GUY & CHRISTOPHER DELORME

(Owners & Operators)

GEOLOGICAL ASSESSMENT REPORT

(Event 5457388)

of a

STRUCTURAL ANALYSIS

on

Tenure 611523

of the nine claim

Bertha 611523 Claim Group

Kamloops Mining Divisions

BCGS Map 092I.056/.057

work done from

May 17, 2013 to May 20, 2013

Centre of Work

5,600,761N, 656,853E
(UTM NAD 83)

AUTHOR & CONSULTANT

Laurence Sookochoff, PEng
Sookochoff Consultants Inc.

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SUMMARY

The 4127 hectare Bertha 611523 Claim Group is located 218 kilometres northeast of Vancouver in the Highland Valley of south central British Columbia and within 14 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 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. A cluster of nine major porphyry copper deposits lie within a 15 square kilometer zone in the center of the batholith.

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.

The Bertha 611523 Claim Group is situated on the eastern contact of the Guichon Creek Batholith predominantly covering two Facies of the Nicola Volcanic Group. The conformable volcanic contact between the Central Volcanic Facies to the east and the Western Volcanic Facies to the west, trends northwesterly through the northwestern portion of the Property. The contact between the volcanics and the Border Phase of the Guichon Batholith skirting the western boundary of the Property is in part a major northerly fault contact trending at 340/160 degrees.

The structural analysis of Tenure 611523, one of the claims of the Bertha 611523 Claim Group, two structural intersections between a principal north trending structure and two northwest trending structures were indicated.

The north trending structure may have been influenced by the same dynamic forces that resulted in the creation of the north trending Lornex Fault. The northwest structures may have resulted from forces that created the Barnes Creek structure which in this area, stress relief would have been provided along the volcanic contacts as shown in the prevailing directional contact between the Western and the Central Volcanic Facies of the Nicola Group *(Figure 5).*

The structural intersections UTM locations, presented in Table III, would be prospective areas to explore for surficial geological indicators of a potential economic sub-surface mineral resource.

The seven 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 May 2013 a structural analysis was completed on Tenure 611523 of the nine claim Bertha 611523 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 611523 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 nine contiguous claims covering an area of 4127.8817 hectares. Particulars are as follows:

Table I. **Tenures of Bertha 611523 Claim Group**

Tenure Number	Type	Claim Name	Good Until	Area (ha)
580830	Mineral		20140104	513.2375
580973	Mineral	LOGAN	20140104	82.0955
580979	Mineral	LOGAN	20140104	492.9156
580984	Mineral	LOGAN	20140104	513.7014
580992	Mineral	LOGAN	20140104	513.7018
610223	Mineral	ELEPHANT'S DEN	20140104	472.204
611483	Mineral	LOGAN NORTH 7	20140104	513.4332
611523	Mineral	LOGAN NORTH 9	20140104	513.4754
611623	Mineral	TUNKWA1	20140104	513.1173

*Upon the approval of the assessment work filing, Event Number 5457388.

Property Description and Location *(cont'd)*

Location

The Bertha 611523 Claim Group is located within BCGS Maps 092I.056 and 092I.057 of the Kamloops Mining Division, 218 kilometres northeast of Vancouver, 50 kilometres north of Merritt, 34 kilometres southwest of Kamloops, and within 14 kilometres east of the world-class producing Highland Valley Copper mine.

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access

From Logan Lake, the Bertha 611523 claim group can be accessed by traveling west from Logan Lake on Highway 97D to a junction with the Tunkwa Lake road, thence northward for two kilometres to the southwest corner of Tenure 580984, the southwestern most Tenure of the Bertha 611523 Claim Group. Northward, the Tunkwa Lake road skirts the western edge of the Bertha 611523 Claim Group.

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 1,143 metres within a creek valley in the southwest corner to 1,403 metres on a knoll in the southeast corner of the Bertha 611523 Claim Group.

WATER & POWER

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

A high voltage power line traverses the southwestern portion of the Bertha 611523 Claim Group.

HISTORY: BERTHA 611523 CLAIM GROUP AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 611523 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 611523 of the Bertha 611523 Claim Group.

BETHLEHEM (EAST JERSEY) *– Past Producer (Porphyry Cu* +/- Mo +/- Au)
MINFILE 092ISE002
Eleven kilometres west-southwest

The East Jersey pit was mined from 1962 until 1965, when the pit wall failed

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

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

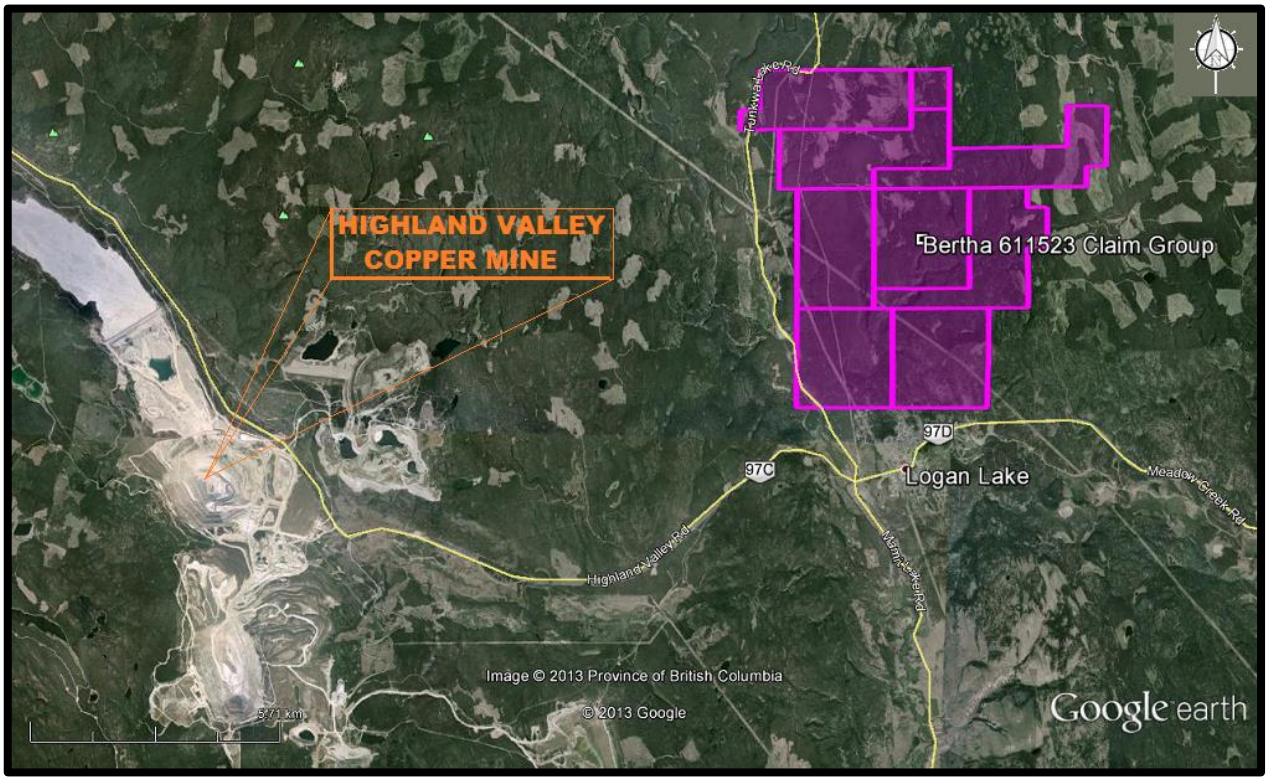
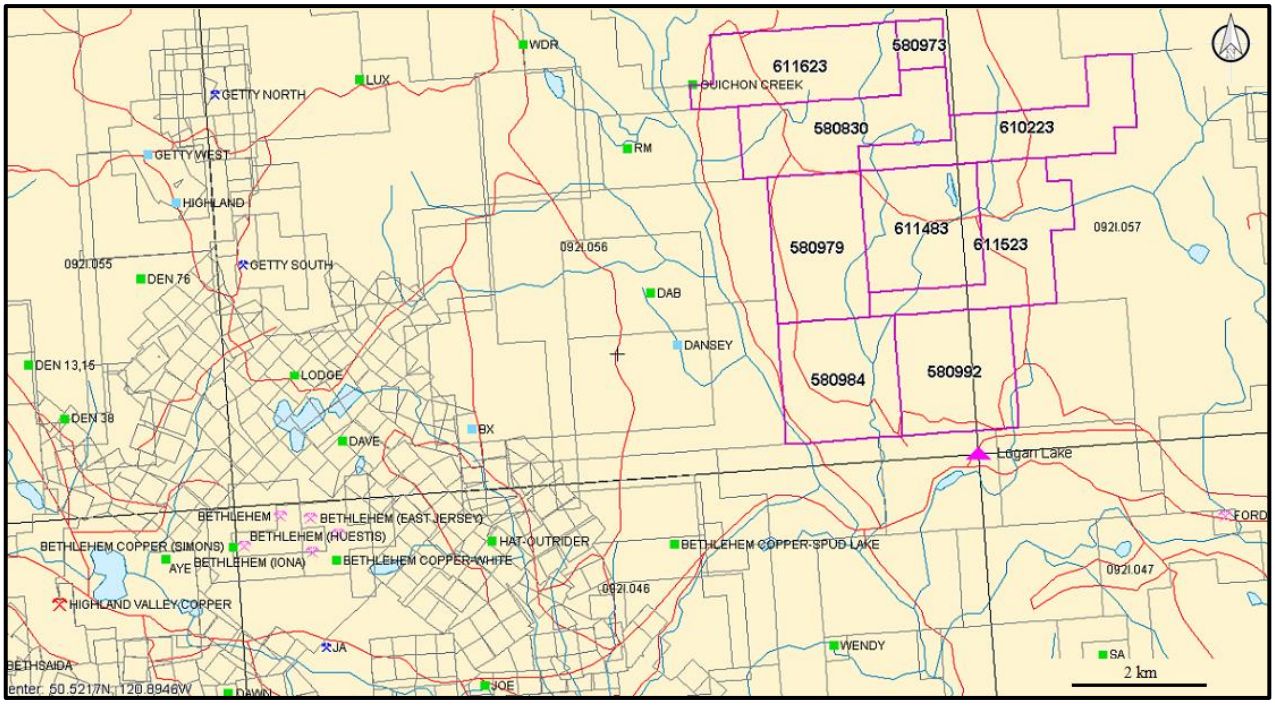


Figure 3. **Claim Map**
(from Google Earth)



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

DANSEY prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE034
Five kilometres southwest

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
Five kilometres southwest

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.

LODGE showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE041
Twelve kilometres west-southwest

In 1956, a soil geochemical and ground magnetometer (42 kilometres) survey was performed on some of the Lodge claims on behalf of Northlodge Copper Mines Limited. In 1957, the Lodge group of claims was optioned by American Smelting and Refining Company Ltd. which drilled 10 rotary-drill holes totalling 438 metres and constructed 2.4 kilometres of road. Three short rotary test holes were drilled in 1958 by American Smelting and work by Northlodge consisted of geochemical and geophysical prospecting. In 1960, 11 kilometres of induced polarization was run on the Lodge and KB claims groups on behalf of Northlodge Copper Mines Ltd. and Beaver Lodge Mines Ltd. In 1960, the Lodge group of claims was optioned for a time by Rio Tinto Canadian Exploration Limited which did geophysical and geochemical surveying and drilled one hole 172 metres in length. In 1963, an induced polarization survey (13 kilometres), geological mapping and bulldozer trenching was carried out over the Lodge, SD and Dave claims on behalf of Huestis Mining Corporation Limited. In 1973, Valley Copper Mines Limited conducted 29 kilometres of induced polarization survey on the Outrider, Lodge, SD, KB and Bay claims. In 1974, on behalf of Valley Copper Mines Limited, Bethlehem Copper Corporation put down two percussion-drill holes totalling 213 metres on the SD 5 and Lodge 13 claims and Cominco Ltd. completed 3.6 kilometres of induced polarization survey on the SD 5,6 and Lodge 13,14 claims.

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

LUX showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092INE151
Ten kilometres west

The showing had various owners in the late 1950s and early 1960s but no serious exploration programs were conducted until Canzac Mines Ltd. became owner in 1964. By early 1965, Canzac was very active with road building, trenching, geophysics and diamond drilling; eight holes were drilled totalling 1280 metres. Much of this work was concentrated in what corresponds to the northwest portion of the Lux claim group. In 1966, a geological report was made based on photogeology and previous work, by Chew-Walker Associates. In 1968-69, Burlington Mines Ltd. completed 22 kilometres of ground EM-16 survey and 457 metres of trenching on the Burl claims. In 1982, Goldrich Resources Inc. acquired the current Lux claims and in 1983 conducted a soil survey (49 samples), prospecting and geological mapping and established a grid. In 1984, Goldrich Resources completed two diamond-drill holes totalling 244 metres.

GEOLOGY: REGIONAL

The Bertha 611523 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 (see Figure 6 for regional geology).

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 611523 Claim Group is situated on the eastern contact of the Guichon Creek Batholith with the Nicola volcanics within 14 kilometres west 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.

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.

GEOLOGY: BERTHA 611523 CLAIM GROUP AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 611523 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 611523 of the Bertha 611523 Claim Group.

BETHLEHEM (EAST JERSEY) *– past producer (Porphyry Cu* +/- Mo +/- Au)
MINFILE 092ISE002
Eleven kilometres west-southwest

The property lies within the Early Jurassic-Late Triassic Guichon Creek batholith and straddles an intrusive contact where younger Bethlehem phase quartz diorite to granodiorite forms an irregular embayment in older Guichon variety granodiorite. Igneous breccias are believed to have been forcefully emplaced. The granodiorites and breccias are intruded by north trending swarms of dacite porphyry dykes which dip steeply and are up to 60 metres wide.

The Bethlehem (East Jersey) deposit is partly controlled by faults and is localized in breccia bodies and intensely fractured zones. Potassic, phyllic and propylitic alteration are confined to areas of ore concentration. Alteration minerals include biotite, sericite, kaolinite, epidote and chlorite and are typically zoned. Quartz, calcite and zeolite (laumontite) veining and vug-filling is common. The principal ore minerals are molybdenite, bornite and chalcopyrite and occur with numerous supergene copper minerals and copper oxides. 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).

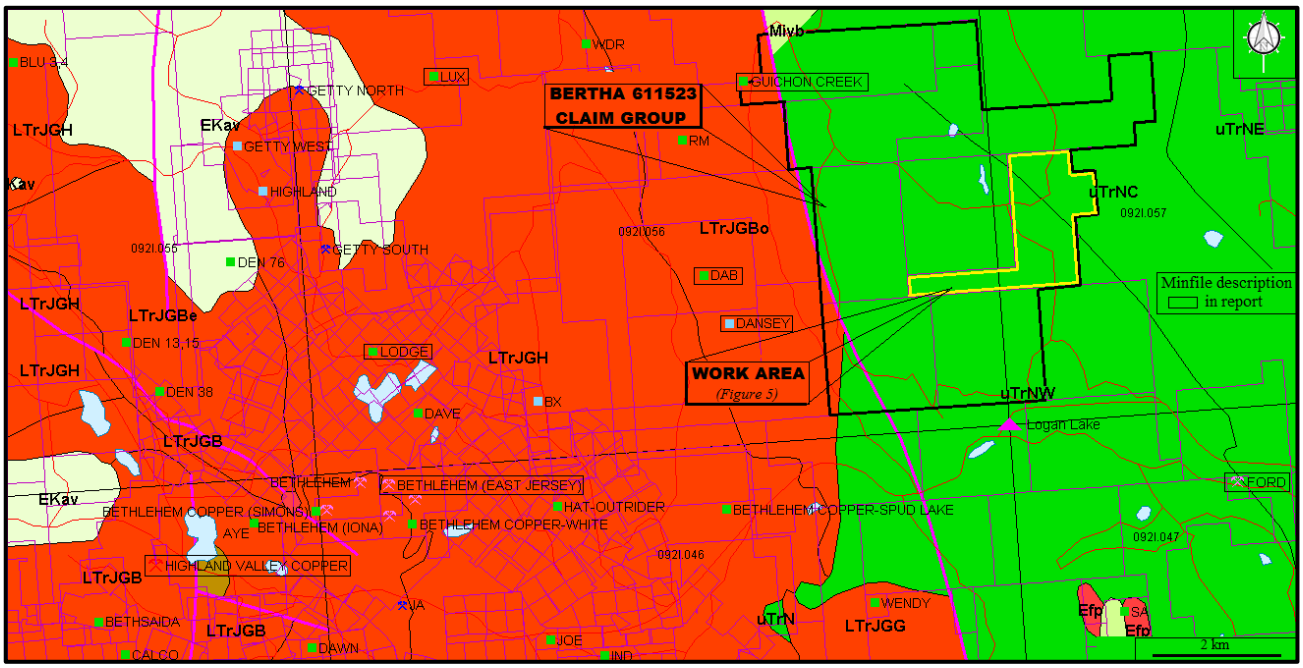
FORD *– past producer (Porphyry Cu* +/- Mo +/- Au)
MINFILE 092ISE009
Eight kilometres east-southeast

The Ford occurrence occupies the area north of Meadow Creek, which is underlain by dark grey to purplish red porphyritic amygdaloidal flows of the Upper Triassic Nicola Group. The lavas are typically amygdaloidal and vary in composition from olivine basalt to augite andesitic basalt. Alteration consists of albitization of plagioclase and propylitization of pyroxene to epidote, zoisite and calcite, with or without chlorite. The rock is locally shot through with sericite and epidote. Flows averaging 1.8 metres thick strike 050 degrees and dip 30 degrees northeast.

The original open cuts (pre-1915) expose copper carbonate ore with occasional flecks of bornite and chalcocite along fracture planes in amygdaloidal flows. The adit follows a mineralized shear zone striking 040 degrees and intersects an east trending set of faults.

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

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Eighteen kilometres 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. 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).

Highland Valley Copper *producer (cont'd)*

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(?).

DANSEY prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE034
Five kilometres southwest

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
Five kilometres southwest

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.

LODGE showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE041
Twelve kilometres west-southwest

The Lodge showing area is underlain by Guichon variety quartz diorite of the Late Triassic-Middle Jurassic Guichon Creek batholith which has been cut by dikes and irregular bodies of younger quartz diorite.

LUX showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092INE151
Ten kilometres west

The Lux copper showings occur in north trending shear/fault zones in Guichon variety granodiorite of the Late Triassic-Middle Jurassic Guichon Creek batholith. The granodiorite is typically altered near the shear zones and contains spotty amounts of chalcopyrite, pyrite, malachite, azurite and occasional bornite. Alteration consists of potassium feldspar enrichment with epidote and argillic alteration occurring on fracture planes. The Getty North deposit (092INE038) is 2 kilometres west.

GEOLOGY: BERTHA 611523 CLAIM GROUP

As indicated by the BC government supported MapPlace geological maps, the Claim Group is predominantly underlain by two Facies of the Nicola Volcanic Group. The conformable volcanic contact between the Central Volcanic Facies to the east and the Western Volcanic Facies to the west, trends northwesterly through the northwestern portion of the Property. The contact between the volcanics and the Border Phase of the Guichon Batholith skirting the western boundary of the Property is in part a major northerly fault contact trending at 340/160 degrees.

MINERALIZATION: BERTHA 611523 CLAIM GROUP AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 611523 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 611523 of the Bertha 611523 Claim Group.

BETHLEHEM (EAST JERSEY) *– Past Producer (Porphyry Cu* +/- Mo +/- Au)
MINFILE 092ISE002
Eleven kilometres west-southwest

Reserves for the East Jersey are 20.6 million tonnes of 0.40 per cent copper (CIM Special Volume 46, page 175).

FORD *– Past Producer (Porphyry Cu* +/- Mo +/- Au)
MINFILE 092ISE009
Eight kilometres east-southeast

Chalcocite(?), bornite and some malachite occur in amygdules and associated veins in flow tops. Gangue minerals include chlorite, sericite, clinozoisite, zeolite and calcite. Some mineralization also occurs in calcite veins, calcite-epidote-sericite veins, sericite-zoisite veins and chlorite veins. Carbonate-zeolite veins are barren.

Drill core assays range from 0.22 to 2.8 per cent copper over an interval of less than one metre (Minister of Mines Annual

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Eighteen kilometres 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. 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).

DANSEY prospect (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE034
Five kilometres southwest

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.

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

Dansey prospect (cont'd)

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.

DAB showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE040
Five kilometres southwest

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).

LODGE showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092INE041
Twelve kilometres west-southwest

Low grade copper mineralization has been found at several places on the property in or closely associated with north-south faults. In 1974, Bethlehem Copper Corporation drilled 2 percussion holes which intersected granodiorite of the Guichon Creek batholith. Mineralization is rare and consists of occasional specks of pyrite, chalcopyrite and molybdenite.

LUX showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092INE151
Ten kilometres west

A chloritic shear zone on surface was tested by diamond drilling and was intersected at depth containing disseminated native copper, chalcopyrite and chrysocolla. A 0.2-metre drill intersection analysed 2.2 per cent copper and 4.1 grams per tonne silver (Assessment Report 12838).

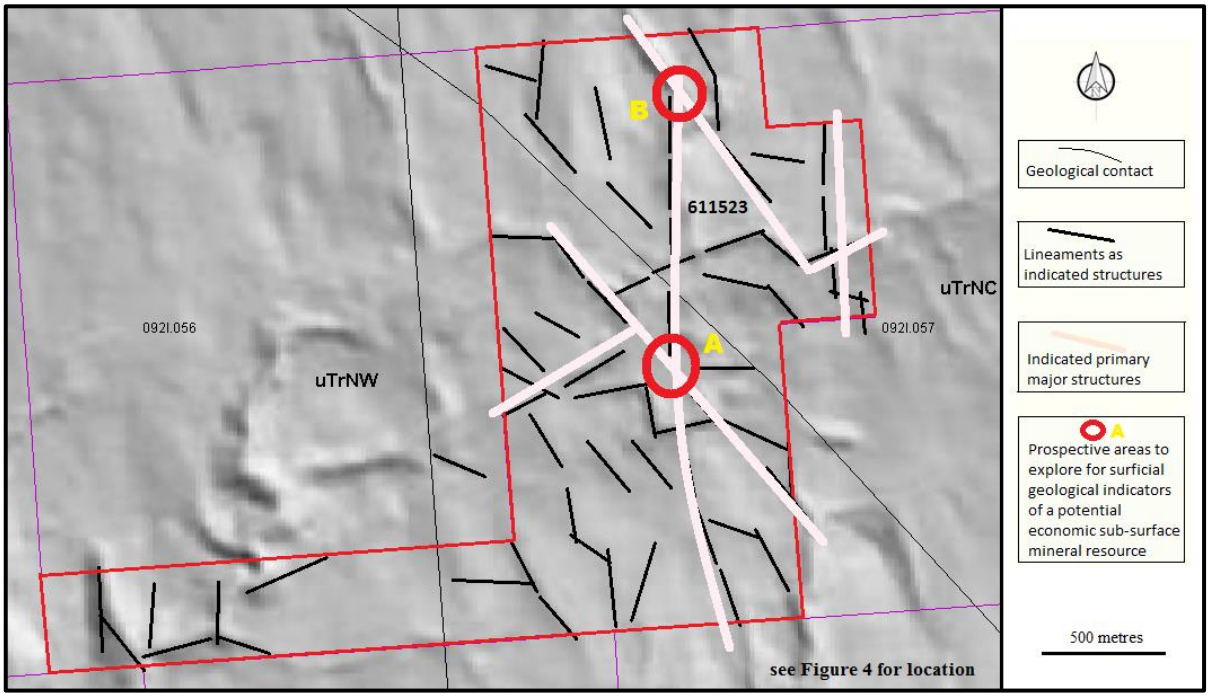
STRUCTURAL ANALYSIS

The structural analysis was performed on a MapPlace Hillshade map of Tenure 611523 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 60 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6.*

The centre of the work area is at 5,600,761N, 656,853E (10) (NAD 83).

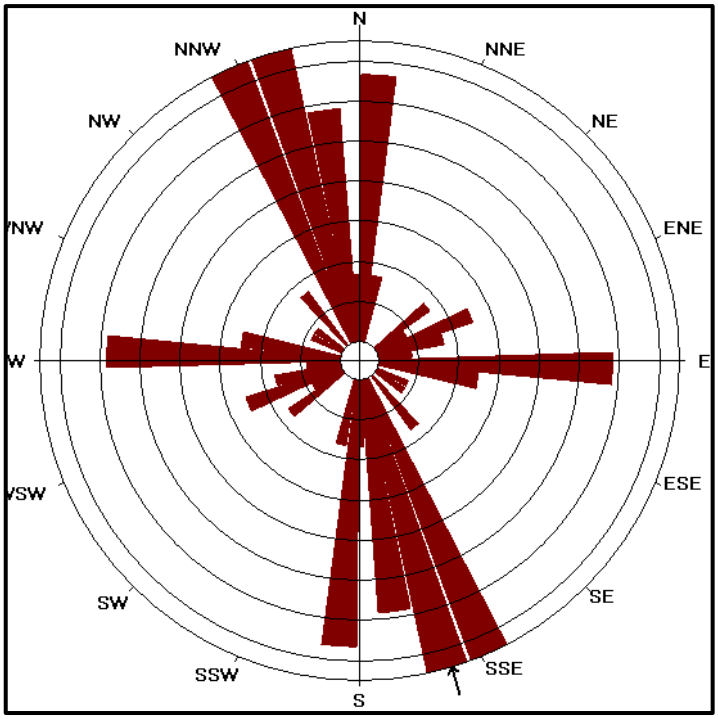
Structural Analysis *(cont'd)*

Figure 5. **Indicated Lineaments on Tenure 611523**



*see Figure 4 for area geology and legend

Figure 6. **Rose Diagram from lineaments** *(Figure 5)* **of Tenure 611523**



STATISTICS

(for Figure 6 Rose Diagram)

Axial (non-polar) data
No. of Data = 60
Sector angle = 8°
Scale: tick interval = 2% [1.2 data]
Maximum = 15% [9 data]
Mean Resultant dir'n = 163-343
[Approx. 95% Confidence interval = ±22.8°]
(valid only for unimodal data)

_____

Mean Resultant dir'n = 163.3 - 343.3
Circ.Median = 001.0 - 181.0
Circ.Mean Dev.about median = 35.3°
Circ. Variance = 0.25
Circular Std.Dev. = 43.14°
Circ. Dispersion = 2.34
Circ.Std Error = 0.1974
Circ.Skewness = 2.29
Circ.Kurtosis = 1.82

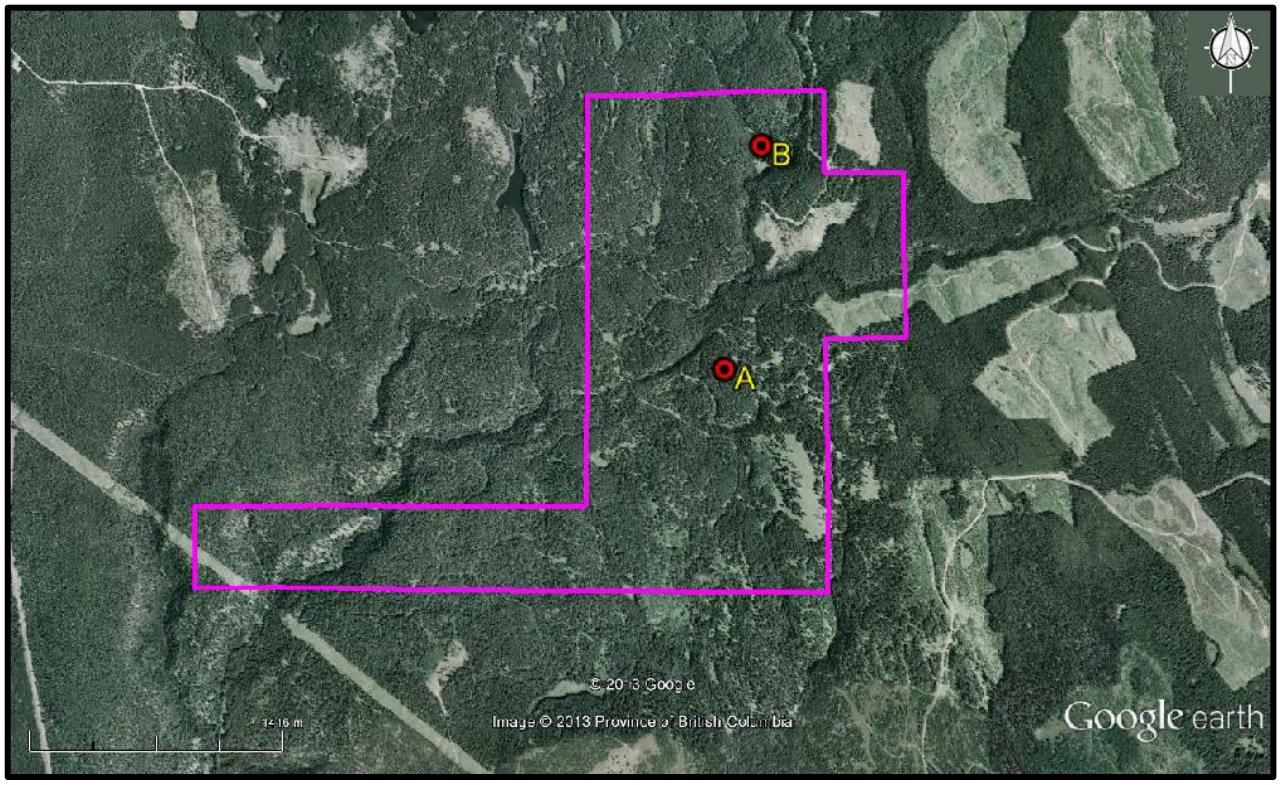
kappa = 0.68
(von Mises concentration param. estimate)

Resultant length = 19.31
Mean Resultant length = 0.3218

'Mean' Moments: Cbar = 0.2686; Sbar = -0.1772
'Full' trig. sums: SumCos = 16.1164; Sbar = -10.6328
Mean resultant of doubled angles = 0.5157
Mean direction of doubled angles = 163

(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 locations** *(Figure 5)* **on Tenure 611523**
(Base Map: Google Earth)



Structural Analysis *(cont'd)*

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

Location	UTM East	UTM North	Elevation
A	657,210	5,601,815	1,334
B	657,033	5,600,559	1,343

Table III. **Summary of Minfile Property Geology and Structures**

Property	Minfile	Structure	Comments *(from Minfile description)*
Bethlehem (East Jersey)	092ISE002		The Bethlehem (East Jersey) deposit is partly controlled by faults and is localized in breccia bodies and intensely fractured zones.
Ford	092ISE009	The adit follows a mineralized shear zone striking 040 degrees and intersects an east trending set of faults.	Flows averaging 1.8 metres thick strike 050 degrees and dip 30 degrees northeast.
Highland Valley Copper	092ISW012	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.
Dansey	092INE034	…mineralization …associated with a second group of fractures that strike from 040 to 080 degrees.	Fracturing and shearing are abundant in the diorite and quartz diorite but markedly less in the granodiorite.
Dab	092INE040		… rocks appear to be quartz diorite of the Hybrid phase.
Lodge	092INE041	…. north-south faults	… area is underlain by Guichon variety quartz diorite of the Late Triassic-Middle Jurassic Guichon Creek batholith
Lux	092INE151	… north trending shear/fault zones …	… Guichon variety granodiorite of the Late Triassic-Middle Jurassic Guichon Creek batholith.

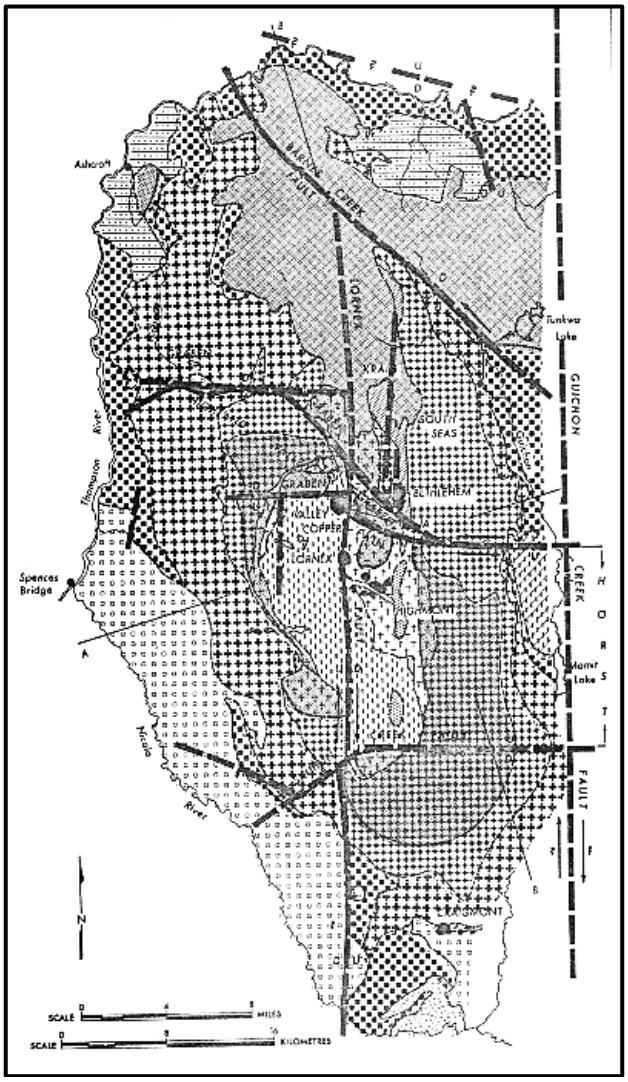
INTERPRETATION and CONCLUSIONS

The structural analysis of Tenure 611523 indicated dominant northerly to north-northwesterly structures. These structural trends may have been influenced by the dynamic forces that resulted in the creation of the north trending Lornex Fault and the east trending Highland Valley Fault.

As shown in Figure 8, in addition to the dominant Lornex and the Highland Valley Faults, the northwest trending Barnes Creek Fault at the northern end of the Guichon Batholith and the paralleling coalescing east-west trending Highland Valley Fault are reflected in the structural pattern on Tenure 611523.

Figure 8. **Tectonic Fabric of the Guichon Creek Batholith.**

(Figure 6 - CIM Special Volume No. 15)



Two primary structural intersections were determined from the structural analysis of Tenure 611523 with the north trending structure the principal structure. The intersecting northwest structures may have resulted from forces that created the Barnes Creek structure which in this area, stress relief would have been provided along the volcanic contact flow units; the prevailing directional contact between these flows is indicated by the Western and the Central Volcanic Facies contacts shown on Figure 5.

The approximate UTM locations of the structural intersection, which are shown in Table III, would be prospective areas to explore for surficial geological indicators of a potential economic sub-surface mineral resource.

The seven 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

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

Baird, J.G. - Report on Induced Polarization Survey on some Ezra Claims for New Indian Mines Ltd. July 28, 1969 AR 1,976.

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Guichon Creek Batholith and Mineral Deposits – Geological Association of Canada Society of Economic Geologists. Field Trip No. 3: Guidebook. April 27-29, 1977.Fi

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.

092ISE002 – BETHLEHEM (EAST JERSEY).
092ISE009 – FORD
092ISW012 – HIGHLAND VALLEY COPPER
092INE034 – DANSEY
092INE040 – DAB
092INE041 – LODGE
092INE151 – LUX

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

Sookochoff, L. – Geological Assessment Report on a Structural Analysis on the Bertha 580989 Claim Group for Guy & Christopher Delorme. October 2, 2013.

STATEMENT OF COSTS

Work on Tenure 611523 was done from May 17,2013 to May 20, 2013 to the value as follows:

Structural Analysis	
Laurence Sookochoff, P Eng. 3 days @ $ 1,000.00/day -----	$ 3,000.00
Maps ----------	600.00
Report ----------	3,500.00
	$ 7,100.00
	======

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 611523 Claim Group as described herein.

Laurence Sookochoff, P. Eng.