

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: \$ 7,250.00

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): 5499987 April 16, 2014

PROPERTY NAME: Bertha

CLAIM NAME(S) (on which the work was done): 581005

COMMODITIES SOUGHT: Copper Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Kamloops

NTS/BCGS: 0921.036 0921.037 0921.047

LATITUDE: 50 ° 26 ' 25.8 " LONGITUDE: 120 ° 49 ' 0.23 " (at centre of work)

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

Upper Triassic Nicola Group Western Volcanic Facies . Late Triassic to Early Jurassic Bethsaida Phase Guichon Creek Batholith
Regional northerly trending contact. Three cross-structures between three northerly and one westerly indicated structures.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

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	514 hectares	581005	\$ 7,250.00
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:			\$ 7,250.00

GUY & CHRISTOPHER DELORME

(Owners & Operators)

GEOLOGICAL ASSESSMENT REPORT

(Event 5499987)

of a

STRUCTURAL ANALYSIS

on

Tenure 581005

of the five claim

Bertha 581005 Claim Group

**BC Geological Survey
Assessment Report
34909**

Kamloops Mining Divisions

BCGS Maps 092I.036/037/.047

work done from

April 10, 2013 to April 15, 2014

Centre of Work

5,589,887N, 655,027E

AUTHOR & CONSULTANT

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Amended Report submitted

July 8, 2015

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SUMMARY

The 2,552 hectare Bertha 581005 Claim Group is located in the Highland Valley of south central British Columbia within 15 kilometres east-southeast of the Highland Valley Copper mine; one of the largest copper mining and concentrating operations in the world which, with the Lornex Mine, has measured and indicated ore reserves of 761 million tonnes of 0.408 per cent copper and 0.0072 molybdenum.

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

The Bertha 581005 Claim Group predominantly covers the Western Volcanic Facies of the Nicola Group and a northerly trending fault contact with the Guichon Batholith in its western portion. In the northeast the Property covers a portion of a feldspar porphyry intrusive stock (Efp) with which is the SA Minfile showing is associated.

In the structural analysis of Tenure 581005 three cross-structures were delineated between one east-westerly trending structure and three northerly trending structures. These structural directions are significant in the area, as revealed in the prominent north trending Lornex fault and the east trending Highland Valley fault. These faults are also major factors in the mineral controls to the Highland Valley Copper and the Lornex mineral deposits hosted by the Guichon Batholith some 15 kilometres west of the Bertha 581005 Claim Group.

The cross-structural sites are significant in that these would be the locations of maximum brecciation and/or fracturing and would thus be the controlling structures to any ascending hydrothermal fluids from a deep-seated source, and in the process, deposited at any structurally prepared in mineralization and /or alteration products.

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

The seven Minfile property descriptions copied herein from the BC Government supported MapPlace provide information as to geological indicators associated with productive or past productive mineral deposits and geological indicators associated with sites of minor mineralization. Similar geological indicators were undoubtedly minor sites of geological indicators at locations that were progressively explored and developed to a productive mineral resource.

Two of the cross-structural locations “B” and “C” occurring within the intrusive are indicated within a topographical depression suggesting increased structural activity resulting in a beneficially mineral controlling environment. Location “C” is also on a slight convex warp which would create an enlargement of open spaces for the increased deposition of hydrothermal fluids.

The three Tenure 581005 cross structures are located on one prominent east-westerly trending structure which crosses the Guichon intrusive/Nicola volcanic regional contact and may be the mineralizing feeder zones to mineral indications occurring surficially within the immediate area. The feeder zones would be the zones with the most mineralization.

INTRODUCTION

In April, 2013 a structural analysis was completed on Tenure 581005 of the five claim Bertha 581005 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 581005 or other claims of the Bertha property.

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

Figure 1. Location Map
(from MapPlace)



PROPERTY DESCRIPTION AND LOCATION

Property Description

The Property is comprised of five contiguous claims covering an area of 2552.8079 hectares. Particulars are as follows:

Table 1. Tenures of Bertha 581005 Claim Group

<u>Tenure Number</u>	<u>Type</u>	<u>Claim Name</u>	<u>Good Until</u>	<u>Area (ha)</u>
581005	Mineral		20150428	514.5084
581009	Mineral		20150428	514.6423
581011	Mineral		20150428	514.5161
581012	Mineral		20150428	514.7582
581022	Mineral		20150205	494.3829

*Upon the approval of the assessment work filing Event Number 5499987.

Property Description and Location (cont'd)

Location

The Bertha 581005 Claim Group is located within BCGS Maps 092I.036/.046/.047 of the Kamloops Mining Division, 211 kilometres northeast of Vancouver, 35 kilometres north of Merritt, 40 kilometres southwest of Kamloops, and within 18 kilometres east-southeast of the world-class producing Highland Valley Copper mine.

The centre of the work area on Tenure 581005 is at 5,589,887N, 655,027 (NAD 83).

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access

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

Climate

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

The Property is located within the Thompson Plateau of Southern British Columbia. Topography is gentle to moderate, with elevations ranging from 969m at the northern exit of the Mamit Lake road on Tenure 581005 to 1,465m along the northwest boundary of the Property.

WATER & POWER

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

A high voltage power line trends southeasterly within two kilometres of the southwestern corner of Tenure 581005 of the Bertha 581005 Claim Group.

HISTORY: BERTHA 581005 CLAIM GROUP AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581005 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581005, the subject of the structural analysis.

History: Bertha 581005 Claim Group Area (cont'd)

JERICHO Developed prospect (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE011

Five kilometres west

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

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

MINFILE 092ISW012

Fifteen kilometres west-northwest

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

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

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

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

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

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

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

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

Highland Valley Copper suspended mining on May 15, 1999; they resumed August 30, 1999.

In September 2005, Highland Valley announced that mine life would be extended by five years to 2013. Very late in the year, Teck Cominco also announced that it is considering building a modern hydrometallurgical refinery on site. Most ore comes from the Valley pit, augmented by a small amount from the Lornex pit. Following a successful 300,000 tonne bulk sample test, the Highmont East pit, closed since the mid-1980s, was re-opened in the fall of 2005 to take advantage of higher molybdenum prices. In addition, exploration drilling was conducted nearby in the Highmont South area and results are being evaluated.

History: Bertha 581005 Claim Group Area (cont'd)

Figure 2. Claim Location

(Base Map from Google Earth)

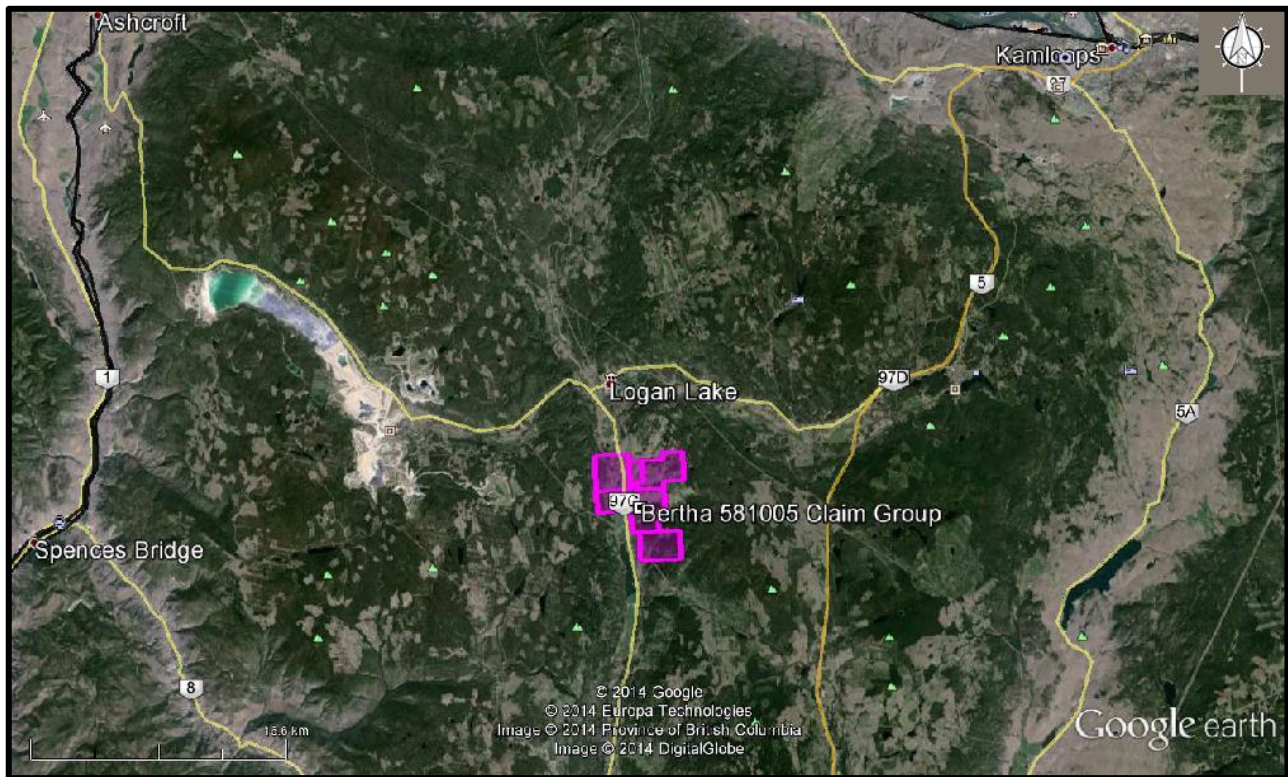
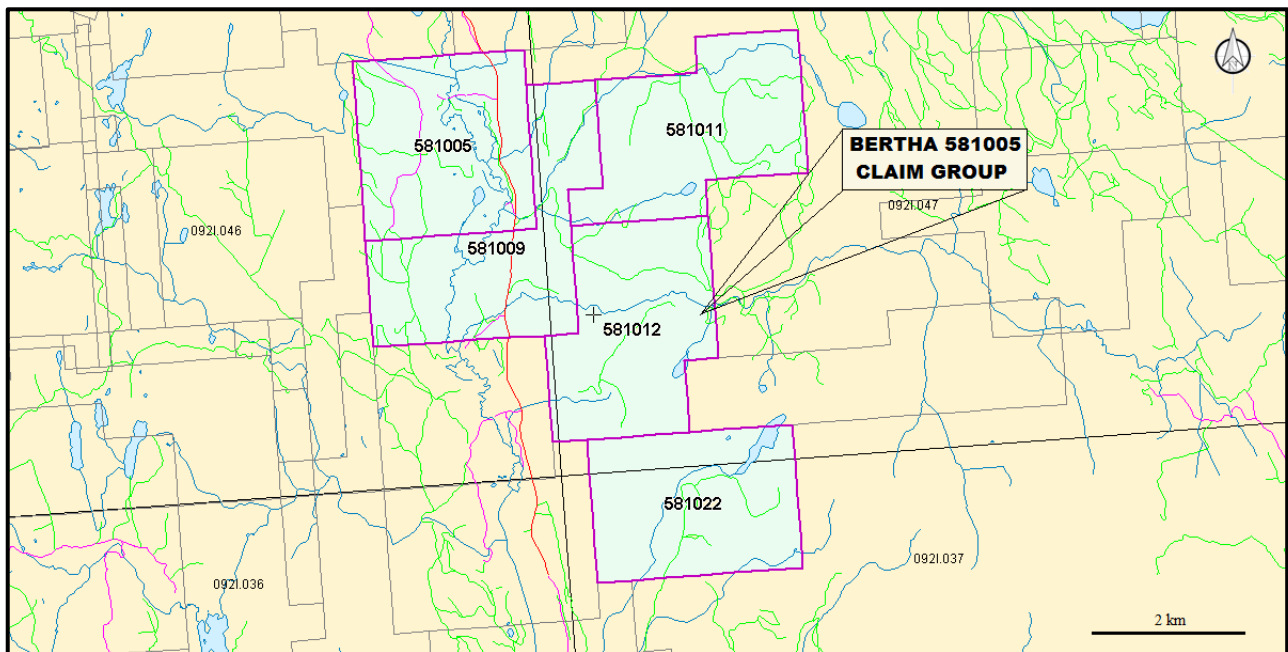


Figure 3. Claim Map

(Base Map from MapPlace)



History: Bertha 581005 Claim Group Area (cont'd)***BERTHA - MOLLY*** past producer (Stockwork)

MINFILE 092ISE012

Five kilometres west

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.

GEOLOGY: REGIONAL

The Bertha 581005 Claim Group is located on the southern Intermontane Belt of British Columbia on the southern extent of the Quesnel Trench. The central geological features of this region are the Late Triassic island-arc volcanic rocks of the Nicola Group, and Late Triassic mudstone, siltstone and shale clastic sedimentary rocks located to the east, and intrusive granodioritic rocks of the Late Triassic to early Jurassic.

The Nicola Group is a succession of Late Triassic island-arc volcanic rocks. The Nicola Group volcanic rocks form part of a 30km to 60km wide northwest-trending belt extending from southern B.C. into the southern Yukon. This belt is enclosed by older rocks and intruded by batholiths and smaller intrusive rocks. Major batholiths in the area of the Logan Copper Property include the Guichon Creek Batholith to the west, the Wild Horse Batholith to the east, and the Iron Mask Batholith to the north northeast.

The Guichon Creek Batholith is a semi-concordant variably phased intrusive that is elliptical and elongated slightly west of north. The Batholith has intruded and metamorphosed rocks of the Nicola Group resulting in a metamorphic halo up to 500 meters wide adjacent to the contact. Rocks along the edge of the batholith are older and more mafic, and successive phases moving inward toward the core are younger and more felsic.

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

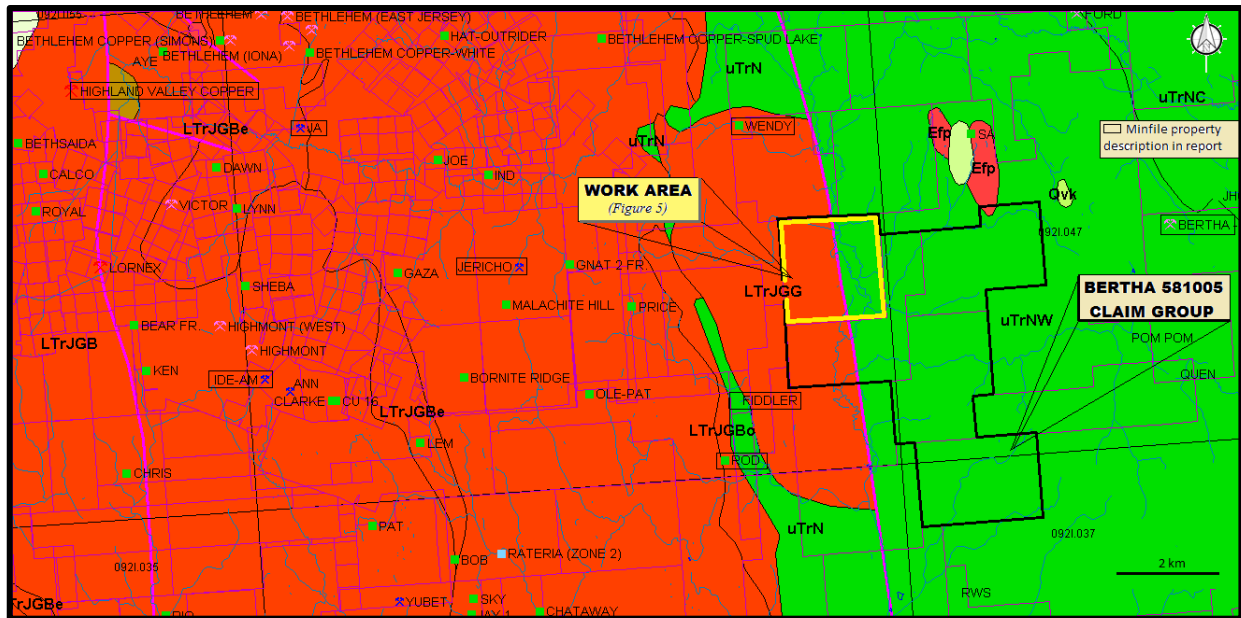
Two younger volcanic-dominated successions are important in the area. First, a northwest trending belt of Cretaceous continental volcanic and sedimentary rocks of the Spences Bridge Group unconformably overlie both the Nicola Group country rock and intrusive rocks along the southwest flank of the batholith. Distribution of the Spences Bridge Group rocks was locally controlled by reactivation of older faults that were important mineralization conduits in the batholith, such as the Lornex fault. Second, continental volcanic and sedimentary rocks of the Tertiary Kamloops Group cover extensive areas of the batholith and also overlie Triassic and Jurassic rocks from north of Highland Valley to the Thompson River.

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

GEOLOGY: BERTHA 581005 CLAIM GROUP AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581005 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581005, the subject of the structural analysis.

*Figure 4. Geology, Claim, Index & Minfile
(Base Map from MapPlace)*



GEOLOGY MAP LEGEND

Pleistocene to Holocene

Qvk

- unnamed
- alkaline volcanic rocks

Miocene

Mivb

- unnamed
- basaltic volcanic rocks

Eocene

Efp

- unnamed
- feldspar porphyry intrusive rocks

Upper Triassic-Nicola Group

uTrNW

- Western Volcanic Facies**
- undivided volcanic rocks

uTrNe

- 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 581005 Claim Group Area (cont'd)**JERICHO** Developed prospect (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE011

Five kilometres west

The property is underlain by Guichon variety rocks of the older Highland Valley phase of the batholith. These rocks are medium to coarse-grained, cream grey-pink coloured granodiorite to quartz diorite, rich in biotite and plagioclase. Foliation strikes 305 degrees. Intense sericite, chlorite and clay alteration is associated with east-northeast striking and north dipping fault zones which host mineralized quartz veins.

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

MINFILE 092ISW012

Fifteen kilometres west-northwest

The Valley deposit lies within the Late Triassic to Early Jurassic Guichon Creek batholith and is hosted by Bethsaida phase porphyritic quartz monzonite and granodiorite. Feldspar porphyry and quartz feldspar porphyry dykes 0.6 to 35 metres wide dip steeply eastward in the western and central areas, and northward in the southern area of the deposit. These dykes are cut by mineralized fractures and quartz veinlets, and have been dated at 204 Ma +/- 4 Ma.

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

The most prominent structural features are the north trending, west dipping Lornex fault and the east trending Highland Valley fault. Faults and fractures in the deposit comprise four main sets. Quartz veinlets are subparallel to two of the earlier formed fault and fracture sets.

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

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.

Geology: Bertha 581005 Claim Group Area (cont'd)**Highland Valley Copper producer (cont'd)**

At the Valley deposit, gypsum is interpreted to be secondary and post-ore. It is commonly fibrous and white to orange but locally it forms large platy crystals or may be massive. Anhydrite, which is also present, provides indirect evidence for the secondary nature of the gypsum. It is apparently the same age as and associated with sericitic and potassic alteration. Quartz-gypsum veins and quartz-potash feldspar veins in which gypsum fills interstices provide more direct evidence for its secondary nature. Gypsum is believed to have formed at the expense of anhydrite which was deposited from the ore-forming fluids. Gypsum veins are common in the lower portion of the orebody (Open File 1991-15).

Sulphides occur chiefly as disseminations in quartz veinlets, and in phyllic (bornite) and potassic (chalcopyrite) alteration zones. Mineralization includes bornite and chalcopyrite, with minor digenite, covellite, pyrite, pyrrhotite, molybdenite, sphalerite and galena. The oxide zone averages 4.5 metres in thickness, and contains limonite, malachite, pyrolusite, digenite, native copper, and tenorite(?).

BERTHA - MOLLY past producer (Stockwork)

MINFILE 092ISE012

Five kilometres west

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.

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

MINFILE 092ISE072

Two kilometres southwest

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.

Geology: Bertha 581003 Claim Group Area (cont'd)**IDE-AM** developed prospect (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE088

Eleven kilometres west-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.

WENDY prospect (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE154

Two kilometres north

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.

SA showing (Stockwork, Disseminated)

MINFILE 092ISE167

Three kilometres northeast

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

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

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

GEOLOGY: BERTHA 581005 CLAIM GROUP

As indicated by the BC government supported MapPlace geological maps, the eastern portion of the Claim Group is predominantly underlain by the Western Volcanic Facies the Nicola Group (uTrNW) which is in a regional northerly trending fault contact with the Bethsaida Phase of the Guichon Batholith in the west. In the northeast the Property covers a portion of a feldspar porphyry intrusive stock (Efp) with which is the SA Minfile showing is associated.

MINERALIZATION: BERTHA 581005 CLAIM GROUP AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581005 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581005, the subject of the structural analysis.

JERICHO Developed prospect (Porphyry Cu+/-Mo+-Au)

MINFILE 092ISE011

Five kilometres west

The upper adit, located on a low ridge, was driven 269.4 metres at a bearing of 084 degrees. Starting approximately 45.7 metres from the portal, the adit intersects mineralized quartz veins which generally strike west to northwest and dip 65 degrees to the north. The principal sulphides are bornite associated with primary chalcocite, chalcopyrite and seams and disseminations of molybdenite. The vein walls are sheared and strongly altered. From 190 metres to its end, the upper adit intersects the No. 1 zone. The lower adit was driven in a south direction. At 525.8 metres, the 1725 zone was intersected and crosscut for a short distance. The No. 1 zone is about 685 metres from the portal and was drifted on for short distances.

Approximate (indicated) reserves are 272,130 tonnes grading 1.0 per cent copper (Highmont Mining Corporation Annual Report 1977).

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

MINFILE 092ISW012

Fifteen kilometres west-northwest

Highland Valley Copper operates two distinct mines, the Valley mine and the Lornex mine, and between the two has measured and indicated ore reserves of 761 million tonnes of 0.408 per cent copper and 0.0072 molybdenum.

The ore reserves of each mine are: Valley mine - 627 million tonnes at 0.418 per cent copper and 0.0056 per cent molybdenum; Lornex mine - 135 million tonnes at 0.364 per cent copper and 0.0144 per cent molybdenum.

BERTHA - MOLLY past producer (Stockwork)

MINFILE 092ISE012

Six kilometres east

Mineralization: Bertha 581005 Claim Group Area (cont'd)**Bertha - Molly past producer (cont'd)**

Recent development has exposed malachite, azurite, chalcopyrite, cuprite and pyrite hosted by shears and fracture-fillings in vesicular volcanics and red tuffs. Mineralization is structurally controlled with an apparent north trend. A common alteration is calcite and epidote with silicification becoming stronger at depth.

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

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

MINFILE 092ISE072

Two kilometres southwest

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.

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

MINFILE 092ISE088

Eleven kilometres west-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).

WENDY prospect (Porphyry Cu +/- Mo +/- Au)

MINFILE 092ISE154

Two kilometres north

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 northeast

Mineralization: Bertha 581005 Claim Group Area (cont'd)

SA showing (cont'd)

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

STRUCTURAL ANALYSIS

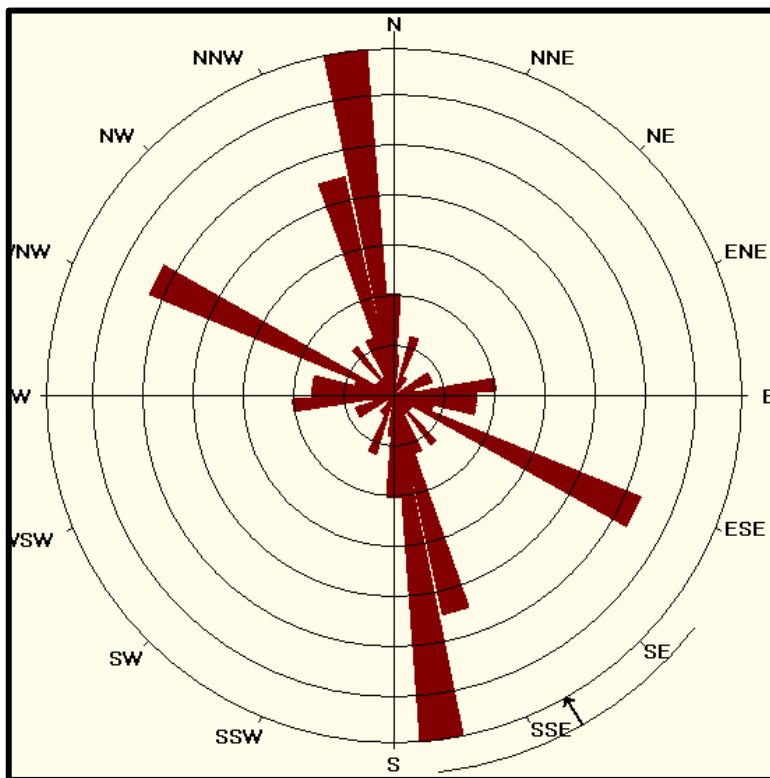
A DEM Image Hillshade map downloaded from MapPlace was utilized as the base map for the Structural analysis on Tenure 581005 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 82 lineaments were marked (Figure 5), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on Figure 6.

Figure 5. Indicated Lineaments on Tenure 581005
(Base Map from MapPlace)



Structural Analysis (cont'd)

Figure 6. Rose Diagram from lineaments of Tenure 581005



STATISTICS

Axial (non-polar) data
 No. of Data = 82
 Sector angle = 8°
 Scale: tick interval = 3% [2.5 data]
 Maximum = 20.7% [17 data]
 Mean Resultant dir'n = 150-330
 [Approx. 95% Confidence interval = ±22.8°]
 (valid only for unimodal data)

Mean Resultant dir'n = 150.4 - 330.4
 Circ.Median = not calculated
 Circ.Mean Dev.about median = not calculated
 (Not calculated if too many data, or data are axial (non-polar), and too coarsely grouped)
 Circ. Variance = 0.25
 Circular Std.Dev. = 43.55°
 Circ. Dispersion = 3.21
 Circ.Std Error = 0.198
 Circ.Skewness = 2.70

Circ.Kurtosis = -7.04
 kappa = 0.66
 (von Mises concentration param. estimate)

Resultant length = 25.82
 Mean Resultant length = 0.3149

'Mean' Moments: Cbar = 0.1608; Sbar = -0.2707
 'Full' trig. sums: SumCos = 13.188; Sbar = -22.1953
 Mean resultant of doubled angles = 0.3629
 Mean direction of doubled angles = 176

(Usage references: Mardia & Jupp, 'Directional Statistics', 1999, Wiley; Fisher, 'Statistical Analysis of Circular Data', 1993, Cambridge University Press)
 Note: The 95% confidence calculation uses Fisher's (1993) 'large-sample method'

Structural Analysis (cont'd)

Figure 7. Cross structural locations (Figure 5) on Tenure 581005
(Base Map: Google Earth)

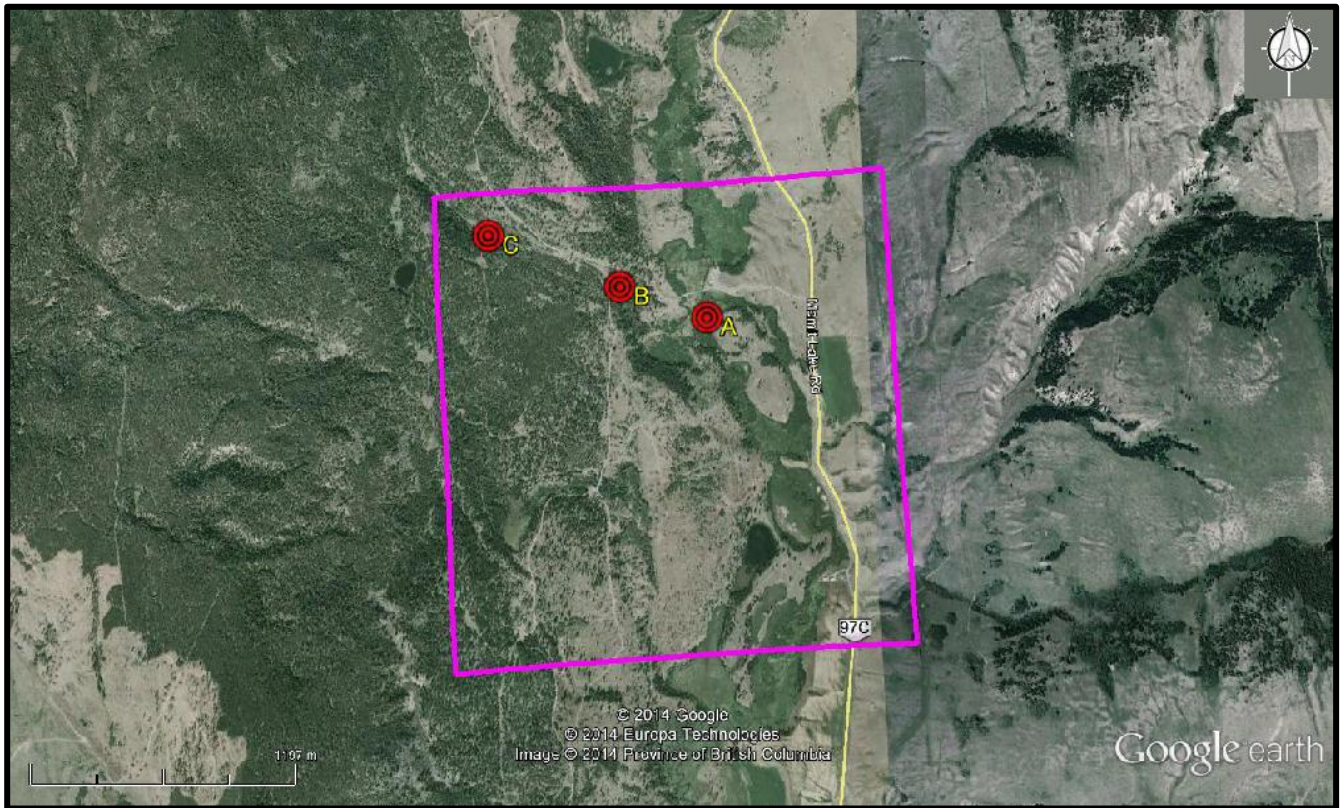


Table II. Approximate UTM locations of Figure 5 & 7 cross-structures
(UTM-NAD 83)

Location	UTM East	UTM North	Elevation
A	655,209	5,590,255	982
B	654,782	5,590,416	1,017
C	654,140	5,590,688	1,041

INTERPRETATION and CONCLUSIONS

The result of Tenure 581005 structural analysis was the delineation of three cross-structures indicated between one east-westerly trending structure and three northerly trending structures. These structural directions are significant in the area, as revealed in the prominent north trending Lornex fault and the east trending Highland Valley fault. These faults are also major factors in the mineral controls to the Highland Valley Copper and the Lornex mineral deposits hosted by the Guichon Batholith some 15 kilometres west of the Bertha 581005 Claim Group.

The dominant northerly structural trend in the area is evident on Tenure 581005 in the regional Mamit Fault contact between rocks of the Guichon Batholith and the Nicola volcanics; the east-westerly direction is indicated in the topography expressions.

The cross-structural sites are significant in that these would be the locations of maximum brecciation and/or fracturing and would thus be the controlling structures to any ascending hydrothermal fluids from a deep-seated source, and in the process, deposited at any structurally prepared in mineralization and /or alteration products.

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

The seven Minfile property descriptions copied herein from the BC Government supported MapPlace provide information as to geological indicators associated with productive or past productive mineral deposits and geological indicators associated with sites of minor mineralization. Similar geological indicators were undoubtedly minor sites of geological indicators at locations that were progressively explored and developed to a productive mineral resource.

The three Tenure 581005 cross structures are located on one prominent east-westerly trending structure which crosses the Guichon intrusive/Nicola volcanic regional contact. Two of the cross-structural locations "B" and "C" occurring within the intrusive are indicated within a topographical depression suggesting increased structural activity resulting in a beneficially mineral controlling environment. Location "C" is also on a slight convex warp which would create an enlargement of open spaces for the increased deposition of hydrothermal fluids.

Cross-structure "A" within the Nicola volcanics is appropriately situated to reveal any surficial indication of any potential blind porphyry.

Thus, the cross-structural locations are the prime target areas for initial exploration and should be explored with an emphasis on pathfinder minerals, alteration products, or any other geological indicator that would be related to a porphyry resource.

Respectfully submitted
Sookochoff Consultants Inc.



Laurence Sookochoff, PEng

SELECTED REFERENCES

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

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

MapPlace – Map Data downloads

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

MtOnline - MINFILE downloads.

092ISE011 – JERICHO

092ISW012 – HIGHLAND VALLEY COPPER

092ISE012 – BERTHA – MOLLY

092ISE072 – FIDDLER

092ISW012 – LORNEX

092ISE088 – IDE-AM

092ISE154 – WENDY

092ISE167 – SA

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 581016 of the ten claim Bertha 581016 Claim Group. November 8, 2013.

STATEMENT OF COSTS

Work on Tenure 581005 was done from April 10, 2014 to April 15, 2014 to the value as follows:

Structural Analysis (Contract) -----	\$ 3,750.00
Maps -----	500.00
Report -----	<u>3,000.00</u>
	\$ 7,250.00
	=====

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-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 581005 Claim Group as described herein.



Laurence Sookochoff, P. Eng.