GUY & CHRISTOPHER DELORME

(Owners & Operators)

GEOLOGICAL ASSESSMENT REPORT

(Event 5457329)

on a

STRUCTURAL ANALYSIS

work done from

April 19, 2013 to April 23, 2013

on

Tenure 581016

of the ten claim

Bertha 581016 Claim Group

Kamloops Mining Divisions

BCGS Maps 092I.046 & 092I.047

Centre of Work
5,588,472N, 662,776E

AUTHOR & CONSULTANT

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TABLE OF CONTENTS

Table of Contents (cont'd)

ILLUSTRATIONS

TABLES

SUMMARY

The Bertha 10 claim 581016 Claim Group is located in the Highland Valley of south central British Columbia 217 kilometres northeast of Vancouver and within 11 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 581016 is primarily underlain by Nicola volcanics within one kilometre east of the Guichon Batholith.

Even though the Bertha 581016 Claim Group is shown to be predominantly underlain by volcanics of the Nicola Group, not the preferred host to mineral deposits (except for the limestone units and fractured zones adjacent to mineralized porphyritic intrusives), smaller intrusives occurring as satellitic stocks of the Guichon Batholith outcrop on the Property with associated potential porphyry and/or skarn mineralization.

Three cross-structural intersections delineated by the structural analysis as shown on Figures 5 and 7, would be areas to explore for surficial indications of a hydrothermal generated mineral source at depth. The structural intersection locale of increased fractured zones and/or localized breccia zones would be a preferred conduit for the pressurized hydrothermal fluids to surface or be deposited within any well fractured area which may result in an economic zone of porphyritic mineralization. The Highland Valley and the Lornex porphyry deposits are prime examples of structurally controlled mineral deposits in this area. Surficial indications of other potential mineral deposits in the area are described in the nine Minfile mineral descriptions copied herein from the BC Government Minfile records with locations shown on Figure 4.

An example of this surface mineralization arising from a source at depth could be at one of the three Minfile descriptions on the Property; the Rhyolite mineral showing is reported as porphyry mineralization related to a basalt host and a shear zone trending at 335 to 345 degrees, (comparable trend to two of the indicated primary structures on the structurally analyzed Tenure 581016 – Figure 5). Mineralization at the Bertha Molly past producer is also structurally controlled with an apparent north trend.

Excluding other variable geological conditions, the structures are essential in the localization of potentially economic porphyry and/or quartz vein hosted mineralization within the Guichon Creek intrusive or the volcanics of the Nicola Group.

INTRODUCTION

In April 2013 a structural analysis was completed on Tenure 581016 of the seven claim Bertha 581016 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 581016 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 ten contiguous claims covering an area of 4465.7209 hectares. Particulars are as follows:

Table I. **Tenures of Bertha 581016 Claim Group**

Tenure Number	Type	Claim Name	Good Until	Area (ha)
522351	Mineral	MIKE	20150615	370.452
581006	Mineral		20140515	514.3692
581008	Mineral		20140515	514.5146
581014	Mineral		20140515	514.7019
581015	Mineral		20131215	514.8414
581016	Mineral		20140515	514.6721
585374	Mineral		20131215	514.1139
585375	Mineral		20131215	514.2697
679143	Mineral		20150615	308.6294
679148	Mineral		20140515	185.1567

*Upon the approval of the assessment work filing, Event Number 5457329.

Property Description and Location *(cont'd)*

Location

The Bertha 581016 Claim Group is located within BCGS Maps 092I.046 & 092I.047 of the Kamloops Mining Division, 217 direct kilometres northeast of Vancouver, 57 road kilometres north of Merritt, 46 road kilometres west-southwest of Kamloops, and within 22 kilometres east of the world-class producing Highland Valley Copper (*Minfile 092ISW012)* mine.

The centre of the work area on Tenure 581016 is at 5,588,472N, 662,776E (10) (NAD 83).

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access

From Logan Lake, the Bertha 581016 claim group can be accessed by traveling east on Highway 97D for eight kilometres to the western boundary of Tenure 585374, the northernmost claim of the Bertha 581016 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 between 1,165m in a river valley along the northwest border to 1,522 along the south-central border.

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 traverses the northern portion of the Bertha 581016 Claim Group.

HISTORY: BERTHA 581016 CLAIM GROUP AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581016 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 581016 Claim Group.

History: Bertha 581016 Claim Group Area (cont'd)

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Twenty three 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. Most ore comes from the Valley pit, augmented by a small amount from the Lornex pit. Following a successful 300,000 tonne bulk sample test, the Highmont East pit, closed since the mid-1980s, was re-opened in the fall of 2005 to take advantage of higher molybdenum prices. In addition, exploration drilling was conducted nearby in the Highmont South area and results are being evaluated.

History: Bertha 581016 Claim Group Area (cont'd)

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

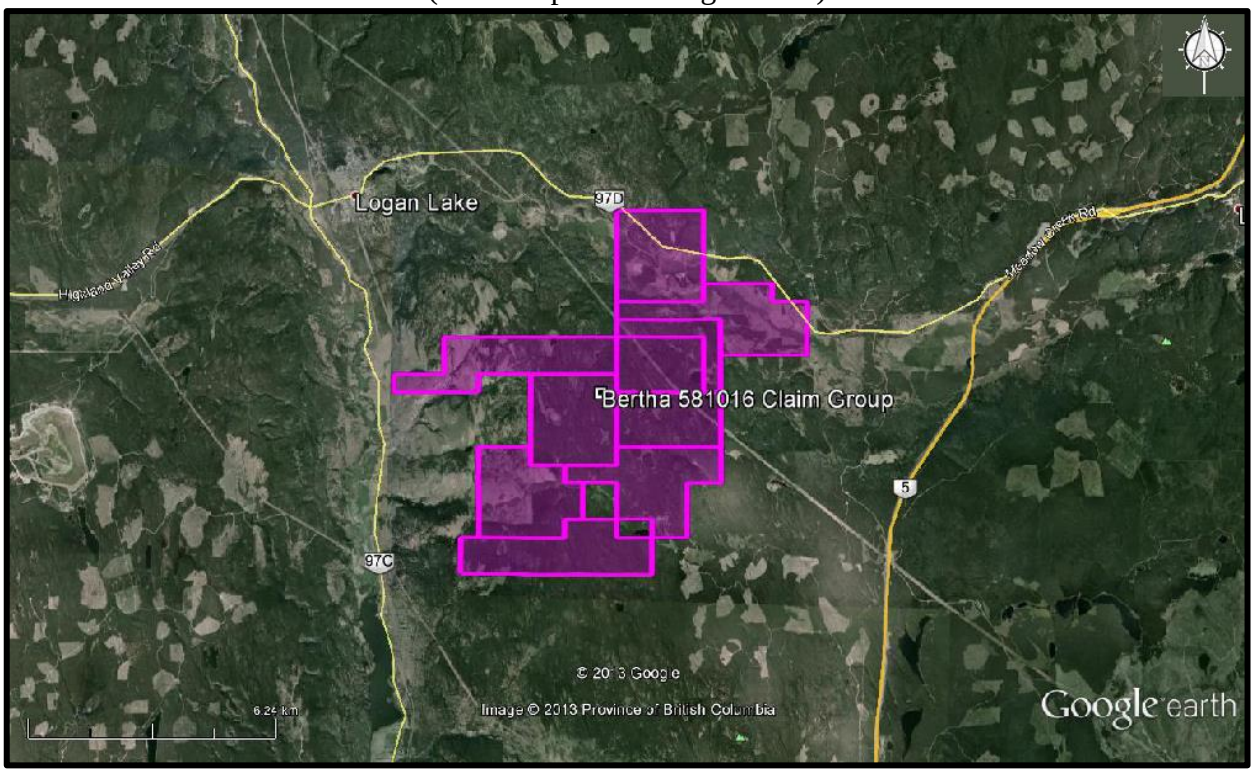
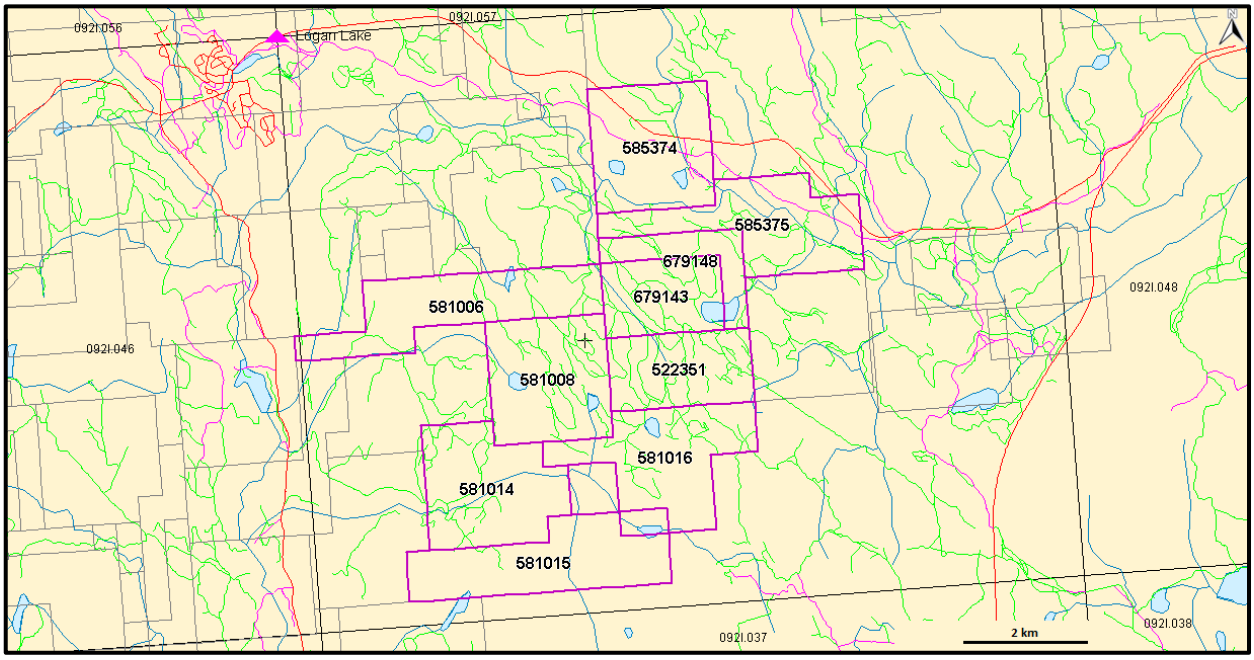


Figure 3. **Claim Map**
(from Google Earth)



History: Bertha 581016 Claim Group Area *(cont'd)*

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

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

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

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

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).

HISTORY: BERTHA 581016 CLAIM GROUP

The history of the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 581016 Claim Group is reported as follows

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

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
Within Tenure 6779143

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

GEOLOGY: REGIONAL

The Bertha 581016 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).

History: Bertha 581016 Claim Group Area *(cont'd)*

Geology: Regional *(cont'd)*

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 581016 Claim Group is situated on the eastern contact of the Guichon Creek Batholith and the Nicola volcanics within 11 kilometres of the Highland Valley Copper Mine.

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

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

Two younger volcanic-dominated successions are important in the area. First, a northwest trending belt of Cretaceous continental volcanic and sedimentary rocks of the Spences Bridge Group unconformably overlie both the Nicola Group country rock and intrusive rocks along the southwest flank of the batholith. 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 581016 CLAIM GROUP AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581016 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 581016 Claim Group.

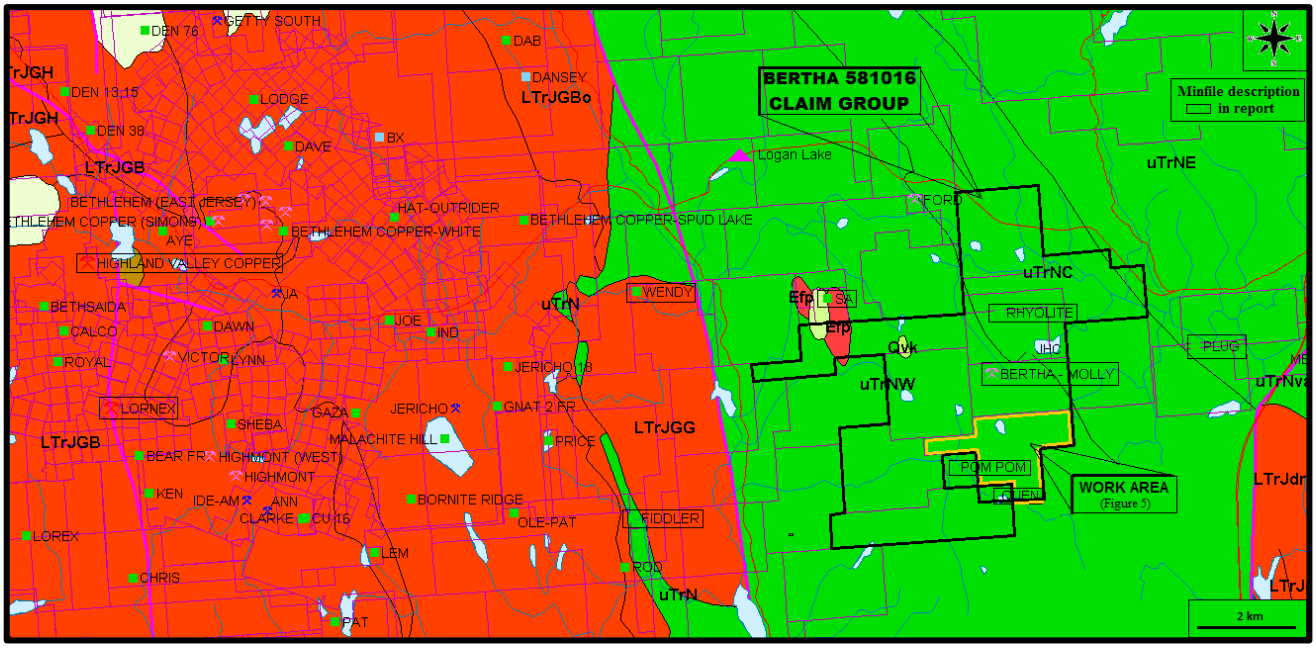
HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Twenty three kilometres west

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 581016 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

uTrNE
Eastern Volcanic Facies
basaltic volcanic rocks

uTrNC
Central Volcanic Facies
undivided volcanic rocks

uTrNW
Western 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 581016 Claim Group Area *(cont'd)*

Highland Valley Copper *producer (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.

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 581016 Claim Group Area *(cont'd)*

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

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

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

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

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

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

FIDDLER showing *(*Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE072
Eight kilometres west

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

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

WENDY prospect (Porphyry Cu +/- Mo +/- Au)
MINFILE 09ISE154
Eight kilometres west-northwest

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.

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

SA showing (Stockwork, Disseminated)
MINFILE 092ISE167
Three kilometres northwest

The property lies within the Upper Triassic Nicola Group approximately 3 kilometres east of the Lower Jurassic Guichon Creek batholith. Locally Tertiary volcanic flows and minor intrusives overlie the Triassic rocks. The area is underlain by a conformable succession of epiclastic rocks with subordinate interlayered lavas. The sedimentary sequence is best exposed at the main showing where the succession is about 90 metres thick. This unit is comprised of 50 to 100 metres of volcanic conglomerate composed of subangular to rounded red to green clasts of flow rocks cemented by a friable sandy matrix. Weakly bedded, coarse-grained fossiliferous limestone overlies the conglomerate and is again overlain by at least 60 metres of conglomerate grading upward into massive volcanic breccia. An upper unit of poorly bedded, well sorted greywacke caps the succession. Amygdaloidal basalt and andesite outcrop to the east and south where they are interlayered with the epiclastic rocks. Vesicles are filled with carbonate, zeolite and chalcocite.

percussion holes which intersected granodiorite of the Guichon Creek batholith.

Geology: Bertha 581016 Claim Group Area *(cont'd)*

POM POM showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE170
Within Property

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

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

The Quen occurrence is underlain by augite and plagioclase porphyritic andesitic flows and red volcanic conglomerate of the Upper Triassic Nicola Group.

GEOLOGY: BERTHA 581016 CLAIM GROUP

The Bertha 581016 is shown to be predominantly underlain by the Western and the Central Volcanic Facies of the Nicola Group, not the preferred host to mineral deposits (except for the limestone units and fractured zones adjacent to mineralized porphyritic intrusives). The Property covers a portion of an intrusive stock of the Guichon Batholith which indicates associated potential porphyry and/or skarn mineralization.

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.

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE021
Within Tenure 6779143

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.

Geology: Bertha 581016 Claim Group *(cont'd)*

Rhyolite *showing (cont'd)*

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.

JHC showing (Volcanic redbed Cu)
MINFILE 092ISE147
Within Tenure 679143

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

MINERALIZATION: BERTHA 581016 CLAIM GROUP AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581016 Claim Group is reported as follows. The distance to the Minfile locations is relative to the Bertha 581016 Claim Group.

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

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

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

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

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

Mineralization: Bertha 581016 Claim Group Area *(cont'd)*

Lornex *producer(cont'd)*

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

FIDDLER showing *(*Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE072
Eight kilometres west

Mineralization is not obviously related to the sericitic and limonitic alteration of the aplite and the granodiorite. Chalcopyrite occurs as disseminations in relatively fresh quartzose or biotite- rich zones in the granodiorite, as disseminations in biotite aplite, and in veins or pockets with quartz, alone or with pyrite, potassium feldspar or epidote. Some veins parallel foliation, others dip gently. A chip sample across a 75 centimetre veined, rusty mineralized zone assayed 0.35 per cent copper with traces of gold and silver (Geology, Exploration and Mining in British Columbia 1974). Some molybdenite was reported when the showing was first discovered (1915).

Post-mineralization shears cut both the aplite and country rock. The most prominent fault zones are 2.7 metres wide, strike north and dip steeply subparallel to foliation. Lesser shears strike southeast and dip moderately to the southwest. Malachite or copper oxides are usually present.

WENDY prospect (Porphyry Cu +/- Mo +/- Au)
MINFILE 09ISE154
Eight kilometres west-northwest

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

SA showing (Stockwork, Disseminated)
MINFILE 092ISE167
Three kilometres northwest

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

POM POM showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE170
Within Property

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

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

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

MINERALIZATION: BERTHA 581016 CLAIM GROUP

The mineralization on the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 581016 Claim Group is reported as follows

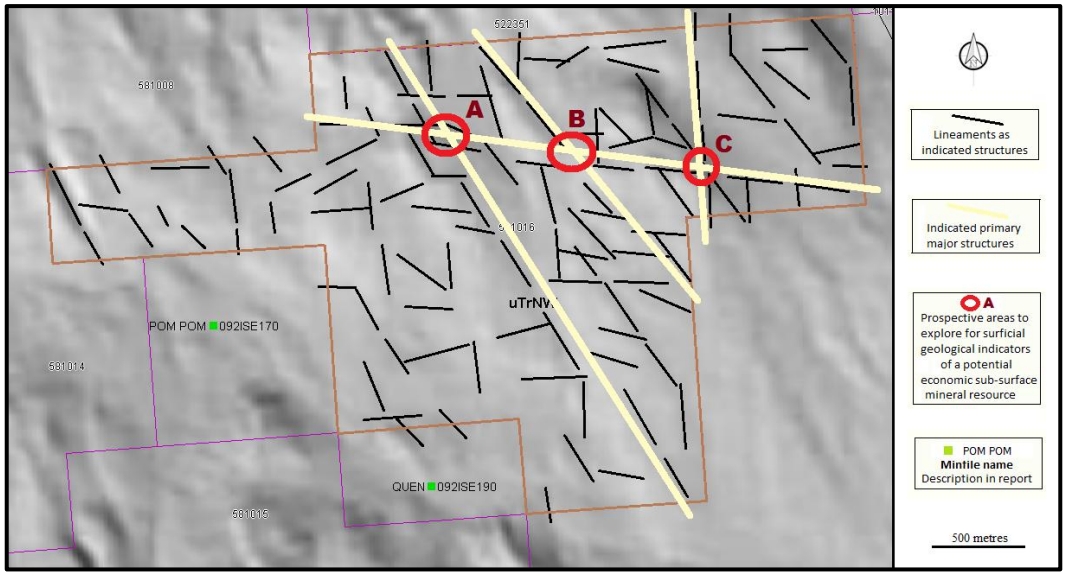
BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
Within Tenure 679413

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.

RHYOLITE showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE021
Within Tenure 6779143

Mineralization occurs in amygdaloidal basalt near the flow-volcaniclastic contact and is related to narrow quartz-carbonate veinlets within shears. Several old trenches indicate the shear zone strikes approximately 335 to 345 degrees and dips steeply west. Pyrite is present with minor chalcopyrite, azurite, malachite and sphalerite. Rock samples from this zone assayed up to 0.377 per cent copper, 0.218 per cent zinc and are weakly anomalous in gold and silver values (Assessment Report 18048).

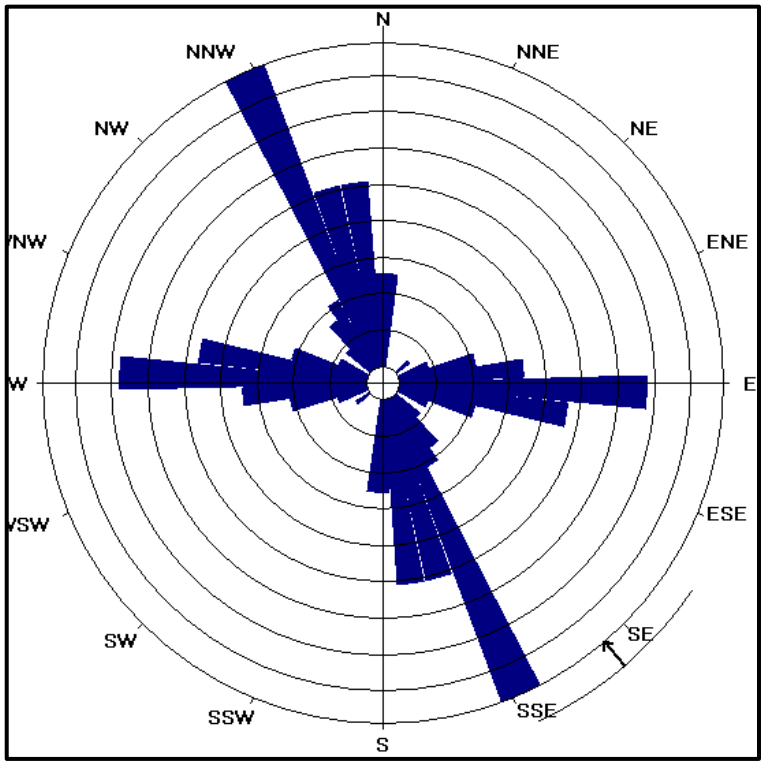
Figure 5. **Indicated Lineaments on Tenure 581016**



STRUCTURAL ANALYSIS

The structural analysis was performed on a MapPlace Hillshade map of Tenure 581016 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 118 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6.*

Figure 6. **Rose Diagram from lineaments *(Figure 5)* of Tenure 581016**



STATISTICS

Axial (non-polar) data
No. of Data = 118
Sector angle = 8°
Scale: tick interval = 2% [2.4 data]
Maximum = 17.8% [21 data]
Mean Resultant dir'n = 139-319
[Approx. 95% Confidence interval = ±15.8°]
(valid only for unimodal data)

Mean Resultant dir'n = 139.4 - 319.4
Circ.Median = 001.0 - 181.0
Circ.Mean Dev.about median = 44.7°
Circ. Variance = 0.25
Circular Std.Dev. = 43.21°
Circ. Dispersion = 2.28
Circ.Std Error = 0.1389
Circ.Skewness = 3.29
Circ.Kurtosis = -10.86
kappa = 0.68

(von Mises concentration param. estimate)

Resultant length = 37.84
Mean Resultant length = 0.3207

'Mean' Moments: Cbar = 0.0496; Sbar = -0.3168
'Full' trig. sums: SumCos = 5.8534; Sbar = -37.3815
Mean resultant of doubled angles = 0.5321
Mean direction of doubled angles = 164

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

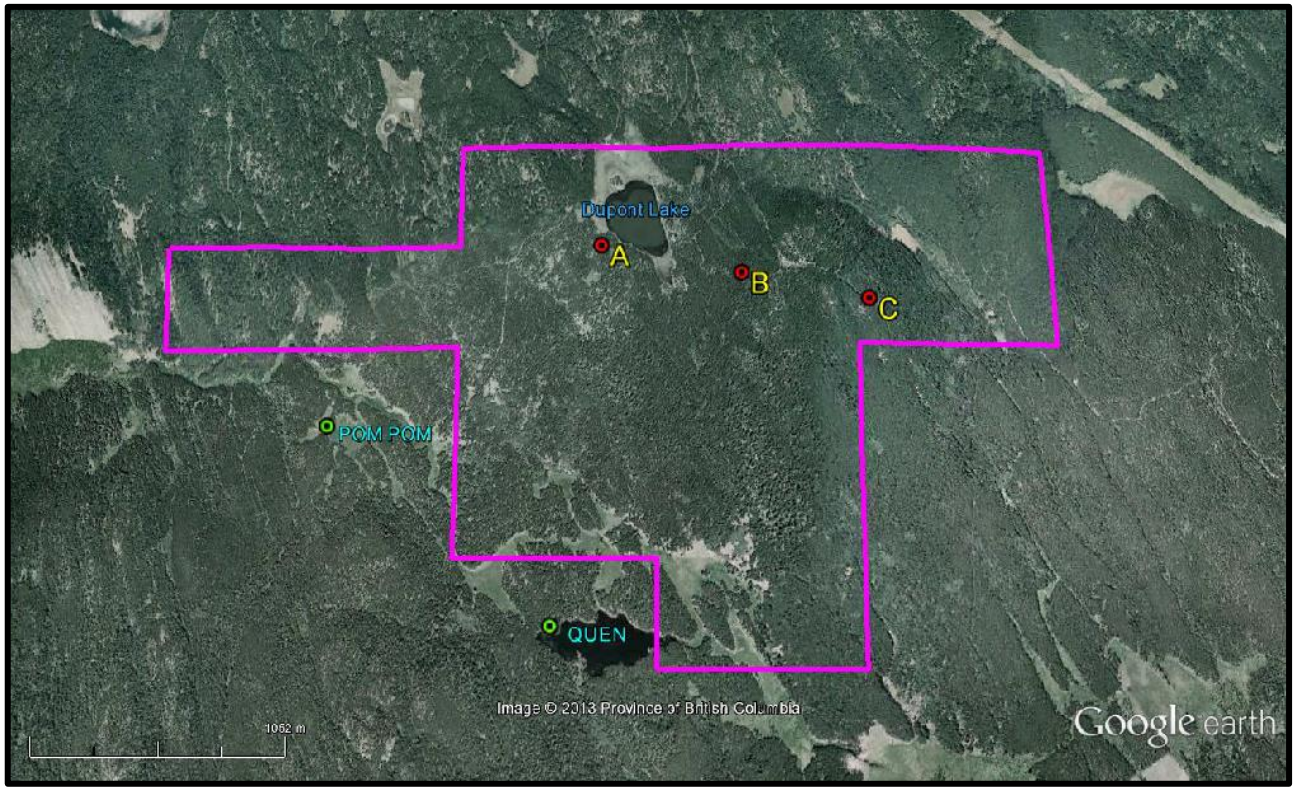


Table II. **Approximate UTM locations of Figure 5 cross-structures**
(UTM-NAD 83)

Location	UTM East	UTM North	Elevation
A	662,578	5,588,824	1,431
B	663,210	5,588,714	1,446
C	663,770	5,588,600	1,477
POM POM	661,387	5,587,982	1,325
QUEN	662420	5,587,148	1,356

INTERPRETATION and CONCLUSIONS

Easterly and north-northwesterly trending structures are indicated as dominant from the Rose Diagram pertaining to the count of the directional structures from the Structural Analysis Map (SAM). On the SAM a northerly structure is also shown, a direction not indicated from the lineament count as the continuous structure is apparent only on a smaller portion of the Property.

Even though the Bertha 581016 is shown to be predominantly underlain by volcanics of the Nicola Group, not the preferred host to mineral deposits (except for the limestone units and fractured zones adjacent to mineralized porphyritic intrusives), smaller intrusives occurring as satellitic stocks of the Guichon Batholith outcrop on the Property which may be the primary mineral host. These stocks can be surface indicators of intrusive related mineralization at depth.

The three cross-structural intersections delineated by the structural analysis as shown on Figures 5 and 7, would be areas to explore for surficial indications of a hydrothermal generated mineral source at depth. The structural intersection locale of increased fractured zones and/or localized breccia zones would be a preferred conduit for the pressurized hydrothermal fluids to surface or be deposited within any well fractured area which may result in an economic zone of porphyritic mineralization. The Highland Valley and the Lornex porphyry deposits are prime examples of structurally controlled mineral deposits in this area. Surficial indications of other potential mineral deposits in the area are described in the nine Minfile mineral descriptions copied herein from the BC Government Minfile records with locations shown on Figure 4.

An example of this surface mineralization arising from a source at depth could be at one of the three Minfile descriptions on the Property; the Rhyolite mineral showing is reported as porphyry mineralization related to a basalt host and a shear zone trending at 335 to 345 degrees, (comparable trend to two of the indicated primary structures on the structurally analyzed Tenure 581016 – Figure 5). Mineralization at the Bertha Molly past producer is also structurally controlled with an apparent north trend.

Excluding other variable geological conditions, structures are essential in the localization of potentially economic porphyry mineralization within the Guichon Batholith and/or related stocks.

The three structural intersections located on Tenure 581016 should be explored for any geological indicators which may be revealed as minerals and/or alteration and would be subject to interpretation as economic mineral indicators.

Respectfully submitted
Sookochoff Consultants Inc.

Laurence Sookochoff, PEng

SELECTED REFERENCES

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

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

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

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

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

MapPlace – Map Data downloads

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

MtOnline - MINFILE downloads.

092ISW012 – HIGHLAND VALLEY COPPER
092ISE012 – BERTHA – MOLLY
092ISE021 – RHYOLITE
092ISW045 – LORNEX
092ISE072 – FIDDLER
092ISE147 – JHC
092ISE167 – SA
092ISE170 – POM POM
092ISE190 – QUEN
092ISE254 – WENDY

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

STATEMENT OF COSTS

Work on Tenure 581016 was done from April 19, 2013 to April 23, 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
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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-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 581016 Claim Group as described herein.

Laurence Sookochoff, P. Eng.