

Ministry of Energy, Mines & Petroleum Resources Mining & Minerals Division

BC Geological Survey



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OWNER(S): 1) Christopher Delorme	2) Guy Delorme
MAILING ADDRESS: 340 Logan Lane	818-470 Granville Street
Merritt, BC V1K 1P7	Vancouver, BC V6C 1V5
OPERATOR(S) [who paid for the work]: 1) Christopher Delorme	2) Guy Delorme
MAILING ADDRESS: 340 Logan Lane	818-470 Granville Street
Merritt, BC V1K 1P7	Vancouver, BC V6C 1V5
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Ground, mapping			
Photo interpretation		561009	\$ 6,000.00
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic		561009	3,163.90
Electromagnetic			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for)			
Soil			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/t			
Trench (metres)	-		
Underground dev. (metres)			
0.1			
		70711 0007	CO 400 00
		TOTAL COST:	\$ 9,163.90

GUY & CHRISTOPHER DELORME

(Owners & Operators)

ASSESSMENT REPORT

on

GEOLOGICAL & GEOPHYSICAL SURVEYS

(Event 5603181)

work done from

April 26, 2016 to May 10, 2016

on

Tenure 581009

BC Geological Survey Assessment Report 36242

of the 14 claim

Bertha 581009 Claim Group

Kamloops Mining Division

BCGS Maps 092I.046 & 092I.047

Centre of Work 5,588,028N, 655,207E

Author & Consultant

Laurence Sookochoff, PEng Sookochoff Consultants Inc.

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SUMMARY

The 14 claim, 5,269 hectare Bertha 581009 Claim Group, located 215 kilometres northeast of Vancouver in the Highland Valley of south central British Columbia, is within 12 kilometres of the Highland Valley Copper mine; one of the largest copper mining and concentrating operations in the world.

The Highland Valley low-grade copper/molybdenum deposit lies within the Late Jurassic Guichon Creek batholith in Bethsaida phase porphyritic quartz monzonite and granodiorite. A cluster of nine major porphyry copper deposits lie within a 15 square kilometer zone in the center of the batholith. A central, steeply plunging root or feeder zone is inferred under Highland Valley, and the major deposits lie around the projection of the feeder zone to the surface.

The most prominent structural features are the north trending, west dipping Lornex fault and the east trending Highland Valley fault. The mineral controls to the Highland Valley and the Lornex deposits were controlled by the reactivation of these two major faults which created associated variable structural gaps that were filled with hydrothermally developed mineral bearing fluids transported through the feeder zone.

The structural analysis on Tenure 581009 indicated a cross-structural location that should be a zone of increased fractural intensity and/or brecciation which could be an ideal conduit, or feeder zone, for potential mineral bearing hydrothermal fluids to surface and/or be deposited within any well fractured intervening area which may result in an economic zone of porphyritic mineralization such as at the Highland Valley mineral deposit (MINFILE 092ISW012).

The localized magnetometer survey over the cross-structure ("A") within Tenure 581009 revealed an anomalous mag LO within the peripheral area. Should the anomaly and adjacent "sub-anomalous" mag LO zones (see the results in the Magnetometer Survey section) be an indication of an altered zone associated with the cross-structural structures and created by potentially mineral laden hydrothermal fluids originating from a source at depth, the constituents of this fluid should be indicated as in the surface material. These indicators may be revealed as pathfinder minerals, minerals and/or alteration products that would be subject to interpretation as economic mineral indicators to follow-up exploration.

Thus, the cross-structure location "A" as indicated on Figures 5, 7, 8, & 11 with the approximate location reported in Table II, would be a prime location to explore for surficial geological indicators of a potential concealed mineral resource.

INTRODUCTION

Between April 26, 2016 and May 10, 2016, a structural analysis and a localized magnetometer survey were completed on Tenure 581009 of the Bertha 581009 claim group (Property). The purpose of the program was to delineate potential structures which may be integral in geological controls to potentially economic mineral zones that may occur on Tenures 581009 or other claims of the Bertha property and to determine the effectiveness of the magnetic results in locating a potential mineral resource.

Information for this report was obtained from sources as cited under Selected References.

Prince Reserve American College American

Figure 1. **Location Map**(from MapPlace)

PROPERTY LOCATION & DESCRIPTION

Location

The Bertha 581009 Claim Group is located within BCGS Maps 092I.046 & 092I.047 of the Kamloops Mining Division, 215 kilometres northeast of Vancouver, 41 kilometres north of Merritt, 35 kilometres southwest of Kamloops, and within 12 kilometres east of the world-class producing Highland Valley Copper mine (*Minfile 092ISW012*).

Description

The Property is comprised of 14 contiguous claims covering an area of 5269.2575 hectares. Particulars are as follows:

Property Location and Description (cont'd)

Table I. Tenures of Bertha 581009 Claim Group

Tenure Number	<u>Type</u>	Claim Name	Good Until*	Area (ha)
<u>514175</u>	Mineral	QUEN	20160824	41.183
<u>522351</u>	Mineral	MIKE	20160824	370.452
<u>581002</u>	Mineral		20160824	432.0029
<u>581005</u>	Mineral		20160824	514.5084
<u>581009</u>	Mineral		20160824	514.6423
<u>581011</u>	Mineral		20160824	514.5161
<u>581012</u>	Mineral		20160824	514.7582
<u>581015</u>	Mineral		20160824	514.8414
<u>581016</u>	Mineral		20160824	514.6721
<u>585384</u>	Mineral		20160824	494.0089
<u>596301</u>	Mineral	PONYBOY NORTH	20160824	390.9753
<u>605002</u>	Mineral	PONYBOY WEST	20160824	123.4998
<u>679143</u>	Mineral		20170205	308.6294
1011644	Mineral		20160824	20.5677

Total Area: 5269.2575 ha

ACCESSIBILITY, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access

From Logan Lake, the Bertha 581009 claim group can be accessed by traveling from Logan Lake east on Highway 97D for two kilometres to a junction thence south for five kilometres to the northern boundary of Tenure 581005 of the Bertha 581009 claim group. Access on the Property is provided by numerous secondary roads.

Local Resources & Infrastructure

Merritt, or Kamloops, historic mining centres could be a source of experienced and reliable exploration and mining personnel and a supply for most mining related equipment. Kamloops is serviced daily by commercial airline and is a hub for road and rail transportation. Vancouver, a port city on the southwest corner of, and the largest city in the Province of British Columbia is four hours distant by road and less than one hour by air from Kamloops. Logan Lake, where many of the Highland Valley Copper Mine employees reside, has many facilities to accommodate any preliminary exploration crew.

Physiography

The Property is located within the Thompson Plateau of Southern British Columbia. Topography on Tenure 581009 is gentle with elevations ranging between 965m through the central N-S portion to 1,255 in the southeast corner.

^{*}Upon the approval of the assessment work filing for Event 5603181.

WATER & POWER

There would be an ample water supply for the needs of any exploration program from the many lakes, rivers, or streams within the confines of the Property.

A 550 KV power line traverses the southwestern portion of the Bertha 581009 Claim Group.

HISTORY: PROPERTY AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581009 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 581009 Claim Group.

JERICHO developed prospect (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE011

Three kilometres west

The No. 1 zone was discovered in 1956 and subsequently developed by two adits.

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISW012

Twelve kilometres west

Highland Valley Copper was created in mid-1986 by bringing together the Highland Valley mining operations of Lornex Mining Corporation Ltd. and Cominco Ltd. into a new single entity, structured as a partnership.

On the south side of the valley was the Lornex mine which started mining in 1972. In 1981, the Lornex concentrator had been expanded to become one of the largest in the industry.

On the north side was Bethlehem Copper (092ISE001) which started mining in 1963. In 1981, this operation was absorbed by Cominco who already owned the Valley orebody (092ISW012) located west of the Lornex pit on the south side of the valley. Mining of the original Bethlehem Copper pits ceased in 1982.

Production from the Lornex mine (092ISW045) was combined with the Valley operations in 1987.

The Highmont mill on the south side of the valley was acquired in 1988 when Highmont Mining Company joined the partnership. This mill had been closed down in 1984 when the Highmont deposit (092ISE013) became uneconomical.

Lornex Mining Corporation Ltd. was wound up at the end of 1988 with the result that Rio Algom Limited, Teck Corporation and Highmont Mining Company obtained direct participation in the cash flow from the partnership.

In 1995, with Explore B.C. Program support, Highland Valley Copper carried out 197 line kilometres of high-powered induced polarization surveys for very deep penetration, and drilled 1701 metres in 4 holes. This work was done on the Lornex SW Extension, Roscoe Lake and JA zones. No anomalies of merit were detected in Lornex SW Extension, and Roscoe Lake gave only limited encouragement. IP work on the JA zone detected an anomaly extending to the south, well beyond the limits of known mineralization, and another anomaly 2000 by 1500 metres in size at the east end of the grid. Both anomalies warrant drill testing (Explore B.C. Program 95/96 - M80).

At the end of 1996, mine plans called for another 200 metres in depth in the Valley pit to the 2008. In addition, the partnership may consider mining the remaining 120 million tonnes grading 0.33 per cent copper estimated to exist in the Lornex pit (Information Circular 1997-1, page 8).

History: Property Area (cont'd)

Highland Valley Copper producer (cont'd)

Highland Valley Copper suspended mining on May 15, 1999; they resumed August 30, 1999.

In September 2005, Highland Valley announced that mine life would be extended by five years to 2013. Very late in the year, Teck Cominco also announced that it is considering building a modern hydrometallurgical refinery on site.

Most ore comes from the Valley pit, augmented by a small amount from the Lornex pit. Following a successful 300,000 tonne bulk sample test, the Highmont East pit, closed since the mid-1980s, was re-opened in the fall of 2005 to take advantage of higher molybdenum prices. In addition, exploration drilling was conducted nearby in the Highmont South area and results are being evaluated.

MEADOW CREEK showing (Volcanogenic)

MINFILE 092ISE155

Five kilometres east

In 1986 through 1988, Western Resources Technologies completed programs of geological mapping, prospecting, soil geochemical sampling and geophysical (VLF-EM and magnetometer) surveys. In 1992, G.F. Crooker completed a program of magnetometer and VLF-EM surveys on the JB claims. In 1995, Goldcliff Resource acquired the property as the S 1 to 48 claims and completed programs of prospecting, geochemical sampling, geophysical surveys, trenching and drilling through 2006.

PLUG showing (Volcanogenic)

MINFILE 092ISE196

Three kilometres east

Plug occurrence is located on the southern side of Meadow Creek, approximately 13 kilometres southeast of the community of Logan Lake.

Between 1986 and 1988, Western Resources Technologies completed programs of geological mapping, prospecting, soil geochemical sampling and geophysical (VLF-EM and magnetometer) surveys. A grab sample of carbonate altered rock from the west- central zone along Meadow Creek assayed 7.5 grams per tonne gold and 67.5 grams per tonne silver (Assessment Report 18048). In 1992, G.F. Crooker completed a program of magnetometer and VLF-EM surveys on the JB claims.

In 1995, Goldcliff Resource acquired the property as the S 1 to 48 claims and between then and 2006 they completed programs of prospecting, geochemical sampling, geophysical surveys, trenching and drilling.

HISTORY: PROPERTY

The history of the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 581009 Claim Group is reported as follows

BERTHA - MOLLY past producer (Stockwork)

MINFILE 092ISE012

Within Tenure 522351

In 1942, George Campbell did some surface-stripping on a copper showing, about 457 metres west of an old shaft. Production from this occurrence, known as the Lost group, was 31 tonnes, yielding 218 grams of silver and 626 kilograms of copper.

Figure 2. Claim Location
(Base Map from MapPlace &Google Earth)

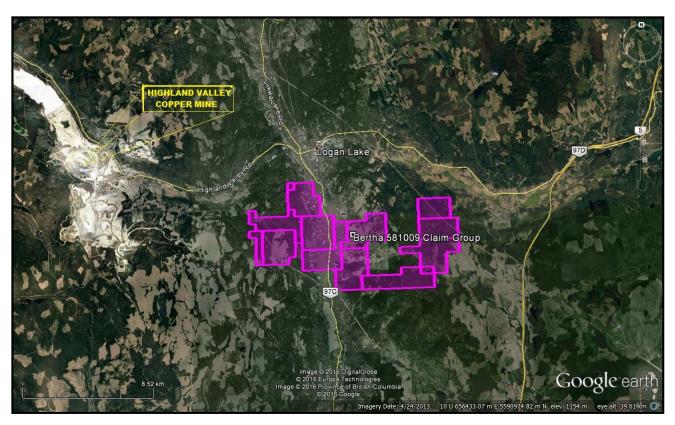
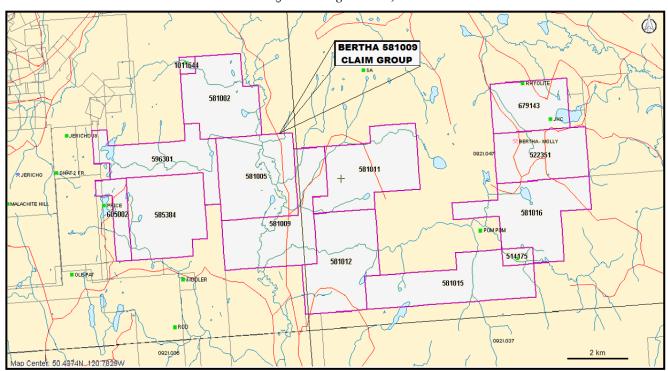


Figure 3. Claim Map (from Google Earth)



History: Property (cont'd)

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE021 Within Tenure 679143

Trenches, 1.25 kilometres north-northwest of Homfray Lake, 8.5 kilometres south-southeast from Logan Lake (Assessment Report 18048).

QUEN showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE190

Within Tenure 514175

Showing located along the shore of a small, unnamed lake along Quenville Creek, about 11 kilometres south-southeast of the community of Logan Lake (Property File - Geology map).

GEOLOGY: REGIONAL

The Bertha 581009 Claim Group is located on the southern Intermontane Belt of British Columbia on the southern extent of the Quesnel Trench. The central geological features of this region are the Late Triassic island-arc volcanic rocks of the Nicola Group, and Late Triassic mudstone, siltstone and shale clastic sedimentary rocks located to the east, and intrusive granodioritic rocks of the Late Triassic to early Jurassic. The Nicola Group is a succession of Late Triassic island-arc volcanic rocks. The Nicola Group volcanic rocks form part of a 30km to 60km wide northwest-trending belt extending from southern B.C. into the southern Yukon. This belt is enclosed by older rocks and intruded by batholiths and smaller intrusive rocks. Major batholiths in the area of the Bertha Property include the Guichon Creek Batholith to the west, the Wild Horse Batholith to the east, and the Iron Mask Batholith to the north northeast.

The Guichon Creek batholith is a large, composite intrusion with a surface area of about 1,000 square kilometers. A cluster of nine major porphyry copper deposits lie within a 15 square kilometer zone in the center of the batholith. The Bertha 581009 Claim Group is situated on the eastern contact of the Guichon Creek Batholith and the Nicola volcanics within 12 kilometres of the Highland Valley Copper Mine.

The batholith is a semi-concordant composite intrusive that is elliptical and elongated slightly west of north. A central, steeply plunging root or feeder zone is inferred under Highland Valley, and the major deposits lie around the projection of the feeder zone to the surface. The batholith has intruded and metamorphosed island-arc volcanic and associated sedimentary rocks of the Nicola Group, and a metamorphic halo up to 500 meters wide is developed adjacent to the contact. Rocks along the edge of the batholith are older and more mafic, and successive phases moving inward toward the core are younger and more felsic.

Although contacts can be sharp, they are generally gradational and chilled contacts are not common. Variations in the batholiths geochemistry indicate local areas of assimilated country rock in the border zone and roof pendants in the intrusion. Outcrop areas have inclusions of amphibolite and "granitized" metamorphic rocks and compositional variations.

Two younger volcanic-dominated successions are important in the area. First, a northwest trending belt of Cretaceous continental volcanic and sedimentary rocks of the Spences Bridge Group unconformably overlie both the Nicola Group country rock and intrusive rocks along the southwest flank of the batholith.

Geology: Regional (cont'd)

Distribution of the Spences Bridge Group rocks was locally controlled by reactivation of older faults that were important mineralization conduits in the batholith, such as the Lornex fault. Second, continental volcanic and sedimentary rocks of the Tertiary Kamloops Group cover extensive areas of the batholith and also overlie Triassic and Jurassic rocks from north of Highland Valley to the Thompson River. These also form isolated outliers and local intrusive centers south of the Highland Valley

GEOLOGY: PROPERTY AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581009 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 581009 Claim Group.

JERICHO developed prospect (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE011

Three kilometres west

The upper adit, located on a low ridge, was driven 269.4 metres at a bearing of 084 degrees The Jericho adit zone is situated on the eastern flank of the Lower Jurassic Guichon Creek batholith. The property is underlain by Guichon variety rocks of the older Highland Valley phase of the batholith. These rocks are medium to coarse-grained, cream grey-pink coloured granodiorite to quartz diorite, rich in biotite and plagioclase. Foliation strikes 305 degrees. Intense sericite, chlorite and clay alteration is associated with east-northeast striking and north dipping fault zones which host mineralized quartz veins.

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISW012

Twelve kilometres west

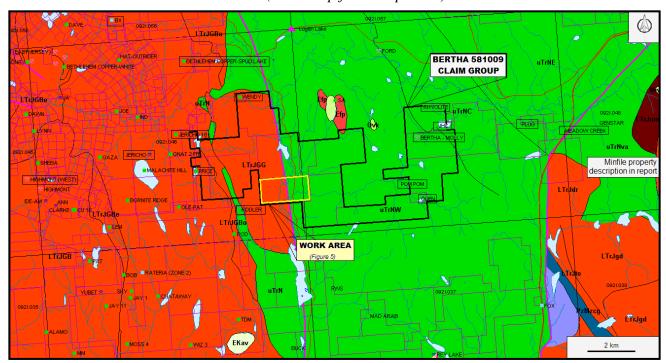
The Valley deposit lies within the Late Triassic to Early Jurassic Guichon Creek batholith and is hosted by Bethsaida phase porphyritic quartz monzonite and granodiorite. Feldspar porphyry and quartz feldspar porphyry dykes 0.6 to 35 metres wide dip steeply eastward in the western and central areas, and northward in the southern area of the deposit. These dykes are cut by mineralized fractures and quartz veinlets, and have been dated at 204 Ma +/- 4 Ma.

The Bethsaida granodiorite is also intruded by aplite dykes up to 30 centimetres wide, tan-coloured felsite dykes up to 4.5 metres wide, and three types of lamprophyre dykes (spessartite, hornblende vogesite, vogesite).

The most prominent structural features are the north trending, west dipping Lornex fault and the east trending Highland Valley fault. Faults and fractures in the deposit comprise four main sets. Quartz veinlets are subparallel to two of the earlier formed fault and fracture sets. These veinlets are moderately abundant within the 0.3 per cent copper isopleth. An area of well-developed barren quartz veinlets, generally 0.5 to 1.3 millimetres wide, without alteration envelopes, occurs in the southeastern part of the deposit.

In the west-central part of the deposit, potassium feldspar is associated with vein sericite in some replacement zones, as veinlet envelopes along fractures, and disseminated in quartz veinlets. Hydrothermal biotite occurs in small amounts.

Figure 4. Geology, Claim, Index & Minfile (Base Map from MapPlace)



GEOLOGY MAP LEGEND

Mivb

Miocene-unnamed basaltic volcanic rocks

EKav

Eocene-Kamloops Group undivided volcanic rocks

EPrb

Eocene-Penticton Group andesitic volcanic rocks

Upper Triassic-Nicola Group uTrNW

Western Volcanic Facies undivided volcanic rocks uTrNC

Central Volcanic Facies undivided volcanic rocks

uTrNE

Eastern Volcanic Facies

basaltic volcanic rocks

uTrN

undivided volcanic rocks

Late Triassic to Early Jurassic LTrJGB

GUICHON CREEK BATHOLITH

LTrJGBe – Bethlehem Phase granodioritic intrusive rocks

LTrJGB – Bethsaida Phase

quartz monzonitic intrusive rocks

LTrJGH – Highland Valley Phase granodioritic intrusive rocks

LTrJGG – Gump Lake Phase granodioritic intrusive rocks

LTrJGBo – Border Phase quartz dioritic intrusive rocks

Geology: Property Area (cont'd)

Highland Valley Copper producer (cont'd)

Flaky sericite and quartz, both as replacement zones and as envelopes around quartz veinlets, constitute the most common type of alteration associated with copper mineralization.

Strong phyllic alteration coincides with the 0.5 per cent copper isopleth. Phyllic alteration is closely associated with pervasive argillization, which is strongest where fractures are most closely-spaced. Feldspars are altered to sericite, kaolinite, quartz and calcite. The phyllic-argillic zone grades outward to a peripheral zone of weak to moderate propylitization, characterized by clay, sericite, epidote, clinozoisite and calcite replacing plagioclase, and chlorite and epidote replacing biotite. The age of hydrothermal alteration is approximately 191 Ma.

At the Valley deposit, gypsum is interpreted to be secondary and post-ore. It is commonly fibrous and white to orange but locally it forms large platy crystals or may be massive. Anhydrite, which is also present, provides indirect evidence for the secondary nature of the gypsum. It is apparently the same age as and associated with sericitic and potassic alteration. Quartz-gypsum veins and quartz-potash feldspar veins in which gypsum fills interstices provide more direct evidence for its secondary nature. Gypsum is believed to have formed at the expense of anhydrite which was deposited from the ore-forming fluids. Gypsum veins are common in the lower portion of the orebody (Open File 1991-15).

Sulphides occur chiefly as disseminations in quartz veinlets, and in phyllic (bornite) and potassic (chalcopyrite) alteration zones. Mineralization includes bornite and chalcopyrite, with minor digenite, covellite, pyrite, pyrrhotite, molybdenite, sphalerite and galena. The oxide zone averages 4.5 metres in thickness, and contains limonite, malachite, pyrolusite, digenite, native copper, and tenorite(?).

HIGHMONT (WEST) past producer (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISW036

Nine kilometres west

The Highmont deposits are located in the central core of the Late Triassic to Early Jurassic Guichon Creek batholith and are hosted primarily by Skeena variety quartz diorite to granodiorite. Skeena rocks are intruded by the composite Gnawed Mountain porphyry dyke which trends west-northwest and dips vertically in the central portion of the property. This dyke consists of biotite-quartz- feldspar porphyry derived from the Bethsaida phase leucocratic quartz porphyry and breccia. Small, pre-mineral plagioclase-quartz porphyry and aplite dykes are scattered throughout the property. Tertiary lamprophyre and andesite porphyry dykes also occur. The property is cut by several north striking faults.

Potassic, phyllic, argillic and propylitic alteration on the property is weak compared to that at other deposits in the Highland Valley district. Argillic and propylitic alteration are entirely fracture-related, grading outward from a central vein or fracture through a zone of intense kaolinite alteration into chlorite-epidote-sericite-albite alteration and finally into unaltered rock. Alteration zones vary from several centimetres to 50 metres wide.

FIDDLER showing (Porphyry Cu +/- Mo +/- Au) MINFILE 092ISE072
One kilometre south

Geology: Property Area (cont'd)

Fiddler showing (cont'd)

The Fiddler showing is situated immediately east of the eastern border of the Lower Jurassic Guichon Creek batholith. To the east are rocks of the Upper Triassic Gump Lake quartz monzonite stock. The area to the west is underlain by leucocratic hornblende-biotite quartz diorite to granodiorite of the Highland Valley phase of the batholith. Pegmatitic granite lenses within this unit have quartz-epidote knots, some containing magnetite and chalcopyrite.

The main showing is underlain by fine to coarse-grained biotite granodiorite with gneissic foliations striking north and dipping steeply. About 125 metres to the southeast in the South zone, layers of foliated and gneissic or schistose granodiorite alternate. Pyritic aplite is present as stringers and lenses lying within the metamorphic foliation and as larger crosscutting bodies with biotite- rich and leucocratic layers.

PRICE showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE074

500 metres west

The property lies on the eastern flank of the Lower Jurassic Guichon Creek batholith and covers the contact between the Guichon and Chataway variety granodiorites which are part of the Highland Valley phase of the batholith. The area around Tupper Lake is underlain by medium to coarsegrained, hornblende-biotite granodiorite. To the west of Tupper Lake these rocks are cut by latestage aplite dykes.

JERICHO 18 showing (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE084

One kilometre west

The Jericho showing lies on the eastern flank of the Lower Jurassic Guichon Creek batholith. The area is underlain by Chataway and Guichon variety coarse to medium-grained hornblende-biotite granodiorite which is intruded by Bethlehem phase dyke swarms. These rocks have wide compositional and textural ranges and are cut by regional faults, fractures and joints and are locally strongly altered.

MEADOW CREEK showing (Volcanogenic)

MINFILE 092ISE155

Five kilometres east

The area is underlain by volcanic rocks of the Upper Triassic Nicola Group which are cut by small granitic plugs and sills. Sparse outcroppings of Nicola Group rocks along Meadow Creek consist of altered andesite, lapilli tuff, amygdaloidal basalt and minor lenses of limy sediments which strike east to southeast and dip steeply to the north.

Alteration minerals include chlorite, epidote, carbonate and hematite. A quartz-mariposite-carbonate rock outcrops along Meadow Creek and is in contact with a chlorite-mica-feldspar(?) schist that strikes 020 degrees and dips 65 to 90 degrees to the east. The schist and mafic dioritic to hornblende andesite sills form a southeastward plunging asymmetrical syncline.

Geology: Property Area (cont'd)

POM POM showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE170

200 metres west

The Pom Pom occurrence is underlain by grey-green and purple andesitic tuffs, flows and breccias of the Upper Triassic Nicola Group intruded by a microdiorite dyke. Chalcopyrite and bornite occur in the dyke as fracture controlled mineralization accompanied by epidote, calcite and hematite alteration mineralogy.

PLUG showing (Volcanogenic)

MINFILE 092ISE196

Three kilometres east

The area is underlain by volcanic rocks of the Upper Triassic Nicola Group that are cut by small granitic plugs and sills. Sparse outcroppings of Nicola Group rocks along Meadow Creek consist of altered andesite, lapilli tuff, amygdaloidal basalt and minor lenses of limy sediments that strike east to southeast and dip steeply to the north. Alteration minerals include chlorite, epidote, carbonate and hematite. A quartz-mariposite-carbonate rock outcrops along Meadow Creek and is in contact with a chlorite-mica-feldspar schist that strikes 20 degrees and dips 65 to 90 degrees to the east. The schist and mafic dioritic to hornblende andesite sills form a southeastward plunging asymmetrical syncline.

The quartz mariposite carbonate rock contains minor amounts of silver-bearing galena, sphalerite and chalcopyrite. An outcrop of highly pyritic quartz feldspar porphyry contains minor amounts of chalcopyrite.

GEOLOGY: PROPERTY

The Bertha 581009 claim group is shown to be underlain by volcanics of the Nicola Group in the east in a fault contact with intrusives of the Guichon batholith to the west.

Eastward from the regional fault, the Nicola Group is comprised predominantly of undivided rocks of the Western Volcanic Facies (*uTrNW*) in a conformable contact with volcanics of the Central Volcanic Facies (*uTrNC*) at the extreme east

Westward, the Guichon batholith (*LTrJGB*) is comprised of granodiorites of the Gump Lake Phase (*LTrJGG*) in a conformable contact centrally with quartz diorites of the Border Phase (*LTrJGBo*). The north and the south portions of the contact zone is partly occupied by lenticular zones of Nicola volcanics. At the extreme western portion of the claim group, the Border Phase is in a conformable contact with granodioritic intrusive rocks of the Highland Valley Phase (*LTrJGH*).

BERTHA - MOLLY past producer (Stockwork)

MINFILE 092ISE012

Within Tenure 522351

The Dupont Lake area is underlain mainly by Upper Triassic Nicola Group intermediate volcanics and derivatives. Approximately 8 kilometres to the west, Nicola Group rocks are in contact with the Lower Jurassic Guichon Creek batholith. Quartz diorite outcrops southwest of Dupont Lake.

The Bertha-Molly showing is hosted by purplish amygdaloidal andesites with intercalated reddish tuffs. These rocks are strongly fractured and chloritized. The original shaft was sunk at a point where patches of cuprite occur in fractures. Small shipments were made.

Geology: Property (cont'd)

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE021 Within Tenure 679143

The area straddles a northwest trending contact between two volcanic sequences of the Upper Triassic Nicola Group. To the west are plagioclase, plagioclase-augite intermediate pyroclastic and epiclastic breccia, conglomerate, tuff, sandstone, local shale and augite porphyry bodies. The central portion to the east is underlain by aphanitic pillowed mafic flows. The contact between these two sequences hosts the Rhyolite occurrence.

The Rhyolite showing is underlain by grey, green or black amygdaloidal basalt of the Upper Triassic Nicola Group. Varicoloured calcite amygdules occur within an aphanitic groundmass. Several beds of maroon to green volcaniclastic breccia occur within the basalt and contain maroon, subrounded to subangular clasts ranging up to 30 by 15 centimetres. Two northwest trending, light greygreen, aphanitic, siliceous and pyritic felsic dykes, 3 to 4 metres wide, also occur.

JHC showing (Volcanic redbed Cu)

MINFILE 092ISE147

Within Tenure 679143

The property lies west of Homfray Lake and is underlain by volcanic rocks of the Upper Triassic Nicola Group. The area straddles a northwest trending contact between two volcanic sequences. East of the contact zone are very fine-grained red flows with occasional feldspar (plagioclase?) phenocrysts. The matrix contains moderate amounts of hematite disseminations. To the west are grey volcanics with an aphanitic to fine-grained matrix and associated feldspar and/or augite phenocrysts. Alteration consists of epidote, chlorite and carbonate. The contact zone parallels the main northwest structural trend. Northeast and north trends are also evident. Drilling (1971) intersected disseminated chalcocite in porphyritic and amygdaloidal basalt.

WENDY past producer (Volcanogenic)

MINFILE 092ISE154

Within Tenure 1011644

The Wendy showing is situated along the eastern edge of the Guichon Creek batholith where Lower Jurassic quartz diorites and granodiorites have intruded Upper Triassic Nicola Group intermediate volcanics and sediments. These rocks were subsequently intruded by Gump Lake phase granodiorite to quartz monzonite.

The eastern portion of the property is underlain by hornfels, hornfelsed schists and granitic gneisses which have a rough north trending foliation of variable dip. The metamorphosed rocks are intruded by leucocratic, fine to medium-grained granitic dykes which increase in abundance to the west until the hornfelsic units grade into granitic units. The southwestern part of the property is underlain by fine to medium-grained diorite or granodiorite and coarse grey granite.

QUEN showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE190

Within Tenure 514175

The Quen occurrence is underlain by augite and plagioclase porphyritic andesitic flows and red volcanic conglomerate of the Upper Triassic Nicola Group. Chalcopyrite, bornite, pyrite, native copper, molybdenite, chalcocite, malachite and azurite occur in the andesitic flows.

MINERALIZATION: PROPERTY AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581009 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 581009 Claim Group.

JERICHO developed prospect (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE011

Three kilometres west

Starting approximately 45.7 metres from the portal, the adit intersects mineralized quartz veins which generally strike west to northwest and dip 65 degrees to the north. The principal sulphides are bornite associated with primary chalcocite, chalcopyrite and seams and disseminations of molybdenite. The vein walls are sheared and strongly altered.

From 190 metres to its end, the upper adit intersects the No. 1 zone. The lower adit was driven in a south direction. At 525.8 metres, the 1725 zone was intersected and crosscut for a short distance. The No. 1 zone is about 685 metres from the portal and was drifted on for short distances.

Approximate (indicated) reserves are 272,130 tonnes grading 1.0 per cent copper (Highmont Mining Corporation Annual Report 1977).

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISW012

Twelve kilometres west

Highland Valley Copper operates two distinct mines, the Valley mine and the Lornex mine, and between the two has measured and indicated ore reserves of 761 million tonnes of 0.408 per cent copper and 0.0072 molybdenum. The ore reserves of each mine are: Valley mine - 627 million tonnes at 0.418 per cent copper and 0.0056 per cent molybdenum; Lornex mine - 135 million tonnes at 0.364 per cent copper and 0.0144 per cent molybdenum. The individual mine reserves are calculated at an equivalent cutoff grade of 0.25 per cent copper using a molybdenum multiplying factor of 3.5 (CIM Bulletin July/August 1992, pages 73,74).

HIGHMONT (WEST) past producer (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISW036

Nine kilometres west

The principal economic minerals are chalcopyrite, bornite and molybdenite occurring in veins and fractures. Chalcocite is present in minor amounts. Pyrite and specular hematite are gangue minerals. Minor chalcopyrite disseminations occur within a few centimetres of mineralized veins and shears. Veins of grey, brecciated quartz are up to 1 metre wide and are cut by seams of molybdenite and clay minerals. Mineralized clay gouge also occurs at the edges of veins. These zones consist mainly of quartz, albite, calcite and kaolinite and are usually accompanied by several metres of intensely argillized wallrock.

The West pit was mined first; East pit production began concurrently. See Highmont mine (092ISE013) for production statistics.

Reserves for the East Pit are reported as 800,000 tonnes of 0.15 per cent copper and 0.048 per cent molybdenum (CIM Special Volume 46, page 175).

Mineralization: Property Area (cont'd)

FIDDLER showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE072

One kilometre south

Mineralization is not obviously related to the sericitic and limonitic alteration of the aplite and the granodiorite.

Chalcopyrite occurs as disseminations in relatively fresh quartzose or biotite- rich zones in the granodiorite, as disseminations in biotite aplite, and in veins or pockets with quartz, alone or with pyrite, potassium feldspar or epidote.

Some veins parallel foliation, others dip gently. A chip sample across a 75 centimetre veined, rusty mineralized zone assayed 0.35 per cent copper with traces of gold and silver (Geology, Exploration and Mining in British Columbia 1974). Some molybdenite was reported when the showing was first discovered (1915). Post-mineralization shears cut both the aplite and country rock. The most prominent fault zones are 2.7 metres wide, strike north and dip steeply subparallel to foliation. Lesser shears strike southeast and dip moderately to the southwest. Malachite or copper oxides are usually present.

PRICE showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE074

500 metres west

Fault zones host sericitic alteration, malachite staining and copper and molybdenum mineralization. One such zone trends north through Tupper and Gump Lakes.

Small grains of chalcopyrite and magnetite are disseminated in the intrusive rocks.

The Price showing, immediately west of Tupper Lake, consists of bornite and molybdenite occurring as thin coatings on fractures in sheared granodiorite. Malachite is also present.

JERICHO 18 showing (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE084

One kilometre west

Between Pete's Creek and Moly Creek, the granodiorite is intruded by quartz veins and pegmatite and aplite dykes varying in width from 2.5 centimetres to 30.5 metres or greater. Potassium feldspar enrichment is evidently associated with the smaller intrusions. Chalcopyrite with minor molybdenite occur in very widely spaced joints and fractures trending approximately 025 degrees. Mineralization occurs as thin coatings on the planes of the fractures. The fractures are very tight, vertical and accompanied by a barren conjugate set trending 060 degrees.

The showing is located along Pete's Creek and consists of a concentration of mineralized fractures. A 45.36 kilogram sample of this exposure assayed 0.48 per cent copper and 0.009 per cent molybdenum (Assessment Report 922).

MEADOW CREEK showing (Volcanogenic)

MINFILE 092ISE155

Five kilometres east

Locally, an alteration zone contains gold and silver mineralization and is exposed over a surface area of 32 metres long by 2 metres wide.

Mineralization: Property Area (cont'd)

Meadow Creek showing

The alteration zone consists of chlorite-mica (fuchsite) feldspar schist containing a quartz vein stockwork that is accompanied by pyrite, galena, sphalerite and chalcopyrite. Two grab samples of quartz carbonate mariposite schist with galena and sphalerite yielded 605 and 482 parts per billion gold and 165.1 and 258.4 parts per million silver (Assessment Report 28815).

Commerce Resource Corporation reports a best mineralized drill intersection of 3.5 metres containing 2.83 grams per tonne gold and 37.7 grams per tonne silver (Press Release June 14, 2002).

POM POM showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE170

200 metres west

Copper mineralization grades 0.17 per cent copper (Assessment Report 18048).

PLUG showing (Volcanogenic)

MINFILE 092ISE196

Three kilometres east

The quartz mariposite carbonate rock contains minor amounts of silver-bearing galena, sphalerite and chalcopyrite. An outcrop of highly pyritic quartz feldspar porphyry contains minor amounts of chalcopyrite.

MINERALIZATION: PROPERTY

The mineralization on the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 581009 Claim Group is reported as follows

BERTHA - MOLLY past producer (Stockwork)

MINFILE 092ISE012

Within Tenure 522351

Recent development has exposed malachite, azurite, chalcopyrite, cuprite and pyrite hosted by shears and fracture-fillings in vesicular volcanics and red tuffs. Mineralization is structurally controlled with an apparent north trend. A common alteration is calcite and epidote with silicification becoming stronger at depth.

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE021

Within Tenure 679143

Mineralization occurs in amygdaloidal basalt near the flow-volcaniclastic contact and is related to narrow quartz-carbonate veinlets within shears.

Several old trenches indicate the shear zone strikes approximately 335 to 345 degrees and dips steeply west. Pyrite is present with minor chalcopyrite, azurite, malachite and sphalerite. Rock samples from this zone assayed up to 0.377 per cent copper, 0.218 per cent zinc and are weakly anomalous in gold and silver values.

JHC showing (Volcanic redbed Cu)

MINFILE 092ISE147

Within Tenure 679143

Mineralization: Property (cont'd)

JHC showing (cont'd)

Drilling (1971) intersected disseminated chalcocite in porphyritic and amygdaloidal basalt. Fracturing and narrow shears in amygdaloidal andesite contain epidote, carbonate, quartz, malachite and chalcopyrite. A chip sample assayed 4.27 per cent copper and 14.2 grams per tonne silver (Assessment Report 17337).

WENDY past producer (Volcanogenic)

MINFILE 092ISE154

Within Tenure 1011644

Minor chalcopyrite and malachite occur as narrow veins or along joint planes and as fine disseminations in the intrusive rocks.

QUEN showing (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE190

Within Tenure 514175

Chalcopyrite, bornite, pyrite, native copper, molybdenite, chalcocite, malachite and azurite occur in the andesitic flows.

STRUCTURAL ANALYSIS

a) Purpose

The purpose of the structural analysis was to delineate any area of major fault intersections which location could be the centre of maximum brecciation and be depth intensive to provide the most favourable feeder zone to any convective hydrothermal fluids sourced from a potentially mineral laden reservoir. The fluid constituents and/or the indications thereof could be etched in the surface material where, by means of standard exploratory procedures, the source and location may be identified as a foundation on which to warrant any follow-up exploration.

These surficial indications such as prime minerals, indicator minerals, or alteration patterns, may be an indication of a masked mineral resource. Thus, a cross-structural location would be the prime area to initially prospect for the surficial indicators which may be revealed as pathfinder minerals, minerals and/or alteration products that would be subject to interpretation as economic mineral indicators.

b) Method

The structural analysis was performed on a DEM image hillshade map of Tenure 581011 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 63 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6*. The indicated primary structural trend was then plotted on the lineament map with the general trend influenced by the predominant lineaments as shown by the Rose Diagram.

The centre of the work area on Tenure 581009 is at 5,588,028N, 655,207E (10) (NAD 83).

c) Results

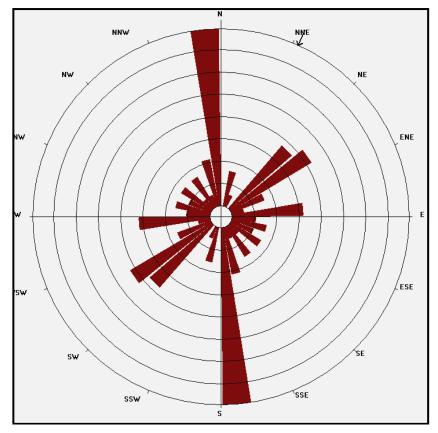
One cross-structure resulting from an indicated major trending northerly structure intersected by one indicated northeasterly trending major structure.

Structural Analysis (cont'd)

Figure 5. Indicated Lineaments on Tenure 581009



Figure 6. Rose Diagram from lineaments of Tenure 581009



Structural Analysis (cont'd)

STATISTICS

Axial (non-polar) data

No. of Data = 63

Sector angle = 10°

Scale: tick interval = 3% [1.9 data]

Maximum = 23.8% [15 data]

Mean Resultant dir'n = 024-204

[Approx. 95% Confidence interval = $\pm 90.0^{\circ}$]

(valid only for unimodal data)

Mean Resultant dir'n = 024.2 - 204.2

Circ.Median = 045.0 - 225.0

Circ.Mean Dev.about median = 40.5°

Circ. Variance = 0.41

Circular Std.Dev. = 58.69°

Circ. Dispersion = 25.90

Circ.Std Error = 0.6412

Circ.Skewness = -0.34 Circ.Kurtosis = -1.95 kappa = 0.25

(von Mises concentration param. estimate)

Resultant length = 7.73

Mean Resultant length = 0.1226

'Mean' Moments: Cbar = 0.0813; Sbar = 0.0918

'Full' trig. sums: SumCos = 5.1243; Sbar = 5.7813

Mean resultant of doubled angles = 0.2211

Mean direction of doubled angles = 150

(Usage references: Mardia & Jupp,

'Directional Statistics', 1999, Wiley;

Fisher, 'Statistical Analysis of Circular Data',

1993, Cambridge University Press)

Note: The 95% confidence calculation uses

Fisher's (1993) 'large-sample method'

Figure 7. Cross structural location (Figure 5) on Tenure 581009 (Base Map: Google Earth)



Table II. Approximate UTM location of cross-structure on Tenure 581009 (UTM-NAD 83)

Location	UTM East	UTM North	Elevation (m)		
\mathbf{A}	654,919	5,588,120	980		

MAGNETOMETER SURVEY

a) Instrumentation

A Scintrex MF 2 Model magnetometer used for the magnetometer survey. Diurnal variation was corrected by taking repeated readings at a base point throughout the day. Magnetometer values are total intensity and relative.

b) Theory

Only two commonly occurring minerals are strongly magnetic, magnetite and pyrrhotite; magnetic surveys are therefore used to detect the presence of these minerals in varying concentrations. Magnetics is also useful is a reconnaissance tool for mapping geologic lithology and structure since different rock types have different background amounts of magnetite and/or pyrrhotite.

c) Survey Procedure

From station 5,588,200N 654,450E, a southerly base-line was established at 50 metre station intervals to 5,588,050N 654,450E. Magnetometer readings were taken at 25 metre intervals easterly along each of the four grid lines to 654,950E. The grid line stations were located by a GPS instrument. Line kilometres of magnetometer survey completed was 2.0. The field data is reported herein in Appendix I.

d) Data Reduction

The field results were initially input to an Exel spreadsheet whereupon a Surfer 31 program was utilized to create maps from the magnetometer data results.

Figure 8. Magnetometer Survey Grid (Base Map: Google Earth)

Magnetometer Survey (cont'd)



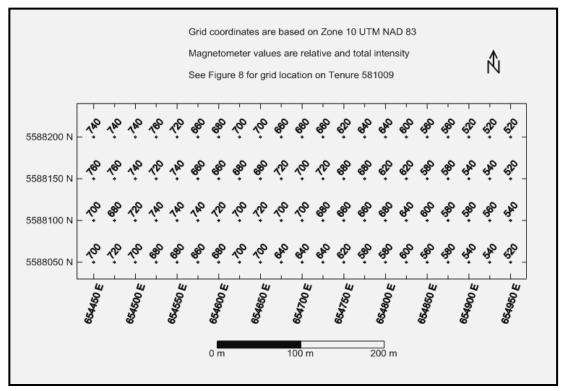
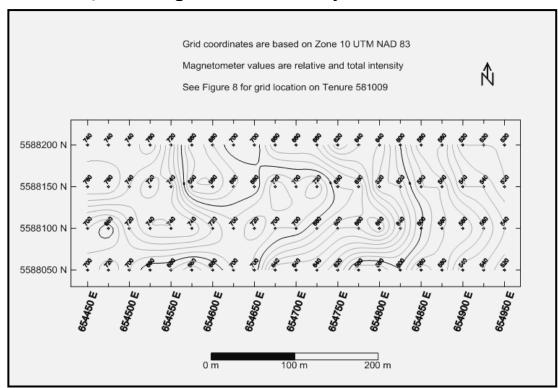


Figure 10. Magnetometer Survey Contoured Data



Magnetometer Survey (cont'd)

e) Results

The localized magnetometer survey within an area of indicated Guichon batholith intrusive rocks revealed an anomalous mag LO open ended to the north, south, and east. Should the anomaly indicate a hydrothermally altered structural zone, which in the intrusive environment would most likely be the case, the anomaly would indicate the two structural zone as delineated in the structural analysis. The northerly trending structure could be indicated by the northerly trend of the anomalous zone, whereas the southeasterly trend of the northeasterly trending structure from the cross-structure could be indicated by "sub-anomalous" configuration with the northeasterly potion trending into the anomalous zone

Cross-structure "A" is located within the westward waning portion of the mag LO anomaly.

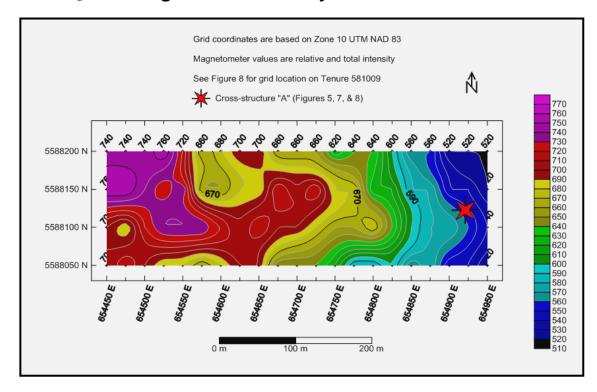


Figure 11. Magnetometer Survey Colour Contoured Data

INTERPRETATION and CONCLUSIONS

The suggestion that the cross-structural intersection delineated on Tenure 581009 may be a prospective area to explore for surficial geological indicators of a potential economic sub-surface mineral resource, is demonstrated by the anomalous mag LO of the area. Should the anomaly and adjacent "subanomalous" mag LO zones (see the results in the Magnetometer Survey section) be an indication of an altered zone created by potentially mineral laden hydrothermal fluids originating from a source at depth, the constituents of this fluid should be indicated in the surface material. These geological indicators may be revealed as pathfinder minerals, minerals and/or alteration products that would be subject to interpretation as economic mineral indicators to follow-up exploration.

Thus, the cross-structure location "A" as indicated on Figures 5, 7, 8, & 11 with the approximate location reported in Table II, would be a prime location to explore for surficial geological indicators of a potential concealed mineral resource.

Respectfully submitted Sookochoff Consultants Inc.



Laurence Sookochoff, PEng

SELECTED REFERENCES

Holcombe, R. – 2009: GEOrient, ver 9.4.4. Stereographic Projections and Rose Diagram Plots

John, D.A. - Porphyry Copper Deposit Model. Scientific Investigations Report 2010-5070-B. U.S. Department of the Interior. U.S. Geological Survey, Reston, Virginia: 2010.

MapPlace – Map Data downloads

Marshak, S., Mitra, G. – Basic Methods of Structural Geology. pp 258-259, 264*. Prentice-Hall Inc. 1988

Mohebi, A. et al - Controls on porphyry Cu mineralization around Hanza Mountain, south-east of Iran: An analysis of structural evolution from remote sensing, geophysical, geochemical and geological data. Ore Geology Reviews. Volume 69. September 2015, Pages 187-198.

MtOnline - MINFILE downloads.

092ISE011 – JERICHO	092ISE084 – JERICHO 18
092ISW012 – HIGHLAND VALLEY	092ISE147 – JHC
COPPER	092ISE154 – WENDY
092ISE012 - BERTHA - MOLLY	092ISE155 – MEADOW CREEK
092ISE021 – RHYOLITE	092ISE170 – POM POM
092ISW036 – HIGHMONT (WEST)	092ISE190 – QUEN
092ISE072 – FIDDLER	092ISE196 – PLUG
092ISE074 - PRICE	

Sookochoff, L. - Geological Assessment Report of a Structural Analysis on Tenure 581005 of the Bertha 581005 Claim Group for Guy & Christopher Delorme. August 15, 2014. AR 34909.

STATEMENT OF COSTS

Work on Tenure 581009 was done from April 26, 2016 to May 10, 2016 to the value as follows:

Structural Analysis Laurence Sookochoff, P Eng. 3 days @ \$ 1,000.00/day	\$ 3,000.00
Magnetometer Survey	
Rick Pearson & Ross Heyer	
May 6-7, 2016	
Four man days @ \$300.00 per day	1,200.00
Expenses	
Truck rental: 2 days @ \$125 \$ 250.00	
Kilometre charge: 414 @ \$0.70 289.80	
Fuel 64.10	
Room & board 5 man days @ \$90.00 450.00	
Mag rental 2 days @ \$80.00 <u>160.00</u>	<u>1,213.90</u>
	\$ 5,413.90
Maps	750.00
Report	3,000.00

\$ 9,163.90

CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. with an address at 120 125A-1030 Denman Street, Vancouver, BC V6G 2M6.

- I, Laurence Sookochoff, further certify that:
- 1) I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- 2) I have been practicing my profession for the past fifty years.
- 3) I am registered and in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
- 4) The information for this report is based on information as itemized in the Selected Reference section of this report and from work the author has performed in the Bertha Property area.
- 5) I have no interest in the Bertha 581009 Claim Group as described herein.



Laurence Sookochoff, P. Eng.

 $Appendix\ I$

Magnetometer Data

August 5, 2016

E5603181 T581009											
East	North	Mag	East	North	Mag	East	North	Mag	East	North	Mag
654450	5588050	700	654450	5588100	700	654450	5588150	760	654450	5588200	740
654475	5588050	720	654475	5588100	680	654475	5588150	760	654475	5588200	740
654500	5588050	700	654500	5588100	720	654500	5588150	740	654500	5588200	740
654525	5588050	680	654525	5588100	740	654525	5588150	720	654525	5588200	760
654550	5588050	680	654550	5588100	740	654550	5588150	740	654550	5588200	720
654575	5588050	660	654575	5588100	740	654575	5588150	660	654575	5588200	660
654600	5588050	680	654600	5588100	720	654600	5588150	660	654600	5588200	680
654625	5588050	700	654625	5588100	700	654625	5588150	680	654625	5588200	700
654650	5588050	700	654650	5588100	720	654650	5588150	680	654650	5588200	700
654675	5588050	640	654675	5588100	700	654675	5588150	720	654675	5588200	660
654700	5588050	640	654700	5588100	700	654700	5588150	700	654700	5588200	660
654725	5588050	640	654725	5588100	680	654725	5588150	720	654725	5588200	660
654750	5588050	620	654750	5588100	660	654750	5588150	680	654750	5588200	620
654775	5588050	580	654775	5588100	660	654775	5588150	680	654775	5588200	640
654800	5588050	580	654800	5588100	680	654800	5588150	620	654800	5588200	640
654825	5588050	600	654825	5588100	640	654825	5588150	620	654825	5588200	600
654850	5588050	560	654850	5588100	600	654850	5588150	580	654850	5588200	560
654875	5588050	580	654875	5588100	580	654875	5588150	580	654875	5588200	560
654900	5588050	540	654900	5588100	580	654900	5588150	540	654900	5588200	520
654925	5588050	540	654925	5588100	560	654925	5588150	540	654925	5588200	520
654950	5588050	520	654950	5588100	540	654950	5588150	520	654950	5588200	520