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BC Geological Survey
Assessment Report
38516

Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geochemical (MMI) **TOTAL COST:** $6,138.00

AUTHOR(S): Greg R. Thomson, P.Geo. **SIGNATURE(S):** GR Thomson

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): **YEAR OF WORK:** 2019

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5748687

PROPERTY NAME: Astro

CLAIM NAME(S) (on which the work was done): Astro (Tenure # 1061096)

COMMODITIES SOUGHT: Au, Ag, Mo

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 82ESW190

MINING DIVISION: Osoyoos **NTS/BCGS:** 082E05W,

LATITUDE: 49 ° 22 '21 " **LONGITUDE:** 119 ° 46 '30 " **(at centre of work)**

OWNER(S):
1) G.D. Brown 2)

MAILING ADDRESS:
#201-461-16th Street
North Vancouver, BC V7M 1V1

OPERATOR(S) [who paid for the work]:
1) same as above 2)

MAILING ADDRESS:
same as above

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Eocene age Marron Formation (andesite) and Springbrook Formation (conglomerate),
Triassic or older age Shoemaker Fomation (chert)
low sulphidation epithermal style mineralization/alteration, anomalous Au, Ag, Mo

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 13199, 14062, 16674, 18251, 18284, 18257
27469, 34734, 35642

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil	24 MMI soil samples - multi-element	Tenure No. 1061096	6138.00
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$6138.00

GEOCHEMICAL REPORT

on the

ASTRO PROPERTY

Mineral Tenure Numbers

1061096, 1061974, 1061975, 1063166, 1063167

Event Number: 5748687

KEREMEOS AREA, B.C.

Osoyoos Mining Division
NTS: 082E05W (082E032)

Lat: 49º 22' 21" N
Long: 119º 46' 30"W
UTM: 11: 5472570 N, 298559E

Owner:

G.D. Brown
North Vancouver, British Columbia
Canada

Author: Greg Thomson, P. Geo.

October 13, 2019

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1.0 Summary

The Astro property lies in the south Okanagan region of Southern British Columbia, approximately 17 kilometres north of the town of Keremeos. The property area is comprised of five mineral tenures covering an area of approximately 252.5 hectares. This report summarizes historical and recent MMI soil sampling exploration work carried out on the Astro Property, on behalf of G.D. Brown.

In 1984 and 1985 exploration work was carried out on the PDL claim by Placer Dome Development Ltd (PDL), In 1987-89, QPX Minerals Limited conducted extensive exploration programs on the PDL claim as well as the adjoining optioned, Astro 1 claim and Astro 34 claim. Most pertinent to this current report, is the 1988 exploration work was carried out on the Astro 34 claim by QPX Minerals. The 1988 work consisted of geological mapping, geophysics (Mag,EM), trenching (5 trenches) and 5 reverse circulation drill holes (Assessment Report 18527, Lee, 1989). No soil geochemical surveys were carried out on the Astro Zone, as part of the QPX Mineral exploration program.

In 2003, A. Travis staked 6 claims to cover the previous Astro 34 claim area, carrying out prospecting and minor rock and soil sampling.

The Astro property is primarily underlain by the western margin of a fault-bounded, basin of Eocene, Penticton Group volcanic rocks; particularly the Kitley Member of the Marron Formation. At the base of the Marron volcanics is found the Eocene age Springbrook Formation approximately a 200m to 300m band of massive unsorted polymictic conglomerate with lesser sandstone and tuff.
The Springbrook Formation is underlain by Permian to Triassic age Shoemaker formation, consisting of blue-grey chert, minor limestone and greenstone.
.
To the west of the present Astro Property, near Ford Lake and the valley bottom of Keremeos Creek, there is evidence of previous work in the Pre-Tertiary rocks but no published record of this work exists. The mineralization has been described as narrow massive lenses of pyrrhotite-pyrite + minor chalcopyrite. A short (< 10 m) adit at the base of the cliffs cross cuts a small massive sulphide lens. According to a local prospector (L.Reichert) this was dug in the 1930's. An old cased diamond drill hole and several bulldozer trenches are believed to have been completed in 1971, although no work was filed. This mineralization does not show continuity and is not a focus for further exploration as described in this report.

In 2014 and 2015, the author made several visits to the Astro mineral zone to carry some minor rock sampling, as well as a minor soil sampling survey, covering an area above the road exposure of the Astro alteration zone. This sampling survey is illustrated on Figure 8 and Figure 9 in this report.

Although recent geochemical surveys and rock sampling have not yet discovered economic mineralization at the Astro Zone, the results have been useful, adding to the geological data and overall understanding of the current Astro Property. The anomalous values returned for rock and soil samples collected from the Astro zone are indicative of the upper levels of a low-sulphidation epithermal gold deposit type, which warrants further investigation.

The author recommends a program of a close-spaced geochemical survey to better define the extent of the presently known Astro alteration and mineral zone. Following interpretation of the results of the soil sampling program, a diamond drill program should be carried out on previously untested or partially tested anomalous geochemical areas and historical geophysical (Mag, EM) anomalies.

2.0 Introduction and Terms of Reference

This report briefly outlines the history of exploration, geology and new work conducted for the Astro property. Consulting geologist, Mr. Greg Thomson is the author of this assessment report, describing a recent geochemical exploration program carried out on behalf of the property owner, Mr. G.D. Brown. The current work was funded by G.D. Brown to maintain in good standing the Astro Property (Property) as per Province of British Columbia exploration work credits and to further advance the exploration and geological understanding of the Property.

The Property consists of five mineral tenures, situated in the Osoyoos Mining District of British Columbia and is located in the southern Okanagan region of British Columbia, Canada, southwest of the city of Penticton, BC (Figure 1).

The current work program involved a one-day (July 10, 2019) MMI soil-sampling program, supervised by the author, Mr. Greg Thomson P.Geo., accompanied by two field assistants. The MMI sampling program was employed to test the applicability of the MMI sampling procedure over the known Astro alteration zone, previously explored by QPX Minerals in the late 1980's. The roadside outcrop area of the Astro alteration zone contains anomalous gold, associated with silicification +/- chalcedonic quartz veinlets within an envelope of limonitic-argillically altered Marron volcanic rocks, as first discovered by QPX Minerals in the late 1980's. In 2015, the author collected five rock samples from the Astro roadside outcrop area. Anomalous gold values up to 1.52 g/t Au were obtained with associated anomalous values in silver, up to 35.14 ppm Ag and molybdenum, up to 342.2 ppm Mo (Assessment Report 35642, Thomson, 2015).

The recommendations in this report are based upon the author's familiarity with the Astro showing area as well as his interpretation of published data and various assessment reports related to the Astro mineral/alteration Zone.

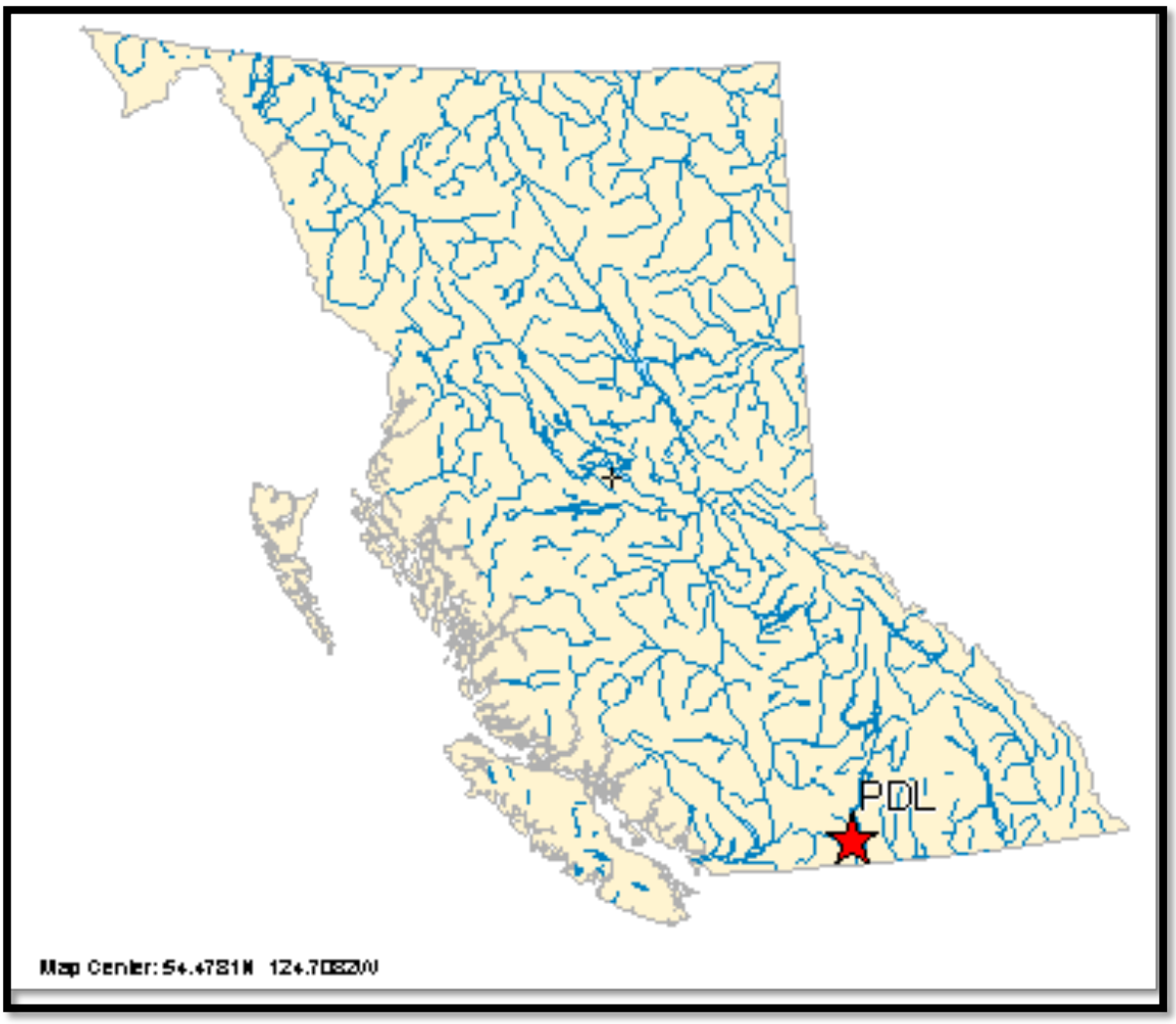


Figure 1 General Location Map for the Astro (PDL) Property

3.0 Property Description and Location

The Astro property is comprised of five mineral tenures located within the Osoyoos Mining Division and is located approximately 15 km west of Okanagan Falls, British Columbia and 17 kilometres north of the town of Keremeos and approximately 20 kilometres southwest of the city of Penticton. The Astro mineral tenures were staked online (MTO) in 2018, covering an area of 252.5 hectares (Figure 3).

The claim is located on N.T.S Map sheet 82E/5W or alternatively B.S.G.S sheet 82E 032. The center of the current claim block is at UTM (Nad 83, Zone 11) coordinates: 5472570m North and 298559 m East or alternatively at Latitude: 49º 22'21" N and Longitude: 119º46' 30"W.

The Astro Property is 100 % owned by G. D. Brown, with the property covering areas of pre-existing claims explored by QPX Minerals Inc. in the late 1980's. Specifically, the current Astro Property covers portions of the pre-existing Astro 1 claim and the Astro 34 claim, held under option by QPX Minerals Inc. (see Figure 4)

The configuration of the current Astro Property is illustrated on Figure 3 and title details follow:

Table 1 Astro Property Tenure Information

MTO Number	Type	Claim Name	Good Until	Area (ha)
1061096	Mineral	Astro	June 11/21	42.08
1061974	"	Astro 2	July 27/21	42.07
1061975	"	Astro 3	July 27/21	42.08
1063166	"	Astro 4	Sept. 18/21	63.11
1063167	"	Astro 5	Sept. 18/21	63.11

Source: http://www.mtonline.gov.bc.ca

There are no known physical or environmental concerns regarding any future ongoing exploration programs for the PDL property area. There are, however, several privately owned lots within the claim area. There are no known claims or concerns with any First Nations groups for the area of the PDL claim.

Please note that the Astro showing was named after the earlier PDL claim, staked by Placer Dome Development Ltd in 1983. The early exploration work on the original PDL claim was mainly focused on the undocumented mineral showing along the eastern side of Green Mountain road, north of Ford Lake. The PDL Minfile occurrence (082ESW190) should be more properly referred to as the Astro or Astro 34 occurrence as the 082ESW190 Minfile location was located on the previous Astro 34 claim and not on the previous PDL claim. The area of the historic PDL claim, Astro 1 claim, and Astro 34 claim are frequently referred to in this report, although only the Astro 34 claim is pertinent to this report. The Astro mineral zone is found within the boundaries of the current Astro tenure # 1061096.

As far as can be reasonably ascertained, the property appears to be free of any environmental liabilities associated with previous exploration activities. Permits necessary for any exploration activities recommended in this report have yet to be acquired.

There are no known factors or risks that might affect access, rights and/or the ability to perform work on the Property beyond those inherent to the local topography, private land ownership and/or title (beyond on-going provincial treaty negotiations with First Nations).

The claims are classed as designated uranium ground under the Uranium Moratorium. Since the termination of the Moratorium in February of 1987, the claims remain classed as designated uranium ground even though exploration is presently directed towards precious metals. As a result, all exploration on the current Astro property is governed by the Exploration Regulation - Uranium and Thorium (Order in Council No. 335).

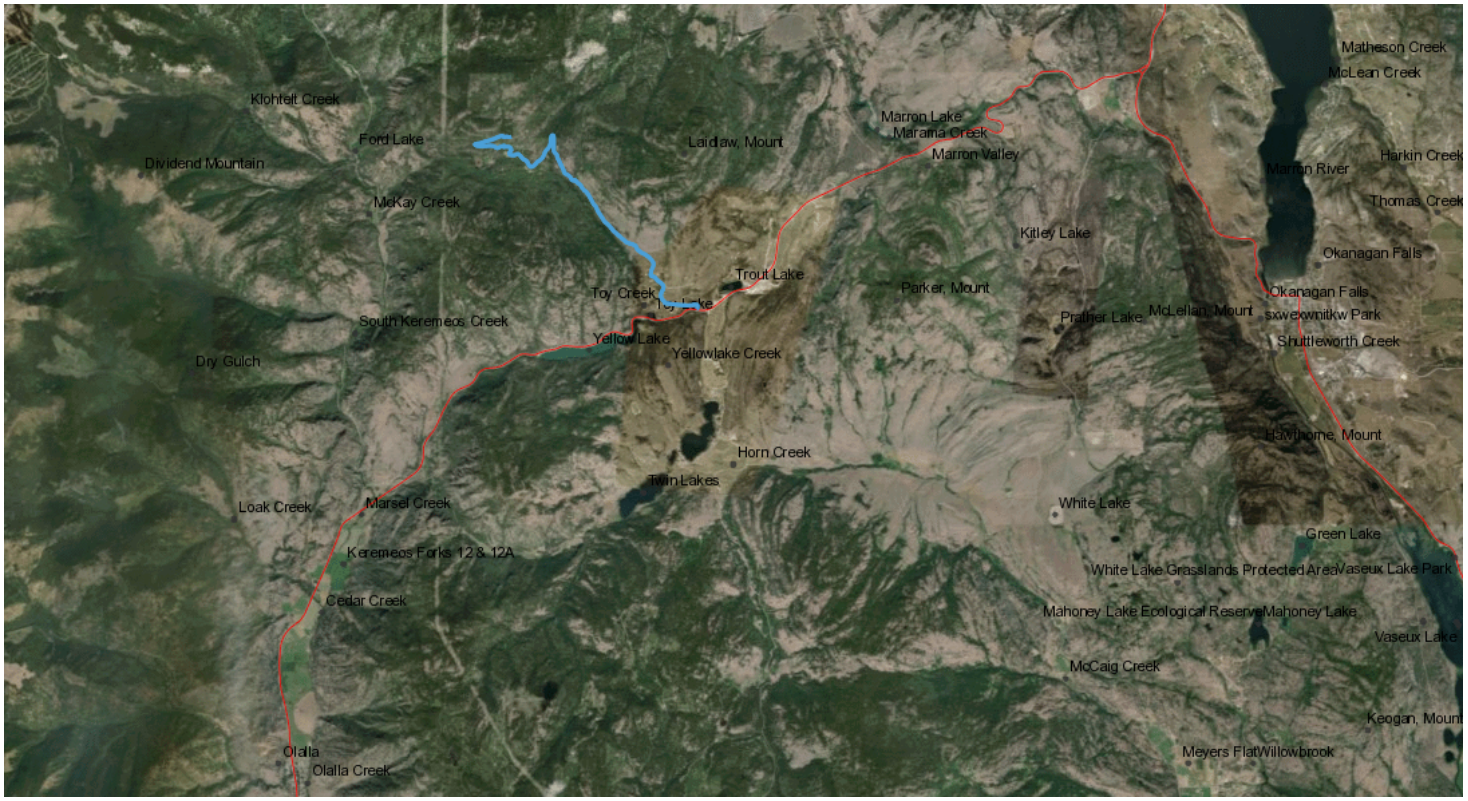
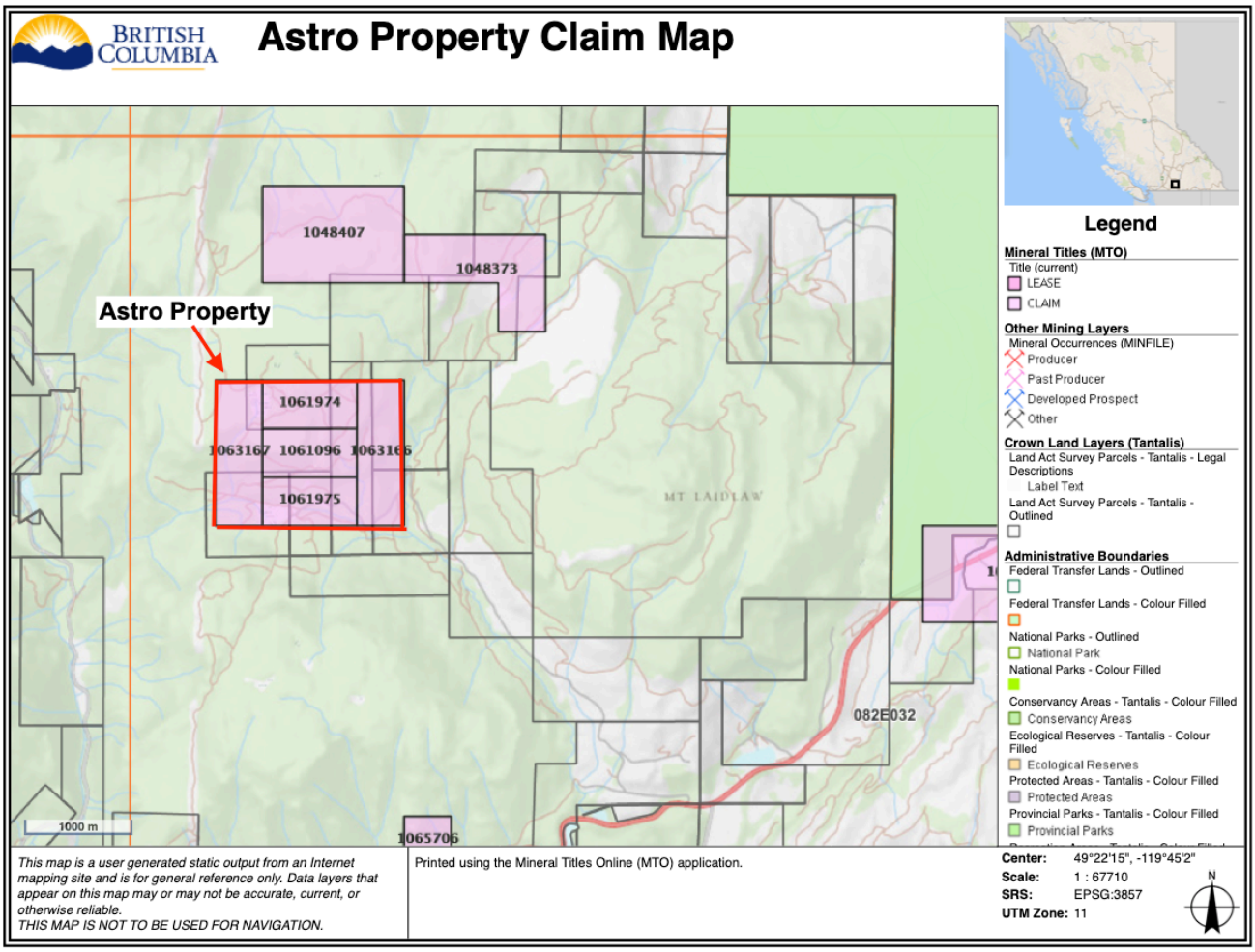


Figure 2 Regional Location Map of the Astro Property

Figure 3 Astro Property Claim Map



4.0 Access, Physiography, Climate and Infrastructure

4.1 Access

To reach the Astro property, Highway 3A is followed northerly from Keremeos for a distance of approximately 20 kilometres to reach the Sheep Creek Forest Service road turnoff located at the east end of Yellow Lake. This road is then followed north-westerly approximately 7 kilometres to reach the private house of a local landowner. Permission is required from the landowner to pass through a fence gate to drive the final 2 kilometres of road access to reach the Astro showing area. Several other gravel roads traverse the Astro Property

Alternately the Astro showing may be accessed via Hwy 3A by driving westward from Kaleden, on Skaha Lake for about 12 kilometres to the Sheep Creek Forest Service road turnoff located at the east end of Yellow Lake.

4.2 Physiography

The Astro Property area lies in an area of moderate sloped topography rising to a low-relief hilltop at 1400 metres in elevation. The southern portion of the Property (tenure #1061975) lies at around 1200 m elevation, in the area of the private landowner and Sheep Creek Road. Steeper slopes are found on the southeast corner of the property (tenure 1063166), where slopes reach down to 1100 m asl. Small bluffs and steeper slopes occur locally throughout the Property.

There are no known running creeks on the Astro property, however, two known swampy areas occur on the property area.

4.3 Climate and Vegetation

The Astro property is situated in the southern-Okanagan region of southern British Columbia. The region has a relatively dry climate, and snow cover in winter is generally moderate. The climate in the area is semi-arid with moderately warm summers and cold dry winters. Typical temperature ranges are from mid 20's to mid 30's ºC in summer and -5 to -10 ºC in winter.

For the most part vegetation consists of Jackpine forest, some of which has been infected with pine beetles.

4.4 Infrastructure

Several small communities such as Olalla, Keremeos, and Okanagan Falls surround the Astro property area. The economies of these small communities are generally focused on agriculture and tourism and are popular as retirement communities. Olalla is located 11.5 kms SSW of the Astro property on Highway 3A, while Keremeos is located 20 kilometres SSW of the Astro property at the junction of Highway 3 and Highway 3A. Okanagan Falls at the southern end of Skaha Lake is located 15 kms east of the Astro property.

The nearest larger city to the Astro property is Penticton (pop 33,000), at the south end of Okanagan Lake, and is located 18 kilometres northeast of the Astro property.

The largest city in the region is Kelowna (population 107,000) on the west side of Okanagan Lake, is located 70 kms north of Penticton. Kelowna is the main industrial, service, and supply center for this region.

The writer is not aware of any First Nations heritage claim, private surface rights, or environmental concerns covering the Astro Property that may affect mining, exploration or prospecting operations. The author is not aware whether or not the Astro property area is used for cattle range

5.0 History and Previous Work

The earliest record of work in the area dates back to the late 1800's with the discovery of the Giant Mascot and Hedley deposits to the west of the PDL property. Gold was also discovered on the nearby Dividend and Apex Mountains in the early 1900's. Several deposits, from which a significant amount of gold, silver, and molybdenum was shipped, were discovered at Olalla (Golconda) in the 1920's.

In the late 1960's there was renewed interest in the area for copper exploration. On the historic PDL claim located to the west of the current Astro Property, there is evidence of previous work in the Pre-Tertiary rocks but no published record of this work exists. A short (< 10 m) adit at the base of the cliffs cross-cuts a small massive sulphide lens. According to a local prospector (L. Reichert) this was dug in the 1930's. An old cased diamond drill hole and several bulldozer trenches were believed to have been completed in 1971, although no work was filed and no documentation exists for the early work on the showing area. In 1977 and 1979, the former Astro claim group was staked by Pacific Petroleum Ltd. (Petro Canada) focussing on uranium exploration

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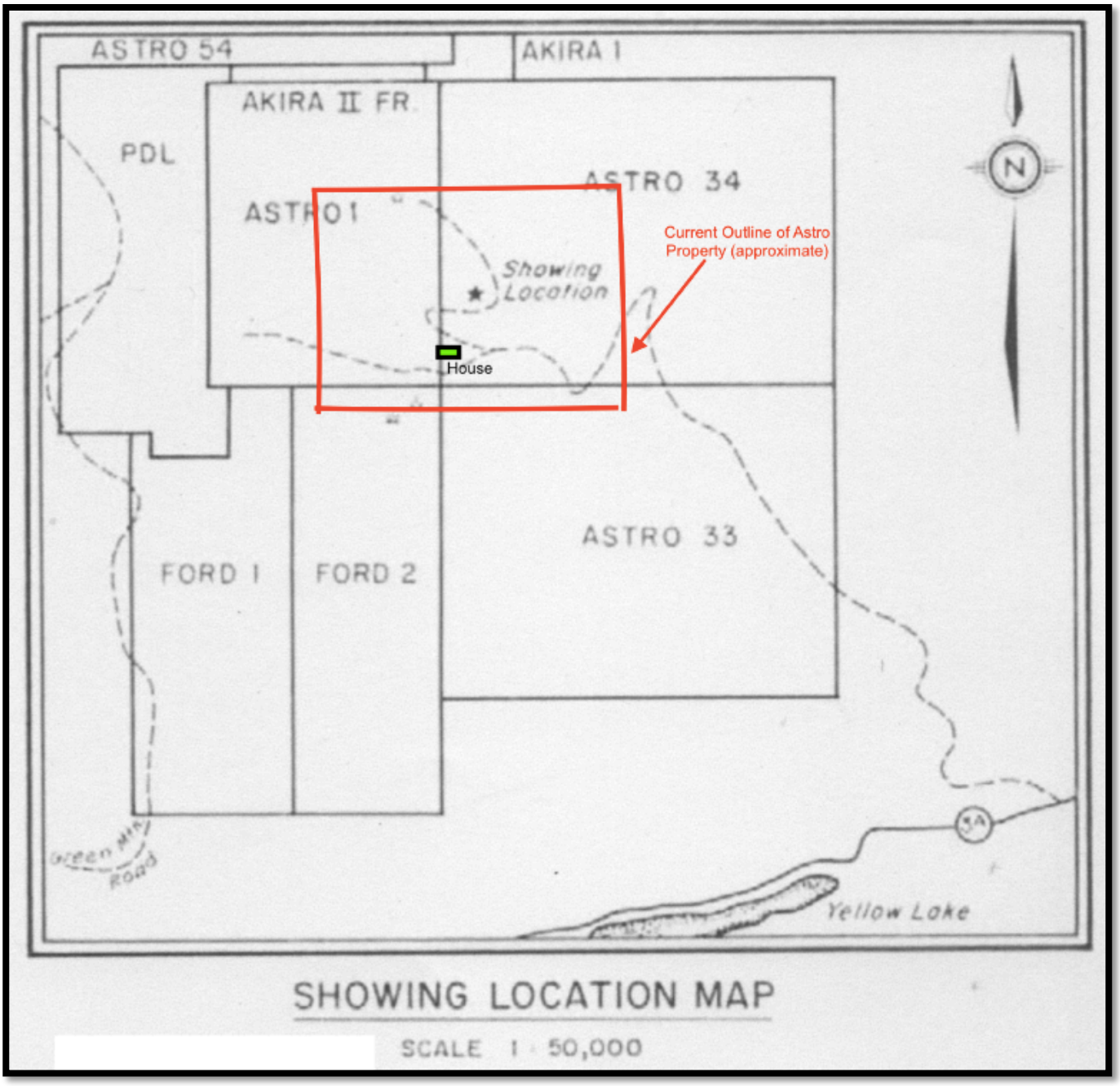

Figure 4 Historic Claim Map of PDL-Astro Property (1988)

In 1984 Placer Development Ltd. took a number of soil samples (Assessment Report 13199) on the PDL claim along the Keremeos Creek valley. Soil samples were anomalous in Au, As, Cu and Mo, which indicated a source on the east wall of the valley upstream of an alluvial fan.

In 1985, Placer completed EM/Mag geophysics and line cutting on their PDL claim (Assessment Report 14062). The claim is underlain by Triassic Shoemaker Formation cherts, some tuffs and greenstone

intruded by Cretaceous granite and overlain by the Palaeocene-Eocene volcanics. A well-defined fracture/fault set trending about N20E is evident from airphotos.

In 1986 QPX Minerals Inc. explored the PDL and Ford 1 claims located to the west of the current Astro property (Assessment Report 16674). A total of 496 soils and 164 rock samples were taken. Minor gold-bearing pyrite-arsenopyrite stringers were noted in cherts of the Shoemaker Formation on the eastern side of the PDL claim.

In 1987 QPX Minerals completed 3 NQ drill holes (524 m), took 301 rock samples, 3005 soil samples and 50 line kilometres of ground magnetics and EM, mainly on the Astro 1 claim, located immediately east of the PDL claim. A portion of this work was carried out the eastern side of the PDL claim (Assessment Report 18251). In 1988 QPX Minerals completed 23 trenches totalling 650 metres to test areas of anomalous geochemistry and geophysics (Assessment Report 18284).

Also during the 1988 exploration, an argillic-altered and silicified system in a biotite porphyritic andesite of the Marron volcanics was discovered on the Astro34 claim, which was optioned from Pacific Petroleum. The Astro alteration zone is located on the central tenure # 1061096 of the current Astro Property.

Later in 1988 and early 1989 QPX Minerals completed five reverse-circulation holes totalling approximately 250 metres and 5 trenches totalling 150 metres in the new showing area on their Astro 34 claim (Assessment Report 18527). Anomalous gold (up to 0.705 g/t Au), silver (up to 14.8 g/t Ag) and molybdenum (up to 0.15 %) values were obtained over a 3-metre interval from drill hole PDL-89-RC-2. The anomalous values were found to be associated with chalcedonic veinlets in argillically altered Kitley Member volcanics of the Marron Formation.

Magnetometer and VLF-EM surveys on 25-50 m spaced lines were completed over a 400 m x 400 m area. Three very well defined conductive lineaments with corresponding magnetic lows were identified, with only a small (50 m x 100 m area) portion of one of these anomalies tested by trenching and/or reverse circulation drilling.

In 1993 the claim database indicates that Petro Canada was owner of the Astro 34 claim and that the Company allowed the claim to lapse.

No significant recorded work has occurred in the area of the current Astro claims since the 1989 RC drilling program, even though the last recorded work recommended extensions of grid coverage for additional VLF-EM +/- Magnetometer surveys as well as a test soil survey over the showing area. Further trenching and diamond drilling of the current geophysical anomalies were also recommended.

In 2004, A. Travis carried out some minor reconnaissance rock and soil sampling around the Astro alteration zone. This work was carried out on the 6-unit claim Astro property, which was staked to surround the Astro alteration zone, explored by QPX Minerals in 1989. Some weakly anomalous values for gold, silver, arsenic and molybdenum were returned from several of the rock samples taken in and around the Astro alteration zone (Assessment Report 27469).

The following sections describe in greater detail the various exploration surveys carried out previously on the area of the Astro 34 claim. The author notes that the majority of exploration surveys since 1984 were focussed on the 1.5 km by 2.5 km PDL claim staked by Placer Dome Development Ltd in 1983. The original PDL claim mainly occupied the valley bottom of Keremeos Creek. Although the author provide details of work programs on the earlier PDL claim, it should be emphasized that the main focus of this report is to describe the economic potential of the Astro showing/alteration zone, previously situated on the pre-existing Astro 34 claim. The Astro showing area is situated in the center of the current Astro Property, currently held by G.D. Brown.

5.1 Geochemical Surveys

In 1984, Placer Dome Development Ltd. carried out a reconnaissance geochemical soil-sampling program on the original PDL claim, which measured 2.5 km N-S by 1.5 km E-W. A sinuous grid line was sampled for 2.1 km along the toe of a steep slope along the eastern stream bank of Keremeos Creek. A total of 69 soils samples were collected for analysis. The soils were weakly to moderately anomalous in gold, arsenic, copper, molybdenum, and cobalt, possibly indicating a mineral source originating in the steep valley wall above Keremeos Creek. The majority of the more anomalous values were obtained around the mid-point of the 2.0 km long sample line, in the area of an alluvial fan formed from detritus originating from the steep valley side. (Assessment Report # 13199)

In 1985 Placer Dome Development Ltd. carried out a more expanded soil sampling program on the PDL claim, consisting of a 1.7 km N-S baseline with 13.05 m of cross-lines, resulting in the collection of 244 soil samples submitted for analysis. Cross-lines were established on 100 m spacings and were located where topography would allow.

As with the previous soil-sampling program; geochemical values were generally low for most elements tested (Au, Cu, Mo, As, and W). One isolated soil sample ran 1.08 ppm Au, while several other soil samples ran 0.1 ppm Au to 0.3 ppm Au, along the eastern portion of the grid, where steeper topography terminated the eastern extent of grid lines. Anomalous arsenic values were associated with the higher gold values.

During the soil sampling survey two massive sulphide showings consisting of massive pyrrhotite and /or pyrite plus minor chalcopyrite were located in the southeast area of the PDL claim. This showing had

been tested in the past by a short adit (approx. 10 m long). Two drill collars were located as well as several cat trenches. It is believed that the original work on the showing area was carried out in the 1930's, but none of the early physical work (adit, drilling, trenching) was ever documented. Some of the later work at this location was believed to have been carried out in the early 1970's (Assessment Report # 14062).

In 1987, further geochemical soil and rock sampling was carried out on the PDL and the adjoining southerly Ford 1 claim. Minequest Exploration Associates Ltd., on behalf of QPX Minerals Inc, carried out the sampling work. A total of 490 soil samples and 164 rock samples were collected for analysis, with the majority of soil and rock sampling done on the old PDL claim. A small northerly portion of the previous Ford 1 claim lies on a minor portion of the southwest part of the current PDL claim, however, no anomalous results for either soil or rock sampling were found on the Ford 1 claim.

Of the 490 samples taken by Minequest, 285 soils were taken from a detailed grid established to cover the area of the known massive sulphide occurrence at the southeast corner of the earlier PDL claim. The detailed grid was established on 20 metre east-west cross-lines and 20 metre sample spacings, with the grid area covering approximately 320 metres by 320 metres, with variable cross-line lengths dependent on topographical features. Moderately anomalous coincident gold-arsenic soil values were found to occur within 20 metres to 40 metres of the known massive sulphide showing, but soil results did not demonstrate extensions or continuity to the known mineralized area.

Massive sulfides exposed at Trench 1 near the old adit, are anomalous in gold, arsenic and copper with maximum values of 490 ppb Au, 1439 ppm Cu, and 778 ppm As. The northern contact of the massive sulfide lens is faulted. The fault zone is about 1 m wide, with the fault gouge returning values up to 6920 ppb Au in a grab sample and 6650 ppb Au in a one-metre channel sample. The gouge was also anomalous in arsenic.

A number of east-west trending very narrow pyrite/arsenopyrite stringers with highly anomalous gold values (to 31,300 ppb Au) also occur. These stringers do not exceed widths of *5* cm and generally much narrower than this. The stringers were found along the base of the cliffs at the eastern side of the main grid area, specifically between the historical grid lines 107 N and 108 N.

Other than sample 556, which assayed 31,300 ppb Au, 2543 ppm Cu, 22.5 ppm Ag and 37,434 ppm As, five other samples taken in the near vicinity of sample 556 returned negligible values in gold, but were generally moderately to strongly anomalous in arsenic (Assessment Report 16674).

In 1988, the PDL property was expanded to include a number of Astro claims, optioned from Petro-Canada Ltd. The majority of the Astro claims were located north of the PDL claim. Immediately east

and adjoining the PDL claim was the optioned Astro 1 claim, measuring 1.5 km (E-W) and 2.0 km (N-S), which was extensively explored during the 1988 QPX Minerals exploration program.

During the 1988 exploration period, an extensive 50 km grid was established covering the entire Astro 1 claim and a portion of the eastern side of the PDL claim. Grid lines were established on 100 m line-spacings, with 10m soil sample station intervals. A total of 2,776 soil samples were collected from the grid area as well as an additional 229 soils collected from other traverses. A total of 72 rock samples were collected during the grid surveys as well as a further 64 rocks collected from other traverses.

Geochemical soil sample located eight areas of anomalous gold both on the Astro 1 claim and the eastern side of the PDL claim. These anomalous areas were based on a background value of 6 ppb Au with > 17 ppb Au considered anomalous with a maximum soil value of 780 ppb Au.

The anomalous soil areas trended NW-SE with moderate to strong correlation between anomalous gold in soil values and fault zones. Six of the eight anomalous gold areas were subsequently trenched with generally negligible results.

The best gold values for rock samples on the PDL and Astro 1 claims were obtained from the massive sulphide showing exposed in an old trench on the PDL claim. Although values up to 6,920 ppb gold (Lee, 1987) are associated with a fault bounding the showing, it is believed to have very limited extent and does not represent the current target sought on the current Astro property (Assessment Report 18251).

5.2 Geophysics Surveys

On the area of the historic PDL property, three geophysics surveys have been carried out. The first survey was carried out on the original PDL claim by Placer Dome Development Ltd in 1985. The Placer Dome geochemical-geophysics grid consisted of a 1.7 km N-S baseline with 13.05 km of E-W cross-lines. Magnetometer and VLF-EM surveys were carried out on 5.32 kilometres of the grid lines. Survey results were generally inconclusive with no magnetic response and four VLF-EM conductors attributed to topographic effects (Assessment Report 14062).

In 1988, Minequest personnel ran approximately 50 line kilometres of magnetometer survey over the Astro 1 claim and eastern portions of the PDL claim using a Scintrex IGS-2 proton magnetometer. Measurements of total magnetic field were recorded at 10 metre intervals on lines spaced 50 metres apart over the grid area.

The magnetic data was successful in distinguishing between the Marron volcanics and the Springbrook conglomerate and confirmed geological mapping. A number of north-south and east-west trending faults were also outlined.

MineQuest personnel, using a Scintrex IGS-2 machine, ran approximately 50 line kilometres of a VLF-EM survey over the same grid area. Measurements of tilt angle and quadrature were made at 10 metre intervals on lines spaced 50 metres apart over the grid area. The VLF-EM data supports the interpretation from magnetic data, as well as outlining a number of poorly conductive lineations (Assessment Report 18251).

In the late fall of 1988 a small grid was established over the Astro 34 showing. A 400 metre long baseline was run at azimuth 360 degrees with 4.6 kilometres of cross-lines spaced 25-50 metres apart. Lloyd Geophysics of Vancouver B.C using an EDA Omni Plus combination unit conducted the magnetometer and VLF-EM surveys.

Three very well defined, north-south trending conductors were identified by the VLF-EM Survey. The Astro showing area has received limited testing by trenching and reverse circulation drilling over only the central portion of the western most of the three well-defined conductive lineaments. Further follow up of these conductors is strongly recommended. Along portions of the strike length of the VLF-EM conductors there is excellent correlation with magnetic lows. These zones probably represent zones of alteration, likely silicification, related to N-S regional faulting and warrant deeper testing by diamond drilling (Assessment Report 18527).

5.3 Trenching

In 1988, a program of backhoe trenching was carried out in 6 areas of geochemically anomalous gold as determined by the earlier Minequest (QPX) soil sampling work, mainly on the Astro 1 claim and partially on the eastern part of the PDL claim. Twenty-three trenches, for a total of about 650 metres, were dug using a Case 580 backhoe (Assessment Report 18251). All trenches were mapped and sampled with a total of 202 channel samples taken for analysis.

The 1988 summer geochemical program outlined eight major geochemical anomalies testing for gold, silver, arsenic and copper. Six of these anomalies (1, 3, 4, 5, 6 and 7) were evaluated by trenching during this program. The remaining two anomalies, labelled as Anomalies 2 and 8, could not be trenched with the equipment available because of very steep topography.

The majority of the trenching work was carried out on the Astro 1 claim, east of the PDL claim. Anomaly 6 straddled the PDL-Astro 1 claim boundary, while Anomaly 7 tested the area of the known massive sulphide occurrence on the southeast corner of the PDL claim

The most westerly trenches (anomalies 6 and 7) exposed rocks of the Triassic age Shoemaker (chert) Formation, while the more easterly trenches exposed rocks belonging to the lower Eocene age Springbrook (conglomerate) Formation as well as post Eocene conglomerates. The most easterly trenches exposed either Springbrook conglomerates or Marron Formation volcanics. Several of the trenched areas encountered mainly north-south faulting.

Trench sampling on Anomaly 6, straddling the PDL-Astro 1 claim boundary, produced some localized anomalous gold to 280 ppb Au, likely originating from the Shoemaker chert unit. Trenching on Anomaly 6 exposed east-west faulting along the Shoemaker-Springbrook contact. This area of trenching was carried out immediately north of drill holes 88-001, 88-002, drilled earlier in 1988 (Assessment Report 18251)

Trenching on Anomaly 7 around the known massive sulphide showing on the PDL claim did not produce any positive results, further substantiating the limited extent of the mineralization at this location.

None of the 1988 trenched areas produced any areas of significant alteration or mineralization. In all, the 1988 trenching program did not demonstrate any prospective areas of alteration or mineralization, suggesting that the several areas of soil anomalies (Au +/-As, Cu) have been derived or concentrated through glacial depositional processes.

A further backhoe-trenching program was carried by QPX Minerals Inc. in late 1988 to early 1989 at the Astro alteration zone, within the then existing Astro 34 claim. The trenching program was carried out along a north-south strike distance of 140 metres (see figure 6) .

Assessment report (# 18527) indicates that 5 trenches totalling approximately 150 metres were dug in 1989 near the Astro showing area exposing a silicified zone within an argillically altered zone. Of the 150 metres of trenching only 112 metres achieved full bedrock exposure, mainly in trench 1 and trench 3, which were able to cross the full zone of argillic and locally silicified volcanics (18.0m to 20.0m wide). Deep overburden however made it impossible to follow the zone along strike with the equipment available. Only weakly anomalous gold values (to 235 ppb Au**)** and silver (to 7.8 ppm Ag) were obtained from trench samples. Several anomalous arsenic values were associated with the higher anomalous gold values.

Previous rock chip sampling on the Astro alteration zone had returned values to 1030 ppb Au (PDL 88-075) and 34.1 ppm Ag (PDL 88-077).

5.4 Drilling

In 1988, QPX Minerals Inc. carried out the drilling of three NQ diamond drill holes, two near the western boundary of the Astro 1 claim and one near the eastern boundary of the pre-existing PDL claim. The drill-holes totalling 524 metres were drilled to test the contact of the Springbrook conglomerate Formation with the underlying Shoemaker (chert) Formation. All three drill-holes crossed the Springbrook-Shoemaker contact; however, the drilling did not encounter economic gold values.

Drill-hole 88-001 1 was drilled vertically to a depth of 179.1 metres to test the depth to the Pre-Tertiary basement contact. The hole was located about 170 metres east of the chert/conglomerate contact marking the edge of the Tertiary basin. Drill-hole 88-002 was drilled from the same location as 88-001, at azimuth 280º and dip of -45, drilled to a depth of 181.5 metres.

Both drill holes crossed the Springbrook-Shoemaker contact, demonstrating that weak to moderately higher gold values occur in the Springbrook Formation, immediately above the Shoemaker (chert) contact. The vertical drill hole 88-001 returned anomalous gold values in two-3 metre sample intervals immediately above the contact. The respective values down the hole were 145 ppb Au from 153m to 156m and 320 ppb Au from 156m to 159m. The higher 320 ppb Au value (with 420 ppm As.) was at the immediate Springbrook-Shoemaker contact.

Drill-hole 88-003 was drilled approximately 100 metres west of the 88-001 and 88-002 drill site location. Drill-hole 88-003 was drilled to 162.9m on an azimuth of 270º and dip of -70º.
Faulting between 59.7 m to 67.1 m complicated the contact between the Springbrook Formation and the Shoemaker Formation.

Drilling of these three drill holes was difficult with much of the drilling carried out in the Springbrook conglomerates. There were extensive areas of faulting in the drill holes, resulting in poor or missing recovery as well as loss of water circulation due to the high rock porosity and faulting.

Although no economically significant gold values were found, the fact that anomalous values occur in the Springbrook Formation confirms a Tertiary mineralizing event, near the contact with the underlying Shoemaker Formation. It is particularly interesting to note that the highest values encountered occurred immediately above the basement contact in highly altered tuff. This is consistent with the hypothesis that fluids travelled up major faults and fractures in the basement rocks, moving out along overlying porous units and contacts.

QPX Minerals drilled a total of 5 reverse-circulation holes totalling approximately 250 metres in 1989 along 50 metres of strike (see figure 6). These drill holes tested the general area of the Astro showing/alteration zone, but only to relatively shallow depths. The first hole (PDL-RC-1) was drilled approximately 25 metres north of the main access road, while drill hole PDL-RC-2 was drilled at a location approximately 25 metres north of drill hole PDL-RC-1, and drilled easterly at -65 degrees. Three of the holes (PDL-RC-3, RC- 4 and RC-5) were drilled on the main access road, with holes angled easterly at -45, -80 and -90 respectively.

Drillhole PDL-RC-2, drilled on a westerly azimuth, contained the most significant results, which included an interval of 12.2 metres of 414 ppb Au, which included 6.1 metres of 650 ppb Au. The anomalous values in this drillhole occur approximately 10 metres below surface. Sample 89022 from drill hole PDL-RC-2 contained a 3.1 m interval from 13.7 m to 16.8 m, returning 705 ppb Au, 14.8 ppm Ag and 1543 ppm Mo. The stronger values in drill hole PDL-002 are associated with zones of silicification within argillically-altered volcanics. Zones of silicification were found in other drill holes but without significantly anomalous gold associated with the silicification. It also interesting to note that drill hole PDL-RC-02 was located at the north end of the five holes drilled, possibly indicating a strengthening of the mineral system towards the north.

It is noted that one of the more prominent structures represented as a well-defined gully in the area of the Astro zone occurs approximately 80 metres east of the area tested by the 1989 drilling and remains untested. As this area may represent a faulted channel-way for mineralizing solutions, it should be further investigated for its exploration potential. The 1989 drill testing was restricted to a small portion of one of three well defined conductive VLF-EM lineaments with corresponding magnetic lows.

6.0 Geological Setting and Mineralization

6.1 Regional Geology

The western half of the Penticton map area was first mapped by Bostock (1940, 1941a, 1941b). At this time massive and ribboned chert was referred to as the Shoemaker Formation and meta-andesite (greenstone) was known as the Old Tom Formation. Later, Rice (1947) found that the Shoemaker, Old Tom, Bradshaw and Independence formations could not be readily distinguished as distinct, mappable, regional-scale lithological units in the western-neighbouring Princeton map area. The informal name Apex Mountain Group (Complex), which includes the Old Tom, Shoemaker, Bradshaw and Independence formations, was adopted by Milford (1984). The Apex Mountain Group was divided into five major lithofacies: massive and bedded chert, greenstone, chert breccia, argillite and limestone. The depositional environment is interpreted to be generally deep ocean basin. Microfaunal ages in chert of the Shoemaker Formation provide unambiguous mid-Carboniferous ages. However, a much older maximum Late Devonian (Famennian) age has been obtained from several radiolarian and conodont

fauna in chert. Ordovician and Triassic (Ladinian-Carnian) conodonts have been found in limestone near Olalla. The conspicuous absence of Permian and Lower Triassic microfossils may indicate a period when rocks were fully subducted. The youngest Apex Mountain Group rocks and oldest Nicola Group rocks are interpreted to represent a transitional succession, based on their marked similarity in lithologies, spatial distribution and orientation. These rocks have been unconformably overlain by sedimentary and volcanic rocks of the Eocene Penticton Group. This succession forms the White Lake Basin, at least 2400 metres thick and bounded by normal faults. At the base, the Springbrook Formation forms a discontinuous basal conglomerate and breccia unit, locally up to 700 metres thick, derived from the underlying upper Paleozoic and older basement rocks. A rough estimate of fragments composition is: 70 per cent feldspar-rich andesite, 20 per cent grey and black chert, and 10 per cent chlorite schist and other unidentified fragments. The Springbrook Formation is overlain by more than 2100 metres of alkaline and calcalkaline lavas and related breccias of the Marron Formation. These volcanics are unconformably overlain by up to 1000 metres of rhyolite and rhyodacite of the Marama Formation. The overlying White Lake Formation consists of up to 1000 metres of interdigitated volcanic sandstone and conglomerate with feldspar porphyry lavas, lahars, pyroclastic rocks and volcanic breccias. The top of the succession consists of up to 900 metres of conglomerate and epiclastic volcanic breccia that are interpreted to be slide deposits dominantly of nearby Eocene volcanics and lesser pre-Eocene rock. These form the Skaha Formation.

Astro Property
Regional Geology

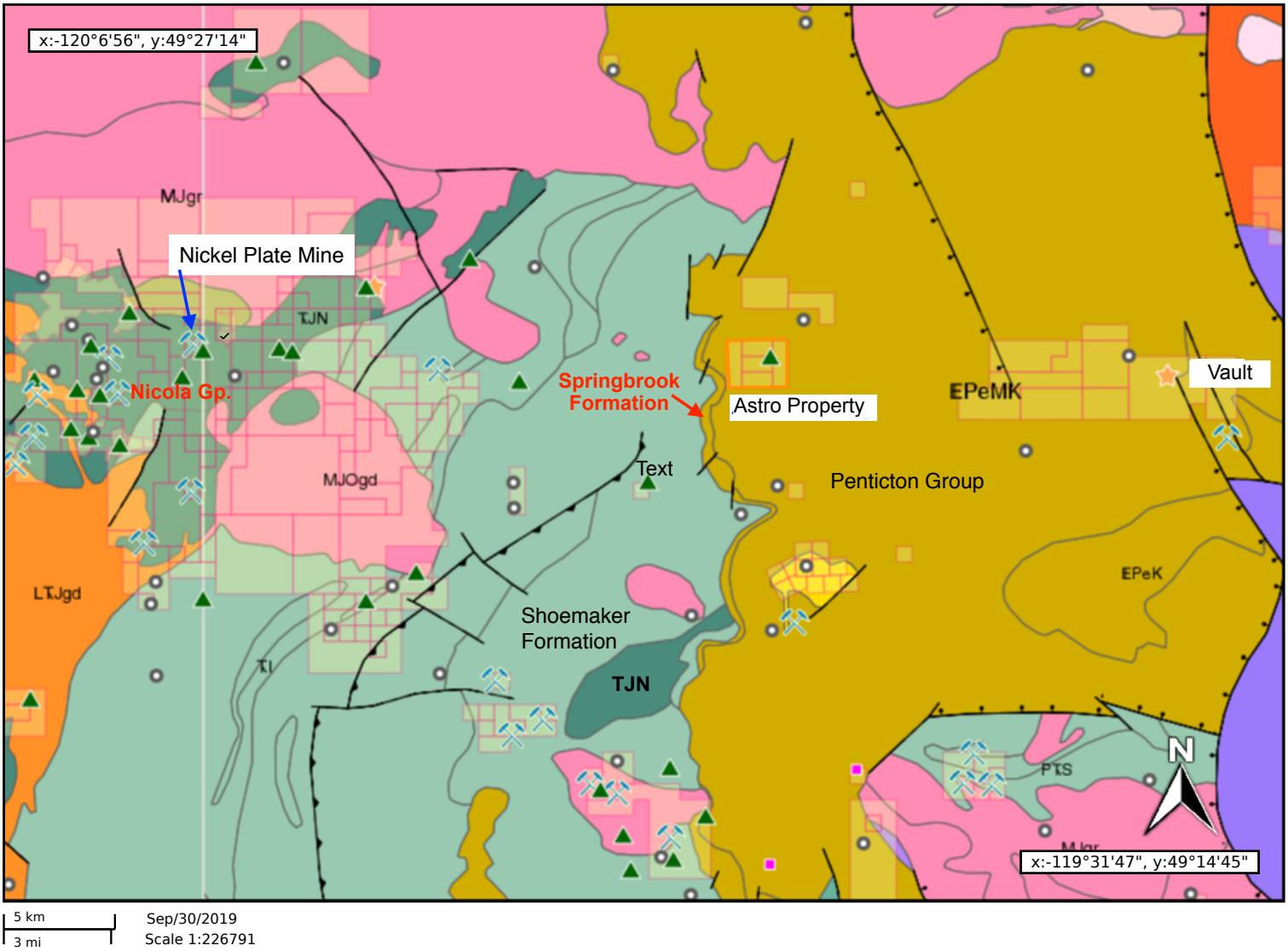

Figure 5 Astro Property Regional Geology Map

6.2 Property Geology

To the west of the current Astro Property, in the valley bottom of Keremeos Creek, the area is underlain by rocks of the Triassic or older Shoemaker, Old Tom and Independence Formations which consist mainly of cherts and greenstones. Minor small limestone bodies are also present which may locally be skarnified. In the area of the historic PDL and Astro 1 claims, the basement rocks are predominately cherts. Commonly, these cherts are brecciated and may contain minor disseminated pyrite.

The Paleozoic rocks, exposed to the west of the Astro Prperty are in contact with overlying rocks of the Lower Eocene Springbrook Formation. In Pre-Tertiary time, the Paleozoic cherts and greenstones formed a large basin which was later in-filled by Tertiary volcanics and sediments. The Pre-Tertiary/Tertiary contact is near vertical and striking north to northeast where exposed near the historical PDL-Astro 1 claim boundary. At this point the contact, which may be in part fault controlled, marks the western margin of the Pre-Tertiary basin. Drilling has indicated that east of here the basement contact dips shallowly to the east (Lee, 1988). The Springbrook Formation is composed of talus, alluvium and tuffaceous materials that accumulated in the Pre-Tertiary basin before deposition of the Eocene Marron volcanics. The Springbrook Formation consists mainly of a polymictic pebble to boulder conglomerate with clasts composed primarily of Paleozoic cherts and greenstones in a sandy, locally tuffaceous matrix. Locally the matrix may be bleached or altered to clays. Narrow carbonate stringers are common cutting both clasts and matrix of the conglomerate. Minor narrow sandstone and tuffaceous sandstone interbeds also occur. Where intersected by diamond drilling, the Springbrook Formation exceeds 100 metres in thickness (Lee, 1988).

A number of narrow medium to coarse grained dykes of quartz diorite, diorite or porphyritic latite composition cut the Triassic or older cherts and greenstones (Lee 1987). Clasts of these intrusives are also contained in the Springbrook conglomerate. A single outcrop exposure was mapped where a narrow dyke of similar composition intruded rocks of the Springbrook Formation. Whether the dykes represent a single intrusive episode, coeval with the deposition of the Springbrook Formation, or whether two episodes of intrusion occurred is unclear.

Overlying the Springbrook Formation un underlying the entirety is a series of phonolitic basaltic and andesitic Flows of the Marron Formation. The lowermost four members of the Marron Formation, the Yellow Lake, Kitley Lake, Kearns creek and Nimpit Lake members are exposed on the property. Church (1973, 1982) describes each of these members in detail.

A conglomerate of uncertain age, but at least post-Marron is exposed in a number of trenches on the Astro 1 claim (Lee, 1989). This conglomerate consists of sub-rounded pebbles and rare boulders of Marron volcanics, Post Triassic intrusions and Triassic and older basement rocks.

The matrix is very fine grained with minor euhedral biotite and pyroxene crystals and up to 5 per cent rounded quartz pebbles. The origin of this unit is somewhat uncertain. Topographically and stratigraphically, the conglomerates occur several hundred metres above the basement Triassic rocks. The conglomerates are always in close proximity to a fault of regional importance, suggesting that the chert content of the conglomerates was derived through the exhumation of the chert fragments along fault structures.

Finally, narrow coarse-grained granodiorite dykes have been exposed in several trenches (Lee, 1989). These dykes are strongly weathered and crosscut the post-Marron conglomerate with the dykes trending north-south. Narrow quartz stringers may occur in these dykes.

A series of north to northeast trending near vertical block faults occur on the PDL property. Information obtained from drilling suggests that movement on these faults is down to the east. Trenching has also intersected a number of east-west faults. Faults up to 17 metres wide, are commonly marked by extensive zones of clay gouge (Lee, 1988).

Other than the known massive sulphide (Pyrrhotite, pyrite +/- chalcopyrite) occurrence located at the southeast portion of the historical PDL, the only other known mineralization is found at the Astro alteration zone where anomalous values of gold silver and molybdenum occur associated with fine chalcedonic veining. The style of alteration and geochemistry at the Astro zone (Minfile No 82ESW-190) is indicative of a low sulphidation epithermal gold environment.

The Kitley Lake Member of the Marron Formation underlies the area trenched and drilled during the 1988-1989 QPX MINERALS LTD. programs on the Astro 34 claim. The Kitley Lake Member consists of brown to reddish coloured feldspar biotite porphyritic andesite, commonly containing zeolite filled amygdules. The Astro 34 showing (Astro zone) is locally exposed in outcrop and consists of argillic alteration and silicification of these volcanics, with narrow chalcedonic veinlets. Previous sampling (Lee, 1989) returned values to 1229 ppb gold associated with these chalcedonic veinlets. Locally, very narrow quartz stringers are seen in the volcanics.

Trenching at the Astro zone exposes a north-south trending belt of clay alteration up to 20 metres wide over a strike length of 140 metres. The alteration zone is still strong where lost due to thick overburden. Minor amounts of propyllitic alteration occurs both marginal to, and within the clay-altered zone.
Clay alteration surrounds a silicified core, up to three metres wide, well exposed in Trench 1. The core consists of brecciated clay-altered volcanics cut by a network of hairline chalcedonic veinlets with weak

pervasive silicification. Extensive limonite staining of altered rock and local pyrite boxwork indicate the presence of pyrite in the un-weathered rock.

This was confirmed by drilling, where quantities of 1%-5% pyrite were observed in drill chips.

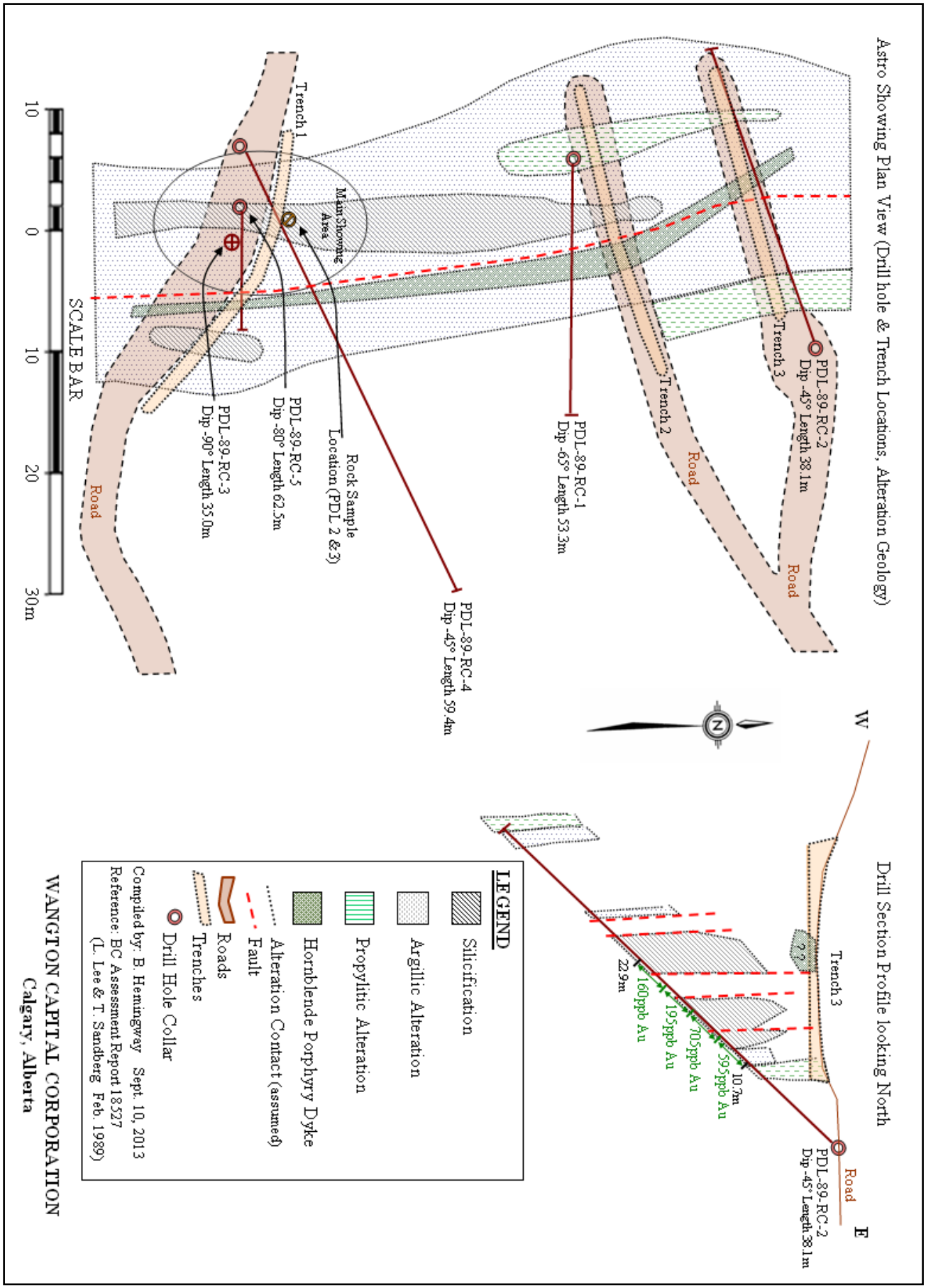

Figure 6 Trenching and Drilling Map (1988) of Astro Zone

7.0 Deposit Types

Other than the known Astro zone, there are no mineral deposits or mineral showings in the immediate area of the Astro Property. There are certain geological attributes on the property that suggest potential for the discovery of an epithermal gold type deposit. Such mineral properties as the Vault (Minfile 082ESW-173) and Dusty Mac (Minfile 082ESW-078) situated within several kilometres to the east of the Astro property are typical epithermal deposits and share certain characteristics and geological features as are found on the Astro property.

"An epithermal gold deposit is one in which the gold mineralization occurs within 1 to 2 km of surface and is deposited from hot fluids. The fluids are estimated to range in temperature from less than 100C to about 300C and, during the formation of a deposit, can appear at the surface as hot springs, similar to those found in Yellowstone National Park (in north-western Wyoming, southern Montana and eastern Idaho). The deposits are most often formed in areas of active volcanism around the margins of continents.

Epithermal gold mineralization can be formed from two types of chemically distinct fluids -- "low sulphidation" (LS) fluids, which are reduced and have a near-neutral pH (the measure of the concentration of hydrogen ions) and "high sulphidation" (HS) fluids, which are more oxidized and acidic. LS fluids are a mixture of rainwater that has percolated into the subsurface and magmatic water (derived from a molten rock source deeper in the earth) that has risen toward the surface. Gold is carried in solution and, for LS waters, is deposited when the water approaches the surface and boils. HS fluids are mainly derived from a magmatic source and deposit gold near the surface when the solution cools or is diluted by mixing with rainwater. The gold in solution may come either directly from the magma source or it may be leached out of the host volcanic rocks as the fluids travel through them. In both LS and HS models, fluids travel toward the surface via fractures in the rock, and mineralization often occurs within these conduits. LS fluids usually form large cavity-filling veins, or a series of finer veins, called stockworks, that host the gold. The hotter, more acidic HS fluids penetrate farther into the host rock, creating mineralization that may include veins but which is mostly scattered throughout the rock. LS deposits can also contain economic quantities of silver and minor amounts of lead, zinc and copper, whereas HS systems often produce economic quantities of copper and some silver. Other minerals associated with LS systems are quartz (including chalcedony), carbonate, pyrite, sphalerite and galena, whereas an HS system contains quartz, alunite, pyrite and copper sulphides such as enargite. Geochemical exploration for these deposits can result in different chemical anomalies, depending on the type of mineralization involved. LS systems tend to be higher in zinc and lead, and lower in copper, with a high silver-to-gold ratio. HS systems can be higher in arsenic and copper with a lower silver-to-gold ratio." (Northern Miner Mineral Deposit)
Webpage (http://www.northernminer.com/resources/tools/geology101/)

Many countries have epithermal gold deposits, including Japan, Indonesia, Chile and the western U.S., each of which occupies a portion of the "Rim of Fire," the area of volcanism that rings the Pacific Ocean from Southeast Asia to western South America. Epithermal gold is also found in British Columbia at the Baker mine, in the Toodoggone district, and near the Taseko River.

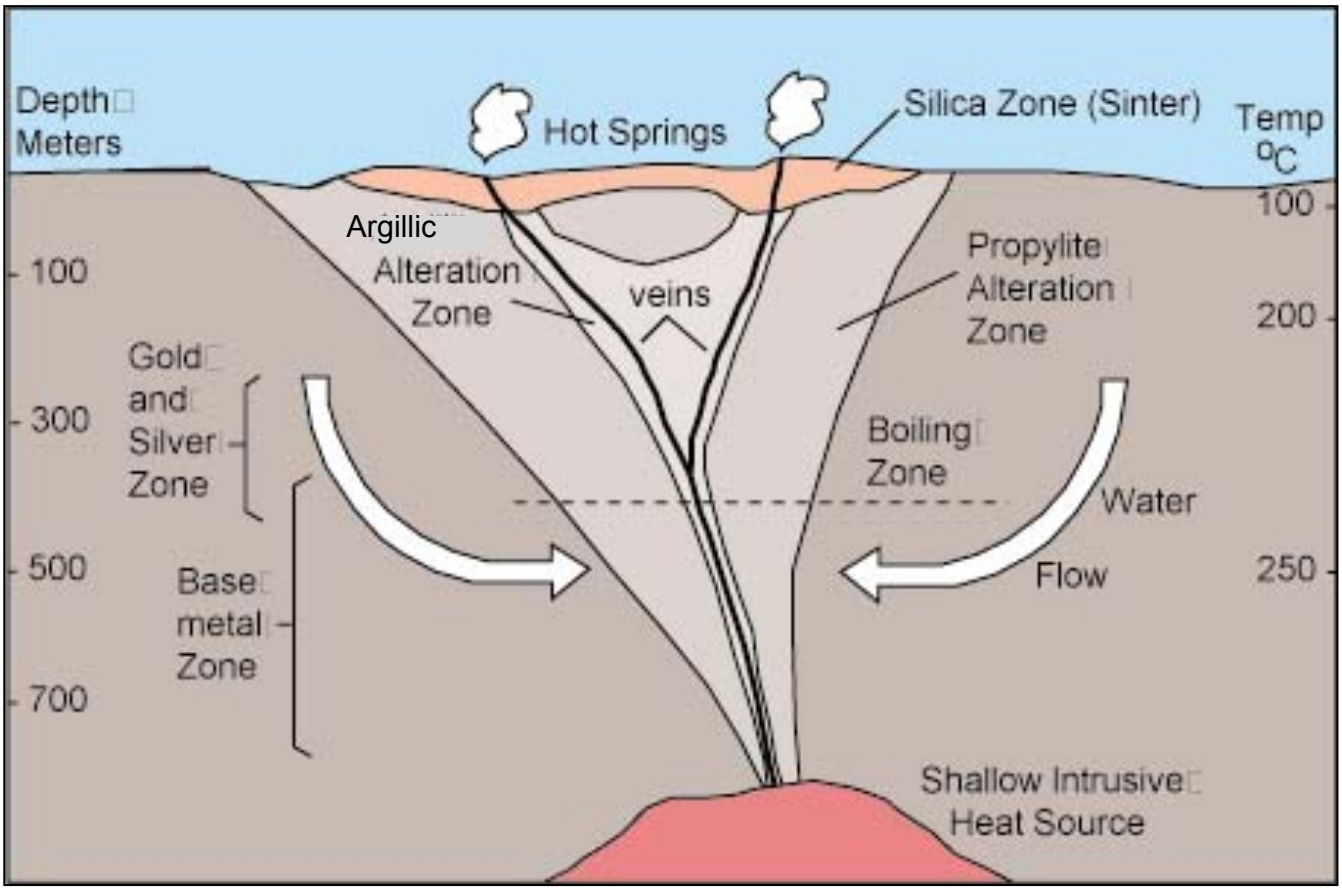

Figure 7 Epithermal Deposit Model

The following excerpt from the online Minfile geological description for map area 082ESW provides geological descriptions of the Vault and Dusty Mac mineral properties, lying 10 to 15 kilometres east of the Astro property, respectively:

"Production from the **Dusty Mac (082ESW078)** epithermal gold and silver deposit was carried out intermittently between 1969 and 1976. The Penticton Group volcanics has been an exploration target for epithermal-style, precious metal mineralization. The hostrocks of the Dusty Mac are part of the White Lake Formation of the Penticton Group, which consists of light coloured pyroclastic rocks, thick feldspathic andesite lahar deposits, minor andesitic lavas, and minor sandstones and carbonaceous shales. Mineralization appears to be structurally controlled by a system of reverse faults. The deposit consists of a lens-like zone of silicified volcanic rocks and sedimentary debris containing disseminated pyrite, native silver, chalcopyrite, galena, sphalerite with minor bornite and tetrahedrite. Silicification was multi-episodic, varying from discrete laminated chalcedony veins to quartz breccia bodies. Distal propyllitic and proximal sericitic, argillic and potassic alteration completes vein alteration types. The Dusty Mac produced 93,295 tonnes of ore from which 10,552,750 grams of silver, 606,006 grams of gold, 2432 kilograms of copper, 2312 kilograms of lead and 242 kilograms of zinc were recovered.

The **Vault (082ESW173)** epithermal deposit, near Skaha Lake, was subsequently discovered 5.5 kilometres to the northwest of Dusty Mac. Principally, the Marama Formation underlies the Vault property. Drill-hole information indicates that alteration is dominated by an elongate zone of intense silicification (chalcedony) and multi-stage stockwork veining, near the Kitley Lake Member contact. Veins in the main mineralized zone have typical adularia-sericite-type epithermal textures. Argillic (clay) alteration is also present along faults. Higher precious metal grades generally correlate with the increasing intensity of silicification. The sulphide content associated with precious metal mineralization is typically low. Gold and silver are not visible with the naked eye but likely occur as native elements or possibly electrum. Native gold is found associated with pyrrhotite. Indicated reserves for the North zone are 152,000 tonnes grading 14 grams per tonne gold. On a regional and vein scale, mineralization at the Dusty Mac and Vault is structurally controlled by major northeast and east-trending faults and parallel fracture systems. In part, mineralization is also lithologically controlled by brecciation in the lower Marama Formation where the porosity and permeability of volcanic breccias and tuffs is highest".

Also in the general area is the historic Olalla mining camp, located approximately 11.5 kilometres SSW of the Astro zone. Past exploration has focused on mineralization related to the Olalla alkalic complex. The main producers from this mining camp and the surrounding area were the **Dolphin** (082ESW012), **Sunrise** (082ESW015), **Golconda** (082ESW016) and **Olalla** (082ESW096). Total production from these four mines was 1842 tonnes from which 41,677 grams of silver, 4977 grams of gold, 45,502 kilograms of copper, 765 kilograms of lead, and 2660 kilograms of molybdenum were recovered. All deposits occur as narrow quartz vein and/or shear-hosted deposits along the contact or adjacent to the Olalla alkalic complex, within rocks of the Shoemaker Formation or Old Tom Formation.

8.0 MMI Survey Description

The current exploration work program consisted of a one-day property visit to the Astro property on July 10, 2019. The author, in the company of two assistants collected 24 MMI soil samples over the area of the Astro alteration and mineral zone. The MMI sample sites were, flagged and locations were recorded using a hand-held GPS device. All soil samples were collected using strict MMI sampling procedures and placed in plastic bags labeled with an identifying code. The samples were kept in the possession of the author and were personally delivered by him to the lab of SGS Canada Ltd., Burnaby, BC, on July 15, 2019. The MMI samples were analyzed for a multi-element suite of elements, with analytical results provided in Appendix 2 and MMI analytical procedures described in Appendix 3, at the back of this report

The 2019 MMI sampling program was carried out in area previously soil sampled by the author in 2014. In 2014, a former mineral claim containing the area of the current Astro Property was under option to Victory Ventures Inc. On behalf of Victory Ventures, the author in the company of geologist, Mr. A.B. Hemingway carried out a small soil-sampling program with sampling work done on two separate

property visits (June, 2014, August, 2014). A total of 41 soil samples were collected and analyzed, however the costs associated with the soil-sampling program were never used for assessment credits.

The 2014 soil-sampling program was carried out over several short lines, mainly on 20-metre sample-spacings, to test areas of possible interest within and near to the known Astro alteration zone.

During the 2019 MMI sampling program, a number of the flagged soil sample sites from the 2014 sampling program were located and tied into the MMI sample survey. For the purpose of this report, the results of the 2014 soil-sampling program have been combined with results from the 2019 MMI soil-sampling program. The 2014 soil sample lines/sites have been superimposed on figures 8 and 9 with the MMI sample sites, using a best-fit placement for the 2014 soil sample locations. The gold values (in ppb) for the 2014 sample surveys, along with the 2019 MMI sample results, are shown on Figure 9,.

One of the 2014 soil sample lines (Line 1N) is not included in the discussion of this report. Line 1 N was located south and downslope from the roadside exposure of the Astro zone. The soil samples collected From Line 1 N, contained excessive angular rock talus and were not considered a reliable sampling medium. However, the results of samples collected from Line 1N are reported in Appendix 2(B).

Comparisons can now be made between the two types of sampling procedures and their respective results can be used to determine their applicability in further sampling work for the Astro mineral zone.

The two sampling programs, from 2014 or 2019 returned anomalous results for various metallic elements, particularly for gold, silver and molybdenum. These elements present a geochemical signature indicative of a low-sulphidation epithermal mineral system. The most strongly anomalous values occur within the area of the historic (1988) Astro zone trenches (Trench 2 and Trench 3). In the area of the trenches, higher gold values are associated with higher anomalous values in silver and molybdenum (see results summary tables in Appendix 1)

It was recognized that the second set of soil samples taken in September, 2014 reported considerably lower values than those of the June, 2014 set of soil samples, particularly for silver values, although a number of these samples were taken in a similar area as that of the July 2014 set of samples. The author suggests that analyses procedures between the two sets of samples may have undergone a variation in the analyses procedures, thus creating a disparity between the two sets of sample results.

Photo: Astro Roadside Showing Area: (View looking North)

9.0 Discussion of Survey Results and Conclusions

The current MMI sampling program at the Astro zone reported elevated values in gold, silver and molybdenum. These anomalous values as well as associated weakly anomalous arsenic and zinc are commonly associated with the upper levels of a low sulphidation epithermal system.

As the two sampling surveys use different analytical procedures, the interpretation of results between the two survey types cannot be compared directly. For the 2014 soil sampling survey, gold values between 3-5 ppb Au are considered moderately anomalous, while values exceeding 5 ppb Au are considered strongly anomalous. For the 2019 MMI soil survey, gold values of 0.3 ppb Au to 0.5 ppb Au are considered moderately anomalous, while gold values exceeding 0.5 ppb Au are considered strongly anomalous. Silver and molybdenum values between the two survey types must also be interpreted separately to determine significant anomalous levels between the two survey procedures

.

The following table shows comparisons between anomalous soil sample results from both the 2014 soil sampling survey and the 2019 MMI soil sampling survey. The table shows a comparison between several sample results taken in the area of Trench 2 and Trench 3, which show a clear association for anomalous values in gold, silver and molybdenum. Values indicated in **bold** print are considered significantly anomalous.

Sample Number	Sample Type	Gold (ppb)	Silver (ppb)	Mo (ppm/ppb)
L 3N, 0+20 E	Standard ICP	**9.4**	**411**	**6.06 ppm**
GA 1	MMI	**1.0**	**34.3**	**6.0 ppb**
GA 2	MMI	**0.6**	**47.7**	**15 ppb**
GA 3	MMI	0.3	14.7	**10 ppb**
GA 12	MMI	**0.5**	**28.3**	Negligible
GA 13	MMI	**0.7**	17.7	"
GA 14	MMI	0.2	**32.2**	"

Table 2 Astro Zone Anomalous Soil Results

During the soil sampling programs a well-defined gully feature was located approximately 80 metres east of the known Astro epithermal alteration zone. This gully is interpreted to represent a N-S fault structure. Detailed sampling in the area of the gully/fault structure has returned weak to moderately anomalous values in gold and/or silver.

The table below summarizes anomalous results of several soil samples taken from the gully/fault zone, lying approximately 80 metres east of the known Astro alteration zone.
No anomalous values for molybdenum were returned from the gully sampling area.

Sample Number	Sample Type	Gold (ppb)	Silver (ppb)
L 3N, 1+00 E	Standard ICP	2.2	**471**
L3N, 1+20E	Standard ICP	**76.4**	**120**
L2+60 N, 1+20E	Standard ICP	**9.2**	**-**
GA 17	MMI	0.2	**33.9**
GA 18	MMI	0.4	**74.4**
GA 23	MMI	0.3	**39.0**

Table 3 Astro Zone Anomalous Soil Results (gully area)

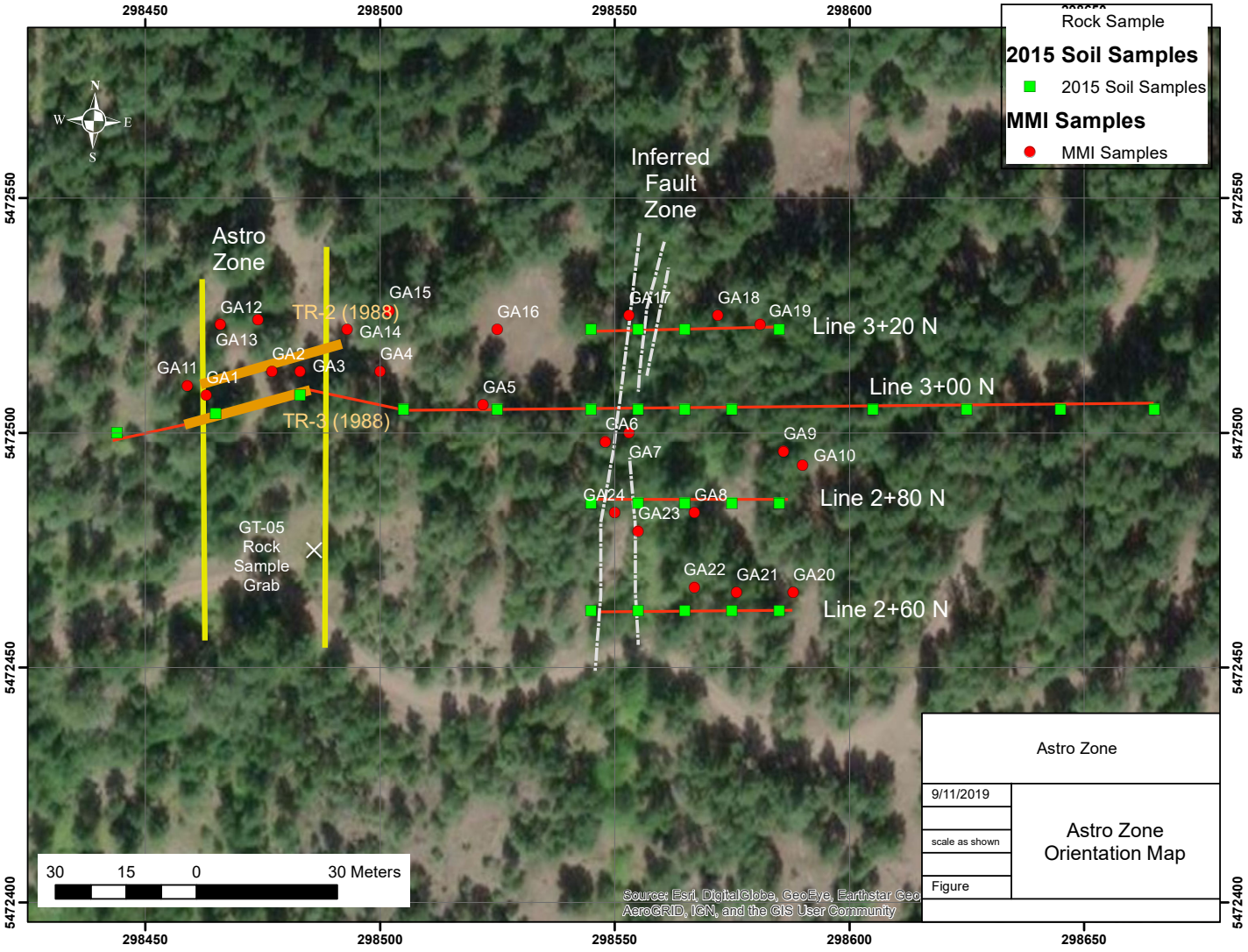

Figure 8 Astro Zone Orientation (Soil Sample Location) Map

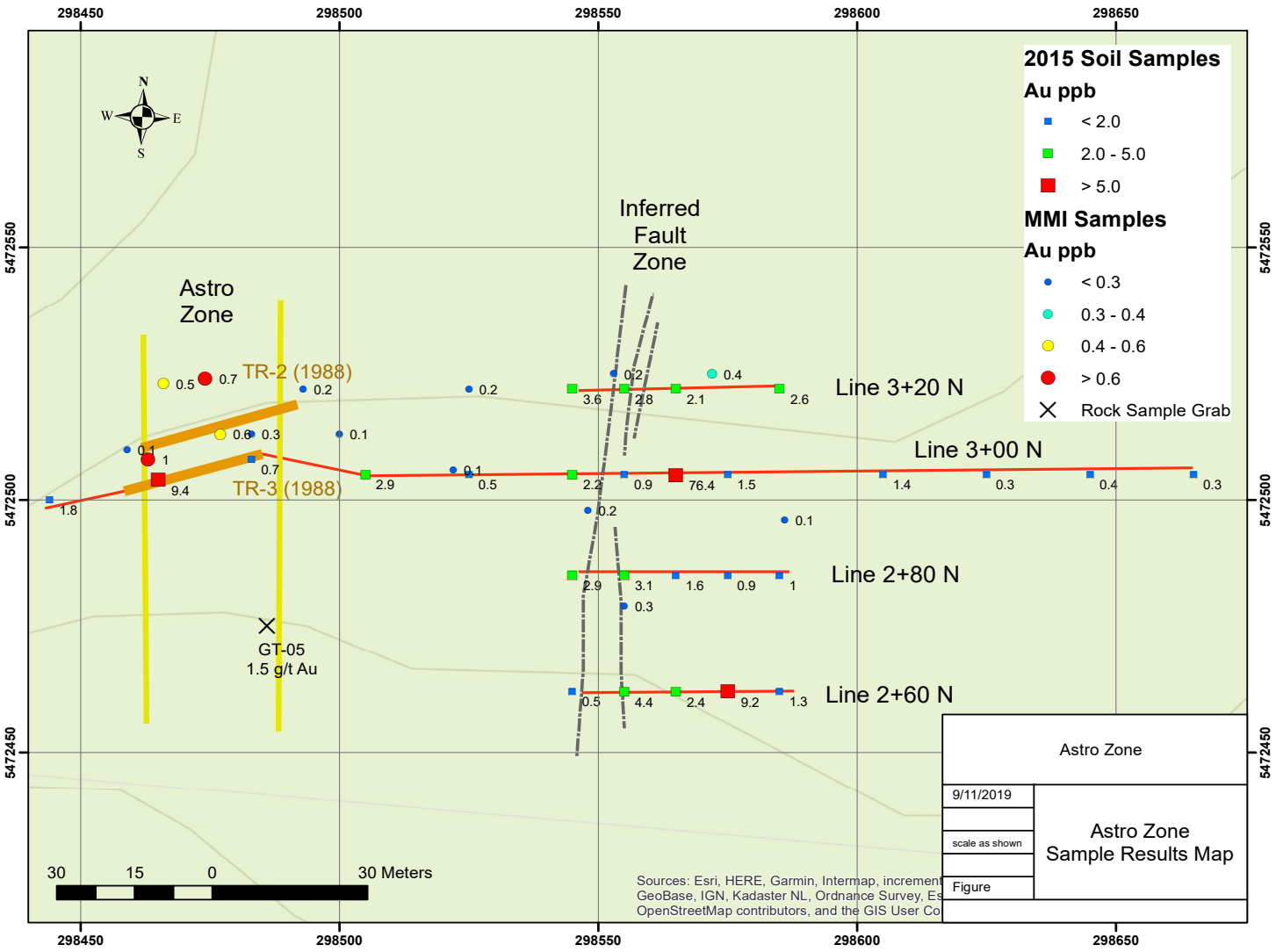

Figure 9 Astro Zone Results Map (Au)

10.0 Recommendations

The Astro mineral zone has seen no significant exploration work carried out since the QPX Minerals Inc. program of 1988/89. The QPX work consisted of geological mapping and rock sampling, geophysical surveys (Mag, EM) trenching and the drilling of 5 reverse-circulation drill holes. The exploration work carried out by QPX Minerals in 1988 was useful in providing a 'first-look' evaluation for the geological understanding of the Astro zone, but to date the overall mineral potential of the Astro epithermal zone has yet to be adequately evaluated.

The current MMI soil-sampling program was carried out to better evaluate the geochemical signature of the Astro alteration/showing area. The Astro showing area lies within a zone of alteration, which bears the geochemical signature of epithermal-style mineralization, probably associated with a deep-seated regional north south fault system. Geophysics and limited shallow reverse-circulation drilling of the Astro zone, in 1988/89, suggests that the associated hydrothermal alteration zone is open to depth and along strike, but the nature or extent of the Astro zone is currently not well understood.

The results of the 2014 soil sampling program and the 2019 MMI soil-sampling program indicate the presence of low-sulphidation epithermal style mineralization at the Astro zone. This mineralization is contained within a zone of slicification containing fine chalcedonic veinlets.
It is within this zone of silicification/veining where anomalous gold +/- silver, molybdenum values are most strongly associated.

The 2014 soil sampling survey results and the 2019 MMI soil sampling results indicate that anomalous values for gold, silver and molybdenum are present at the Astro mineral zone. The comparisons between the two types of surveys suggest that further soil sampling on the property area use only one sampling procedure, rather than creating confusion between two types of procedures. It appears unnecessary to continue the use of the more expensive MMI sampling method for the Astro Property, as the non-MMI soil sampling method, as used in the 2014 soil-sampling program, appears to be an adequate method for detecting anomalous levels of gold and other metals.

The author recommends that a more consistent and expanded soil-sampling program be carried out for the immediate area of the Astro mineral zone. Where topography allows, a small soil grid should be established northward from the road exposure of the Astro zone, for a distance of at least 400 metres. The soil grid lines need only be 200 metres to 300 metres long, avoiding steep drop-off topography to the east. Grid lines should be close-spaced at 25 metres apart, with sample stations established on 20-metre spacings.

Based on results from the soil sampling survey, a diamond drill program is recommended to test the areas of strongest anomalous soil values, mainly focussing on coincident Au +/- Ag, Mo values. Results of previous magnetic and VLF-EM surveys should also be taken into consideration in combination with the results of future geochemical surveys, when planning for drill targets. It may be argued that a diamond-drilling program should not be carried out based primarily on the results of a soil geochemical survey. Possibly another geophysical program such as IP may be justified in the future, but such a program should be driven by some encouragement and added geological context, as would be provided by an initial small program of diamond drilling.

In total, it is anticipated that six drill holes should be drilled from approximately 250-metres to 350- metres depth in each hole, at least to reach the Shoemaker contact with the overlying Springbrook Formation. Previous operators (QPX Minerals) have partially tested a small area of the Astro showing/alteration zone, using reverse circulation drilling to shallow depths. This drilling did not penetrate through the Kitley Lake member of the Marron formation and fell short of the prospective horizon at the Springbrook-Shoemaker contact; nevertheless the drilling showed encouraging gold values at shallow depth, with suggested downward widening of the zones of silicification, as determined in the 1989 reverse-circulation drill holes.

Finally, it is recognized that results obtained to date at the Astro mineral zone have not returned economically high results for either rock or soil samples. The highest known values for rock samples analyzed, to date, range between 1 g/t Au to 1.5 g/t Au. It is however important to recognize that such anomalous gold values and associated anomalous values in other elements are providing geochemical signatures indicative of the upper levels of an epithermal mineral system. This mineral system has never been adequately evaluated to what could be a more prospective mineral environment, at greater depth.

11.0 Cost of Current MMI Exploration Survey

Wages: July 13 (1/2 day)15, 16 (1/2 day), 2019

G. Thomson, P.Geo.	2.0 days @ $600/day	$ 1200.00
G. Brown	2.0 days @ $300/day	$ 600.00
G. Davidson	2.0 days @ $300/day	$ 600.00
Transportation:		
Transportation; (4x4 vehicle) 2 days		$ 200.00
Gas		$ 336.67
Motel		**$** 164.46
Meals		**$** 121.82
Analytical Costs		
SGS Minerals Ltd		$ 1064.70
Report Costs:		
Reporting writing; 3.0 days @ $500/day		$ 1500.00
Drafting		$ 350.00
Total Cost of Current Exploration Survey		**$ 6,138.18**

12.0 REFERENCES

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CERTIFICATE OF CONSULTANT

I, Gregory R. Thomson, P.Geo, am the author of this report entitled "Geochemical Report on the Astro Property", do hereby certify that:

I am a consulting geologist of:
Thomson Geological: 40 – 21928-48th Avenue, Langley, British Columbia, Canada, V3A 8H1.

This certificate applies to the report entitled "Geochemical Report on the Astro Property", Osoyoos Mining Division, British Columbia, Canada; NTS Map 082E032, Northing: 49° 22' 21", Easting: 119° 46' 30'', UTM Zone 11 (NAD83)",
Dated: October 13, 2019

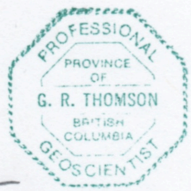
I have B.Sc. degree in Geology from the University of British Columbia, Vancouver, Canada, 1970.

I am registered as a Professional Geologist in British Columbia, Canada (License #: 20649). I have been practicing my profession continuously since 1970, and have over forty years of experience in mineral exploration for gold and base metals.

I have visited the Astro Property area on four previous property visits, to carry out minor rock and soil sampling on behalf of a previous optionee of the Property area. I supervised the MMI sampling program carried out on the Astro mineral zone on July 10, 2019.

I personally submitted the MMI samples for analysis to SGS Labs on July 15, 2019 and received the said analytical results for these samples directly from SGS.

SIGNATURE



Greg R Thomson B.Sc. P. Geo

Dated: October 13, 2019 Langley, British Columbia, Canada

Appendix 1

Sample Locations and Results

Astro Property 2014 soil sampling

Northing	Easting	Easting	Northing	Au ppb	Ag ppb	Mo ppm
L3N	0+00E	298444	5472500	1.8	**212**	1.62
L3N	0+20E	298465	5472504	**9.4**	**411**	**6.06**
L3N	0+40E	298483	5472508	0.7	**112**	1.5
L3N	0+60E	298505	5472505	2.9	74	1.44
L3N	0+80E	298525	5472505	0.5	56	1.18
L3N	1+00E	298545	5472505	2.2	**471**	0.74
L3N	1+10E	298555	5472505	0.9	**-**	**-**
L3N	1+20E	298565	5472505	**76.4**	**120**	1.17
L3N	1+30E	298575	5472505	1.5	-	-
L3N	1+40E	298585	5472505	<0.2	72	0.91
L3N	1+60E	298605	5472505	1.4	74	1.24
L3N	1+80E	298625	5472505	0.3	49	1.0
L3N	2+00E	298645	5472505	0.4	58	0.73
L3N	2+20E	298665	5472505	0.3	56	1.27
L3+20N	1+00E	298545	5472522	3.6	Negligible	Negligible
L3+20N	1+10E	298555	5472522	2.8	"	"
L3+20N	1+20E	298565	5472522	2.1	"	"
L3+20N	1+30E	298575	5472522	<0.5	"	"
L3+20N	1+40E	298585	5472522	2.6	"	"
L2+80N	1+00E	298545	5472485	2.9	Negligible	Negligible
L2+80N	1+10E	298555	5472485	3.1	"	"
L2+80N	1+20E	298565	5472485	1.6	"	"
L2+80N	1+30E	298575	5472485	0.9	"	"
L2+80N	1+40E	298585	5472485	1	"	"
L2+60N	1+00E	298545	5472462	0.5	Negligible	Negligible
L2+60N	1+10E	298555	5472462	4.4	"	"
L2+60N	1+20E	298565	5472462	2.4	"	"
L2+60N	1+30 E	298575	5472462	**9.2**	"	"
L2+60N	1+40E	298585	5472462	1.3	"	"

Astro Property 2019 MMI
Soil Samples

Sample Number	Easting	Northing	Au ppb	Ag ppb	Mo ppb
GA1	298463	5472508	**1.0**	**34.3**	6
GA2	298477	5472513	**0.6**	**47.7**	**15**
GA3	298483	5472513	0.3	14.7	**10**
GA4	298500	5472513	0.1	22.2	5
GA5	298522	5472506	0.1	12.7	3
GA6	298548	5472498	0.2	15.1	5
GA7	298553	5472500	<0.1	15.9	2
GA8	298567	5472483	<0.1	18.6	5
GA9	298586	5472496	0.1	13.9	4
GA10	298590	5472493	<0.1	11.6	6
GA11	298459	5472510	0.1	10.5	5
GA12	298466	5472523	**0.5**	**28.3**	2
GA13	298474	5472524	**0.7**	17.7	7
GA14	298493	5472522	0.2	**32.2**	<2
GA15	298502	5472526	<0.1	15	<2
GA16	298525	5472522	0.2	23.6	<2
GA17	298553	5472525	0.2	**33.9**	2
GA18	298572	5472525	0.4	**74.4**	6
GA19	298581	5472523	<0.1	10.7	5
GA20	298588	5472466	<0.1	14.6	5
GA21	298576	5472466	<0.1	24.6	3
GA22	298567	5472467	<0.1	16.5	2
GA23	298555	5472479	0.3	**39.0**	<2
GA24	298550	5472483	<0.1	7.6	2

APPENDIX 2

Analytical Results – Part A

2019 MMI Multieliment Soil Sample Results

Analytical Results – Part B

2014 Multieliment Soil Sample Results

ANALYSIS REPORT BBM19-00491

To COD SGS MINERALS - GEOCHEM VANCOUVER
THOMSON GEOLOGICAL – GREG THOMSON
SGS CANADA INC
3260 PRODUCTION WAY
BURNABY V5A 4W4
BC
CANADA

Order Number GA/ 57 MMI	THOMSON GEOLOGICAL/ GG AND	Date Received	15-Jul-2019
		Date Analysed	02-Aug-2019 - 08-Aug-2019
Submission Number GA/ 57 MMI	THOMSON GEOLOGICAL/ GG AND	Date Completed	08-Aug-2019
		SGS Order Number	BBM19-00491
Number of Samples	24		

Methods Summary

Number of Sample	Method Code	Description
24	G_LOG	Sample Registration Fee
24	G_WGH_KG	Weight of samples received
24	GE_DIGMMI	Mobile Metal ION analyses, ICP-MS
24	GE_MMIM	Mobile Metal ION standard package,ICP-MS

Comments

This Report cancels and supersedes the Report No. BBM_U0000850065 dated 8-Aug-2019 issued by SGS Canada (Production Way).

Report of all GA samples.

Authorised Signatory

Gerald Chik
Laboratory Manager

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WARNING: The sample(s) to which the findings recorded herein (the "Findings") relate was(were) drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted. The findings report on the samples provided by the client and are not intended for commercial or contractual settlement purposes.

- not analysed | -- element not determined | I.S. insufficient sample | L.N.R. listed not received

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Order Number GA/ 57 MMI: THOMSON GEOLOGICAL/ GG AND

Submission Number GA/ 57 MMI: THOMSON GEOLOGICAL/ GG AND

Number of Samples: 24

ANALYSIS REPORT BBM19-00491

Element	Ag	Al	As	Au	Ba	Bi
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	1	10	0.1	10	0.5
Upper Limit	–	–	–	–	–	–
Unit	ppb	ppm m / m	ppb	ppb	ppb	ppb
GA1	34.3	19	<10	1.0	5330	<0.5
GA2	47.7	15	<10	0.6	4660	<0.5
GA3	14.7	45	<10	0.3	4740	<0.5
GA4	22.2	22	<10	0.1	3990	<0.5
GA5	12.7	45	<10	0.1	4290	<0.5
GA6	15.1	45	<10	0.2	5450	<0.5
GA7	15.9	63	<10	<0.1	3730	<0.5
GA8	18.6	27	<10	<0.1	5040	<0.5
GA9	13.9	75	<10	0.1	3590	<0.5
GA10	11.6	50	<10	<0.1	3190	<0.5
GA11	10.5	27	<10	0.1	4480	<0.5
GA12	28.3	15	<10	0.5	6690	<0.5
GA13	17.7	16	<10	0.7	4550	<0.5
GA14	32.2	17	<10	0.2	4840	<0.5
GA15	15.0	33	<10	<0.1	3960	<0.5
GA16	23.6	33	<10	0.2	5420	<0.5
GA17	33.9	16	<10	0.2	2290	<0.5
GA18	74.4	10	<10	0.4	2150	<0.5
GA19	10.7	108	<10	<0.1	2870	<0.5
GA20	14.6	22	<10	<0.1	5240	<0.5
GA21	24.6	56	<10	<0.1	2590	<0.5
GA22	16.5	17	<10	<0.1	3180	<0.5
GA23	39.0	9	<10	0.3	5890	<0.5
GA24	7.6	37	<10	<0.1	3470	<0.5
*Blk BLANK	<0.5	<1	<10	<0.1	<10	<0.5
*Std AMIS0159	6.9	48	<10	0.4	1060	<0.5
*Rep GA14	26.4	16	<10	0.2	4340	<0.5
*Blk BLANK	<0.5	<1	<10	<0.1	<10	<0.5
*Std AMIS0159	6.8	42	10	0.4	1010	<0.5

- not analysed | – element not determined | I.S. Insufficient sample | L.N.R. listed not received

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Submission Number GA/ 57 MMI: THOMSON GEOLOGICAL/ GG AND

Number of Samples: 24

ANALYSIS REPORT BBM19-00491

Element	Ca	Cd	Ce	Co	Cr	Cs
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	2	1	2	1	100	0.2
Upper Limit	–	–	–	–	–	–
Unit	ppm m / m	ppb	ppb	ppb	ppb	ppb
GA1	821	5	442	22	<100	0.6
GA2	759	6	271	15	<100	0.8
GA3	542	18	4410	86	<100	2.5
GA4	639	11	731	13	<100	0.7
GA5	587	6	1860	82	<100	0.6
GA6	545	6	2100	73	<100	1.5
GA7	570	25	1930	14	<100	1.5
GA8	608	12	1910	137	<100	3.2
GA9	406	5	3200	42	<100	3.3
GA10	516	14	2250	19	<100	4.8
GA11	590	8	1330	27	<100	4.7
GA12	777	7	89	27	<100	1.2
GA13	654	10	352	17	<100	1.3
GA14	707	9	405	24	<100	0.8
GA15	508	11	1470	15	<100	1.2
GA16	613	9	375	13	<100	<0.2
GA17	709	13	302	36	<100	0.9
GA18	783	19	120	24	<100	1.8
GA19	294	13	2650	90	<100	1.9
GA20	548	9	1060	28	<100	0.6
GA21	495	8	1070	37	<100	0.5
GA22	642	6	486	17	<100	0.5
GA23	800	10	88	53	<100	0.9
GA24	665	13	1310	21	<100	1.2
*Blk BLANK	<2	<1	4	<1	<100	<0.2
*Std AMIS0159	34	1	729	74	<100	6.1
*Rep GA14	674	10	486	25	<100	0.8
*Blk BLANK	<2	<1	3	<1	<100	<0.2

- not analysed | – element not determined | I.S. insufficient sample | L.N.R. listed not received

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Submission Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Number of Samples 24

ANALYSIS REPORT BBM19-00491

Element	Ca	Cd	Ce	Co	Cr	Cs
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	2	1	2	1	100	0.2
Upper Limit	--	--	--	--	--	--
Unit	ppm m / m	ppb	ppb	ppb	ppb	ppb
*Std AMIS0159	33	1	628	77	<100	5.9

Element	Cu	Dy	Er	Eu	Fe	Ga
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	10	0.5	0.2	0.2	1	0.5
Upper Limit	--	--	--	--	--	--
Unit	ppb	ppb	ppb	ppb	ppm m / m	ppb
GA1	760	49.1	25.5	13.3	16	1.3
GA2	750	45.8	23.9	12.3	19	0.5
GA3	550	180	91.1	55.7	30	0.8
GA4	570	92.5	45.1	28.6	22	<0.5
GA5	360	117	51.8	32.9	30	<0.5
GA6	320	135	69.7	38.7	26	<0.5
GA7	610	133	73.4	37.7	48	1.5
GA8	360	83.6	40.9	28.3	25	<0.5
GA9	290	191	94.8	57.6	39	0.9
GA10	190	136	67.5	42.2	36	<0.5
GA11	610	98.4	47.4	29.2	13	0.9
GA12	1260	32.5	18.9	6.5	12	<0.5
GA13	820	68.7	35.6	21.2	14	1.0
GA14	920	81.2	43.6	22.8	17	1.0
GA15	330	167	83.0	48.9	23	1.3
GA16	390	96.7	46.0	27.3	15	1.5
GA17	930	60.0	31.6	18.7	16	0.6
GA18	1420	138	70.1	45.4	12	1.5
GA19	290	188	102	42.3	77	5.3
GA20	500	96.9	46.1	29.7	17	1.4
GA21	440	73.4	37.3	20.6	42	2.2

- not analysed | -- element not determined | I.S. Insufficient sample | L.N.R. listed not received

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ANALYSIS REPORT BBM19-00491

Element	Cu	Dy	Er	Eu	Fe	Ga
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	10	0.5	0.2	0.2	1	0.5
Upper Limit	–	–	–	–	–	–
Unit	ppb	ppb	ppb	ppb	ppm m / m	ppb
GA22	370	38.3	16.6	12.3	20	1.6
GA23	970	36.7	19.6	10.3	8	<0.5
GA24	460	54.3	26.8	19.0	25	3.8
*Blk BLANK	<10	<0.5	<0.2	<0.2	<1	<0.5
*Std AMIS0159	3040	24.7	10.7	10.2	33	9.7
*Rep GA14	750	85.5	43.2	24.9	16	0.7
*Blk BLANK	<10	<0.5	<0.2	<0.2	<1	<0.5
*Std AMIS0159	3040	22.1	9.3	8.8	31	10.0

Element	Gd	Hg	In	K	La	Li
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	1	0.1	0.5	1	1
Upper Limit	–	–	–	–	–	–
Unit	ppb	ppb	ppb	ppm m / m	ppb	ppb
GA1	81.5	<1	<0.1	77.2	179	9
GA2	66.7	<1	<0.1	113	119	4
GA3	287	<1	<0.1	46.8	1440	9
GA4	150	<1	<0.1	116	456	3
GA5	157	<1	<0.1	47.4	860	4
GA6	209	<1	<0.1	61.0	842	9
GA7	184	<1	<0.1	34.9	872	11
GA8	135	<1	<0.1	27.2	918	5
GA9	271	<1	<0.1	31.7	1510	5
GA10	208	<1	<0.1	37.6	1010	3
GA11	155	<1	<0.1	29.9	479	9
GA12	41.7	<1	<0.1	65.3	29	2
GA13	115	<1	<0.1	140	222	4
GA14	128	<1	<0.1	71.3	249	3

- not analysed | – element not determined | I.S. Insufficient sample | L.N.R. listed not received

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Submission Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Number of Samples 24

ANALYSIS REPORT BBM19-00491

Element	Gd	Hg	In	K	La	Li
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	1	0.1	0.5	1	1
Upper Limit	–	–	–	–	–	–
Unit	ppb	ppb	ppb	ppm m / m	ppb	ppb
GA15	257	<1	<0.1	79.0	888	3
GA16	140	<1	<0.1	122	368	<1
GA17	96.6	<1	<0.1	38.4	227	20
GA18	236	<1	<0.1	36.2	355	18
GA19	226	<1	0.2	44.4	916	13
GA20	157	<1	<0.1	83.2	569	4
GA21	113	<1	<0.1	66.3	562	7
GA22	63.6	<1	<0.1	54.1	236	4
GA23	58.4	<1	<0.1	40.1	65	30
GA24	88.9	<1	<0.1	28.2	551	4
*Blk BLANK	<0.5	<1	<0.1	<0.5	2	<1
*Std AMIS0169	37.3	<1	<0.1	40.1	448	2
*Rep GA14	131	<1	<0.1	65.6	283	2
*Blk BLANK	0.7	<1	<0.1	<0.5	1	<1
*Std AMIS0169	35.0	<1	<0.1	37.2	394	1

Element	Mg	Mn	Mo	Nb	Nd	Ni
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	100	2	0.5	1	5
Upper Limit	–	–	–	–	–	–
Unit	ppm m / m	ppb	ppb	ppb	ppb	ppb
GA1	114	3000	6	1.2	310	249
GA2	90.9	1100	15	1.4	235	275
GA3	99.3	10300	10	1.7	1700	745
GA4	90.7	3200	5	0.9	714	318
GA5	105	1300	3	1.0	895	241
GA6	123	4600	5	1.3	1100	296
GA7	102	2600	2	1.4	1020	394

- not analysed | – element not determined | I.S. insufficient sample | L.N.R. listed not received

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Order Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Submission Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Number of Samples 24

ANALYSIS REPORT BBM19-00491

Element	Mg	Mn	Mo	Nb	Nd	Ni
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	100	2	0.5	1	5
Upper Limit	–	–	–	–	–	–
Unit	ppm m / m	ppb	ppb	ppb	ppb	ppb
GA8	122	16800	5	1.5	944	396
GA9	72.0	2900	4	1.2	1670	264
GA10	96.9	4100	6	1.6	1190	468
GA11	114	3400	5	1.1	727	505
GA12	115	2700	2	1.0	71	305
GA13	91.1	2100	7	1.0	434	453
GA14	86.8	2400	<2	0.6	440	367
GA15	99.6	2200	<2	0.6	1230	303
GA16	129	1300	<2	<0.5	575	191
GA17	176	2300	2	1.2	378	326
GA18	206	5600	6	0.8	751	763
GA19	54.8	12000	5	2.0	1170	533
GA20	101	4700	5	0.9	808	314
GA21	75.8	2200	3	1.7	680	221
GA22	112	1300	2	1.0	351	168
GA23	210	2700	<2	1.4	151	260
GA24	65.1	2900	2	1.6	590	200
*Blk BLANK	<0.5	<100	<2	<0.5	<1	<5
*Std AMIS0159	27.7	3300	3	1.8	340	312
*Rep GA14	85.4	3100	<2	0.6	508	392
*Blk BLANK	<0.5	<100	<2	<0.5	<1	<5
*Std AMIS0159	26.2	3300	2	2.0	307	320

Element	P	Pb	Pd	Pr	Pt	Rb
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.1	5	1	0.5	0.1	1
Upper Limit	–	–	–	–	–	–
Unit	ppm m / m	ppb	ppb	ppb	ppb	ppb

- not analysed | – element not determined | I.S. Insufficient sample | L.N.R. listed not received

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Order Number GA/ 57 MMI: THOMSON GEOLOGICAL/ GG AND

Submission Number GA/ 57 MMI: THOMSON GEOLOGICAL/ GG AND

Number of Samples: 24

ANALYSIS REPORT BBM19-00491

Element	P	Pb	Pd	Pr	Pt	Rb
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.1	5	1	0.5	0.1	1
Upper Limit	–	–	–	–	–	–
Unit	ppm m / m	ppb	ppb	ppb	ppb	ppb
GA1	1.8	64	<1	58.3	<0.1	28
GA2	2.0	65	<1	42.6	<0.1	66
GA3	1.6	148	<1	423	<0.1	167
GA4	2.7	84	<1	150	<0.1	54
GA5	1.7	136	<1	220	<0.1	35
GA6	1.6	144	<1	247	<0.1	76
GA7	1.3	249	<1	248	<0.1	73
GA8	1.0	102	<1	240	<0.1	135
GA9	1.9	197	<1	410	<0.1	130
GA10	1.8	145	<1	280	<0.1	183
GA11	0.8	81	<1	144	<0.1	148
GA12	1.8	102	<1	10.9	<0.1	45
GA13	1.9	73	<1	75.6	<0.1	93
GA14	1.0	54	<1	84.1	<0.1	52
GA15	1.3	86	<1	274	<0.1	102
GA16	1.7	56	<1	115	<0.1	21
GA17	1.0	98	<1	72.5	<0.1	70
GA18	0.5	39	<1	133	<0.1	69
GA19	2.3	242	<1	267	<0.1	152
GA20	1.4	81	<1	175	<0.1	41
GA21	3.0	145	<1	151	<0.1	48
GA22	2.6	129	<1	74.7	<0.1	43
GA23	0.6	63	<1	26.2	<0.1	44
GA24	1.7	157	<1	148	<0.1	100
*Blk BLANK	0.2	<5	<1	0.6	<0.1	<1
*Std AMIS0159	2.1	96	<1	101	<0.1	219
*Rep GA14	0.8	56	<1	95.0	<0.1	61
*Blk BLANK	0.1	<5	<1	<0.5	<0.1	<1
*Std AMIS0159	2.0	94	<1	84.5	<0.1	225

- not analysed | – element not determined | I.S. insufficient sample | L.N.R. listed not received

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Order Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Submission Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Number of Samples 24

ANALYSIS REPORT BBM19-00491

Element	Sb	Sc	Sm	Sn	Sr	Ta
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	5	1	1	10	1
Upper Limit	--	--	--	--	--	--
Unit	ppb	ppb	ppb	ppb	ppb	ppb
GA1	<0.5	9	75	<1	18400	<1
GA2	<0.5	12	58	<1	15300	<1
GA3	<0.5	39	327	<1	11600	<1
GA4	<0.5	15	154	<1	12500	<1
GA5	<0.5	41	169	<1	15000	<1
GA6	<0.5	48	222	<1	15700	<1
GA7	<0.5	50	207	<1	13000	<1
GA8	<0.5	26	163	<1	11000	<1
GA9	<0.5	74	311	<1	10300	<1
GA10	<0.5	45	233	<1	12500	<1
GA11	<0.5	14	158	<1	14200	<1
GA12	<0.5	8	26	<1	20000	<1
GA13	<0.5	9	112	<1	16200	<1
GA14	<0.5	14	116	<1	15600	<1
GA15	<0.5	28	268	<1	11600	<1
GA16	<0.5	15	141	<1	14200	<1
GA17	<0.5	15	89	<1	11500	<1
GA18	<0.5	10	203	<1	12700	<1
GA19	<0.5	176	242	<1	7580	<1
GA20	<0.5	17	170	<1	10700	<1
GA21	<0.5	31	126	<1	10100	<1
GA22	<0.5	9	72	<1	11500	<1
GA23	<0.5	10	46	<1	14400	<1
GA24	<0.5	16	109	<1	12000	<1
*Blk BLANK	<0.5	<5	<1	<1	<10	<1
*Std AMIS0169	0.6	44	56	<1	80	<1
*Rep GA14	<0.5	13	124	<1	15000	<1
*Blk BLANK	<0.5	<5	1	<1	<10	<1

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Order Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Submission Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Number of Samples 24

ANALYSIS REPORT BBM19-00491

Element	Sb	Sc	Sm	Sn	Sr	Ta
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	5	1	1	10	1
Upper Limit	–	–	–	–	–	–
Unit	ppb	ppb	ppb	ppb	ppb	ppb
*Std AMIS0159	<0.5	43	51	<1	80	<1

Element	Tb	Te	Th	Ti	Tl	U
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.1	10	0.5	10	0.1	0.5
Upper Limit	–	–	–	–	–	–
Unit	ppb	ppb	ppb	ppb	ppb	ppb
GA1	9.3	<10	25.9	10	0.3	152
GA2	8.4	<10	18.5	20	0.8	118
GA3	32.8	<10	57.4	50	1.6	126
GA4	17.3	<10	22.6	20	0.4	93.8
GA5	20.4	<10	22.5	40	0.3	129
GA6	24.7	<10	30.2	40	0.5	141
GA7	23.4	<10	29.8	30	0.4	192
GA8	15.4	<10	51.2	20	1.1	141
GA9	34.7	<10	38.0	50	0.7	82.4
GA10	25.6	<10	34.8	50	0.8	66.5
GA11	17.9	<10	43.8	30	1.1	93.2
GA12	5.4	<10	6.9	10	1.0	100
GA13	13.4	<10	24.0	20	0.6	99.6
GA14	14.6	<10	22.7	10	0.5	107
GA15	30.1	<10	27.6	40	0.3	85.4
GA16	17.2	<10	8.4	20	0.2	128
GA17	11.2	<10	27.3	10	0.5	317
GA18	26.5	<10	22.7	<10	1.7	673
GA19	31.5	<10	91.6	250	0.5	92.7
GA20	18.4	<10	28.6	40	0.3	76.8
GA21	13.5	<10	22.5	40	0.2	93.3

- not analysed | -- element not determined | I.S. Insufficient sample | L.N.R. listed not received

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Order Number GA/ 57 MMI THOMSON GEOLOGICAL/ GG AND

Submission Number GA/ 57 MMI THOMSON GEOLOGICAL/ GG AND

Number of Samples 24

ANALYSIS REPORT BBM19-00491

Element	Tb	Te	Th	Tl	Tl	U
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.1	10	0.5	10	0.1	0.5
Upper Limit	–	–	–	–	–	–
Unit	ppb	ppb	ppb	ppb	ppb	ppb
GA22	7.0	<10	19.6	20	0.2	68.1
GA23	6.6	<10	15.4	20	0.6	131
GA24	10.4	<10	39.0	20	0.2	79.1
*Blk BLANK	<0.1	<10	<0.5	<10	<0.1	<0.5
*Std AMIS0159	4.5	<10	58.6	310	1.3	19.3
*Rep GA14	15.6	<10	24.6	10	0.6	99.4
*Blk BLANK	<0.1	<10	<0.5	<10	<0.1	<0.5
*Std AMIS0159	4.2	<10	60.5	330	1.2	20.5

Element	W	Y	Yb	Zn	Zr
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	1	0.2	10	2
Upper Limit	–	–	–	–	–
Unit	ppb	ppb	ppb	ppb	ppb
GA1	<0.5	270	16.9	290	43
GA2	<0.5	247	16.9	160	55
GA3	<0.5	943	70.5	210	181
GA4	<0.5	451	32.9	210	59
GA5	<0.5	527	36.6	140	102
GA6	<0.5	813	52.9	160	116
GA7	<0.5	697	53.6	2420	89
GA8	<0.5	401	30.3	70	116
GA9	<0.5	891	67.4	50	150
GA10	<0.5	636	49.0	60	111
GA11	<0.5	531	33.1	240	79
GA12	<0.5	189	13.5	140	27
GA13	<0.5	404	24.2	250	53
GA14	<0.5	491	30.6	260	61

- not analysed | – element not determined | I.S. Insufficient sample | L.N.R. listed not received

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Order Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Submission Number THOMSON GEOLOGICAL/ GG AND GA/ 57 MMI

Number of Samples 24

ANALYSIS REPORT BBM19-00491

Element	W	Y	Yb	Zn	Zr
Method	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM	GE_MMIM
Lower Limit	0.5	1	0.2	10	2
Upper Limit	–	–	–	–	–
Unit	ppb	ppb	ppb	ppb	ppb
GA15	<0.5	898	62.6	180	99
GA16	<0.5	540	32.6	290	43
GA17	<0.5	381	23.7	610	35
GA18	<0.5	900	53.4	230	39
GA19	<0.5	1030	76.2	150	190
GA20	<0.5	528	32.7	370	69
GA21	<0.5	397	26.6	280	82
GA22	<0.5	172	11.6	250	45
GA23	<0.5	220	15.2	320	34
GA24	<0.5	288	20.1	440	73
*Blk BLANK	<0.5	<1	<0.2	<10	<2
*Std AMIS0159	1.0	94	8.3	150	41
*Rep GA14	<0.5	454	31.4	380	67
*Blk BLANK	<0.5	1	<0.2	<10	<2
*Std AMIS0159	0.8	92	7.0	150	38

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Bureau Veritas Commodities Canada Ltd.
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Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Submitted By: G. Thomson
Receiving Lab: Canada-Vancouver
Received: June 12, 2014
Report Date: July 05, 2014
Page: 1 of 2

CERTIFICATE OF ANALYSIS VAN14001843.1

CLIENT JOB INFORMATION

Project: PDL
Shipment ID:
P.O. Number
Number of Samples: 23

SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps
PICKUP-RJT Client to Pickup Rejects

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	23	Dry at 60C			VAN
SS80	23	Dry at 60C sieve 100g to -80 mesh			VAN
SVRJT	23	Save all or part of Soil Reject			VAN
AQ250_EXT	23	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	0.5	Completed	VAN
GC840	23	Trace level F by specific ion electrode	0.2	Completed	VAN
DRPLP	23	Warehouse handling / disposition of pulps			VAN
DRRJT	23	Warehouse handling / Disposition of reject			VAN

ADDITIONAL COMMENTS

Invoice To: Thomson Geological
40 - 21928 48th Ave.
Langley BC V3A 8H1
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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Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA
PHONE (604) 253-3158

Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Project: PDL
Report Date: July 05, 2014

CERTIFICATE OF ANALYSIS VAN14001843.1

		Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
		Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
		MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.05	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
L3N 0+000E	Soil		1.62	24.79	13.97	134.2	212	13.9	6.6	557	2.88	8.4	2.76	1.8	12.7	349.9	0.15	0.30	0.19	50	0.68	0.148
L3N 0+20E	Soil		6.06	32.37	12.92	96.0	411	22.7	8.9	433	2.91	16.1	2.91	9.4	9.9	270.5	0.15	0.79	0.21	70	0.58	0.156
L3N 0+40E	Soil		1.50	26.27	16.57	107.0	112	21.6	10.5	830	2.85	6.5	2.32	0.7	8.2	204.3	0.24	0.26	0.25	67	0.50	0.110
L3N 0+60E	Soil		1.44	17.99	11.81	70.8	74	17.2	8.1	541	2.51	4.3	1.84	2.9	6.8	161.1	0.13	0.18	0.26	58	0.30	0.052
L3N 0+80E	Soil		1.18	16.27	10.76	67.0	56	16.6	7.6	457	2.45	3.6	1.18	0.5	6.3	173.9	0.10	0.18	0.22	59	0.28	0.060
L3N 1+00E	Soil		0.74	43.94	13.73	76.9	471	32.0	10.6	625	2.88	12.8	11.02	2.2	6.6	252.2	0.21	0.23	0.28	61	0.81	0.114
L3N 1+20E	Soil		1.17	22.34	11.93	64.0	120	21.3	9.7	686	2.53	5.5	1.76	76.4	6.1	212.1	0.15	0.14	0.18	61	0.46	0.136
L3N 1+40E	Soil		0.91	15.14	8.89	46.4	72	14.5	7.4	644	1.86	2.8	0.96	<0.2	4.4	146.9	0.09	0.10	0.13	42	0.34	0.068
L3N 1+60E	Soil		1.24	19.66	10.18	49.7	74	19.3	8.2	523	2.10	3.3	1.64	1.4	6.8	267.7	0.13	0.12	0.13	55	0.52	0.121
L3N 1+80E	Soil		1.06	23.11	12.16	58.0	49	34.4	10.9	359	2.72	4.6	2.09	0.3	10.7	388.3	0.08	0.11	0.12	74	0.86	0.301
L3N 2+00E	Soil		0.73	21.11	10.08	56.1	58	19.2	8.3	665	1.88	2.8	1.45	0.4	6.0	275.7	0.14	0.09	0.14	45	0.58	0.120
L3N 2+20E	Soil		1.27	21.92	10.35	66.0	56	19.5	8.3	537	2.05	3.9	1.31	0.3	6.1	300.0	0.17	0.12	0.15	51	0.66	0.196
L1N 0+00E	Soil		0.78	38.92	12.30	69.7	136	21.3	8.9	557	2.22	9.1	9.82	0.6	5.2	324.2	0.24	0.19	0.19	51	1.04	0.167
L1N 0+20E	Soil		2.48	27.55	12.35	73.4	61	17.8	8.0	716	1.98	4.0	1.86	0.6	5.9	255.3	0.18	0.16	0.15	43	0.70	0.099
L1N 0+40E	Soil		0.93	27.92	23.10	127.7	183	13.7	6.6	1035	1.72	5.2	1.65	<0.2	6.8	387.5	0.26	0.16	0.15	35	1.15	0.167
L1N 0+60E	Soil		0.94	24.85	11.20	92.4	64	23.1	9.6	748	2.61	3.4	1.67	<0.2	8.1	250.3	0.16	0.15	0.13	65	0.63	0.124
L1N 0+80E	Soil		0.84	25.87	10.95	74.8	98	25.2	8.8	476	2.78	3.8	1.79	0.3	9.4	311.5	0.13	0.16	0.12	75	0.63	0.156
L1N 1+00E	Soil		0.89	28.87	14.73	129.2	106	20.1	9.9	998	2.48	4.7	3.30	0.4	8.3	392.3	0.18	0.20	0.15	56	0.66	0.103
L1N 1+20E	Soil		0.99	25.89	11.58	71.9	68	23.4	9.4	562	2.66	3.4	1.68	0.6	7.3	290.3	0.10	0.16	0.14	70	0.56	0.131
L1N 1+40E	Soil		1.09	31.32	11.98	68.5	135	25.3	9.6	528	2.56	4.9	4.04	<0.2	7.7	301.9	0.18	0.22	0.13	66	0.87	0.125
L1N 1+60E	Soil		0.86	23.70	11.25	69.3	63	21.5	8.8	563	2.49	2.9	1.66	0.7	7.9	254.8	0.16	0.15	0.14	58	0.54	0.085
L1N 1+80E	Soil		1.03	15.61	9.00	107.9	69	14.0	7.2	910	2.00	2.6	0.93	0.2	5.6	175.4	0.16	0.12	0.13	45	0.53	0.083
L1N 2+00E	Soil		0.97	16.92	9.42	65.4	45	18.1	7.3	455	2.12	2.4	1.17	1.1	7.0	217.6	0.12	0.12	0.23	51	0.51	0.075

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

Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Project: PDL
Report Date: July 05, 2014

CERTIFICATE OF ANALYSIS VAN14001843.1

	Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
	MDL	0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.05	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
L3N 0+000E	Soil	88.2	28.0	0.41	295.9	0.090	<20	2.14	0.012	0.27	0.18	4.3	0.35	0.02	30	<0.1	0.06	8.4	2.98	0.1	0.30
L3N 0+20E	Soil	63.8	47.3	0.47	305.3	0.120	<20	1.95	0.018	0.27	0.15	4.9	0.69	0.03	30	0.3	0.08	6.5	3.75	<0.1	0.34
L3N 0+40E	Soil	59.6	44.7	0.46	306.8	0.136	<20	2.01	0.016	0.26	0.12	4.8	0.40	0.03	35	0.1	0.03	6.9	3.13	<0.1	0.45
L3N 0+60E	Soil	36.1	38.2	0.41	264.5	0.142	<20	1.81	0.016	0.19	0.17	4.2	0.33	0.03	15	0.1	0.04	6.0	3.43	<0.1	0.38
L3N 0+80E	Soil	29.5	40.6	0.40	268.0	0.139	<20	1.64	0.014	0.21	0.11	3.5	0.29	0.02	12	<0.1	<0.02	5.7	3.28	<0.1	0.35
L3N 1+00E	Soil	66.8	45.8	0.55	304.9	0.140	<20	3.31	0.044	0.18	0.16	6.0	0.56	0.04	63	0.5	0.03	8.5	4.41	0.1	0.37
L3N 1+20E	Soil	50.1	46.8	0.39	302.5	0.131	<20	2.03	0.016	0.18	0.09	4.2	0.34	0.02	18	<0.1	0.04	6.0	4.15	<0.1	0.20
L3N 1+40E	Soil	29.5	30.6	0.28	227.2	0.102	<20	1.39	0.014	0.12	0.08	2.9	0.26	<0.02	20	<0.1	<0.02	4.2	5.12	<0.1	0.13
L3N 1+60E	Soil	50.4	41.4	0.36	319.6	0.124	<20	1.65	0.027	0.20	0.12	3.3	0.34	<0.02	21	<0.1	<0.02	4.7	4.42	0.1	0.26
L3N 1+80E	Soil	75.4	54.4	0.58	386.2	0.150	<20	2.15	0.037	0.19	0.14	3.9	0.41	<0.02	19	<0.1	0.07	6.1	4.43	<0.1	0.25
L3N 2+00E	Soil	47.5	34.2	0.34	350.0	0.103	<20	1.53	0.020	0.24	0.08	2.7	0.28	<0.02	13	0.1	0.04	4.0	4.62	0.1	0.19
L3N 2+20E	Soil	47.2	40.7	0.37	333.7	0.113	<20	1.68	0.029	0.20	0.09	2.9	0.30	<0.02	19	0.2	0.03	4.6	4.14	<0.1	0.30
L1N 0+00E	Soil	61.7	34.9	0.51	208.9	0.102	<20	2.14	0.050	0.16	0.11	3.4	0.27	0.04	13	<0.1	0.03	6.2	5.81	0.1	0.26
L1N 0+20E	Soil	66.5	32.3	0.35	234.6	0.085	<20	1.58	0.012	0.25	0.13	3.1	0.23	0.02	15	0.3	0.05	4.7	10.19	<0.1	0.24
L1N 0+40E	Soil	92.2	24.8	0.33	286.0	0.072	<20	1.64	0.012	0.29	0.16	2.2	0.19	0.04	36	0.2	0.04	5.5	6.93	<0.1	0.14
L1N 0+60E	Soil	56.8	53.8	0.38	260.7	0.126	<20	1.56	0.012	0.29	0.10	3.6	0.37	<0.02	22	<0.1	<0.02	5.2	4.54	<0.1	0.29
L1N 0+80E	Soil	64.8	60.1	0.42	248.2	0.144	<20	1.54	0.022	0.27	0.10	3.6	0.38	<0.02	19	0.1	0.02	5.1	4.03	<0.1	0.37
L1N 1+00E	Soil	79.5	41.9	0.43	319.9	0.124	<20	1.62	0.012	0.32	0.13	3.8	0.28	0.02	30	<0.1	0.07	6.1	9.39	<0.1	0.25
L1N 1+20E	Soil	59.7	56.6	0.41	245.6	0.133	<20	1.43	0.015	0.27	0.10	3.9	0.34	<0.02	16	<0.1	<0.02	5.1	5.18	0.1	0.20
L1N 1+40E	Soil	64.4	52.2	0.47	219.5	0.120	<20	1.48	0.021	0.23	0.12	3.7	0.36	0.03	27	0.1	0.03	4.8	4.08	0.1	0.29
L1N 1+60E	Soil	58.6	47.2	0.38	252.3	0.122	<20	1.45	0.012	0.31	0.07	3.8	0.36	0.02	14	<0.1	0.05	5.1	4.60	0.1	0.31
L1N 1+80E	Soil	41.5	35.5	0.30	233.3	0.101	<20	1.10	0.011	0.23	0.08	2.7	0.31	<0.02	20	0.1	<0.02	4.0	3.12	<0.1	0.16
L1N 2+00E	Soil	48.0	41.9	0.32	239.8	0.118	<20	1.13	0.011	0.31	0.10	3.1	0.30	<0.02	28	<0.1	0.03	4.0	3.87	<0.1	0.32

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Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Project: PDL
Report Date: July 05, 2014

CERTIFICATE OF ANALYSIS VAN14001843.1

	Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	GC840
	Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	F
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	ppm
	MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	10
L3N 0+000E	Soil	5.17	17.2	0.9	<0.05	15.7	11.03	174.5	0.04	<1	2.5	23.1	24	<2	495
L3N 0+20E	Soil	1.44	22.8	0.7	<0.05	19.7	13.16	118.3	0.04	<1	1.3	15.8	10	<2	564
L3N 0+40E	Soil	3.08	21.5	1.1	<0.05	18.1	12.07	115.4	0.04	<1	1.4	16.3	13	<2	487
L3N 0+60E	Soil	1.95	24.5	0.7	<0.05	16.5	6.40	70.4	<0.02	<1	0.9	15.4	<10	<2	347
L3N 0+80E	Soil	1.29	27.2	0.6	<0.05	16.3	3.98	52.7	0.02	<1	1.0	13.3	10	2	367
L3N 1+00E	Soil	3.25	22.0	0.9	<0.05	17.9	25.61	127.1	0.04	<1	1.7	49.5	<10	<2	469
L3N 1+20E	Soil	3.43	22.2	0.7	<0.05	9.9	9.89	104.2	0.03	<1	1.4	14.8	<10	2	455
L3N 1+40E	Soil	2.88	16.8	0.5	<0.05	6.8	5.02	63.1	0.02	<1	0.8	9.5	<10	<2	285
L3N 1+60E	Soil	4.30	18.0	0.6	<0.05	14.1	9.72	100.1	0.03	<1	1.1	10.1	<10	<2	452
L3N 1+80E	Soil	3.04	11.6	0.7	<0.05	14.8	15.35	135.9	0.02	<1	1.5	12.3	12	<2	810
L3N 2+00E	Soil	4.35	17.3	0.5	<0.05	10.8	8.89	93.5	<0.02	<1	0.9	9.0	<10	<2	397
L3N 2+20E	Soil	4.99	16.0	0.5	<0.05	13.4	8.54	92.8	0.02	<1	0.9	9.3	<10	<2	511
L1N 0+00E	Soil	5.36	19.2	0.7	<0.05	11.9	13.10	104.6	0.03	1	1.5	28.7	<10	<2	560
L1N 0+20E	Soil	4.10	36.1	0.6	<0.05	9.9	11.85	121.7	<0.02	<1	1.3	12.9	<10	<2	484
L1N 0+40E	Soil	5.27	20.8	0.7	<0.05	6.2	10.37	183.7	0.02	<1	1.3	15.7	<10	<2	503
L1N 0+60E	Soil	3.83	24.4	0.6	<0.05	14.9	11.67	112.1	0.03	<1	1.3	12.4	<10	<2	511
L1N 0+80E	Soil	3.43	18.4	0.6	<0.05	18.0	12.07	115.8	0.03	<1	1.5	11.8	<10	3	615
L1N 1+00E	Soil	5.87	26.7	0.6	<0.05	10.9	13.56	145.6	<0.02	<1	1.6	16.2	<10	<2	640
L1N 1+20E	Soil	3.28	18.4	0.6	<0.05	11.0	11.96	109.5	0.02	<1	1.3	11.1	<10	2	609
L1N 1+40E	Soil	5.31	20.3	0.6	<0.05	13.8	12.87	122.0	<0.02	<1	1.5	16.2	<10	<2	531
L1N 1+60E	Soil	4.06	26.1	0.6	<0.05	13.3	12.25	114.4	0.02	<1	1.5	11.3	<10	<2	498
L1N 1+80E	Soil	3.61	20.1	0.5	<0.05	7.6	6.39	85.4	<0.02	<1	0.8	7.5	<10	<2	345
L1N 2+00E	Soil	4.56	20.5	0.5	<0.05	13.8	8.92	87.3	0.03	<1	0.9	9.2	<10	<2	490

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Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Project: PDL
Report Date: July 05, 2014

QUALITY CONTROL REPORT VAN14001843.1

	Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.05	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
Pulp Duplicates																					
L1N 0+60E	Soil	0.94	24.85	11.20	92.4	64	23.1	9.6	748	2.61	3.4	1.67	<0.2	8.1	250.3	0.16	0.15	0.13	65	0.63	0.124
REP L1N 0+60E	QC																				
L1N 1+60E	Soil	0.86	23.70	11.25	69.3	63	21.5	8.8	563	2.49	2.9	1.66	0.7	7.9	254.8	0.16	0.15	0.14	58	0.54	0.085
REP L1N 1+60E	QC	0.87	24.34	10.71	72.2	65	23.0	9.2	547	2.56	3.1	1.63	1.1	7.8	257.8	0.14	0.14	0.14	62	0.56	0.083
Reference Materials																					
STD DS10	Standard	13.47	166.65	151.80	364.3	2011	75.8	13.6	854	2.72	48.9	2.40	64.0	7.1	63.8	2.71	8.99	12.61	42	1.05	0.077
STD OREAS45EA	Standard	1.61	715.25	14.81	30.8	295	388.5	53.8	411	23.66	10.6	1.79	55.4	10.3	3.8	0.03	0.30	0.27	303	0.04	0.029
STD STSD-1	Standard																				
STD STSD-1	Standard																				
STD DS10 Expected		14.69	154.61	150.55	370	2020	74.6	12.9	875	2.7188	43.7	2.59	91.9	7.5	67.1	2.49	8.23	11.65	43	1.0625	0.073
STD OREAS45EA Expected		1.39	709	14.3	28.9	260	381	52	400	23.51	9.1	1.73	53	10.7	3.5	0.02	0.2	0.26	303	0.036	0.029
STD STSD-1 Expected																					
BLK	Blank	<0.01	0.03	<0.01	<0.1	<2	<0.1	<0.1	<1	<0.01	0.1	<0.05	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank																				

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QUALITY CONTROL REPORT VAN14001843.1

		Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250
		Analyte	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Sc	Tl	S	Hg	Se	Te	Ga	Cs	Ge	Hf
		Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	ppm
		MDL	0.5	0.5	0.01	0.5	0.001	20	0.01	0.001	0.01	0.05	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.02
Pulp Duplicates																						
L1N 0+60E	Soil		56.8	53.8	0.38	260.7	0.126	<20	1.56	0.012	0.29	0.10	3.6	0.37	<0.02	22	<0.1	<0.02	5.2	4.54	<0.1	0.29
REP L1N 0+60E	QC																					
L1N 1+60E	Soil		58.6	47.2	0.38	252.3	0.122	<20	1.45	0.012	0.31	0.07	3.8	0.36	0.02	14	<0.1	0.05	5.1	4.60	0.1	0.31
REP L1N 1+60E	QC		58.3	49.5	0.38	240.6	0.126	<20	1.48	0.012	0.32	0.09	3.9	0.36	0.02	19	<0.1	0.02	5.0	4.52	0.1	0.28
Reference Materials																						
STD DS10	Standard		15.9	56.2	0.77	404.5	0.077	<20	1.01	0.067	0.33	3.17	2.8	5.31	0.29	327	2.3	5.02	4.3	2.70	<0.1	0.05
STD OREAS45EA	Standard		6.7	862.5	0.09	147.0	0.097	<20	3.14	0.024	0.05	<0.05	77.4	<0.02	0.04	10	0.9	0.10	12.7	0.68	0.3	0.67
STD STSD-1	Standard																					
STD STSD-1	Standard																					
STD DS10 Expected			17.5	54.6	0.775	359	0.0817		1.0259	0.067	0.338	3.32	2.8	5.1	0.29	300	2.3	5.01	4.3	2.63	0.08	0.06
STD OREAS45EA Expected			6.57	849	0.095	148	0.0875		3.13	0.02	0.053		78	0.072	0.036	10	0.63	0.07	11.7	0.63	0.26	0.57
STD STSD-1 Expected																						
BLK	Blank		<0.5	<0.5	<0.01	<0.5	<0.001	<20	<0.01	<0.001	<0.01	<0.05	<0.1	<0.02	<0.02	<5	<0.1	<0.02	<0.1	<0.02	<0.1	<0.02
BLK	Blank																					

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Project: PDL
Report Date: July 05, 2014

QUALITY CONTROL REPORT VAN14001843.1

		Method	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	AQ250	GC840
		Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt	F
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	ppm
		MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	10
Pulp Duplicates																
L1N 0+60E	Soil		3.83	24.4	0.6	<0.05	14.9	11.67	112.1	0.03	<1	1.3	12.4	<10	<2	511
REP L1N 0+60E	QC															485
L1N 1+60E	Soil		4.06	26.1	0.6	<0.05	13.3	12.25	114.4	0.02	<1	1.5	11.3	<10	<2	498
REP L1N 1+60E	QC		3.97	28.0	0.6	<0.05	13.4	12.34	109.1	0.03	<1	1.2	10.9	<10	<2	
Reference Materials																
STD DS10	Standard		1.21	28.1	1.8	<0.05	2.0	7.35	32.5	0.24	50	0.9	20.0	95	179	
STD OREAS45EA	Standard		0.09	7.3	0.9	<0.05	22.8	5.10	16.8	0.09	1	0.4	2.5	79	108	
STD STSD-1	Standard															985
STD STSD-1	Standard															990
STD DS10 Expected			1	27.7	1.6		2.8	7.77	37	0.23	50	0.63	19.4	110	191	
STD OREAS45EA Expected			0.06	7.04	0.83		20	5.09	17.7	0.08		0.41	2.37	66	108	
STD STSD-1 Expected																950
BLK	Blank		<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2	
BLK	Blank															<10

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Bureau Veritas Commodities Canada Ltd.
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PHONE (604) 253-3158

www.acmelab.com

Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Submitted By: G. Thomson
Receiving Lab: Canada-Vancouver
Received: September 08, 2014
Report Date: September 26, 2014
Page: 1 of 2

CERTIFICATE OF ANALYSIS VAN14002943.2

CLIENT JOB INFORMATION

Project: ASTRO
Shipment ID:
P.O. Number
Number of Samples: 18

SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps
PICKUP-RJT Client to Pickup Rejects

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
SS230	18	Dry at 60C sieve 100g to -230 mesh			VAN
SVRJT	18	Save all or part of Soil Reject			VAN
AQ300_U	18	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
DRPLP	18	Warehouse handling / disposition of pulps			VAN
DRRJT	18	Warehouse handling / Disposition of reject			VAN
AQ115	18	Acid digest, Au by ICP-MS analysis	15	Completed	VAN

ADDITIONAL COMMENTS

Version 2 : AQ115 included.

Invoice To: Thomson Geological
40 - 21928 48th Ave.
Langley BC V3A 8H1
Canada

CC:

BRITISH COLUMBIA CERTIFIED ASSAYER
MARCUS LAU
Geochemical Laboratory Manager

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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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Project: ASTRO
Report Date: September 26, 2014

CERTIFICATE OF ANALYSIS VAN14002943.2

		Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
		Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
		Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
		MDL	1	1	3	1	0.3	1	1	2	0.01	2	8	2	1	0.5	3	3	1	0.01	0.001	1
L2+60N 1+00E	Soil		<1	32	8	90	<0.3	27	9	594	3.13	4	<8	7	222	<0.5	<3	3	60	0.70	0.071	84
L2+60N 1+10E	Soil		<1	20	21	109	<0.3	13	5	584	2.40	2	<8	9	173	<0.5	<3	4	48	0.54	0.064	84
L2+60N 1+20E	Soil		<1	22	5	88	<0.3	21	7	594	2.88	2	<8	6	170	<0.5	<3	<3	64	0.43	0.078	53
L2+60N 1+30E	Soil		<1	23	13	89	<0.3	23	7	464	3.02	<2	<8	7	167	<0.5	<3	<3	67	0.38	0.069	51
L2+60N 1+40E	Soil		<1	24	<3	94	<0.3	22	8	521	3.00	3	<8	7	168	<0.5	<3	<3	66	0.43	0.094	49
L2+80N 1+00E	Soil		<1	32	10	66	<0.3	29	9	293	3.18	<2	<8	7	230	<0.5	<3	<3	69	0.51	0.077	60
L2+80N 1+10E	Soil		1	35	12	86	<0.3	28	9	692	2.98	5	<8	5	254	<0.5	<3	3	60	0.77	0.115	62
L2+80N 1+20E	Soil		<1	23	6	63	<0.3	24	8	461	2.91	5	<8	6	215	<0.5	<3	<3	61	0.49	0.097	58
L2+80N 1+30E	Soil		<1	20	4	71	<0.3	22	8	703	2.74	4	<8	5	164	<0.5	<3	<3	56	0.42	0.097	41
L2+80N 1+40E	Soil		1	19	6	57	<0.3	21	7	404	2.62	5	<8	5	197	<0.5	<3	3	57	0.37	0.084	47
L3+20N 1+00E	Soil		<1	63	6	99	<0.3	29	8	602	2.95	9	10	5	208	<0.5	<3	<3	47	0.88	0.065	85
L3+20N 1+10E	Soil		1	25	<3	84	<0.3	20	7	545	2.76	<2	<8	5	177	<0.5	<3	<3	55	0.45	0.113	50
L3+20N 1+20E	Soil		<1	18	<3	75	<0.3	19	7	615	2.64	4	<8	5	180	<0.5	<3	4	54	0.43	0.132	32
L3+20N 1+30E	Soil		1	19	6	68	<0.3	17	6	716	2.29	<2	<8	5	165	<0.5	<3	<3	46	0.39	0.122	29
L3+20N 1+40E	Soil		<1	20	8	61	<0.3	19	7	519	2.42	4	<8	5	199	<0.5	<3	4	51	0.47	0.104	38
L3N 1+10E	Soil		<1	36	10	120	<0.3	25	10	1070	2.97	8	<8	6	260	<0.5	<3	<3	64	0.67	0.175	62
3N 1+20E	Soil		<1	24	10	67	<0.3	25	9	538	2.91	5	<8	7	269	<0.5	<3	<3	64	0.57	0.159	57
L3N 1+30E	Soil		<1	18	8	53	<0.3	19	7	367	2.47	5	<8	4	205	<0.5	<3	<3	55	0.39	0.082	43

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Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Project: ASTRO
Report Date: September 26, 2014

CERTIFICATE OF ANALYSIS VAN14002943.2

		Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ115
		Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc	Au
		Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm	ppb
		MDL	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5	0.5
L2+60N 1+00E	Soil		37	0.64	241	0.140	<20	2.76	0.03	0.26	<2	<0.05	<1	<5	6	6	4.4
L2+60N 1+10E	Soil		26	0.45	301	0.110	<20	1.58	0.02	0.32	<2	<0.05	<1	<5	<5	<5	2.4
L2+60N 1+20E	Soil		40	0.48	293	0.142	<20	2.12	0.01	0.29	<2	<0.05	<1	<5	<5	<5	9.2
L2+60N 1+30E	Soil		46	0.49	346	0.157	<20	2.31	0.02	0.30	<2	<0.05	<1	<5	<5	6	1.3
L2+60N 1+40E	Soil		42	0.48	334	0.151	<20	2.35	0.01	0.30	<2	<0.05	<1	<5	<5	5	3.3
L2+80N 1+00E	Soil		46	0.61	340	0.164	<20	2.89	0.03	0.25	<2	<0.05	<1	7	<5	6	2.9
L2+80N 1+10E	Soil		43	0.57	310	0.135	<20	2.62	0.02	0.30	<2	<0.05	<1	6	<5	6	3.1
L2+80N 1+20E	Soil		43	0.52	359	0.141	<20	2.78	0.02	0.20	<2	<0.05	<1	<5	<5	6	1.6
L2+80N 1+30E	Soil		40	0.44	317	0.133	<20	2.35	0.01	0.27	<2	<0.05	<1	<5	<5	<5	0.9
L2+80N 1+40E	Soil		39	0.44	316	0.134	<20	2.31	0.01	0.18	<2	<0.05	<1	<5	<5	<5	1.0
L3+20N 1+00E	Soil		38	0.53	209	0.111	<20	3.27	0.02	0.18	<2	<0.05	<1	<5	7	7	3.6
L3+20N 1+10E	Soil		35	0.42	318	0.123	<20	2.67	0.01	0.23	<2	<0.05	<1	<5	<5	5	2.8
L3+20N 1+20E	Soil		35	0.40	304	0.129	<20	2.58	0.01	0.25	<2	<0.05	1	<5	<5	<5	2.1
L3+20N 1+30E	Soil		30	0.33	327	0.113	<20	2.11	0.01	0.20	<2	<0.05	<1	<5	<5	<5	<0.5
L3+20N 1+40E	Soil		32	0.36	335	0.121	<20	2.24	0.01	0.24	<2	<0.05	1	<5	<5	<5	2.6
L3N 1+10E	Soil		43	0.49	361	0.130	<20	2.55	0.01	0.27	<2	<0.05	<1	<5	<5	5	0.9
3N 1+20E	Soil		42	0.48	372	0.141	<20	2.83	0.02	0.21	<2	<0.05	<1	<5	<5	5	1.1
L3N 1+30E	Soil		36	0.39	324	0.126	<20	2.40	0.02	0.14	<2	<0.05	<1	<5	<5	<5	1.5

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Client: **Thomson Geological**
40 - 21928 48th Ave.
Langley BC V3A 8H1 Canada

Project: ASTRO
Report Date: September 26, 2014

QUALITY CONTROL REPORT VAN14002943.2

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi	V	Ca	P	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	1	1	3	1	0.3	1	1	2	0.01	2	8	2	1	0.5	3	3	1	0.01	0.001	1
Pulp Duplicates																					
L2+60N 1+20E	Soil	<1	22	5	88	<0.3	21	7	594	2.88	2	<8	6	170	<0.5	<3	<3	64	0.43	0.078	53
REP L2+60N 1+20E	QC																				
L3+20N 1+00E	Soil	<1	63	6	99	<0.3	29	8	602	2.95	9	10	5	208	<0.5	<3	<3	47	0.88	0.065	85
REP L3+20N 1+00E	QC	<1	63	13	100	0.4	29	8	605	2.94	10	9	5	208	<0.5	<3	<3	47	0.89	0.065	86
Reference Materials																					
STD DS10	Standard	16	159	154	386	1.9	77	12	963	2.94	50	<8	7	69	2.5	9	14	45	1.13	0.079	17
STD OREAS45EA	Standard	2	710	15	36	<0.3	420	51	453	24.72	13	<8	9	4	<0.5	5	3	322	0.03	0.033	8
STD OREAS901	Standard																				
STD DS10 Expected		14.69	154.61	150.55	370	2.02	74.6	12.9	875	2.7188	43.7		7.5	67.1	2.49	8.23	11.65	43	1.0625	0.073	17.5
STD OREAS45EA Expected		1.39	709	14.3	28.9	0.26	381	52	400	23.51	9		10.7	3.5				303	0.036	0.029	6.57
STD OREAS901 Expected																					
BLK	Blank	<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<8	<2	<1	<0.5	<3	<3	<1	<0.01	<0.001	<1
BLK	Blank																				

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Project: ASTRO
Report Date: September 26, 2014

QUALITY CONTROL REPORT VAN14002943.2

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ115
	Analyte	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc	Au
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm	ppb
	MDL	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5	0.5
Pulp Duplicates																
L2+60N 1+20E	Soil	40	0.48	293	0.142	<20	2.12	0.01	0.29	<2	<0.05	<1	<5	<5	<5	9.2
REP L2+60N 1+20E	QC															2.8
L3+20N 1+00E	Soil	38	0.53	209	0.111	<20	3.27	0.02	0.18	<2	<0.05	<1	<5	7	7	3.6
REP L3+20N 1+00E	QC	38	0.53	208	0.112	<20	3.28	0.02	0.19	<2	<0.05	<1	<5	7	7	
Reference Materials																
STD DS10	Standard	56	0.81	448	0.077	<20	1.09	0.07	0.35	<2	0.30	<1	<5	<5	<5	
STD OREAS45EA	Standard	955	0.08	155	0.105	<20	3.56	0.02	0.06	<2	<0.05	<1	<5	9	95	
STD OREAS901	Standard															405.7
STD DS10 Expected		54.6	0.775	359	0.0817		1.0259	0.067	0.338	3.32	0.29	0.3	5.1	4.3	2.8	
STD OREAS45EA Expected		849	0.095	148	0.0875		3.13	0.02	0.053		0.036			11.7	78	
STD OREAS901 Expected																363
BLK	Blank	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	6	<5	<5	
BLK	Blank															<0.5

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APPENDIX 3

MMI Analytical Procedures

MMI - M : The Determination of Mobile Metal Ions (MMI): Ag, Al, As, Au, Ba, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Hg, In, K, La, Li, Mg, Mn, Mo, Nb, Nd, Ni, P, Pb, Pd, Pr, Pt, Rb, Sb, Sc, Sm, Sn, Sr, Ta, Tb, Te, Th, Ti, Tl, U, W, Y, Yb, Zn, Zr by partial extraction and ICP-MS.

1. **Parameter(s) measured, unit(s):**
   Silver (Ag); Aluminum (Al); Arsenic (As); Gold (Au); Barium (Ba); Bismuth (Bi); Calcium (Ca); Cadmium (Cd); Cerium (Ce); Chromium (Cr); Cobalt (Co); Cesium (Cs); Copper (Cu); Dysprosium (Dy); Erbium (Er); Europium (Eu); Iron (Fe); Gallium (Ga); Gadolinium (Gd); Mercury (Hg); Indium (In); Potassium (K); Lanthanum (La); Lithium (Li); Magnesium (Mg), Manganese (Mn); Molybdenum (Mo); Niobium (Nb); Neodymium (Nd); Nickel (Ni); Phosphorus (P); Lead (Pb); Palladium (Pd); Praseodymium (Pr); Platinum (Pt); Rubidium (Rb); Antimony (Sb); Scandium (Sc); Samarium (Sm); Tin (Sn); Strontium (Sr); Tantalum (Ta); Terbium (Tb); Tellurium (Te); Thorium (Th); Titanium (Ti); Thallium (Tl); Uranium (U); Tungsten (W); Yttrium (Y); Ytterbium (Yb); Zinc (Zn) and Zirconium (Zr) by partial extraction and ICP-MS: ppb.

2. **Typical sample size:**
   50 g

3. **Type of sample applicable (media):**
   Soils

4. **Sample preparation technique used:**
   Mobile metal ions present in soil samples are partially extracted using a concentrated MMI –M solution.

5. **Method of analysis used:**
   The extracted sample solution is analyzed by Inductively coupled plasma Mass Spectrometer (ICP-MS). Samples are analyzed against known calibration materials to provide quantitative analysis of the original sample.

6. **Data reduction by:**
   The results are exported via computer, on line, data fed to the SGS Laboratory Information Management System (SLIM) with secure audit trail.

7. **Figures of Merit:**

Element	Reporting Limit (ppb)	Element	Reporting Limit (ppb)	Element	Reporting Limit (ppb)	Element	Reporting Limit (ppb)
Ag	0.5	Er	0.2	Nd	1	Ta	1
Al	1.0 (ppm)	Eu	0.2	Ni	5	Tb	0.1
As	10	Fe	1.0 (ppm)	P	0.1 (ppm)	Te	10
Au	0.1	Ga	0.5	Pb	5	Th	0.5
Ba	10	Gd	0.5	Pd	1	Ti	10
Bi	0.5	Hg	1	Pr	0.5	Tl	0.1
Ca	2 (ppm)	In	0.1	Pt	0.1	U	0.5
Cd	1	K	0.5 (ppm)	Rb	1	W	0.5
Ce	2	La	1	Sb	0.5	Y	1
Co	1	Li	1	Sc	5	Yb	0.2
Cr	100	Mg	0.5 (ppm)	Sm	1	Zn	10
Cs	0.2	Mn	100	Sn	1	Zr	2
Cu	10	Mo	2	Sr	10		

Dy	0.5	Nb	0.5				

8. **Quality control:**
Instrument calibration is performed for each batch or work order and calibration checks are analyzed within each analytical run. Quality control materials include method blanks, replicates and reference materials and are randomly inserted with the frequency set according to method protocols at ~14%.
Quality assurance measures of precision and accuracy are verified statistically using SLIM control charts with set criteria for data acceptance. Data that fails is subject to investigation and repeated as necessary.


Astro Property
Sheep Creek Rd
HWY 3A
To Penticton
To Keremeos
Klohtelt Creek
Ford Lake
Dividend Mountain
McKay Creek
Laidlaw, Mount
Marron Lake
Marama Creek
Marron Valley
Matheson Creek
McLean Creek
Marron River
Harkin Creek
Thomas Creek
Kitley Lake
Okanagan Falls
Trout Lake
Toy Creek
Toy Lake
Parker, Mount
Okanagan Falls
Prather Lake
McLellan, Mount
sxwexwnitkw Park
Shuttleworth Creek
South Keremeos Creek
Yellow Lake
Yellowlake Creek
Dry Gulch
Hawthorne, Mount
Horn Creek
Twin Lakes
Loak Creek
Marsel Creek
White Lake
Green Lake
Keremeos Forks 12 & 12A
White Lake Grasslands Protected Area
Vaseux Lake Park
Cedar Creek
Mahoney Lake Ecological Reserve
Mahoney Lake
Vaseux Lake
McCaig Creek
Keogan, Mount
Olalla
Olalla Creek
Meyers Flat
Willowbrook