GUY & CHRISTOPHER DELORME

(Owners & Operators)

GEOLOGICAL ASSESSMENT REPORT

(Event 5457381)

of a

STRUCTURAL ANALYSIS

on

Tenure 581022

of the seven claim

Bertha 581022 Claim Group

Kamloops Mining Divisions

BCGS Maps 092I.037/.046/.047

work done from

April 26, 2013 to April 30, 2013

Centre of Work
5,585,100N, 658,000E

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SUMMARY

The 3,170 hectare Bertha 581022 Claim Group is located in the Highland Valley of south central British Columbia within 15 kilometres east of the Highland Valley Copper mine; one of the largest copper mining and concentrating operations in the world which, with the Lornex Mine, has measured and indicated ore reserves of 761 million tonnes of 0.408 per cent copper and 0.0072 molybdenum.

The Highland Valley copper/molybdenum deposit lies within the Guichon Creek batholith in the Bethsaida Phase of porphyritic quartz monzonite and granodiorite. The most prominent structural features are the north trending, west dipping Lornex fault and the east trending Highland Valley fault. At the Lornex deposit, mineralization is controlled by the distribution and density of fracture sets.

The Bertha 581022 Claim Group predominantly covers the Western Volcanic Facies of the Nicola Group and a northerly trending fault contact with the Guichon Batholith in its western portion. In the north the Property covers a portion of a granodiorite stock.

In the structural analysis of Tenure 581022 of the eight claim Bertha 581022 Claim Group, two prime cross-structures were indicated between one east-west structure and two northerly trending structures. These directional faults are also major factors in the mineral controls to the Highland Valley Copper and the Lornex mineral deposits hosted by the Guichon Batholith some 20 kilometres west of Tenure 581022.

Even though the two cross-structural locations of Tenure 581022 are located within the Nicola Volcanic Group, which in itself is not a favourable host for substantial porphyry mineral development, an intersecting structural location would be a preferred conduit for the transfer and/or deposition of any significant amounts of mineralized hydrothermal fluids from a deep-seated source to the surface or to any structurally prepared location in between.

Mineral occurrences within the Nicola volcanics east of the Guichon Batholith in the Bertha 581022 Claim Group area were likely generated from an underlying intrusive source perhaps exposed as stocks on the surface as at the SA mineral showing.

Other Minfile descriptions of surface mineralization hosted by volcanics are at the Rhyolite mineral showing where porphyry mineralization is related to a basalt host and a shear zone trending at 335 to 345 degrees, or at the Bertha Molly past producer where mineralization is also structurally controlled with an apparent north trend. Surficial indications of other potential mineral deposits in the area are described in the six Minfile mineral descriptions copied herein from the BC Government Minfile records with locations shown on Figure 4.

The two cross-structural intersections delineated by the structural analysis as shown on Figures 5 and 7, would be areas to explore for surficial indications of any geological indicator to a hydrothermal generated mineral source at depth.

In addition to the two areas designated as A and B on Figures 5 & 7, the area designated as C on Figure 7 should be explored for potential mineralization associated with a topographically indicated stock or diatreme.

INTRODUCTION

In April, 2013 a structural analysis was completed on Tenure 581022 of the eight claim Bertha 581022 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 Tenure 581022 or other claims of the Bertha property.

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

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

PROPERTY DESCRIPTION AND LOCATION

Property Description

The Property is comprised of eight contiguous claims covering an area of 3170.0218 hectares. Particulars are as follows:

Table I. **Tenures of Bertha 581022 Claim Group**

Tenure Number	Type	Claim Name	Good Until	Area (ha)
581005	Mineral		20140415	514.5084
581006	Mineral		20140515	514.3692
581009	Mineral		20140415	514.6423
581011	Mineral		20140415	514.5161
581012	Mineral		20140415	514.7582
581022	Mineral		20140415	494.3829
699924	Mineral	SA3	20140515	82.2732
699946	Mineral	SA2	20140515	20.5715

*Upon the approval of the assessment work filing, Event Number 5457381.

Property Description and Location *(cont'd)*

Location

The Bertha 581022 Claim Group is located within BCGS Maps 092I.036/.046/.047 of the Kamloops Mining Division, 213 kilometres northeast of Vancouver, 36 kilometres north of Merritt, 42 kilometres southwest of Kamloops, and within 15 kilometres east of the world-class producing Highland Valley Copper mine.

The centre of the work area on Tenure 581022 is at 5,585,100N, 658,000E (10) (NAD 83).

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access

From Logan Lake, the Bertha 581022 claim group can be accessed by traveling 1300 metres east from Logan Lake on the Meadow Creek road (Highway 97D) to the Mamit Lake road (Highway 97C) junction thence south for five kilometres to the northern boundary of Tenure 581005, one of the northwestern most claims of the Bertha 581022 claim group. Secondary roads would provide access to some areas of the Property.

Climate

The local climate is typical of south central British Columbia. Annual temperatures range from 35^{o}C to -40^{o}C. Negative temperatures can be typically expected between late October and late March. Annual precipitation ranges around an average of 30 cm.

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 is gentle to moderate, with elevations ranging from 969m at the northern exit of the Mamit Lake road on Tenure 581005 to 1,465m along the northwest boundary of the Property.

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 high voltage power line trends southeasterly through the southwestern corner of the Bertha 581022 Claim Group.

HISTORY: BERTHA 581022 CLAIM GROUP AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581022 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581022 of the Bertha 581022 Claim Group.

History: Bertha 581022 Claim Group Area *(cont'd)*

JERICHO Developed prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE011
Ten kilometres west-northwest

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

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Twenty kilometres west-northwest

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).

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.

History: Bertha 581022 Claim Group Area *(cont'd)*

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

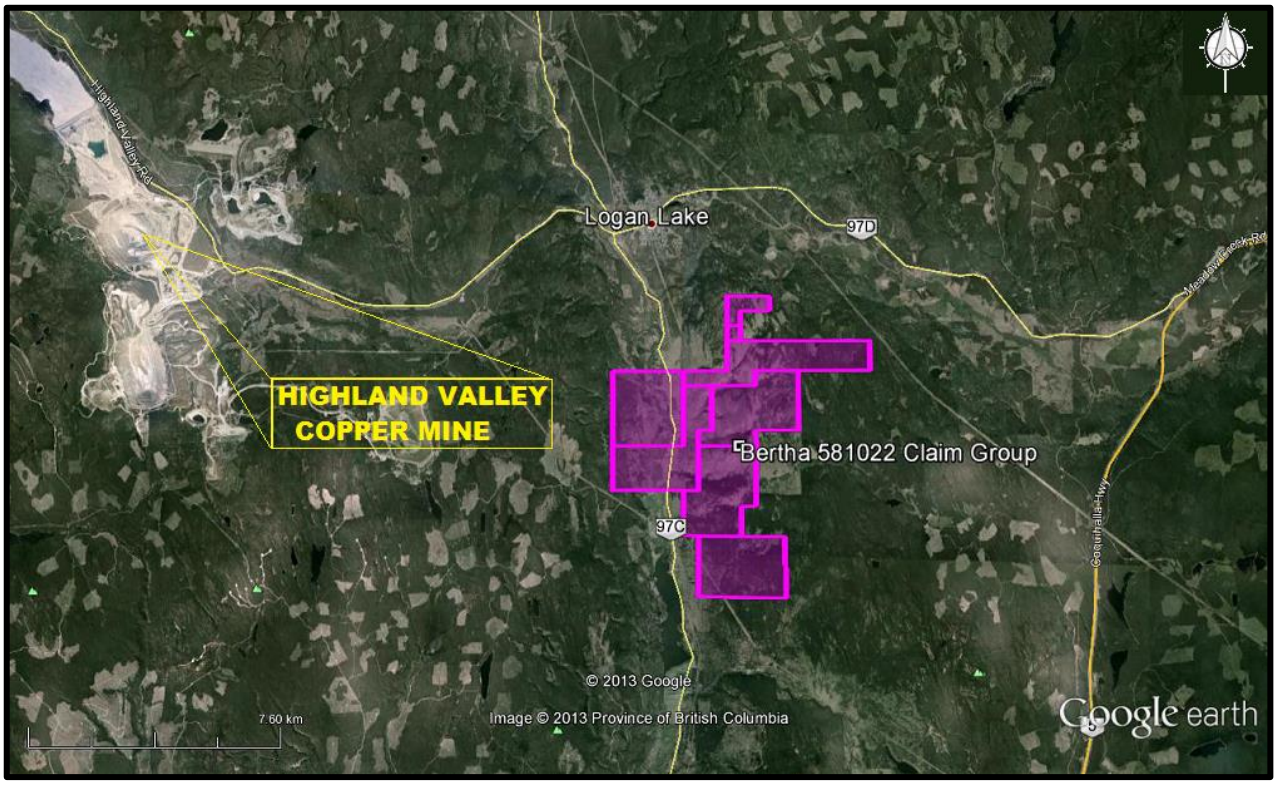
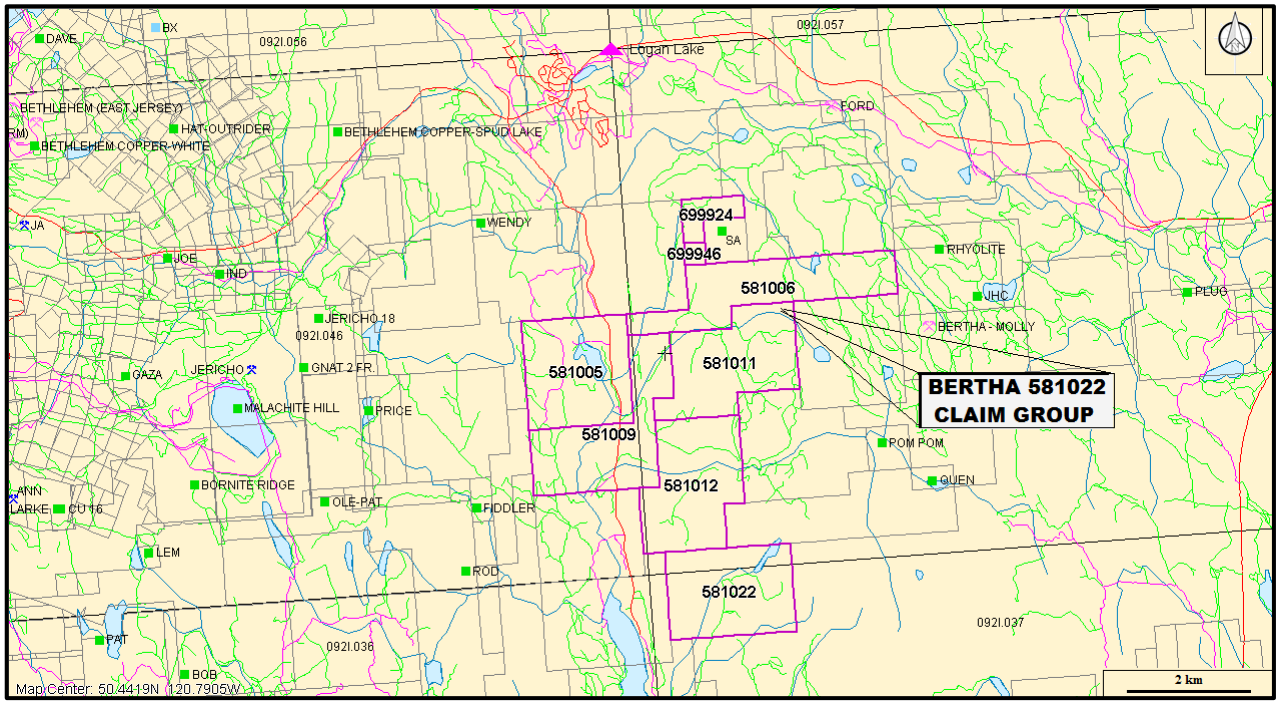


Figure 3. **Claim Map**
(from Google Earth)



History: Bertha 581022 Claim Group Area *(cont'd)*

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
Six kilometres northeast

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.

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE021
Seven kilometres northeast

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

LORNEX producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Eighteen kilometres west-northwest

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.

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.

GEOLOGY: REGIONAL

The Bertha 581022 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 Logan Copper 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 semi-concordant variably phased intrusive that is elliptical and elongated slightly west of north. The Batholith has intruded and metamorphosed rocks of the Nicola Group resulting in a metamorphic halo up to 500 meters wide 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 the phases of the Guichon Creek Batholith phases 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.

Geology: Regional *(cont'd)*

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. 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.

A central, steeply plunging root or feeder zone within the Guichon Creek Batholith is inferred under Highland Valley. A cluster of nine major porphyry copper deposits lie within a 15 square kilometer zone in the center of the batholith which includes the world-class Highland Valley Copper Mine.

GEOLOGY: BERTHA 581022 CLAIM GROUP AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581022 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581022 of the Bertha 581022 Claim Group.

JERICHO Developed prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE011
Ten kilometres west-northwest

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
Twenty kilometres west-northwest

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.

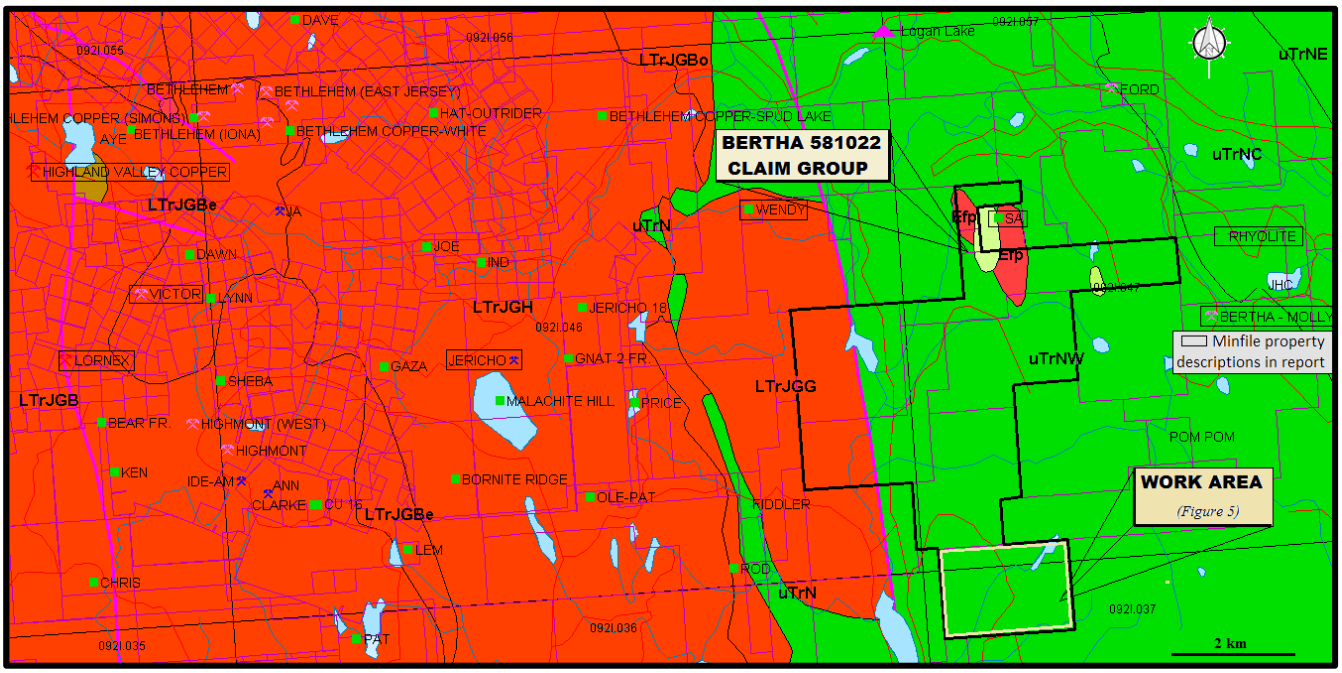
The Bethsaida granodiorite is also intruded by aplite dykes up to 30 centimetres wide, tan-coloured felsite dykes up to 4.5 metres wide, and three types of lamprophyre dykes (spessartite, hornblende vogesite, vogesite).

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.

Silicic, potassic, phyllic, argillic and propylitic alteration are intimately associated. Stockworks of quartz veinlets 1 to 2 centimetres in width are common. Vuggy veinlets have envelopes of medium-grained sericite and/or potassic feldspar, and contain minor amounts of sericite, plagioclase, potassium feldspar, calcite, hematite, bornite, chalcopyrite, molybdenite, digenite and covellite.

Geology: Bertha 581022 Claim Group Area *(cont'd)*

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: Bertha 581022 Claim Group Area *(cont'd)*

Highland Valley Copper *producer (cont'd)*

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. 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(?).

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
Six kilometres northeast

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: Bertha 581022 Claim Group Area *(cont'd)*

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE021
Seven kilometres northeast

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 grey-green, aphanitic, siliceous and pyritic felsic dykes, 3 to 4 metres wide, also occur.

shearing are abundant in the diorite and quartz diorite but markedly less in the granodiorite.

LORNEX producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Eighteen kilometres west-northwest

The Lornex deposit lies in the central core of the Late Triassic-Early Jurassic Guichon Creek batholith and occurs within Skeena variety granodiorite to quartz diorite. This rock is medium to coarse-grained and slightly porphyritic. The Lornex property straddles the north trending, west dipping Lornex fault which juxtaposes Skeena rocks on the east side with Bethsaida phase quartz monzonite on the west. A pre-mineral quartz porphyry dyke, probably related to the Bethsaida phase, trends northwest and pinches out in the Lornex deposit.

Mineralization is controlled by the distribution and density of fracture sets. Three major sets of copper-molybdenum veins strike north-northeast to east and dip moderately southeastward. There are two sets of post-mineral fault and fracture systems; one which roughly parallels the mineralized veins and another which offsets the first up to 2 metres. The most prominent structural feature is the Lornex fault which dips 55 degrees to the west in the southern part of the orebody, and steepens to nearly vertical in the north. This fault truncates the northwestern part of the deposit. It is characterized by a 10 centimetre to 1.5-metre wide black gouge on the footwall and discontinuous mylonite pods 1 to 50 metres wide in the hanging wall.

Five main types of hydrothermal alteration are related to quartz and sulphide mineralization. Pervasive silicification, consisting of close spaced quartz veins with associated quartz alteration, is hosted by the Skeena rocks. The quartz porphyry dyke is only weakly affected by hydrothermal alteration. Potassium feldspar veinlets and hydrothermal biotite are erratically distributed. Argillic alteration is pervasive throughout the ore zone and is characterized by quartz, sericite, kaolinite, montmorillonite and chlorite. Copper grades generally correspond to the intensity of argillization. Within the argillic zone, phyllic alteration consists of grey quartz-sericite envelopes on mineralized veins. Pervasive propylitization, consisting of epidote (zoisite), chlorite and carbonates (calcite), is peripheral to the argillic zone. There is also an irregular zone of late-stage gypsum.

Geology: Bertha 581022 Claim Group Area *(cont'd)*

Lornex *Producer (cont'd)*

The Lornex deposit is 1900 metres long, 500 metres wide and plunges northwest to a depth of at least 750 metres. Chalcopyrite, bornite and pyrite constitute 1.5 per cent of the ore zone and occur in three roughly concentric sulphide zones respectively. Sulphides occur mainly with quartz as fracture-fillings and coatings. Veins average 5 to 15 millimetres in width. Molybdenite occurs as thin laminae in banded quartz veins and less often as rosettes in vuggy quartz veins.

The oxide zone averages 3 to 30 metres in thickness and thins toward the east. Supergene minerals are malachite, limonite, pyrolusite, azurite, cuprite, chalcocite, covellite, and native copper.

JERICHO 18 Showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE019
Nine kilometres northwest

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.

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.

WENDY Showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE154
Nine kilometres northwest

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

Alteration consists of weak sericitization along with disseminations and bands of pink potassium feldspar.

SA showing (Stockwork, Disseminated)
MINFILE 092ISE167
Eight kilometres north

The property lies within the Upper Triassic Nicola Group approximately 3 kilometres east of the Lower Jurassic Guichon Creek batholith. Locally Tertiary volcanic flows and minor intrusives overlie the Triassic rocks. The area is underlain by a conformable succession of epiclastic rocks with subordinate interlayered lavas. The sedimentary sequence is best exposed at the main showing where the succession is about 90 metres thick. This unit is comprised of 50 to 100 metres of volcanic conglomerate composed of subangular to rounded red to green clasts of flow rocks cemented by a friable sandy matrix.

Geology: Bertha 581022 Claim Group Area *(cont'd)*

SA *showing (cont'd)*

Weakly bedded, coarse-grained fossiliferous limestone overlies the conglomerate and is again overlain by at least 60 metres of conglomerate grading upward into massive volcanic breccia. An upper unit of poorly bedded, well sorted greywacke caps the succession. Amygdaloidal basalt and andesite outcrop to the east and south where they are interlayered with the epiclastic rocks. Vesicles are filled with carbonate, zeolite and chalcocite.

GEOLOGY: BERTHA 581022 CLAIM GROUP

As indicated by the BC government supported MapPlace geological maps, the Bertha 581022 Claim Group predominantly covers the Western Volcanic Facies of the Nicola Group and a northerly trending fault contact with the Guichon Batholith in its western portion. In the north the Property covers a portion of a granodiorite stock.

MINERALIZATION: BERTHA 581022 CLAIM GROUP AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581022 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 581022 Claim Group.

JERICHO Developed prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE011
Ten kilometres west-northwest

The upper adit, located on a low ridge, was driven 269.4 metres at a bearing of 084 degrees. 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
Twenty kilometres west-northwest

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.

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
Six kilometres northeast

Mineralization: Bertha 581022 Claim Group Area *(cont'd)*
Bertha - Molly *past producer (cont'd)*

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.

Mineralization is associated with younger porphyritic rocks which intrude the Guichon quartz diorite. Chalcopyrite occurs in small amounts. Alteration consists of chlorite and kaolinite in zones of shearing.

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE021
Seven kilometres northeast

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 (Assessment Report 18048).

LORNEX producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Eighteen kilometres west-northwest

Published reserves at January 1, 1995 were 539.7 million tonnes grading 0.42 per cent copper and 0.0073 per cent molybdenum. The mine life is estimated to be about fourteen more years (Information Circular 1995-9, page 6).

Mineralization is controlled by the distribution and density of fracture sets. Three major sets of copper-molybdenum veins strike north-northeast to east and dip moderately southeastward. There are two sets of post-mineral fault and fracture systems; one which roughly parallels the mineralized veins and another which offsets the first up to 2 metres.

The most prominent structural feature is the Lornex fault which dips 55 degrees to the west in the southern part of the orebody, and steepens to nearly vertical in the north. This fault truncates the northwestern part of the deposit. It is characterized by a 10 centimetre to 1.5-metre wide black gouge on the footwall and discontinuous mylonite pods 1 to 50 metres wide in the hanging wall.

JERICHO 18 Showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE019
Nine kilometres northwest

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).

Mineralization: Bertha 581022 Claim Group Area *(cont'd)*

WENDY Showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE154
Nine kilometres northwest

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

SA showing (Stockwork, Disseminated)
MINFILE 092ISE167
Eight kilometres north

On the SA showing, highly fractured, malachite stained, rusty weathering limestone(?) is exposed for 45.7 metres along the east side of an old logging access road. Stringers and disseminated grains of chalcocite, bornite and rarely chalcopyrite are visible on freshly broken surfaces. Much of the rock is strongly oxidized to a soft, rusty gossan locally rich in malachite.

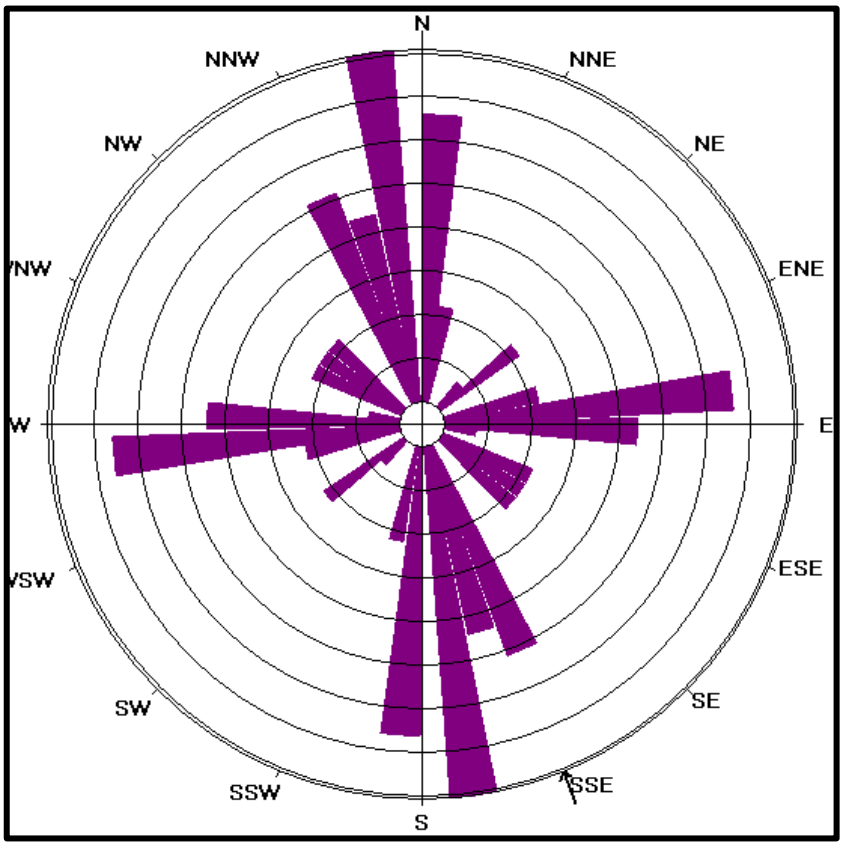
STRUCTURAL ANALYSIS

The structural analysis was performed on a MapPlace Hillshade map of Tenure 581022 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 68 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6.*

Figure 5. **Indicated Lineaments on Tenure 581022**

Structural Analysis *(cont'd)*

Figure 6. **Rose Diagram from lineaments** *(Figure 5)* **of Tenure 581022**



STATISTICS

(for Figure 6)

Axial (non-polar) data
No. of Data = 68
Sector angle = 8°
Scale: tick interval = 2% [1.4 data]
Maximum = 16.2% [11 data]
Mean Resultant dir'n = 158-338
[Approx. 95% Confidence interval = ±35.7°]
(valid only for unimodal data)

Mean Resultant dir'n = 157.9 - 337.9
Circ.Median = 156.5 - 336.5
Circ.Mean Dev.about median = 37.2°
Circ. Variance = 0.32
Circular Std.Dev. = 50.77°
Circ. Dispersion = 6.03
Circ.Std Error = 0.2979
Circ.Skewness = 2.39
Circ.Kurtosis = -0.25

kappa = 0.43
(von Mises concentration param. estimate)

Resultant length = 14.15
Mean Resultant length = 0.208

'Mean' Moments: Cbar = 0.1491; Sbar = -0.1451
'Full' trig. sums: SumCos = 10.137; Sbar = -9.867
Mean resultant of doubled angles = 0.4778
Mean direction of doubled angles = 170

(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'

Structural Analysis *(cont'd)*

Figure 7. **Cross structural locations** *(Figure 5)* **on Tenure 581022**
(Base Map: Google Earth)

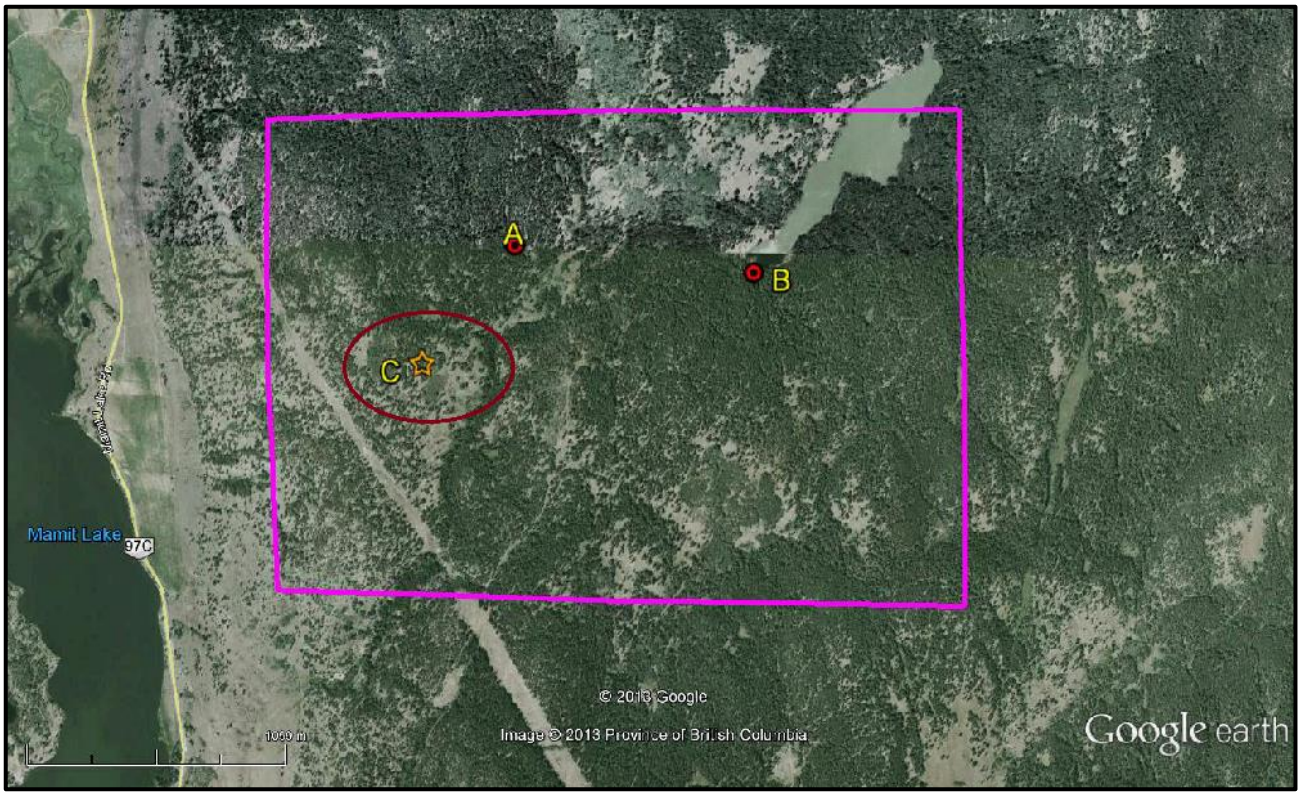


Table II. **Approximate UTM locations of Figure 5 cross-structures**
(UTM-NAD 83)

Location	UTM East	UTM North	Elevation
A	657,690	5,585,410	1,302
B	658,603	5,5853308	1,443
C*	657,345	5,584,948	1,333

- Location C outlines the elliptical boundaries of a potential diatreme or an intrusive stock.

Structural Analysis *(cont'd)*

Table III. **Minfile Property Structures**

Property	Minfile	Structure	Comments *(Taken from Minfile description)*
Jericho	092ISE011	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	092ISW012		The most prominent structural features are the north trending, west dipping Lornex fault and the east trending Highland Valley fault.
Bertha - Molly	092ISE012	Mineralization is structurally controlled with an apparent north trend.	Mineralization is associated with younger porphyritic rocks which intrude the Guichon quartz diorite.
Rhyolite	092ISE021	… the shear zone strikes approximately 335 to 345 degrees and dips steeply west.	
Lornex	092ISW012	The most prominent structural feature is the Lornex fault which dips 55 degrees to the west in the southern part of the orebody, and steepens to nearly vertical in the north.	Mineralization is controlled by the distribution and density of fracture sets.
Jericho 18	092ISE154	The fractures are very tight, vertical and accompanied by a barren conjugate set trending 060 degrees.	Chalcopyrite with minor molybdenite occur in very widely spaced joints and fractures trending approximately 025 degrees.
SA	092ISE167		… highly fractured, malachite stained, rusty weathering limestone(?) is exposed for 45.7 metres …

INTERPRETATION and CONCLUSIONS

Two prime cross-structures were indicated between one east-west structure and two northerly trending structures. These structural directions are significant in the area, as revealed in the prominent north trending Lornex fault and the east trending Highland Valley fault. These faults are also major factors in the mineral controls to the Highland Valley Copper and the Lornex mineral deposits hosted by the Guichon Batholith some 20 kilometres west of the structurally analyzed Tenure 581022.

The dominant northerly trending structure is also displayed within two kilometres west of Tenure 581022 in the fault contact between rocks of the Guichon Batholith and the Nicola volcanics whereas the easterly direction is apparent in the topography and the water courses.

Interpretation and Conclusions *(cont'd)*

Even though the two cross-structural locations of Tenure 581022 are located within the Nicola Volcanic Group, which in itself is not a favourable host for substantial porphyry mineral development, an intersecting structural location would be a preferred conduit for the transfer and/or deposition of any significant amounts of mineralized hydrothermal fluids from a deep-seated source to the surface or to any structurally prepared location in between.

An example of an economic porphyry deposit relating to fracture intensity or density is at the Lornex deposit where mineralization is controlled by the distribution and density of fracture sets or at the Brenda deposit where the grade of the orebody is a function of fracture (vein) density and of the thickness and mineralogy of the filling material.

As fracture density is an important single factor in influencing ore grades of a porphyritic mineral deposit, the Highland Valley and the Lornex Faults intersections might be attributed to the greater fracture density over an enlarged area and thus the significant mineral resource developed at the Highland Valley/Lornex mineral deposit.

Mineral occurrences within the Nicola volcanics east of the Guichon Batholith in the Bertha 581022 Claim Group area were likely generated from an underlying intrusive source perhaps exposed as stocks on the surface as at the SA mineral showing. Other Minfile descriptions of surface mineralization hosted by volcanics are at the Rhyolite mineral showing where porphyry mineralization is related to a basalt host and a shear zone trending at 335 to 345 degrees, or at the Bertha Molly past producer where mineralization is also structurally controlled with an apparent north trend. Surficial indications of other potential mineral deposits in the area are described in the six Minfile mineral descriptions copied herein from the BC Government Minfile records with locations shown on Figure 4.

The two cross-structural intersections delineated by the structural analysis as shown on Figures 5 and 7, would be areas to explore for surficial indications of any geological indicator to a hydrothermal generated mineral source at depth.

In addition to the two areas designated as A and B on Figures 5 & 7, the area designated as C on Figure 7 should be explored for potential mineralization associated with a topographically indicated stock or diatreme.

Respectfully submitted
Sookochoff Consultants Inc.

Laurence Sookochoff, PEng

SELECTED REFERENCES

Aho, A.E. - Report on Geologic, Magnetometer, and Geochemical Surveys on the Raha Mineral Claims for Torwest Resources Ltd. October 22, 1958. AR 241.

Garrow, T. – 2010 Diamond Drilling Assessment Report on the Dansey Project for Highland North Inc. January 20, 2012. AR 32,980.

Hemsworth, F.J. - Report on the Geochemical Survey of the Ezra Claims for New Indian Mines Ltd. December, 1964. AR 606.

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

MapPlace – Map Data downloads

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

MtOnline - MINFILE downloads.

092ISE011 – JERICHO
092ISW012 – HIGHLAND VALLEY COPPER
092ISE012 – BERTHA – MOLLY
092ISE021 – RHYOLITE
092ISW012 – LORNEX
092ISE019 – JERICHO 18
092ISE167 – SA

Sookochoff, L., Zhonghua, P. – Dansey Project Technical Report for Logan Copper Inc. January 16, 2010.

Sookochoff, L. – Geological Assessment Report for Guy and Christopher Delorme on Tenure 581016 of the ten claim Bertha 581016 Claim Group. November 8, 2013.

STATEMENT OF COSTS

Work on Tenure 581022 was done from April 26, 2013 to April 30, 2013 to the value as follows:

Structural Analysis	
Laurence Sookochoff, P Eng. 3 days @ $ 1,000.00/day -----	$ 3,000.00
Maps ----------	800.00
Report ----------	3,500.00
	$ 7,300.00
	======

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 forty-seven 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 581022 Claim Group as described herein.

Laurence Sookochoff, P. Eng.