYSIS VAN13004143.1

CLIENT JOB INFORMATION

Project: 99160
Shipment ID:
P.O. Number
Number of Samples: 7

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT Dispose of Reject After 90 days

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
R200-250	7	Crush, split and pulverize 250 g rock to 200 mesh			VAN
3A	7	Ignite samples, acid digest, Au by ICP-MS analysis	15	Completed	VAN
1DD	7	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: APEX Geoscience Ltd.
200 - 9797 45 Ave
Edmonton AB T6E 5V8
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
MARCUS LAU
Geochemical Laboratory Manager

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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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 30, 2013

CERTIFICATE OF ANALYSIS VAN13004143.1

	Method	WGHT	3A	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	0.5	1	1	3	1	0.3	1	1	2	0.01	2	8	2	2	1	0.5	3	3	1
13DR001	Rock	0.82	0.6	<1	29	7	66	<0.3	9	2	378	1.60	<2	<8	<2	<2	19	<0.5	<3	<3	26
13DR002	Rock	1.34	0.9	<1	83	69	527	1.3	11	2	697	2.04	4	<8	<2	<2	32	1.3	<3	<3	30
13DR003	Rock	0.72	2.1	<1	105	25	207	0.8	13	12	479	1.98	4	<8	<2	<2	43	1.2	<3	<3	18
13DR004	Rock	1.17	<0.5	3	3	14	73	<0.3	9	13	580	1.78	3	<8	<2	<2	48	<0.5	<3	<3	25
13DR005	Rock	1.16	283.8	<1	231	685	3854	22.2	8	12	757	6.11	10	<8	<2	<2	7	13.5	<3	23	24
13DR006	Rock	1.45	1.4	<1	93	7	67	<0.3	17	6	437	2.31	<2	<8	<2	<2	152	<0.5	<3	<3	23
13DR007	Rock	1.39	1.0	<1	309	9	96	1.1	19	7	417	2.22	<2	<8	<2	<2	43	<0.5	<3	<3	33

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200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 30, 2013

CERTIFICATE OF ANALYSIS VAN13004143.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%
	MDL	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	0.05
13DR001	Rock	0.18	0.039	2	12	0.55	41	0.04	<20	0.77	0.06	0.05	<2	<0.05
13DR002	Rock	0.71	0.043	7	11	0.57	91	<0.01	<20	1.01	0.05	0.09	<2	0.06
13DR003	Rock	0.54	0.042	14	7	0.23	1244	<0.01	<20	0.60	0.04	0.17	<2	0.27
13DR004	Rock	1.14	0.041	8	7	0.46	135	<0.01	<20	0.77	0.04	0.14	<2	0.23
13DR005	Rock	0.18	0.018	1	8	0.49	38	<0.01	<20	0.92	0.01	0.11	<2	0.42
13DR006	Rock	2.07	0.069	10	12	0.76	219	<0.01	<20	0.67	0.03	0.17	<2	1.23
13DR007	Rock	1.56	0.056	11	21	0.79	324	<0.01	<20	1.13	0.04	0.16	<2	0.27

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200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 30, 2013

QUALITY CONTROL REPORT VAN13004143.1

	Method	WGHT	3A	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Wgt	Au	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V
	Unit	kg	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.01	0.5	1	1	3	1	0.3	1	1	2	0.01	2	8	2	2	1	0.5	3	3	1
Pulp Duplicates																					
REP G1	QC		2.3																		
13DR007	Rock	1.39	1.0	<1	309	9	96	1.1	19	7	417	2.22	<2	<8	<2	<2	43	<0.5	<3	<3	33
REP 13DR007	QC			<1	306	12	93	1.1	19	7	411	2.16	<2	<8	<2	<2	42	<0.5	<3	<3	32
Reference Materials																					
STD DS10	Standard			14	151	149	363	1.9	72	13	888	2.72	46	<8	<2	6	66	2.2	9	12	42
STD OREAS45EA	Standard			2	661	10	25	<0.3	382	53	383	22.48	11	18	<2	10	3	<0.5	4	<3	296
STD OREAS901	Standard		344.8																		
STD DS10 Expected				14.69	154.61	150.55	352.9	1.96	74.6	12.9	861	2.7188	43.7		0.0919	7.5	67.1	2.48	9.51	11.65	43
STD OREAS45EA Expected				1.39	709	14.3	28.9	0.26	381	52	400	23.51	9			10.7	3.5				303
STD OREAS901 Expected			363																		
BLK	Blank			<1	<1	5	<1	<0.3	<1	<1	<2	<0.01	<2	<8	<2	<2	<1	<0.5	<3	<3	<1
BLK	Blank		<0.5																		
Prep Wash																					
G1	Prep Blank			<1	1	<3	45	<0.3	3	5	559	1.92	<2	<8	<2	3	54	<0.5	<3	<3	35
G1	Prep Blank		1.8																		

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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 30, 2013

QUALITY CONTROL REPORT VAN13004143.1

	Method	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D	1D
	Analyte	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S
	Unit	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%
	MDL	0.01	0.001	1	1	0.01	1	0.01	20	0.01	0.01	0.01	2	0.05
Pulp Duplicates														
REP G1	QC													
13DR007	Rock	1.56	0.056	11	21	0.79	324	<0.01	<20	1.13	0.04	0.16	<2	0.27
REP 13DR007	QC	1.54	0.056	11	21	0.77	320	<0.01	<20	1.12	0.04	0.15	<2	0.27
Reference Materials														
STD DS10	Standard	1.05	0.075	15	52	0.77	388	0.07	<20	1.03	0.07	0.34	3	0.28
STD OREAS45EA	Standard	0.03	0.029	7	852	0.09	145	0.09	<20	3.10	0.02	0.05	<2	<0.05
STD OREAS901	Standard													
STD DS10 Expected		1.0355	0.073	17.5	54.6	0.7651	349	0.0817		1.0259	0.0638	0.3245	3.34	0.2743
STD OREAS45EA Expected		0.036	0.029	6.57	849	0.095	148	0.0875		3.13	0.02	0.053		0.036
STD OREAS901 Expected														
BLK	Blank	<0.01	<0.001	<1	<1	<0.01	<1	<0.01	<20	<0.01	<0.01	<0.01	<2	<0.05
BLK	Blank													
Prep Wash														
G1	Prep Blank	0.44	0.074	8	9	0.57	235	0.12	<20	0.94	0.07	0.48	<2	<0.05
G1	Prep Blank													

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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Submitted By: Kris Raffle
Receiving Lab: Canada-Vancouver
Received: October 09, 2013
Report Date: October 24, 2013
Page: 1 of 2

CERTIFICATE OF ANALYSIS VAN13004144.1

CLIENT JOB INFORMATION

Project: 99160
Shipment ID:
P.O. Number
Number of Samples: 7

SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT-SOIL Immediate Disposal of Soil Reject

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
Dry at 60C	7	Dry at 60C			VAN
SS80	7	Dry at 60C sieve 100g to -80 mesh			VAN
1DX2	7	1:1:1 Aqua Regia digestion ICP-MS analysis	15	Completed	VAN

ADDITIONAL COMMENTS

Invoice To: APEX Geoscience Ltd.
200 - 9797 45 Ave
Edmonton AB T6E 5V8
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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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 24, 2013

CERTIFICATE OF ANALYSIS VAN13004144.1

		Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
13CGS067	Soil		2.0	50.8	7.8	110	<0.1	75.9	30.7	1684	5.51	16.5	0.9	0.2	19	1.0	0.7	0.2	98	0.35	0.163	9
13CGS068	Soil		3.4	39.1	8.7	126	<0.1	127.6	36.5	2156	5.33	12.9	<0.5	0.3	26	0.6	0.6	0.2	112	0.43	0.118	8
13CGS069	Soil		2.1	72.0	10.1	124	0.1	91.2	40.3	1975	6.66	22.0	5.6	0.6	17	0.5	0.6	0.1	58	0.35	0.155	16
13CGS070	Soil		2.6	73.4	6.3	82	<0.1	65.4	25.4	849	5.81	14.0	<0.5	0.6	9	0.2	0.6	0.1	54	0.18	0.055	11
13CGS071	Soil		5.4	54.0	11.2	140	0.2	97.7	35.5	1978	4.74	17.2	3.3	0.3	12	0.8	0.6	0.2	66	0.16	0.117	8
13CGS072	Soil		2.4	52.3	12.3	88	0.2	112.9	28.0	1385	5.20	20.8	0.6	0.5	9	<0.1	0.6	0.2	76	0.12	0.107	8
13CGS073	Soil		3.8	42.4	15.8	92	<0.1	65.9	31.3	2760	3.13	25.8	1.9	0.2	51	1.2	0.5	0.2	60	0.65	0.156	9

Acme Analytical Laboratories (Vancouver) Ltd.
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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 24, 2013

CERTIFICATE OF ANALYSIS VAN13004144.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
13CGS067	Soil	80	1.55	178	0.065	3	2.82	0.006	0.25	<0.1	<0.01	2.6	<0.1	0.08	9	0.9	0.3
13CGS068	Soil	204	2.22	170	0.107	2	2.99	0.007	0.24	<0.1	0.05	4.0	<0.1	0.10	11	<0.5	<0.2
13CGS069	Soil	80	1.55	123	0.045	3	3.27	0.005	0.15	0.1	0.03	2.4	<0.1	<0.05	9	0.6	<0.2
13CGS070	Soil	64	1.31	51	0.062	<1	3.27	0.004	0.08	0.1	0.05	3.4	<0.1	<0.05	9	<0.5	<0.2
13CGS071	Soil	128	1.34	114	0.078	1	2.88	0.007	0.09	0.1	0.05	2.8	<0.1	0.10	9	1.2	<0.2
13CGS072	Soil	169	1.60	69	0.064	<1	2.84	0.005	0.06	0.1	0.05	3.2	<0.1	0.06	9	<0.5	<0.2
13CGS073	Soil	104	1.12	111	0.032	5	1.45	0.010	0.18	<0.1	0.05	2.7	0.1	0.16	6	0.7	<0.2

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Project: 99160
Report Date: October 24, 2013

QUALITY CONTROL REPORT VAN13004144.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
13CGS067	Soil	2.0	50.8	7.8	110	<0.1	75.9	30.7	1684	5.51	16.5	0.9	0.2	19	1.0	0.7	0.2	98	0.35	0.163	9
REP 13CGS067	QC	2.0	51.8	7.6	112	<0.1	74.3	28.5	1812	5.63	15.8	1.5	0.2	18	0.5	0.7	0.1	97	0.35	0.148	9
Reference Materials																					
STD DS10	Standard	16.4	163.5	155.5	367	2.0	77.3	12.9	960	2.91	44.2	86.6	7.6	65	2.7	9.7	11.8	45	1.11	0.082	19
STD OXC109	Standard	1.8	37.2	10.6	42	<0.1	75.8	19.5	439	2.98	0.7	220.0	1.5	139	<0.1	<0.1	<0.1	50	0.74	0.106	12
STD DS10 Expected		14.69	154.61	150.55	352.9	1.96	74.6	12.9	861	2.7188	43.7	91.9	7.5	67.1	2.48	9.51	11.65	43	1.0355	0.073	17.5
STD OXC109 Expected												201									
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1

Acme Analytical Laboratories (Vancouver) Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
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Client: **APEX Geoscience Ltd.**
200 - 9797 45 Ave
Edmonton AB T6E 5V8 Canada

Project: 99160
Report Date: October 24, 2013

QUALITY CONTROL REPORT VAN13004144.1

	Method	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15	1DX15
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Hg	Sc	Tl	S	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	1	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
13CGS067	Soil	80	1.55	178	0.065	3	2.82	0.006	0.25	<0.1	<0.01	2.6	<0.1	0.08	9	0.9	0.3
REP 13CGS067	QC	79	1.55	164	0.067	4	2.46	0.006	0.27	<0.1	0.02	2.9	<0.1	0.08	9	0.6	<0.2
Reference Materials																	
STD DS10	Standard	59	0.87	370	0.087	10	1.13	0.070	0.36	3.2	0.33	3.2	4.9	0.31	5	4.2	6.8
STD OXC109	Standard	63	1.57	56	0.382	2	1.48	0.682	0.40	0.2	0.01	1.0	<0.1	<0.05	6	<0.5	<0.2
STD DS10 Expected		54.6	0.7651	349	0.0817		1.0259	0.0638	0.3245	3.34	0.289	2.8	4.79	0.2743	4.3	2.3	4.89
STD OXC109 Expected																	
BLK	Blank	<1	<0.01	<1	<0.001	<1	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2

APPENDIX 5

2013 Popa Bear Exploration Expenditures

Popa Bear Project 2013 Exploration Expenditures

Date	Number	Description	Amount
Geological field work			
09/30/2013	2013-380	Geological Services Performed Field - Kris Raffle (Aug 22-Sept 21/13)	5,425.00
09/30/2013		Geological Services Performed Field - Dave Rogers	2,200.00
09/30/2013		Geological Services Performed Field - Wyatt Thompson	2,200.00
09/30/2013		Geological Services Performed Field - Devon Gant	2,200.00
09/30/2013		Geological Services Performed Field - Cameron Gregory	2,400.00
09/30/2013		Geological Services Performed Field - Don Rogers	2,400.00
Total Geological field work			16,825.00
Geological office work			
03/31/2013	2013-140	Geological Services Performed Office - Sarah Mah (Feb 22-March 21/13)	1,020.00
06/30/2013	2013-261	Geological Services Performed Office - Kris Raffle (April 22-May 21/13)	100.75
06/30/2013	2013-261	Geological Services Performed Office - Yuliana Proenza (May 22-June 21/13)	1,200.00
06/30/2013	2013-261	Geological Services Performed Office - Kris Raffle (May 22-June 21/13)	643.25
09/30/2013	2013-380	Geological Services Performed Office - Kris Raffle (June 22-July 21/13)	364.25
09/30/2013	2013-380	Geological Services Performed Office - Jerry Holmes (June 22-July 21/13)	692.00
09/30/2013	2013-380	Geological Services Performed Office - Kris Raffle (Aug 22-Sept 21/13)	387.50
09/30/2013	2013-380	Geological Services Performed Office - Chris Livingstone (Aug 22-Sept 21/13)	42.25
10/31/2013	2013-409	Geological Services Performed Office - Eemeli Rantala (Sept 22-Oct 21/13)	428.00
10/31/2013	2013-409	Geological Services Performed Office - Chris Livingstone (Sept 22-Oct 21/13)	260.00
10/31/2013	2013-409	Geological Services Performed Office - Yuliana Proenza (Sept 22-Oct 21/13)	400.00
10/31/2013	2013-409	Geological Services Performed Office - Kris Raffle (Sept 22-Oct 21/13)	255.75
Total Geological office work			5,793.75
Overhead & management fee			
09/30/2013	2013-380	Operator's overhead and management fee (10%)	505.52
10/31/2013	2013-409	Operator's overhead and management fee (10%)	398.26
Total Overhead & management fee			903.78
Assays & related costs			
10/31/2013	2013-409	Acme Labs: assay analysis, Oct 10/13, inv VANI179211	3,044.36
10/31/2013	2013-409	Acme Labs: assay analysis, Oct 10/13, inv VANI179258	794.24
10/31/2013	2013-409	Acme Labs: assay analysis, Oct 24/13, inv VANI180457	143.99
Total Assays & related costs			3,982.59
Field supplies			
09/30/2013	2013-380	Deakin Industries: supplies, Sept 12/13, inv 03B-31776	160.29
09/30/2013	2013-380	Kris Raffle: supplies, Sept 11/13	170.08
09/30/2013		Don Rogers: supplies	1,500.00
Total Field supplies			1,830.37
Maps, data & reproduction			
09/30/2013	2013-380	Kris Raffle: maps, Sept 12/13	400.00
Total Maps, data & reproduction			400.00
Trucks & Fuel			
09/30/2013		Truck 1	920.00
09/30/2013		Truck 2	1,050.00
09/30/2013		Truck 3	575.00
09/30/2013		Fuel	931.33
Total Trucks & Fuel			3,476.33
Travel - airfare			
09/30/2013	2013-380	Kris Raffle: airfare (Blackcomb Aviation), Sept 13/13, inv 21759	2,285.00
09/30/2013	2013-380	Kris Raffle: airfare (Blackcomb Aviation), Sept 19/13, inv 09183	1,828.00
Total Travel - airfare			4,113.00
Travel - food			
09/30/2013	2013-380	Kris Raffle: food, Sept 11-12/13	211.81
09/30/2013		Don Rogers: food	2,480.00
Total Travel - food			2,691.81
Travel- Accommodation			
09/30/2013		Don Rogers: Hotels	2,261.17
Total Trave-Accommodation			2,261.17
Total 2013 Popa Bear Project Exploration (not incl. GST):			**$42,277.80**