GUY & CHRISTOPHER DELORME

(Owners & Operators)

GEOLOGICAL ASSESSMENT REPORT

(Event 5483606)

of a

STRUCTURAL ANALYSIS

on

Tenure 580984

of the five claim

Bertha 580984 Claim Group

Kamloops Mining Divisions

BCGS Maps 092I.047/.056/.057

work done from

December 11, 2013 to December 14, 2013

Centre of Work
(NAD 83)
5,598,182N, 653,503E

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SUMMARY

The Bertha 580984 Claim Group is located in the Highland Valley of south central British Columbia within 15 kilometres 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 five claim, 2568 hectare Bertha 580984 Claim Group predominantly covers a north-northwesterly trending band of upper Triassic Western Volcanic Facies of the Nicola Group (uTrNW). Along the eastern boundary the Claim Group covers a portion of the Nicola Group Central Volcanic Facies (uTrNC) which is in a conformable contact with the Western Volcanic Facies. Along the western portion of the Claim Group, the Western Volcanic Facies is in a north-northwesterly fault contact with the Border Phase of the Guichon Batholith (LTrJGBo) and undivided volcanic rocks of the Nicola Group (uTrN).

Two primary structures, east-westerly and north-northerly, were indicated from the structural analysis of Tenure 580984. The structural pattern on Tenure 580984 and the Highland Valley mineral controlling structures are of a similar pattern possibly indicating a synchronous development of structural preparedness for mineral accommodation.

As fracture density was apparently the most important single factor in influencing ore grades of the Highland Valley mineral deposits, the most significant mineral deposit, the Highland Valley Copper deposit, located at the intersection of the Highland Valley and the Lornex Faults, might be attributed to the increased fracture density over a larger area and thus the significant mineral resource developed at the Highland Valley/Lornex mineral deposit.

In searching for surficial geological indicators of a potential mineral resource, the two cross-structural locations on Tenure 580984 would be the most prospective areas for exploration as the cross-structures between major structures are potentially the sites for the creation of maximum fracture intensity, maximum depth penetration to tap hydrothermal fluids, provision as a conduit for the migration of fluids, and the accommodation for potentially mineralized fluids.

If there were any hydrothermal activity related to the two cross structures, the possibility of the action may be shown in the geological signatures at surface. These geological indicators may be revealed as minerals and/or alteration products and would be subject to interpretation as potentially economic mineral indicators

Accordingly, the two structural intersections on Tenure 580984 are the prime exploration areas. The approximate UTM locations of the intersections are shown in Table II.

The eight Minfile descriptions copied herein from a BC Government supported Minfile directory, provide information as to the geological indicators for a productive mineral deposit or for surficial geological indicators of a potential underlying mineral resource

INTRODUCTION

In December 2013 a structural analysis was completed on Tenure 580984 of the nine claim Bertha 580984 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 580984 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 five contiguous claims covering an area of 2568.9421 hectares. Particulars are as follows:

Table I. **Tenures of Bertha 580984 Claim Group**

Tenure Number	Type	Claim Name	Good Until	Area (ha)
580984	Mineral	LOGAN	20141210	513.7014
580992	Mineral	LOGAN	20141210	513.7018
580997	Mineral	LOGAN	20141210	513.9286
611543	Mineral	LOGAN NORTH 10	20141210	513.7033
611583	Mineral	LOGAN 1	20141210	513.907

*Upon the approval of the assessment work filing, Event Number 5483606.

Property Description and Location *(cont'd)*

Location

The Bertha 580984 Claim Group is located within BCGS Maps 092I.047/.056/.057 of the Kamloops Mining Division, 217 kilometres northeast of Vancouver, 45 kilometres north of Merritt, 38 kilometres southwest of Kamloops, and within 15 kilometres of the world-class producing Highland Valley Copper mine.

The centre of the work area on Tenure 580984 is at 5,598,182N, 653,503 (10) (NAD 83).

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access

From Logan Lake, the Bertha 580984 claim group can be accessed by traveling two kilometres east on Highway 97D (Meadow Creek Road) to the western boundary of Tenure 611583. Many secondary roads would provide access to most 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 on Tenure 580984 ranging from 1,040m within a watercourse in the southwest to 1,232m along a northerly trending ridge in the north-central portion of the claim.

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 central portion of the Bertha 580984 Claim Group.

HISTORY: BERTHA 580984 CLAIM GROUP AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 580984 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 580984 of the Bertha 580984 Claim Group.

History: Bertha 580984 Claim Group Area *(cont'd)*

BETHLEHEM past producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW011
Ten kilometres south-southwest

Production from 1963 to 1982 totalled 96,324,510 tonnes, yielding 99,826,893 grams silver, 1,279,833 grams gold, 398,112,545 kilograms copper and 851,048 kilograms molybdenum.

The Bethlehem concentrator milled Valley ore (092ISW012) until its closure in June of 1989.

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Fifteen kilometres south-southwest

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.

History: Bertha 580984 Claim Group Area (cont'd)

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

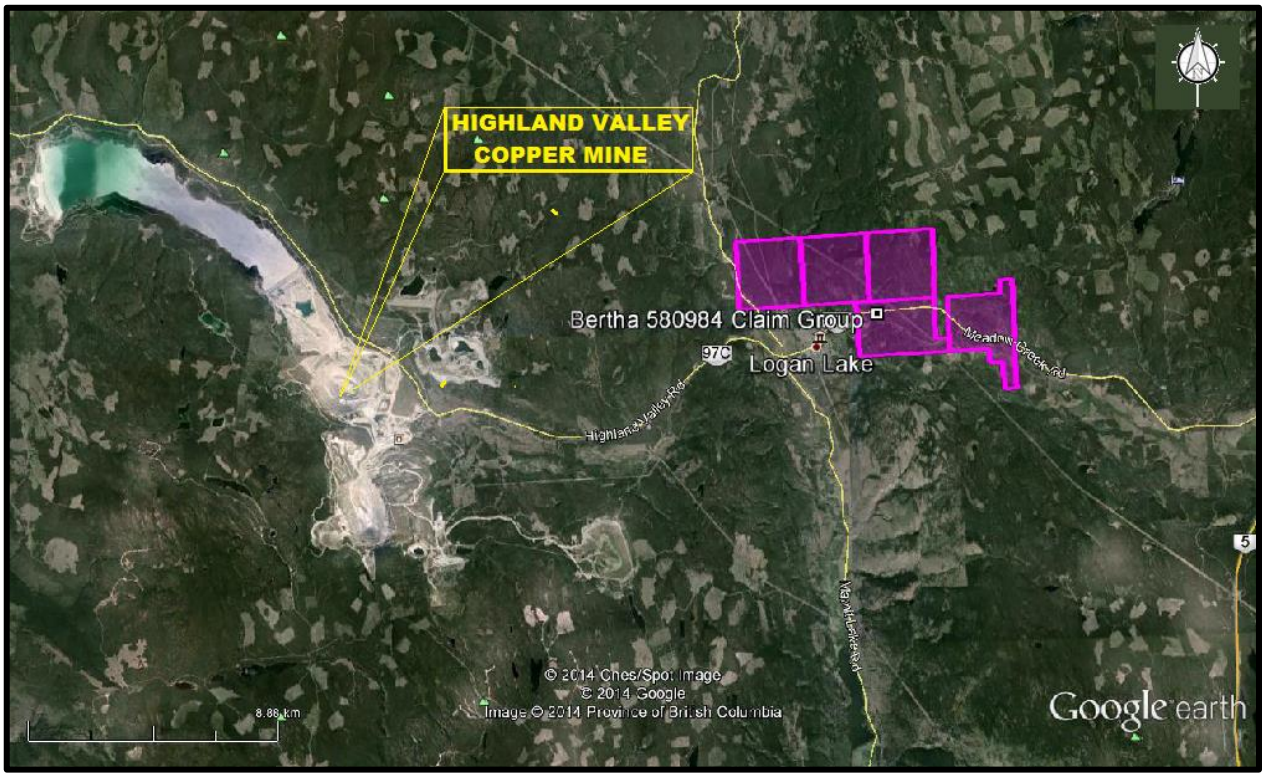
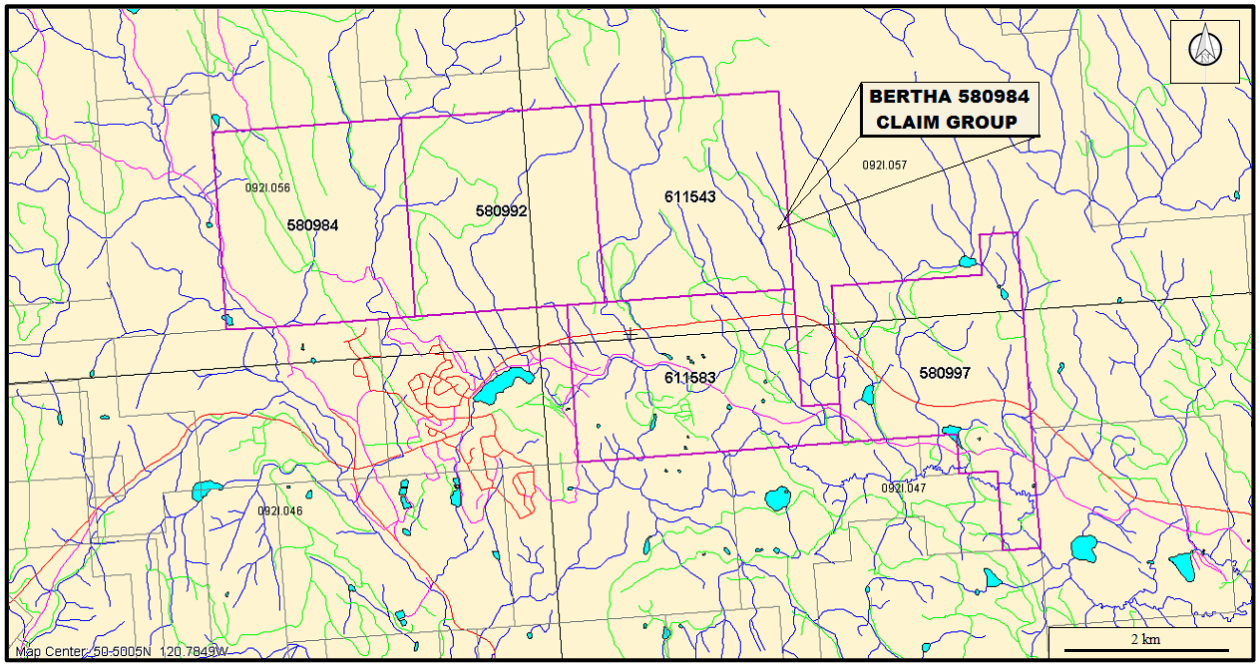


Figure 3. **Claim Map**
(from Google Earth)



History: Bertha 580984 Claim Group Area *(cont'd)*

Highland Valley Copper *producer (cont'd)*

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.

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
Eleven kilometres southeast

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
Ten kilometres southeast

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

DANSEY prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE034
Two kilometres west

Deerhorn Mines Ltd. held the Witches Brook group of 24 claims in the vicinity of the JB showing in 1956. Noranda Exploration Company Limited held the PG group of 99 claims along and mainly west of Guichon Creek to the north of Witches Brook in 1962. This property was partly a relocation of the claims held by Deerhorn Mines Ltd. Geological, geochemical and geophysical surveys were carried out during 1963. The CL group, apparently staked by C.W. Dansey in 1964, was located partially on ground formerly part of the PG group. North Pacific Mines Limited carried out a program of trenching, soil sampling, magnetometer and geological surveying on the property during 1964. In 1965, North Pacific Mines Ltd. carried out an induced polarization survey which outlined an anomaly about 914 metres long over a width of 244 metres. Other work consisted of trenching, road building and 8 diamond-drill holes totalling 1280 metres. In 1968, an airborne magnetometer survey (202 kilometres) was flown on behalf of North Pacific Mines Ltd. and Comet-Krain Mines Ltd. In 1969, Noranda Exploration Company Limited conducted a soil geochemical survey and induced polarization surveys over the Mike, Bill, Tom and JB claims. In 1974, North Pacific Mines Ltd. conducted percussion drilling in 5 holes totalling 384 metres on the Tom claims.

DAB showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE040
Three kilometres west

In 1967, an aeromagnetic survey was conducted over some of the Dab claims on behalf of Alwin Mining Company Limited and in 1968-69 a soil geochemical survey (969 samples) was run over 28 kilometres of grid.

GEOLOGY: REGIONAL

The Bertha 580984 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 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 580984 Claim Group is situated partly on the eastern contact of the Guichon Creek Batholith and predominantly on the Nicola volcanics within 14 kilometres east 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. 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.

GEOLOGY: BERTHA 580984 CLAIM GROUP AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 580984 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 580984 of the Bertha 580984 Claim Group.

BETHLEHEM past producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW011
Ten kilometres south-southwest

Geology: Bertha 580984 Claim Group Area *(cont'd)*

Bethlehem *past producer (cont'd)*

The Bethlehem property lies within the Early Jurassic-Late Triassic Guichon Creek batholith and straddles an intrusive contact where younger Bethlehem phase rocks form an irregular embayment in older Guichon variety rocks. The Bethlehem phase is medium-grained granodiorite to quartz diorite which ranges from equigranular to hornblende-biotite porphyry. The Guichon variety is medium-grained granodiorite. Igneous breccias are postulated to have been forcefully emplaced. Clasts up to 20 centimetres in diameter are subrounded and sit in a generally compact, but sometimes vuggy matrix. The granodiorites and breccias are intruded by north trending, steeply dipping dykes which are compositionally similar to the enclosing rocks; contacts are chilled. Most of the dykes are dacite porphyry and range in width from less than 1 metre to 60 metres.

The Bethlehem ore deposits (East Jersey (092ISE002), Huestis (092ISE004), Iona (092ISE006), and Snowstorm (092ISE005) are controlled by north trending faults and are localized in zones of closely-spaced fractures. Mineralization is concentrated in breccia bodies, faults and highly fractured areas. The Jersey fault cuts through the centre of the Jersey pit.

Hydrothermal alteration is restricted to the immediate area of the ore zones. The distribution of secondary biotite defines an inner potassic zone, sericite with kaolinite and montmorillonite define an intermediate phyllic zone, and epidote defines a peripheral propylitic zone. There is an outer halo of chloritized mafic minerals. Calcite, zeolite and quartz veining and vug-filling is common.

Metallic mineral zoning is very similar to alteration patterns. Bornite and chalcopyrite occur in the hydrothermal biotite zone, specularite in the epidote zone and minor pyrite in the outer halo. Molybdenite, chalcocite and magnetite occur in minor amounts. Malachite, azurite, chrysocolla, cuprite, native copper, hematite, goethite and manganese oxides occur to shallow depths. An age date from a sample of a mixture of magmatic and hydrothermal biotite from the Iona ore zone (092ISE006) returned 199 Ma +/- 8 Ma (Canadian Institute of Mining and Metallurgy Special Volume 15).

JERICHO developed prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE011
Nine kilometres southwest

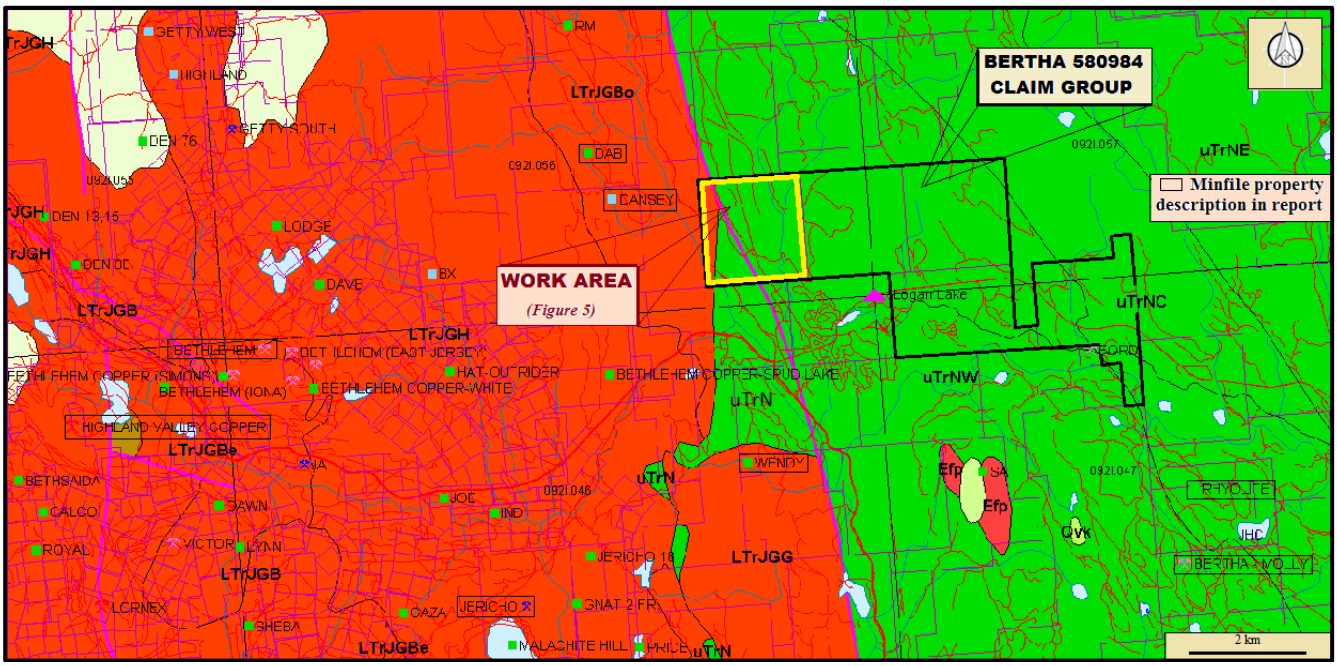
The upper adit, located on a low ridge, was driven 269.4 metres at a bearing of 084 degrees The Jericho adit zone is situated on the eastern flank of the Lower Jurassic Guichon Creek batholith. The property is underlain by Guichon variety rocks of the older Highland Valley phase of the batholith. These 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
Fifteen kilometres south-southwest

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.

Geology: Bertha 580984 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 580984 Claim Group Area** (cont'd)*

***Highland Valley Copper** producer (cont'd)*

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.

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(?).

Geology: Bertha 580984 Claim Group Area *(cont'd)*

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
Eleven kilometres southeast

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.

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE021
Ten kilometres southeast

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.

DANSEY prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE034
Two kilometres west

The Dansey property is located at the eastern edge of the Late Triassic-Middle Jurassic Guichon Creek batholith and overlies the contact between Hybrid phase and Guichon variety rocks. Three main rock types are evident and comprise diorite, quartz diorite and granodiorite. Fracturing and shearing are abundant in the diorite and quartz diorite but markedly less in the granodiorite.

DAB showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE040
Three kilometres west

The Dab property lies close to the northwest trending contact between Upper Triassic Nicola Group volcanics to the east from intrusive rocks of the Late Triassic-Middle Jurassic Guichon Creek batholith to the west. In this area Guichon rocks appear to be quartz diorite of the Hybrid phase.

WENDY prospect (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE154
Four kilometres south

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.

Geology: Bertha 580984 Claim Group Area *(cont'd)*

Wendy *prospect (cont'd)*

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.

GEOLOGY: BERTHA 580984 CLAIM GROUP

As indicated by the BC government supported MapPlace geological map, the Claim Group predominantly covers a north-northwesterly trending band of upper Triassic Western Volcanic Facies of the Nicola Group (uTrNW). Along the eastern boundary the Claim Group covers a portion of the Nicola Group Central Volcanic Facies (uTrNC) which is in a conformable contact with the Western Volcanic Facies. Along the western portion of the Claim Group, the Western Volcanic Facies is in a north-northwesterly fault contact with the Border Phase of the Guichon Batholith (LTrJGBo) and undivided volcanic rocks of the Nicola Group (uTrN).

MINERALIZATION: BERTHA 580984 CLAIM GROUP AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 580984 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 580984 Claim Group.

BETHLEHEM past producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW011
Ten kilometres south-southwest

The Jersey orebody hosts disseminated mineralization and occurs in an area of relatively evenly distributed and variously oriented pervasive fracturing. Irregular, discontinuous quartz veins also hosts mineralization. Production from the Jersey pit began in 1964 and from the Jersey pit extension in 1977. Reserves for the Jersey deposit are 22.9 million tonnes of 0.40 per cent copper. Total reserves for the Bethlehem deposits (Jersey, East Jersey and Iona) are 43.5 million tonnes (plus 6 million tonnes oxide) grading 0.40 per cent copper, minor molybdenum and 0.013 grams per tonne gold (CIM Special Volume 46, page 175).

JERICHO developed prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE011
Nine kilometres southwest

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).

***Mineralization: Bertha 611523 Claim Group Area** (cont'd)*

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Fifteen kilometres south-southwest

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
Eleven kilometres southeast

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
Ten kilometres southeast

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.

DANSEY prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE034
Two kilometres west

Mineralization on the Dansey property is associated with diorite and quartz diorite. Most of the mineralization occurs along fractures but the majority of it is associated with a second group of fractures that strike from 040 to 080 degrees. The main minerals include chalcopyrite and pyrite, with minor amounts of molybdenite, specularite, chalcocite and bornite. Malachite, azurite and chrysocolla occur as secondary minerals. Areas of moderate copper-molybdenum mineralization (>0.1 per cent copper) occur near the contact between diorite and quartz diorite with weak zones of copper-molybdenum mineralization scattered throughout the diorite.

Trenching has exposed disseminations and blebs of chalcopyrite, pyrite, bornite, hematite, magnetite and molybdenite mineralization in and adjacent to several northeast faults and shear zones in quartz diorite. The faults and shears mostly dip northwest at moderate to high angles. The shears are characterized by intensely chloritized and sericitized quartz diorite and vary from 1.5 to 9 metres wide. Near the shears are random fractured zones with pyrite and minor chalcopyrite on fracture planes.

Mineralization: Bertha 611523 Claim Group Area *(cont'd)*

DAB showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE040
Three kilometres west

Very low grade copper mineralization (inferred to be disseminated chalcopyrite) occurs in mafic intrusive rocks (Nicola?). The mineralization was found by drilling but is not reported in assessment reports (W.J. McMillan, 1970).

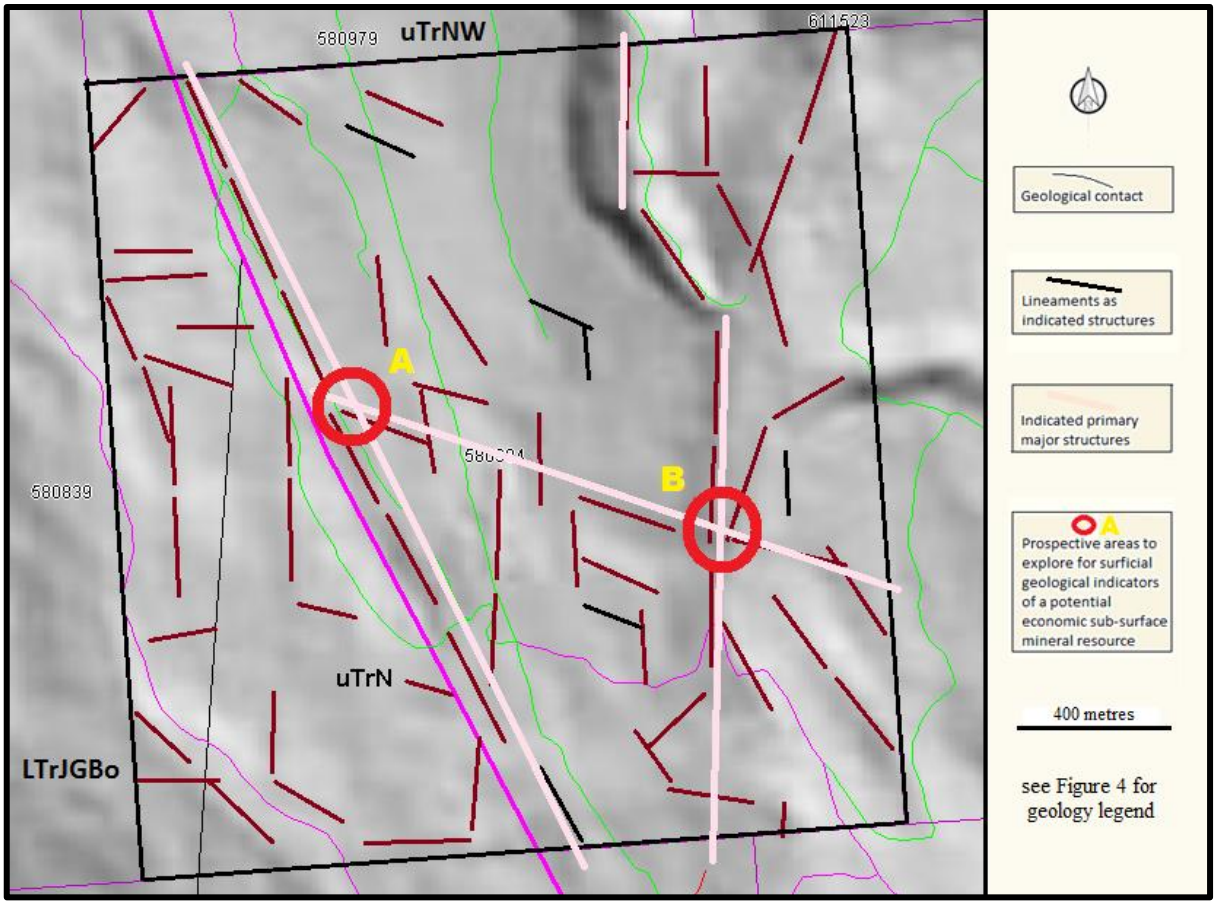
WENDY prospect (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE154
Four kilometres south

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

STRUCTURAL ANALYSIS

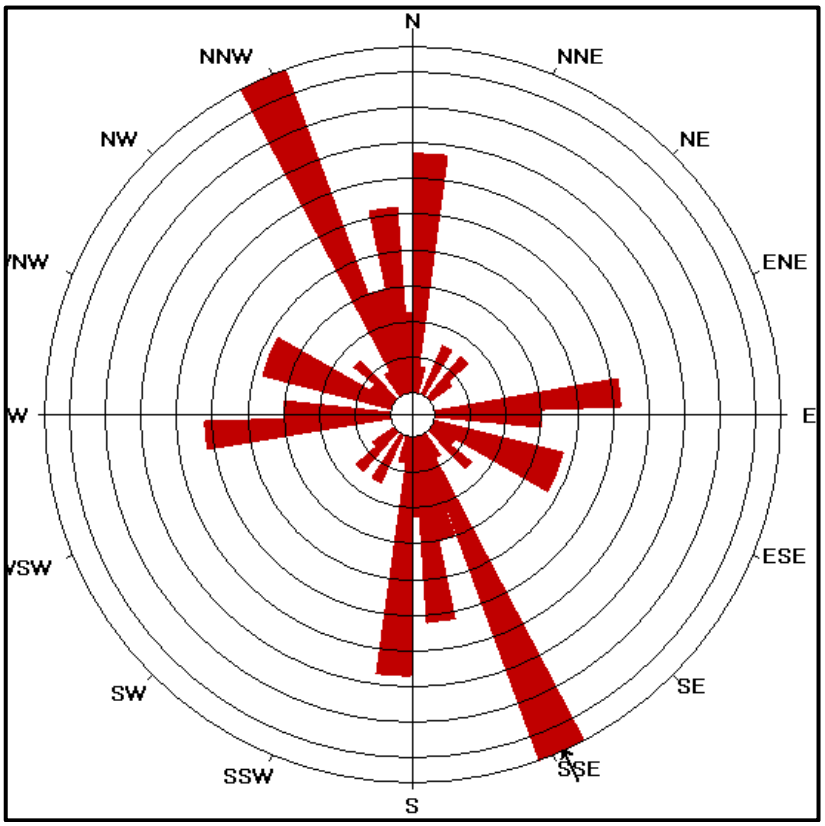
The structural analysis was performed on a DEM Image Hillshade map of Tenure 580984 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 67 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6.*

Figure 5. **Indicated Lineaments (Structures) on Tenure 580984**



Structural Analysis *(cont'd)*

Figure 6. **Rose Diagram from lineaments** *(Figure 5)* **of Tenure 580984**



STATISTICS

(for Figure 6)

Axial (non-polar) data
No. of Data = 67
Sector angle = 8°
Scale: tick interval = 2% [1.3 data]
Maximum = 19.4% [13 data]
Mean Resultant dir'n = 156-336
[Approx. 95% Confidence interval = ±23.6°]
(valid only for unimodal data)

Mean Resultant dir'n = 155.7 - 335.7
Circ.Median = 157.0 - 337.0
Circ.Mean Dev.about median = 31.7°
Circ. Variance = 0.24
Circular Std.Dev. = 42.36°
Circ. Dispersion = 2.80
Circ.Std Error = 0.2045
Circ.Skewness = 3.13
Circ.Kurtosis = -4.84

kappa = 0.71
(von Mises concentration param. estimate)

Resultant length = 22.46
Mean Resultant length = 0.3352

'Mean' Moments: Cbar = 0.2219; Sbar = -0.2512
'Full' trig. sums: SumCos = 14.8667; Sbar = -16.8298
Mean resultant of doubled angles = 0.3706
Mean direction of doubled angles = 172

(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 Google Earth**
(Base Map: Google Earth)

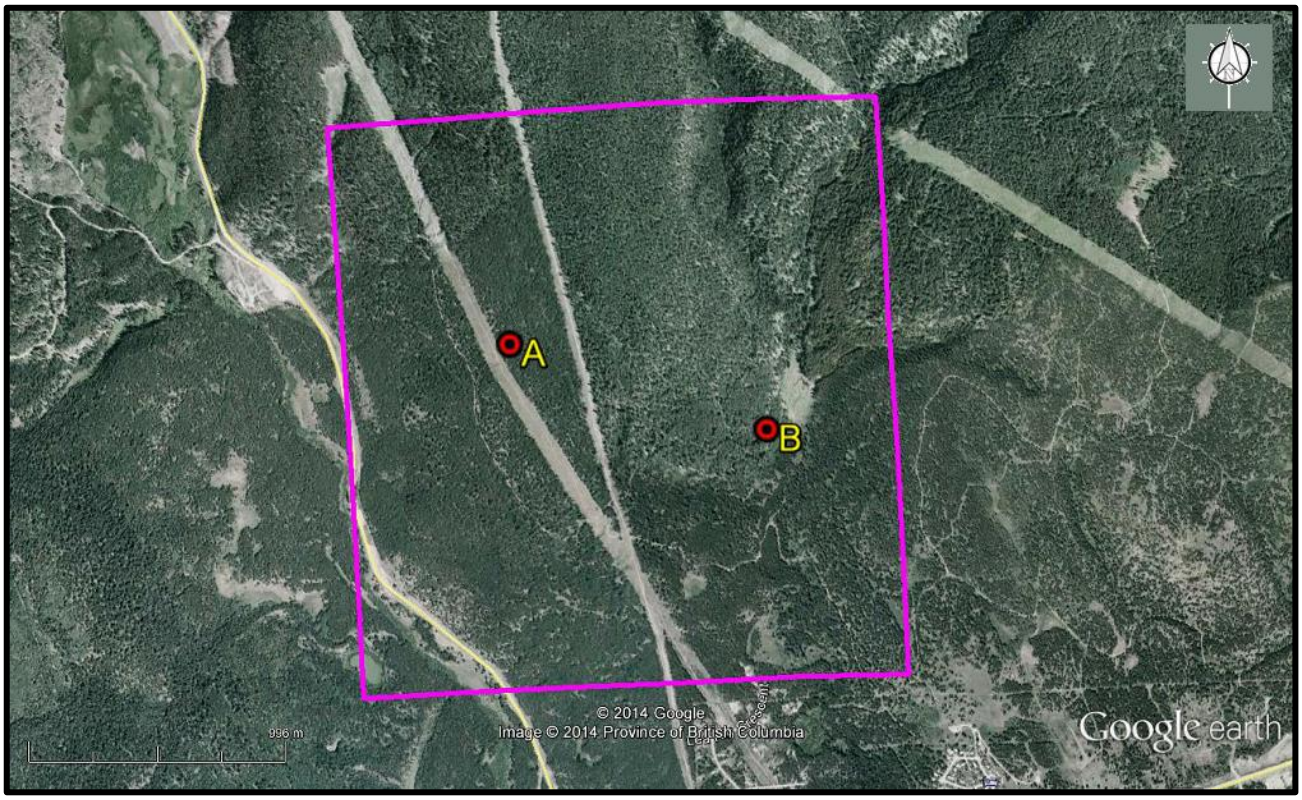


Table II. **Approximate UTM locations of Figures 5 &** ***7*** **cross-structures**
(UTM-NAD 83)

Location	UTM East	UTM North	Elevation
A	653,030	5,598,312	1,172
B	654,054	5,597,945	1,120

INTERPRETATION and CONCLUSIONS

Two primary structures, east-westerly and north-northerly, were indicated from the structural analysis of Tenure 580984. The structural pattern on Tenure 580984 and the Highland Valley mineral controlling structures are of a similar pattern possibly indicating a synchronous development of structural preparedness for mineral accommodation.

The structural similarity is in the northerly structures of Tenure 580984 and the major Lornex Fault; the east-west structure on Tenure 580984 and the left hand laterally displaced Highland Valley Fault. The development of the faults and moreso the resulting development of multiple fracture zones at the intersections of these faults would have created a favoured structural setting or a mineral control for mineral accommodation.

As fracture density was apparently the most important single factor in influencing ore grades of the Highland Valley mineral deposits, the most significant mineral deposit, the Highland Valley Copper deposit, located at the intersection of the Highland Valley and the Lornex Faults, might be attributed to the increased fracture density over a larger area and thus the significant mineral resource.

In searching for surficial geological indicators of a potential mineral resource, the two cross-structural locations on Tenure 580984 would be the most prospective areas for exploration as the cross-structures between major structures are potentially the sites for the creation of maximum fracture intensity, maximum depth penetration to tap hydrothermal fluids, provision as a conduit for the migration of fluids, and the accommodation for potentially mineralized fluids.

If there were any hydrothermal activity related to the two cross structures, the possibility of the action may be shown in the geological signatures at surface. These geological indicators may be revealed as minerals and/or alteration products and would be subject to interpretation as potentially economic mineral indicators

Accordingly, the two structural intersections on Tenure 580984 are the prime exploration areas. The approximate UTM locations of the intersections are shown in Table II.

The eight Minfile descriptions copied herein from a BC Government supported Minfile directory, provide information as to the geological indicators for a productive mineral deposit or for surficial geological indicators of a potential underlying mineral resource.

Respectfully submitted
Sookochoff Consultants Inc.

Laurence Sookochoff, PEng

SELECTED REFERENCES

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

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.

092ISW011 – BETHLEHEM
092ISE011 – JERICHO
092ISW012 – HIGHLAND VALLEY COPPER
092ISE012 – BERTHA-MOLLY
092ISW011 – RHYOLITE
092INE034 – DANSEY
092INE040 – DAB
092INE034 – WENDY

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 580989 of the Bertha 580989 Claim Group. October 2, 2013.

STATEMENT OF COSTS

Work on Tenure 580984 was done from December 11, 2013 to December 14, 2013 to the value as follows:

Structural Analysis:

Laurence Sookochoff, P Eng. 3 days @ $ 1,000.00/day -----	$ 3,000.00
Maps ----------	650.00
Report ----------	3,500.00
	$ 7,150.00
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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-eight 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 580984 Claim Group as described herein.

Laurence Sookochoff, P. Eng.