

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

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological

TOTAL COST: \$ 7,500.00

AUTHOR(S): Laurence Sookochoff, PEng

SIGNATURE(S): *Laurence Sookochoff*

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): _____ YEAR OF WORK: 2014

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5505755 May 25, 2014

PROPERTY NAME: Bertha

CLAIM NAME(S) (on which the work was done): 596301

COMMODITIES SOUGHT: Copper Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092ISE154 092ISE190

MINING DIVISION: Kamloops NTS/BCGS: 092I.046 092I.047

LATITUDE: 50 ° 26 ' 47 " LONGITUDE: 120 ° 51 ' 23 " (at centre of work)

OWNER(S):

1) Christopher Delorme 2) Guy Delorme

MAILING ADDRESS:

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Merritt, BC Canada V1K 1P7

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OPERATOR(S) [who paid for the work]:

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PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Late Triassic to Early Jurassic Guichon Batholith granodiorite and quartz diorite . Upper Triassic Nicola Group volcanics.

Regional northerly trending fault as a contact. Minor chalcopryrite and malachite occur as narrow veins or along joint planes and as fine disseminations in the intrusive rocks. Chalcopryrite, bornite, pyrite, native copper, molybdenite, chalcocite, malachite and azurite occur in the andesitic flows.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 3185 3699 3762 6830

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation	390 hectares	596301	\$ 7,500.00
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
TOTAL COST:			\$ 7,500.00

GUY & CHRISTOPHER DELORME

(Owners & Operators)

GEOLOGICAL ASSESSMENT REPORT

(Event 5505755)

on a

STRUCTURAL ANALYSIS

work done from

May 1, 2014 to May 5, 2014

on

Tenure 596301

of the 12 claim

Bertha 596301 Claim Group

Kamloops Mining Divisions

BCGS Maps 092I.046 & 092I.047

Centre of Work

5,590,466N 652,191E

(10) (NAD 83).

AUTHOR & CONSULTANT

**Laurence Sookchoff, PEng
Sookchoff Consultants Inc.**

Submitted

November 26, 2014

**BC Geological Survey
Assessment Report
35003**

TABLE OF CONTENTS

	page
Summary -----	4.
Introduction -----	5.
Property Description and Location -----	5.
Accessibility, Climate, Local Resources, Infrastructure and Physiography -----	6.
Water and Power -----	8.
History: Bertha 596301 Claim Group Area -----	8
092ISW012 – HIGHLAND VALLEY COPPER -----	8.
092ISE012 – BERTHA – MOLLY -----	9.
092ISE013 – HIGHMONT -----	9.
History: Bertha 596301 Claim Group -----	9.
092ISE190 – QUEN -----	9.
Geology: Regional -----	9.
Geology: Bertha 596301 Claim Group Area -----	10.
092ISE008 – BETHLEHEM COPPER-SPUD LAKE -----	12.
092ISW012 – HIGHLAND VALLEY COPPER -----	11.
092ISE012 – BERTHA – MOLLY -----	13.
092ISE013 – HIGHMONT -----	13.
092ISE088 – IDE-AM -----	14.
Geology: Bertha 596301 Claim Group -----	14.
092ISE154 – WENDY -----	14.
092ISE190 – QUEN -----	15.
Mineralization: 596301 Claim Group Area -----	15.
092ISE008 – BETHLEHEM COPPER-SPUD LAKE -----	15.
092ISW012 – HIGHLAND VALLEY COPPER -----	15.
092ISE012 – BERTHA – MOLLY -----	15.
092ISE013 – HIGHMONT -----	16.
092ISE088 – IDE-AM -----	16.
Mineralization: Bertha 596301 Claim Group -----	16.
092ISE154 – WENDY -----	16.
092ISE190 – QUEN -----	16.
Structural Analysis -----	17.
Interpretation and Conclusions -----	20.
Selected References -----	22.
Statement of Costs -----	23.
Certificate -----	24.

Table of Contents (cont'd)

ILLUSTRATIONS

Figure 1. Location Map -----	5.
Figure 2. Claim Location -----	7.
Figure 3. Claim Map -----	7.
Figure 4. Geology, Claim, Index & Minfile -----	11.
Figure 5. Indicated Lineaments on Tenure 596301 -----	17.
Figure 6. Rose Diagram from Lineaments of Tenure 596301 -----	18.
Figure 7. Cross structural locations on Google Earth -----	19.

TABLES

Table I Tenures of Bertha 596301 claim group -----	6.
Table II Approximate UTM locations of Figure 7 cross structures -----	19.

SUMMARY

The Bertha 596301 Claim Group is located 210 kilometres northeast of Vancouver in the Highland Valley of south central British Columbia. It is within 13 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 low-grade copper/molybdenum deposit lies within the Late Jurassic Guichon Creek batholith in Bethsaida phase 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. Faults and fractures in the deposit comprise four main sets. Quartz veinlets are subparallel to two of the earlier formed fault and fracture sets.

The Bertha 596301 Claim Group, as indicated by the BC government supported MapPlace geological map, is underlain by rocks of the Guichon Batholith in the west which are in a northerly trending regional fault contact with the Western Volcanic Facies of the upper Triassic Nicola Group (uTrNW).

In the west the Claim Group covers granodioritic rocks of the Gump Lake Phase (LTrJGG) at the Nicola contact which are in contact with a northerly band of quartz dioritic rocks of the Border Phase (LTrJBo) and westward with a contact of granodioritic rocks of the Highland Valley Phase. A discontinuous sliver of Nicola volcanics occurs along the contact between the Gump Lake and the Border Phases.

Tenure 596301, the subject of the structural analysis, is underlain by all three Phases with a predominance of Gump Lake granodioritic rocks.

On Tenure 596301 two cross-structures are indicated from the structural analysis. Both cross-structures, A and B, are formed within the Guichon Batholith by northerly and west-northwesterly trending structures; a mineral controlling structural composition to the original position of the combined Highland Valley/Lornex mineral deposits prior to their offset by the north trending Lornex Fault. Location A may be more significant in that it is located along an intrusive contact with the Border Phase where Nicola Volcanics are associated with the contact to the north and to the south.

At the Bethlehem (past producer) 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.

Excluding other variable geological conditions, the structures are essential in the localization of potentially economic porphyry mineralization within intrusives related to the Guichon Creek Batholith and/or the host units of the Nicola Group.

Accordingly, the two structural intersections on Tenure 581003 should be explored for surficial geological indicators of a proximal potentially economic mineral resource. The approximate UTM locations of the intersections are shown in Table II.

The seven Minfile descriptions copied herein from a BC Government supported Minfile directory, provide information as to the surficial geological indicators that may provide information as to the relative location of a productive mineral deposit

INTRODUCTION

In May 2014 a structural analysis was completed on Tenure 596301 of the 12 claim Bertha 596301 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 596301 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 LOCATION & DESCRIPTION

Location

The Bertha 596301 Claim Group is located within BCGS Maps 092I.046 & 092I.047 of the Kamloops Mining Division, 210 kilometres northeast of Vancouver, 36 kilometres north of Merritt, 45 kilometres southwest of Kamloops, and within 13 kilometres east of the world-class producing Highland Valley Copper mine (*Minfile 092ISW012*).

Description

The Property is comprised of 12 contiguous claims covering an area of 4590.1761 hectares. Particulars are as follows:

Property Location and Description (cont'd)**Table I. Tenures of Bertha 596301 Claim Group**

Tenure Number	Type	Claim Name	Good Until	Area (ha)
514175	Mineral	QUEN	20150428	41.183
581002	Mineral		20150428	432.0029
581005	Mineral		20150428	514.5084
581009	Mineral		20150428	514.6423
581011	Mineral		20150428	514.5161
581012	Mineral		20150428	514.7582
581015	Mineral		20150428	514.8414
581016	Mineral		20150428	514.6721
585384	Mineral		20150428	494.0089
596301	Mineral	PONYBOY NORTH	20150428	390.9753
605002	Mineral	PONYBOY WEST	20150428	123.4998
1011644	Mineral		20150428	20.5677

*Upon the approval of the assessment work filing, Event Number 5505755.

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY**Access**

From Logan Lake, the Bertha 596301 claim group can be accessed by traveling from Logan Lake west on Highway 97D for 1.3 kilometres to the junction with Highway 97C thence south for six kilometres to the northern boundary of Tenure 581005.

Climate

The local climate is typical of south central British Columbia. Annual temperatures range from 35°C to -40°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

Tenure 596301 covers a gentle to moderate forested area with a central clear-cut central area. Elevations range between 1,175m in the northeast corner to 1,398m in the northwest.

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

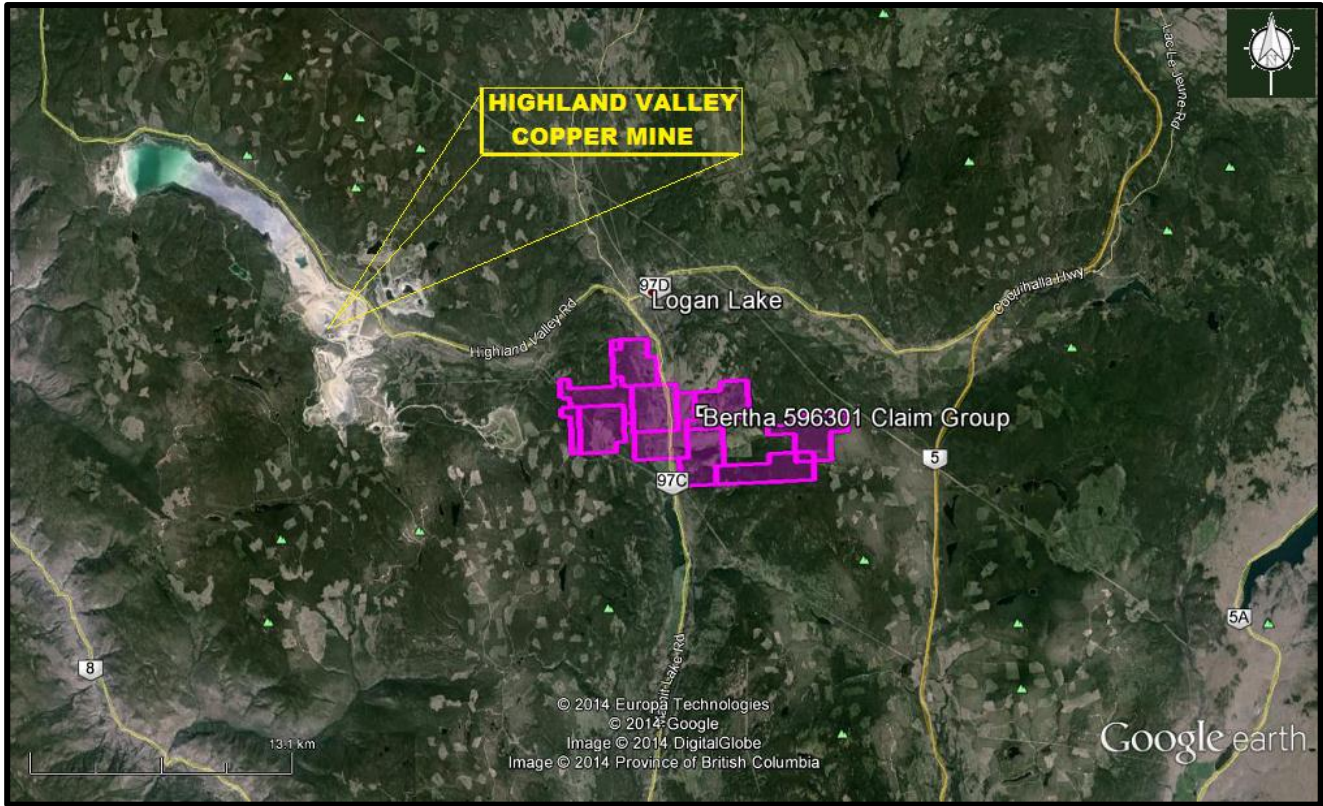
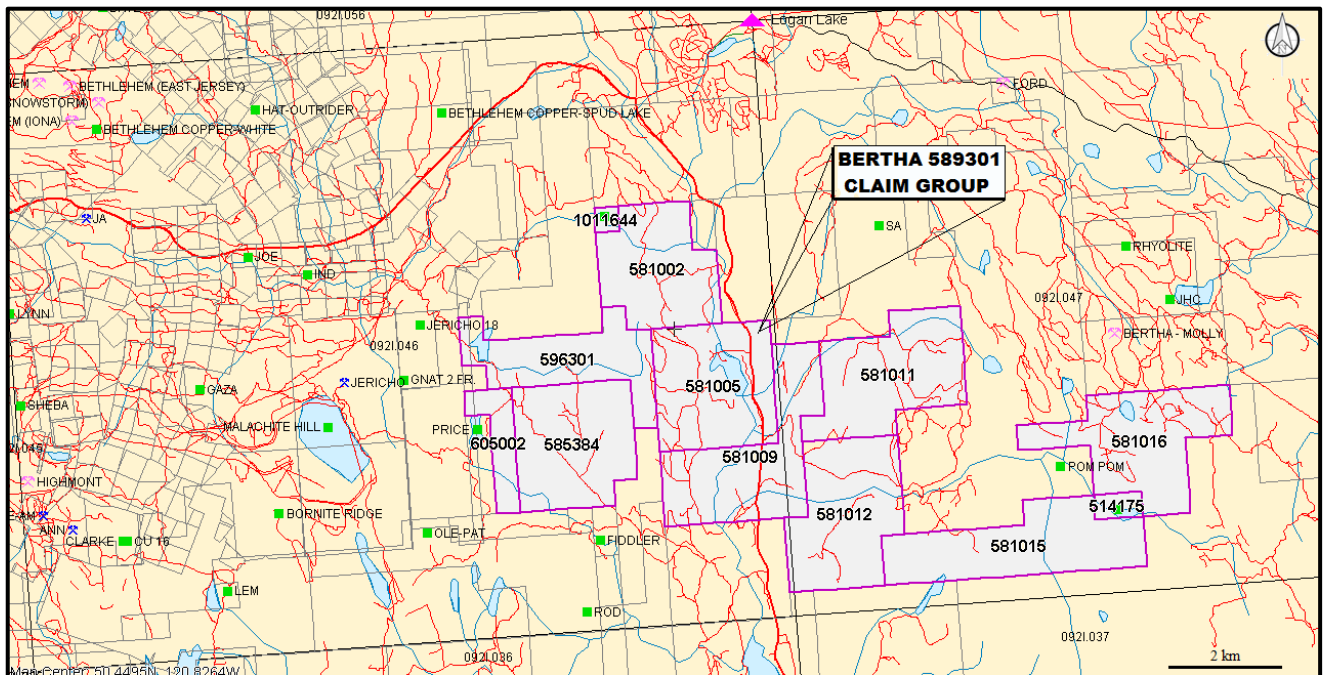


Figure 3. Claim Map
(from Google Earth)



WATER & POWER

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

A 550 KV power line traverses the western portion of Tenure 596301.

HISTORY: BERTHA 596301 CLAIM GROUP AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 596301 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 596301 of the Bertha 596301 Claim Group.

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

MINFILE 092ISW012

Twelve kilometres west

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

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

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

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

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

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

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

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

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 596301 Claim Group Area (cont'd)**Highland Valley Copper (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

Four kilometres east

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.

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

MINFILE 092ISE013

Eight kilometres south-southwest

The West Pit (092ISW036) was mined first; East Pit production began concurrently.

Production from 1981 to 1984 totalled 37,247,399 tonnes, yielding 50,219 tonnes of copper and 6865.6 tonnes of molybdenite.

HISTORY: BERTHA 596301 CLAIM GROUP

The history of the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 596301 Claim Group is reported as follows

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

MINFILE 092ISE190

Within Tenure 514175

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

GEOLOGY: REGIONAL

The Bertha 596301 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.

Geology: Regional (cont'd)

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. These also form isolated outliers and local intrusive centers south of the Highland Valley

GEOLOGY: BERTHA 596301 CLAIM GROUP AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 596301 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 596301 of the Bertha 596301 Claim Group.

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

MINFILE 092ISW012

Twelve kilometres west

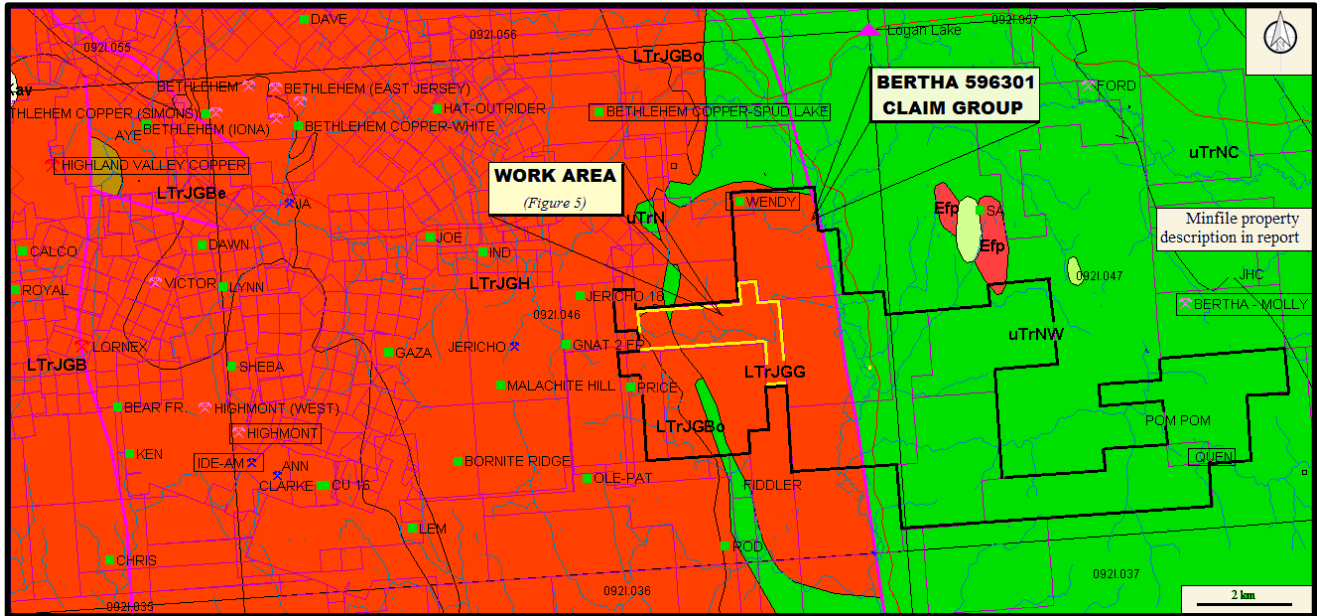
The Valley deposit lies within the Late Triassic to Early Jurassic Guichon Creek batholith and is hosted by Bethsaida phase porphyritic quartz monzonite and granodiorite. Feldspar porphyry and quartz feldspar porphyry dykes 0.6 to 35 metres wide dip steeply eastward in the western and central areas, and northward in the southern area of the deposit.

These dykes are cut by mineralized fractures and quartz veinlets, and have been dated at 204 Ma +/- 4 Ma.

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

Geology: Bertha 596301 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

uTrNc

Central Volcanic Facies
undivided 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 596301 Claim Group Area (cont'd)**Highland Valley Copper (cont'd)**

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

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

BETHLEHEM COPPER-SPUD LAKE showing (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE008

Four kilometres north

The property lies in the Lower Jurassic Guichon Creek batholith. The Spud Lake area is underlain primarily by medium-grained Guichon variety quartz diorite and granodiorite. This unit is cut by north trending dacite porphyry dykes up to 60 metres wide. To the west, at the Bethlehem mine (092ISE001), Guichon rocks have been intruded by Bethlehem phase granodiorite. Mineralization is controlled by intrusive contacts, north trending faults and closely spaced fractures.

Alteration is generally weak and consists of chlorite, epidote and sericite. Minor fault zones have sericite-kaolinite gouges. Quartz, calcite and zeolite (laumontite, heulandite) veining occurs sporadically. Oxidation consists of malachite and limonite.

Geology: Bertha 596301 Claim Group Area (cont'd)**BERTHA - MOLLY** past producer (Stockwork)

MINFILE 092ISE012

Within Tenure 679413

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.

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

MINFILE 092ISE013

Eight kilometres south-southwest

The Highmont mine is situated in the central core of the Early Jurassic-Late Triassic Guichon Creek batholith and is underlain primarily by Skeena variety quartz diorite. Skeena rocks are intruded by the composite Gnawed Mountain porphyry dyke which trends west-northwest and dips vertically in the central part of the property and 75 degrees north in the eastern part. This dyke consists of biotite-quartz-feldspar porphyry derived from Bethsaida phase leucocratic quartz porphyry and breccia. The two major ore zones roughly parallel the Gnawed Mountain dyke, which itself is partly mineralized. Near the southeast corner of the East pit there is a breccia consisting of granitoid fragments in a tourmaline-hematite matrix, which appears to be gradational into crackle breccia. Smaller plagioclase-quartz porphyry dykes and narrow aplite dykes are scattered throughout the property. Tertiary lamprophyre and andesite porphyry dykes also occur.

The property is cut by several north-northeast trending post-mineral faults. The Waterhole fault strikes 025 degrees, dips westward at 60 degrees and has clay and gouge sections up to 7.5 metres wide bounded by hematitic shattered zones. Apparent left-lateral offset of up to 30 metres is evident. The fracture pattern in the East pit is well-defined and involves four main attitudes: 140 to 150 degree strike and 80 degree northeast dips; 040 to 050 degree strike and 45 degree northwest dips; 075 degree strike and vertical dip; and 095 degree strike and vertical dip. Fractures are concentrated in parallel swarms up to 60 metres in width which coincide with higher grade mineralization.

The Highmont deposits exhibit the lowest overall intensity of alteration of any producing Highland Valley deposits. Potassic alteration is weak although minor potassium feldspar occurs as veins and alteration envelopes. Secondary biotite is widespread. Quartz-sulphide veinlets with sericitic envelopes comprise phyllic alteration which coincides with the 0.28 copper isopleth in the East pit. Argillic and propylitic alteration are entirely fracture-related.

Alteration grades outward from a central vein, fracture or shear, through a zone of kaolinite and montmorillonite, into chlorite-epidote-sericite-albite alteration and then into unaltered rock. The widths of these zones vary from several centimetres to 50 metres. Late-stage calcite and zeolite veins are also present.

Geology: Bertha 596301 Claim Group Area (cont'd)

IDE-AM developed prospect (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE088

Nine kilometres southwest

Located in the central core of the Lower Jurassic Guichon Creek batholith, the property is underlain for the most part by Skeena variety quartz diorite to granodiorite intruded by the Gnawed Mountain quartz plagioclase porphyry (Bethsaida) dyke which trends southeast.

A specularite breccia zone subparallel to the dyke is thought to be a clastic phase of the quartz porphyry. Minor aplite dykes occur throughout the property and are most abundant within the mineralized section of Skeena quartz diorite. Weak sericitic, chloritic and kaolinitic alteration is evident.

Along with intrusive contacts, faulting plays a major role in ore control. The property is crossed by en-echelon north-northeast trending faults with strike lengths up to 750 metres (Waterhole fault). Sericitic alteration is associated with faulting. A system of steep to moderately dipping joints are developed striking 040 and 070 degrees.

GEOLOGY: BERTHA 596301 CLAIM GROUP

As indicated by the BC government supported MapPlace geological maps, the Claim Group is underlain by rocks of the Guichon Batholith in the west which are in a northerly trending regional fault contact with the Western Volcanic Facies of the upper Triassic Nicola Group (uTrNW).

In the west the Claim Group covers granodioritic rocks of the Gump Lake Phase (LTrJGG) at the Nicola contact which are in a phased contact with a northerly band of quartz dioritic rocks of the Border Phase (LTrJBo) and westward with the phased contact of granodioritic rocks of the Highland Valley Phase. A discontinuous sliver of Nicola volcanics occurs along the contact between the Gump Lake and the Border Phases.

Tenure 596301, the subject of the structural analysis, is underlain by all three Phases with a predominance of Gump Lake granodioritic rocks.

The geology of the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 580837 Claim Group is reported as follows.

WENDY past producer (Volcanogenic)

MINFILE 092ISE154

Within Tenure 1011644

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

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

Geology: Bertha 596301 Claim Group (cont'd)

QUEN showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE190

Within Tenure 581475

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

MINERALIZATION: BERTHA 596301 CLAIM GROUP AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 596301 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 596301 of the Bertha 596301 Claim Group.

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

Twelve kilometres west

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(?).

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.

BETHLEHEM COPPER-SPUD LAKE showing (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE008

Four kilometres north

Mineralization is spotty and consists of disseminations and veinlets of chalcopyrite, bornite and pyrite. Specularite and magnetite are also present in small amounts.

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
Within Tenure 679413

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: Bertha 596301 Claim Group Area (cont'd)**HIGHMONT** past producer (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE013

Eight kilometres south-southwest

The principal economic minerals are chalcopyrite, bornite and molybdenite occurring predominantly in four types of veins and fracture-fillings. In the East pit, quartz veins are generally 1 to 25 millimetres wide with a vuggy texture. Chalcopyrite and bornite occur in the centre of the veins with scattered flaky molybdenite. Alteration envelopes 2.5 to 5.0 centimetres wide are characterized by coarse white sericite flakes, tourmaline clusters, minor potassium feldspar and limonite. Chalcocite is present in small amounts. Pyrite and specular hematite are gangue minerals.

Unclassified reserves in Zone 1 are 87.6 million tonnes grading 0.26 per cent copper and 0.021 per cent molybdenum (Cominco Limited Annual Report 1988).

IDE-AM developed prospect (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE088

Nine kilometres southwest

Mineralization is evident throughout the property as disseminations in the country rock, as thin veneers on fracture surfaces and with a late system of quartz stringers. Bornite, chalcopyrite, malachite and azurite are widely distributed. Fine-grained molybdenite also occurs. Quartz veins are up to 10 centimetres wide and are typically coated with sericite.

Drill indicated reserves for the Am 32 Fr. zone are 11,480,257 tonnes grading 0.27 per cent copper and 0.005 per cent molybdenum. Grade given was 0.01 per cent MoS₂; conversion to Mo using the factor 1.6681. The deposit became part of Highmont (092ISE 013) in 1976 and may be included with reserves for that property (Statement of Material Facts Minex Development Ltd. February 2, 1972 - Bacon & Crowhurst Ltd. March 11, 1970).

MINERALIZATION: BERTHA 596301 CLAIM GROUP

The mineralization on the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 596301 Claim Group is reported as follows

WENDY past producer (Volcanogenic)

MINFILE 092ISE154

Within Tenure 1011644

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

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

MINFILE 092ISE190

Within Tenure 581475

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

STRUCTURAL ANALYSIS

The structural analysis was performed on a DEM image hillshade map of Tenure 596301 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 51 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6*.

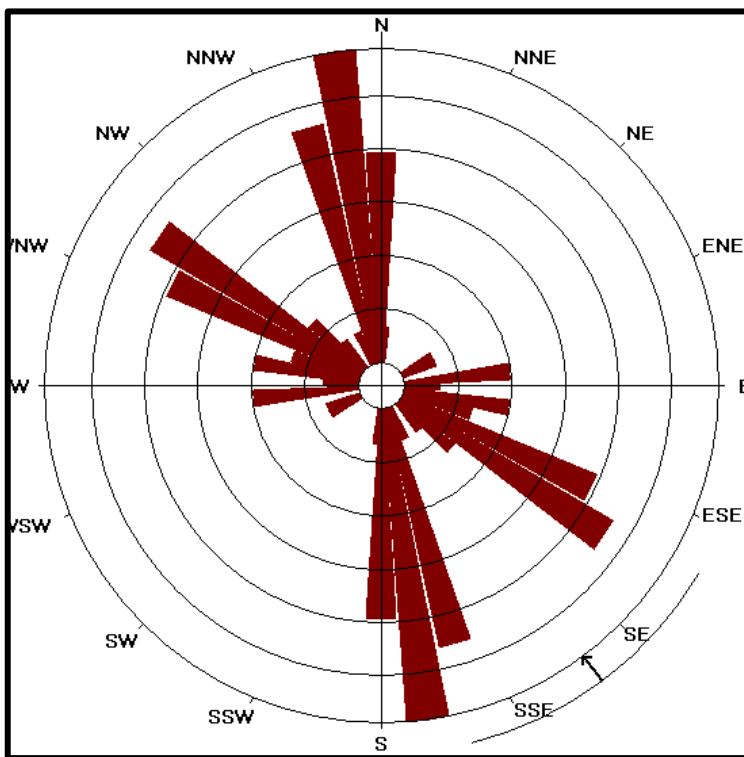
The centre of the work area on Tenure 596301 is at 5,590,466N 652,191E (10) (NAD 83).

Figure 5. Indicated Lineaments on Tenure 596301



Structural Analysis (cont'd)

Figure 6. Rose Diagram from lineaments (Figure 5) of Tenure 596301



STATISTICS

Axial (non-polar) data

No. of Data = 51

Sector angle = 8°

Scale: tick interval = 3% [1.5 data]

Maximum = 17.6% [9 data]

Mean Resultant dir'n = 143-323

[Approx. 95% Confidence interval = ±22.6°]

(valid only for unimodal data)

Mean Resultant dir'n = 143.2 - 323.2

Circ. Median = 132.0 - 312.0

Circ. Mean Dev. about median = 30.9°

Circ. Variance = 0.19

Circular Std. Dev. = 37.50°

Circ. Dispersion = 1.96

Circ. Std Error = 0.1962

Circ. Skewness = 1.84

Circ. Kurtosis = -18.08

kappa = 0.94

(von Mises concentration param. estimate)

Resultant length = 21.65

Mean Resultant length = 0.4245

'Mean' Moments: Cbar = 0.1197; Sbar = -0.4073

'Full' trig. sums: SumCos = 6.104; Sbar = -20.7717

Mean resultant of doubled angles = 0.2923

Mean direction of doubled angles = 000

(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)

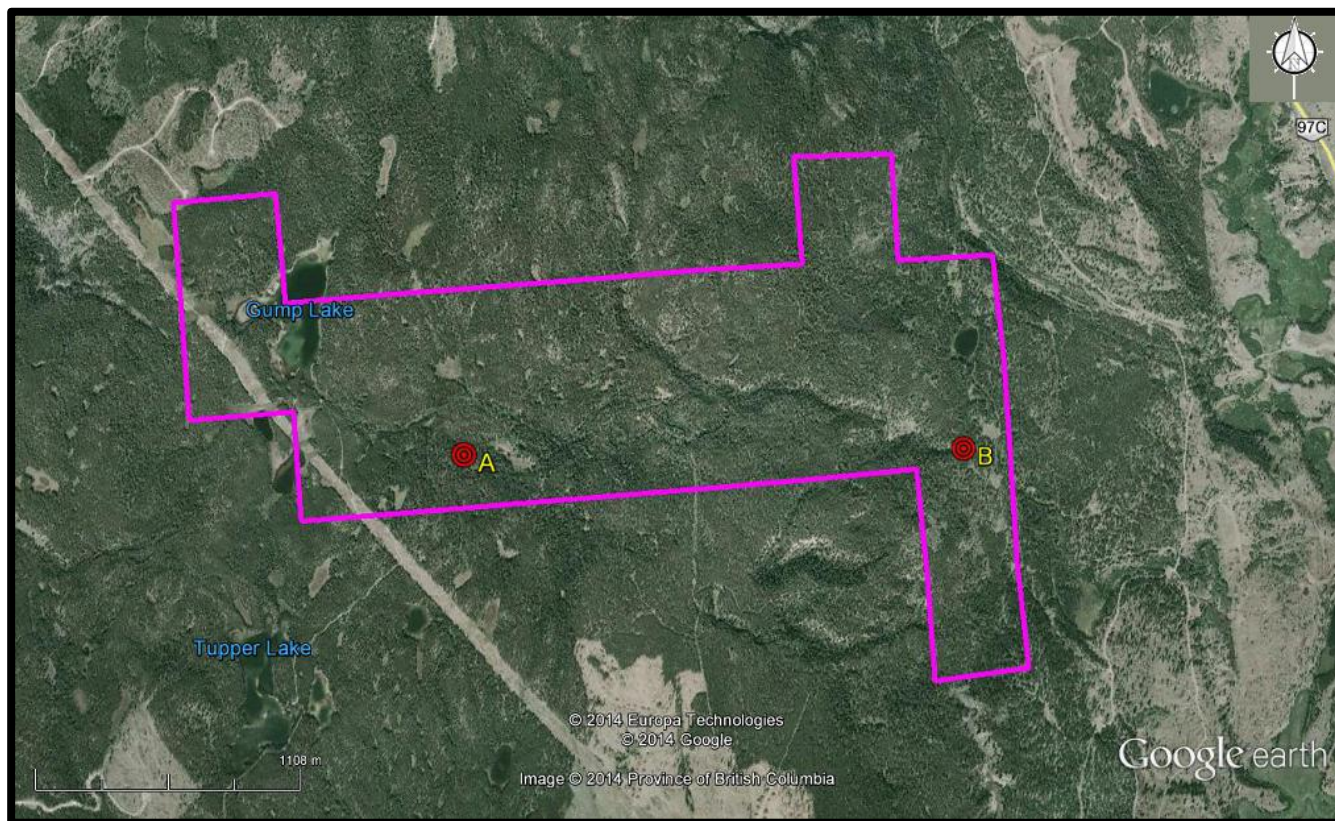


Table II. Approximate UTM locations of Figure 5 & 7 cross-structures
 (UTM-NAD 83)

Location	UTM East	UTM North	Elevation
A	651,498	5,590,124	1,343
B	653,691	5,590,033	1,095

INTERPRETATION and CONCLUSIONS

The two cross-structures that are indicated from the structural analysis on Tenure 596301 are prime locations to explore for surficial geological indicators of a proximal potentially economic mineral resource. These locations would be the site of most intense brecciation/fracture formation to depth and peripherally and would be the most accommodating for the deposition of hydrothermal fluids; thus, a mineral controlling feature which, more often than not, structures are.

Excluding other geological factors (such as the most favourable Phase of the Guichon Batholith) structures are a distinguishing mineral control for mineralization in the Guichon Batholith; the structural intersecting mineral control to the Highland Valley and the Lornex mineral deposits being the classic example. At the Ide-Am (Minfile 092ISE088) developed prospect, it is reported that faulting plays a major role in ore control.

Both cross-structures, A and B, on Tenure 596301 are formed within the Guichon Batholith by northerly and west-northwesterly trending structures; a mineral controlling structural composition to the original position of the combined Highland Valley/Lornex mineral deposits prior to their offset by the north trending Lornex Fault.

The two cross-structures, both located within the Gump Lake Phase, are equally important however, location A may be more significant in that it is located along an intrusive contact with the Border Phase where Nicola Volcanics are associated with the contact to the north and to the south. The significance is in that as a structural contact, as indicated by the structural analysis, it enhances the prospects for variable mineral deposit types; the indications of which may be surficially apparent at location A.

In the Bethlehem Copper-Spud Lake mineral showing (four kilometres north) it is reported that mineralization at the Bethlehem (ore deposits) mineralization is controlled by intrusive contacts, north trending faults and closely spaced fractures.

In the Minfile of 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.

Excluding other variable geological conditions, the structures are essential in the localization of potentially economic porphyry mineralization within intrusives related to the Guichon Creek Batholith and/or the host units of the Nicola Group.

Accordingly, the two structural intersections on Tenure 581003 should be explored for surficial geological indicators of a proximal potentially economic mineral resource. The approximate UTM locations of the intersections are shown in Table II.

The seven Minfile descriptions copied herein from a BC Government supported Minfile directory, provide information as to the surficial geological indicators that may provide information as to the relative location of a productive mineral deposit

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.

092ISE008 – BETHLEHEM COPPER-SPUD LAKE

092ISW012 – HIGHLAND VALLEY COPPER

092ISE012 – BERTHA – MOLLY

092ISE013 – HIGHMONT

092ISE088 – IDE-AM

092ISE154 – WENDY

092ISE190 – QUEN

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

Sookchoff, L. – Geological Assessment Report for Guy and Christopher Delorme on Tenure 585384 of the Bertha 585384 Claim Group. November 20, 2013.

Sookchoff, L. – Geological Assessment Report on the Dansey Claim Tenure No.528848. June 10, 2007. AR 29,164.

STATEMENT OF COSTS

Work on Tenure 596301 was done from May 1, 2014 to May 5, 2014 to the value as follows:

Structural Analysis

Laurence Sookochoff, P Eng. 3 days @ \$ 1,000.00/day -----	\$ 3,000.00
Maps -----	1,000.00
Report -----	<u>3,500.00</u>
	\$ 7,500.00
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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 596301 Claim Group as described herein.



Laurence Sookochoff, P. Eng.