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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 Geophysical

TOTAL COST: $ 9,108.20

AUTHOR(S): Laurence Sookochoff, PEng **SIGNATURE(S):** Laurence Sookochoff

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): **YEAR OF WORK:** 2015

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5552711 April 27, 2015

PROPERTY NAME: Bertha

CLAIM NAME(S) (on which the work was done): 581012

COMMODITIES SOUGHT: Copper Gold

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

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

LATITUDE: 50 ° 25 ' 48 " **LONGITUDE:** 120 ° 42 ' 01 " **(at centre of work)**

OWNER(S):

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

Upper Triassic, Nicola Group, Western Volcanic Facies, Eocene, Porphyry Intrusives, Copper minerals in andesitic flows

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

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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	581012	$ 6,000.00
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic	2.8	581012	3,108.20
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:	$ 9,108.20

Print Form

GUY & CHRISTOPHER DELORME

(Owners & Operators)

ASSESSMENT REPORT

on

GEOLOGICAL & GEOPHYSICAL SURVEYS

(Event 5552711)

work done from

April 16, 2015 to November 23, 2015

on

Tenure 581012

of the five claim

Bertha 581012 Claim Group

Kamloops Mining Divisions

BCGS Maps 092I.046

Centre of Work

5,587,546N 657,446E
(NAD 83 Zone 10)

Author & Consultant

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Submitted

December 9, 2015

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SUMMARY

The Bertha 581012 Claim Group is located 210 kilometres northeast of Vancouver in the Highland Valley of south central British Columbia. It is within 19 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 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 581012 Claim Group, as indicated by the BC government supported MapPlace geological map, is underlain by rocks of the Western Volcanic Facies of the upper Triassic Nicola Group (uTrNW) with a portion of a feldspar porphyry intrusive in the northwest.

The two cross-structures that are indicated from the structural analysis on Tenure 581012 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.

Both cross-structures, A and B, on Tenure 581012 are developed from general northerly and westerly trending structures; a mineral controlling structural setting similar to the structural setting at the Highland Valley/Lornex mineral deposits. Even though the cross-structures are surficially indicated within the Nicola volcanics, the sub-surface geological environment may be of a masked intrusive where the structures are mineral controls to a mineral resource was developed at the volcanic/intrusive contact as at the Copper Mountain mineral deposit *(Minfile 092HSE001).*

The two mag LO's of the magnetometer survey indicate structural zones as interpreted from the central mag LO which correlates with the A cross-structure. The north-northeasterly and the northeasterly structures that developed cross-structure A, are partially reflected by the sub-anomalous to anomalous mag LO's.

The western mag LO shows a similar structural pattern but with a wider and open mag LO. This area, centred at approximately 5,587,400N 657,200E, should have been designated as a cross-structure according to the indicated structures of Figure 5. The mag LO reflects the northerly and the northwesterly structures by the sub-anomalous and the anomalous mag LO' with the general open mag LO to the west reflecting the westerly trending structures of Figure 5.

Therefore, the area of exploration priority at cross-structure A, the western mag LO, then cross-structure B

INTRODUCTION

Between April 16, 2015 and November 23, 2015, a structural analysis and a localized magnetometer survey were completed on Tenure 581012 of the five claim Toni 581012 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 581012 or other claims of the Property and to determine the effectiveness of the magnetic survey in locating structures and/or lithologic contacts.

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 581012 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 19 kilometres east-southeast of the world-class producing Highland Valley Copper mine (*Minfile 092ISW012)*.

Description

The Property is comprised of five contiguous claims covering an area of 2099.9708 hectares. Particulars are as follows:

Property Location and Description *(cont'd)*

Table I. **Tenures of Bertha 581012 Claim Group**

Tenure Number	Type	Claim Name	Good Until	Area (ha)
514175	Mineral	QUEN	20160213	41.183
581011	Mineral		20160213	514.5161
581012	Mineral		20160213	514.7582
581015	Mineral		20160213	514.8414
581016	Mineral		20160213	514.6721

Total Area: 2099.9708 ha

*Upon the approval of the assessment work filing, Event Number 5552711.

ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY

Access

From Logan Lake, the Bertha 581012 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 seven kilometres to a junction with a secondary road which is taken eastward for one kilometre to the western boundary of Tenure 581012.

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

Tenure 581012 covers a gentle to moderate forested area with elevations range from 1,058 metres at the southwest corner to 1,445 metres in the northwest.

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 crosses the southwestern corner of Tenure 581012.

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

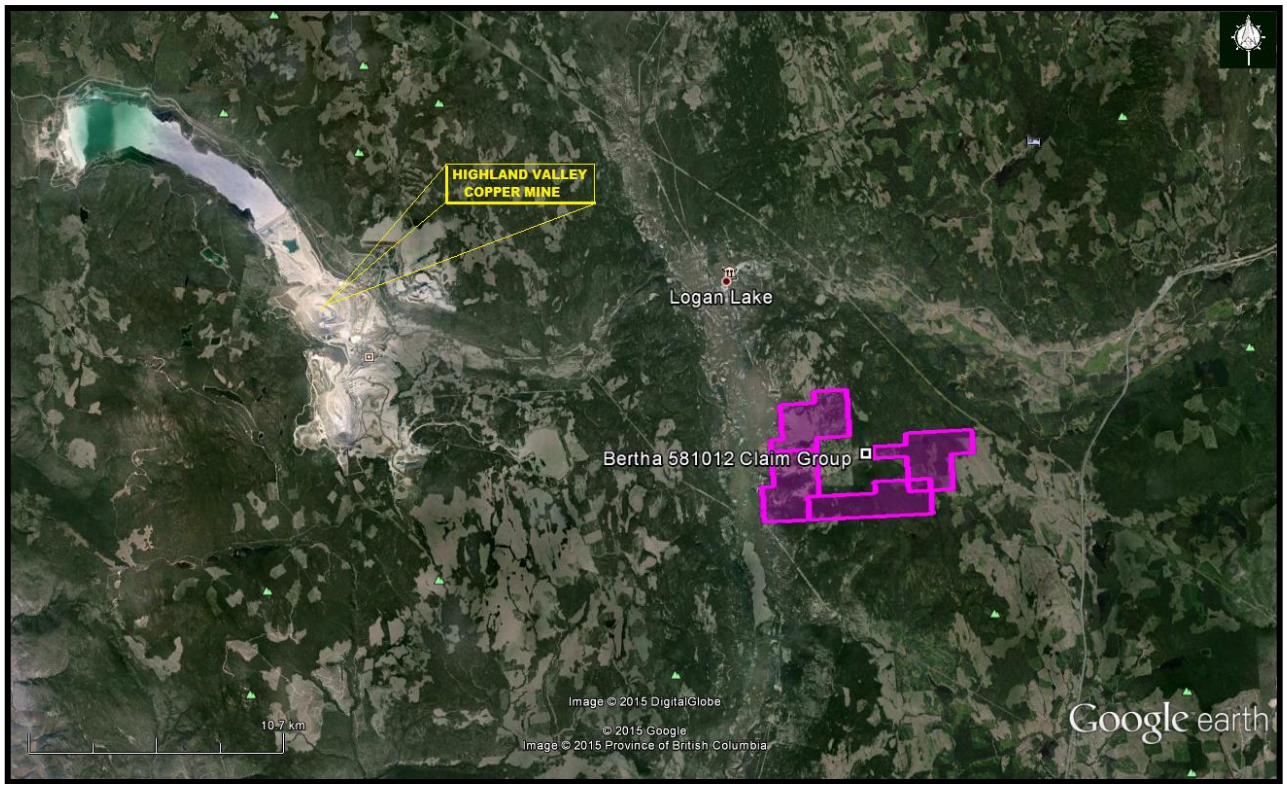
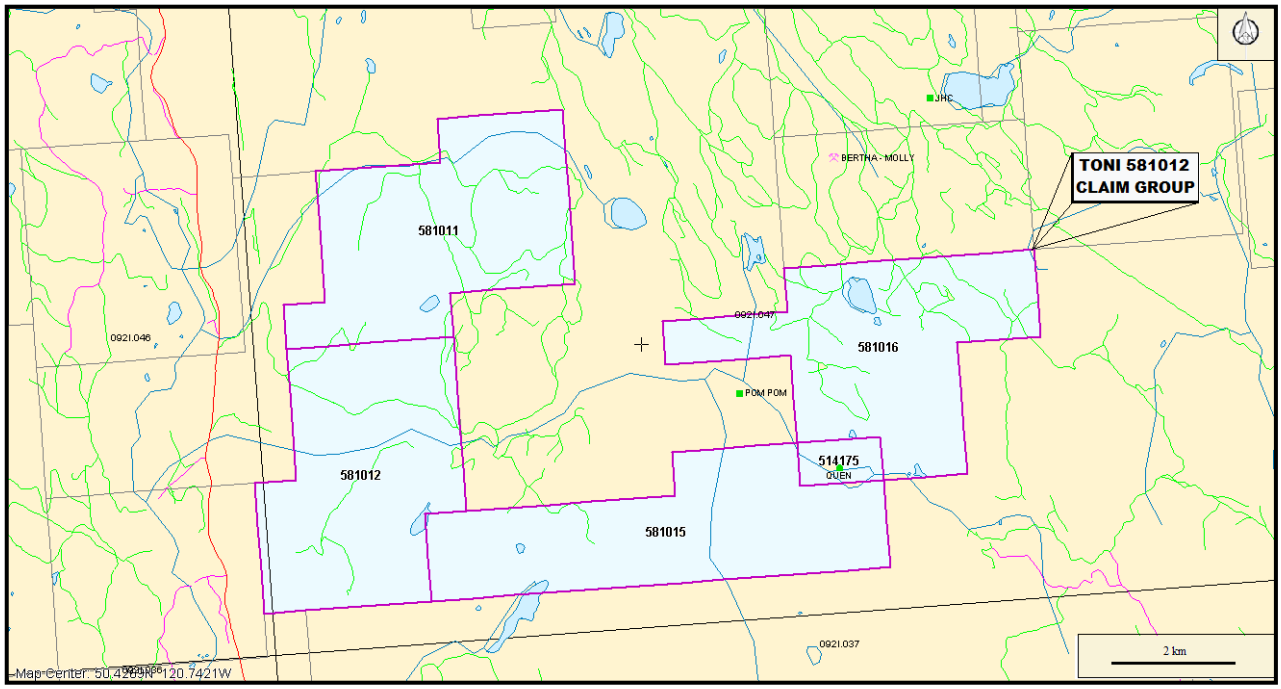


Figure 3. **Claim Map**
(from MapPlace)



HISTORY: BERTHA 581012 CLAIM GROUP AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581012 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581012 of the Bertha 581012 Claim Group.

HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Nineteen 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 581012 Claim Group Area *(cont'd)*

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
One kilometres north

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
Sixteen kilometres west

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 581012 CLAIM GROUP

The history of the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 581012 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 581012 Claim Group is located on the southern Intermontane Belt of British Columbia on the southern extent of the Quesnel Trench. The central geological features of this region are the Late Triassic island-arc volcanic rocks of the Nicola Group, and Late Triassic mudstone, siltstone and shale clastic sedimentary rocks located to the east, and intrusive granodioritic rocks of the Late Triassic to early Jurassic. The Nicola Group is a succession of Late Triassic island-arc volcanic rocks. The Nicola Group volcanic rocks form part of a 30km to 60km wide northwest-trending belt extending from southern B.C. into the southern Yukon. This belt is enclosed by older rocks and intruded by batholiths and smaller intrusive rocks. Major batholiths in the area of the Logan Copper Property include the Guichon Creek Batholith to the west, the Wild Horse Batholith to the east, and the Iron Mask Batholith to the north northeast (see Figure 6 for regional geology).

The Guichon Creek batholith is a large, composite intrusion with a surface area of about 1,000 square kilometers. A cluster of nine major porphyry copper deposits lie within a 15 square kilometer zone in the center of the batholith.

The 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.

Geology: Regional *(cont'd)*

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 581012 CLAIM GROUP AREA

The geology of some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581012 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581012 of the Bertha 581012 Claim Group.

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

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.

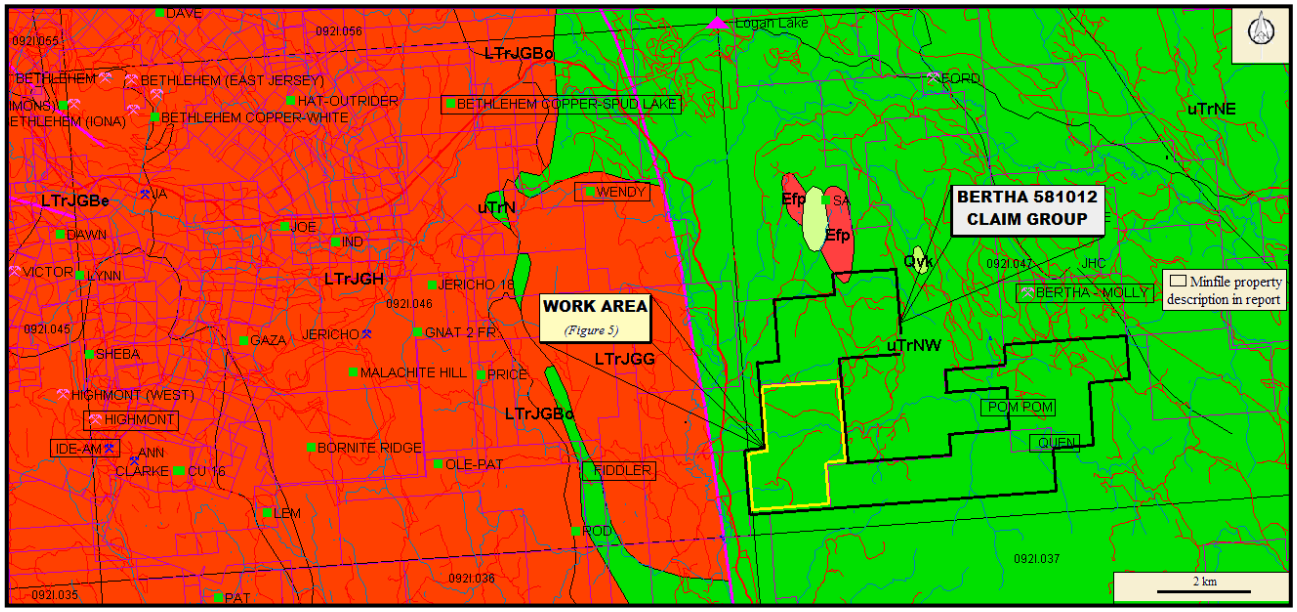
HIGHLAND VALLEY COPPER producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISW012
Nineteen kilometres west-northwest

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.

Geology: Bertha 581012 Claim Group Area *(cont'd)*

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



GEOLOGY MAP LEGEND

Eocene
Efp
Unnamed feldspar porphyry intrusive rocks

Upper Triassic-Nicola Group
uTrNc
Central Volcanic Facies
undivided volcanic rocks
uTrN
undivided volcanic rocks
uTrNW
Western Volcanic Facies
undivided volcanic rocks
uTrNE
Eastern Volcanic Facies
basaltic 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 581012 Claim Group Area *(cont'd)*
Highland Valley Copper *(cont'd)*

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).

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).

BERTHA - MOLLY past producer (Stockwork)
MINFILE 092ISE012
One kilometres north

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.

Geology: Bertha 581012 Claim Group Area *(cont'd)*

HIGHMONT past producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE013
Sixteen kilometres west

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.

FIDDLER showing *(*Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE072
Four 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.

Geology: Bertha 581012 Claim Group Area *(cont'd)*

IDE-AM developed prospect *(*Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE088
Sixteen kilometres west

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 past producer *(*Volcanogenic)
MINFILE 092ISE154
Five kilometres 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.

POM POM showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE170
One kilometre west

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.

GEOLOGY: BERTHA 581012 CLAIM GROUP

As indicated by the BC government supported MapPlace geological maps, the Claim Group is underlain by rocks of the Western Volcanic Facies of the upper Triassic Nicola Group (uTrNW) with a portion of a feldspar porphyry intrusive in the northwest.

Geology: Bertha 581012 Claim Group *(cont'd)*

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

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 581012 CLAIM GROUP AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Bertha 581012 Claim Group is reported as follows. The distance to the Minfile locations is relative to Tenure 581012 of the Bertha 581012 Claim Group.

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

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
Nine kilometres northwest

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
One kilometres north

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 581012 Claim Group Area *(cont'd)*

HIGHMONT past producer (Porphyry Cu+/-Mo+-Au)
MINFILE 092ISE013
Sixteen kilometres west

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).

FIDDLER showing *(*Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE072
Four 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.

IDE-AM developed prospect *(*Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE088
Sixteen kilometres west

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 past producer *(*Volcanogenic)
MINFILE 092ISE154
Five kilometres northwest

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

Mineralization: Bertha 581012 Claim Group Area *(cont'd)*

POM POM showing (Porphyry Cu +/- Mo +/- Au)
MINFILE 092ISE170
One kilometre west

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

MINERALIZATION: BERTHA 581012 CLAIM GROUP

The mineralization on the mineral MINFILE reported occurrences, prospects, and past producers within the Bertha 581012 Claim Group is reported as follows

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

Within Tenure 581475

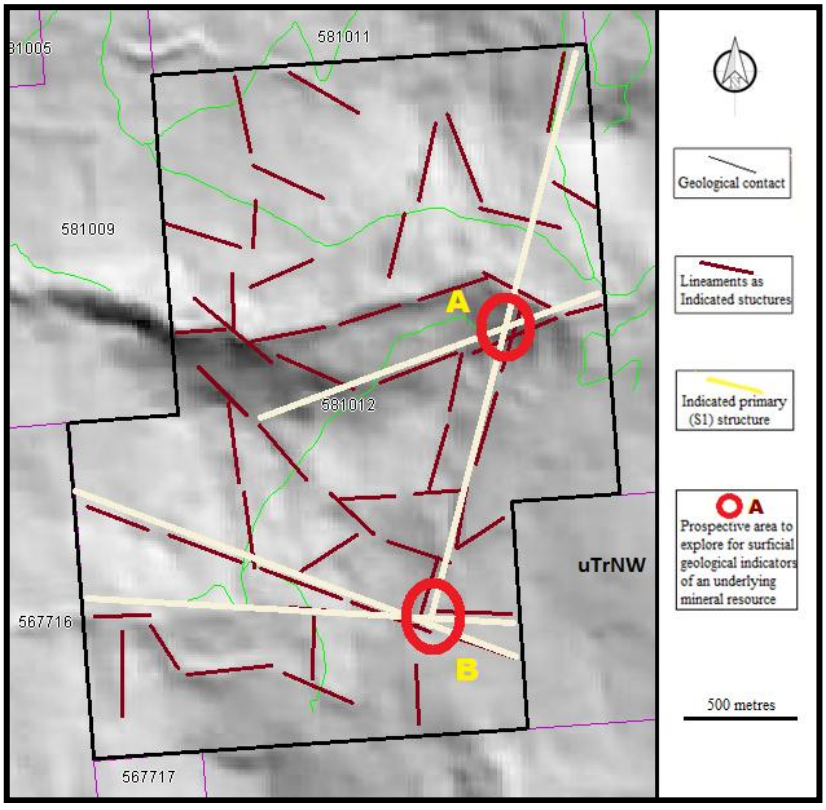
Chalcopyrite, bornite, pyrite, native copper, molybdenite, chalcocite, malachite and azurite occur in the andesitic flows.

STRUCTURAL ANALYSIS

The structural analysis was performed on a DEM image hillshade map of Tenure 581012 by viewing of the map and marking the lineaments as indicated structures thereon. A total of 53 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6.*

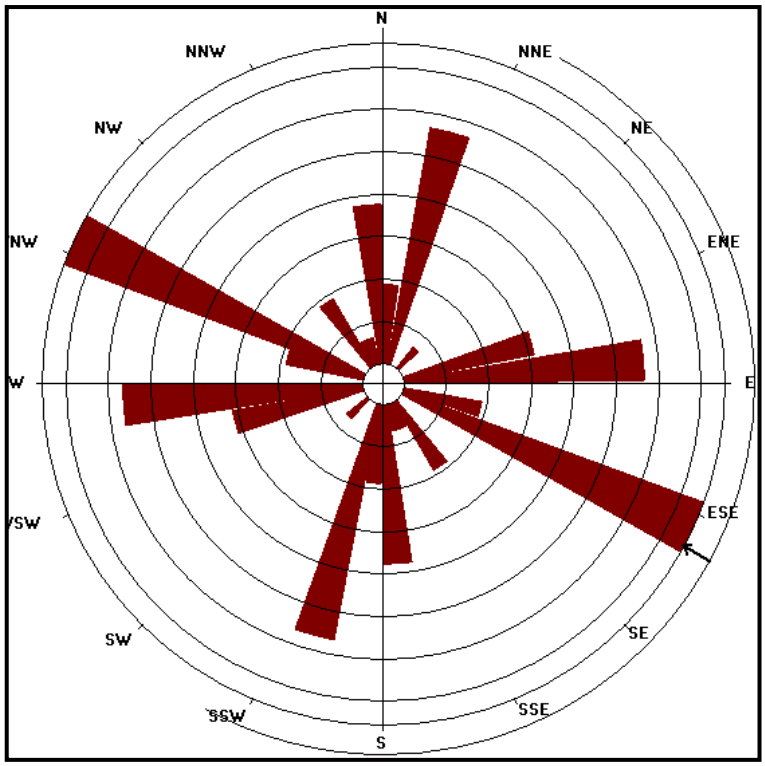
The centre of the work area on Tenure 581012 is at 5,587,546N 657,446E (10) (NAD 83).

Figure 5. **Indicated Lineaments on Tenure 581012**



Structural Analysis *(cont'd)*

Figure 6. **Rose Diagram from lineaments** *(Figure 5)* **of Tenure 581011**



STATISTICS

Axial (non-polar) data
No. of Data = 53
Sector angle = 10°
Scale: tick interval = 3% [1.6 data]
Maximum = 22.6% [12 data]
Mean Resultant dir'n = 118-298
[Approx. 95% Confidence interval = ±90.0°]
(valid only for unimodal data)

Mean Resultant dir'n = 118.4 - 298.4
Circ.Median = 116.0 - 296.0
Circ.Mean Dev.about median = 38.8°
Circ. Variance = 0.40
Circular Std.Dev. = 58.09°
Circ. Dispersion = 17.37
Circ.Std Error = 0.5725
Circ.Skewness = -1.69
Circ.Kurtosis = -0.78

kappa = 0.26
(von Mises concentration param. estimate)

Resultant length = 6.78
Mean Resultant length = 0.128

'Mean' Moments: Cbar = -0.07; Sbar = -0.1072
'Full' trig. sums: SumCos = -3.7081; Sbar = -5.6812
Mean resultant of doubled angles = 0.4308
Mean direction of doubled angles = 012

(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 & grid on Google Earth**
(Base Map: Google Earth)

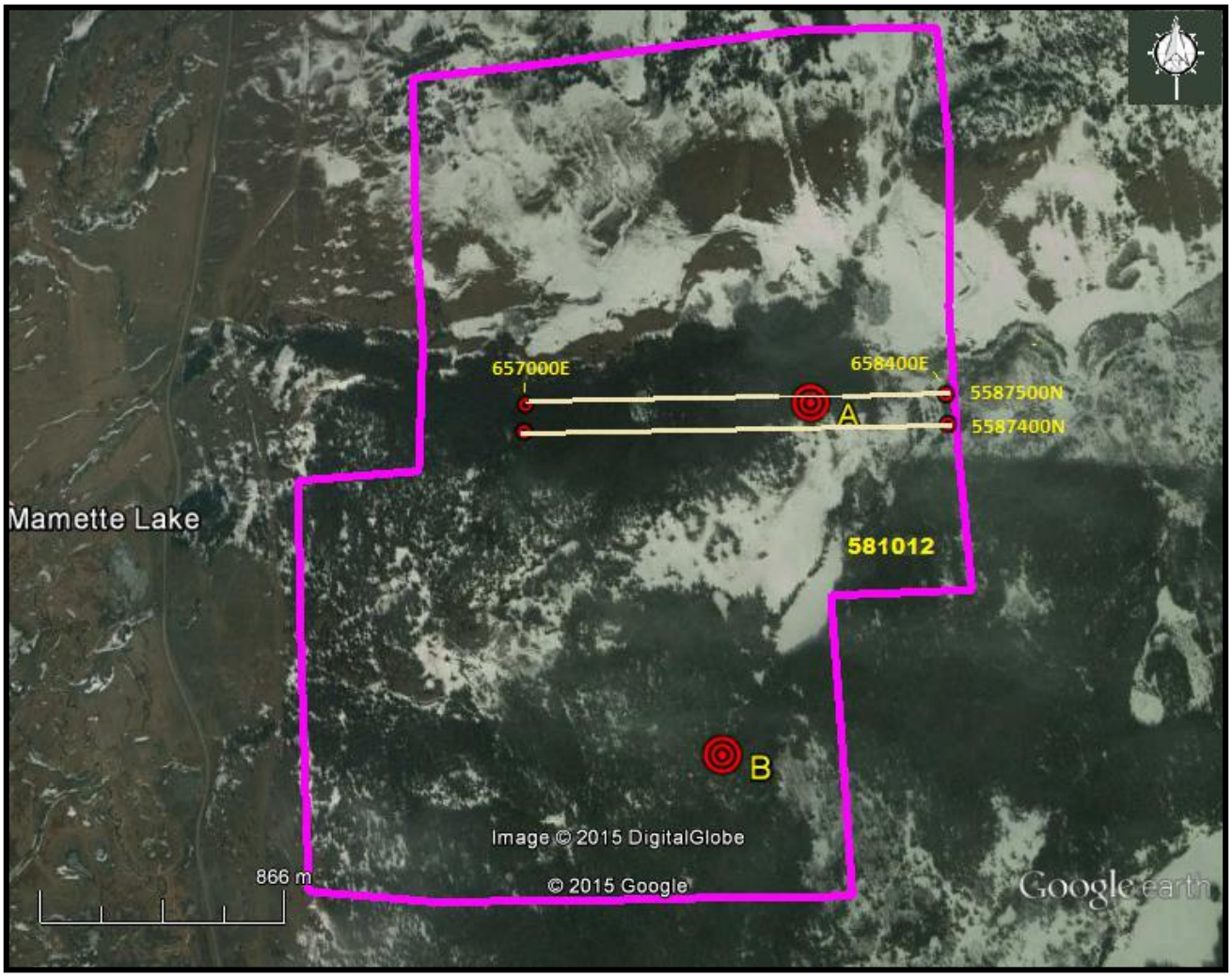


Table II. **Approximate UTM locations of Figure 5 & *7* cross-structures**
(UTM-NAD 83)

Location	UTM East	UTM North	Elevation
A	657,939	5,587,459	1,323
B	657,633	5,586,335	1,321

Magnetometer Survey

a) Instrumentation

A Scintrex MF 2 Model magnetometer used for the magnetometer survey. Diurnal variation was corrected by taking repeated readings at a base point throughout the day. Magnetometer values are total intensity and relative.

b) Theory

Only two commonly occurring minerals are strongly magnetic, magnetite and pyrrhotite; magnetic surveys are therefore used to detect the presence of these minerals in varying concentrations. Magnetics is also useful is a reconnaissance tool for mapping geologic lithology and structure since different rock types have different background amounts of magnetite and/or pyrrhotite.

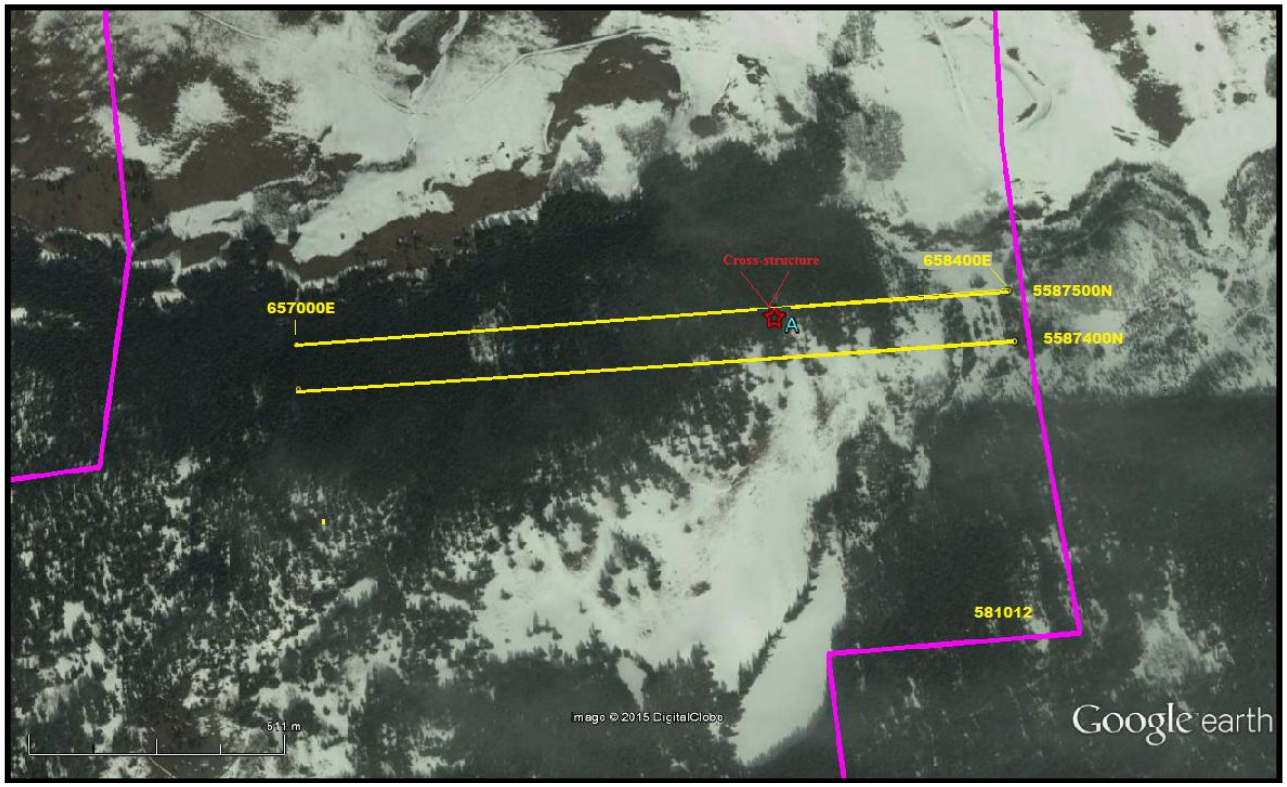
c) Survey Procedure

From a northerly base line at 5,587,400N 658,400E, one station was established at 5,587,500N 658,400E. Magnetometer readings were taken at 25 metre intervals westerly along the two grid lines to 657,000E. The grid line stations were located by a GPS instrument. Line kilometres of magnetometer survey completed was 2.8. The field data is reported herein in Appendix I.

d) Data Reduction

The field results were initially input to an Exel spreadsheet whereupon a Surfer 31 program was utilized to create maps from the data results. The field results are included within Appendix I.

Figure 8. **Magnetometer Grid Index Map**
(Base from MapPlace)



Magnetometer Survey *(cont'd)*

e) Results

The results indicated two magnetometer lows (mag LO); the central one is 150 metres wide, north-northeasterly trending, correlates with cross-structure A, and is enclosed by mag HI's, The western mag LO is 300 metres wide, north-northeasterly trending, and open to the west.

Figure 9 .**Magnetometer Survey Grid & Raw Data**

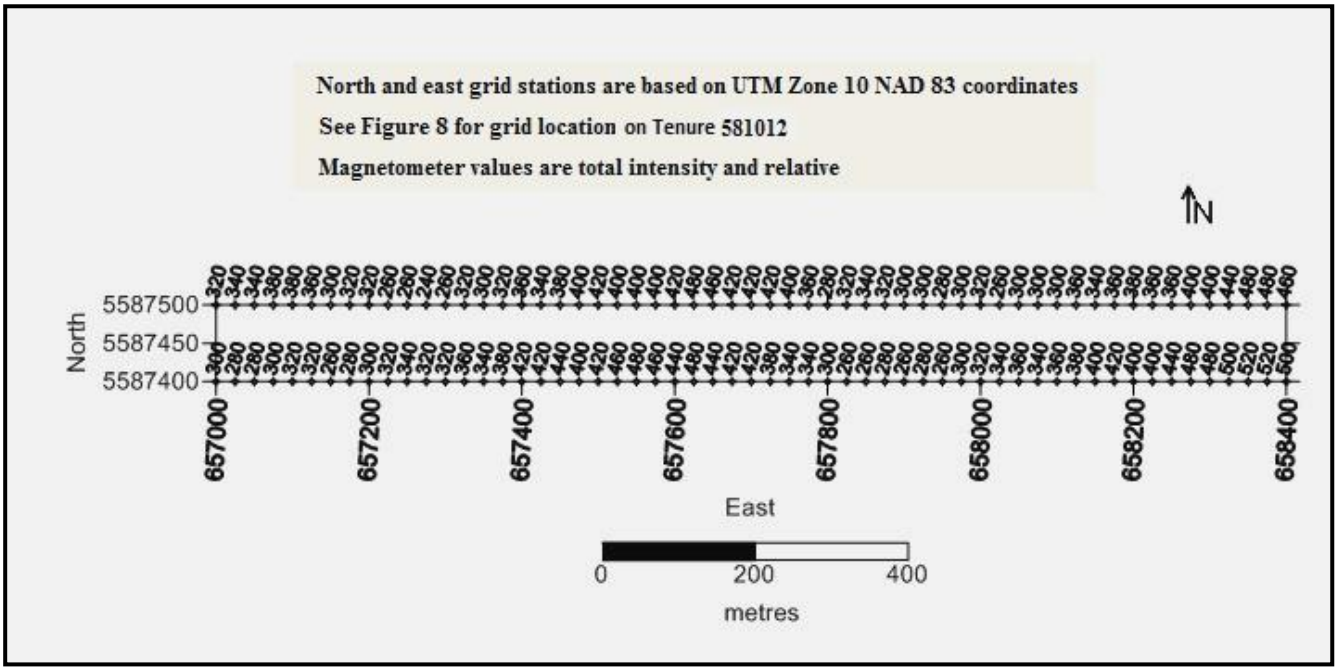
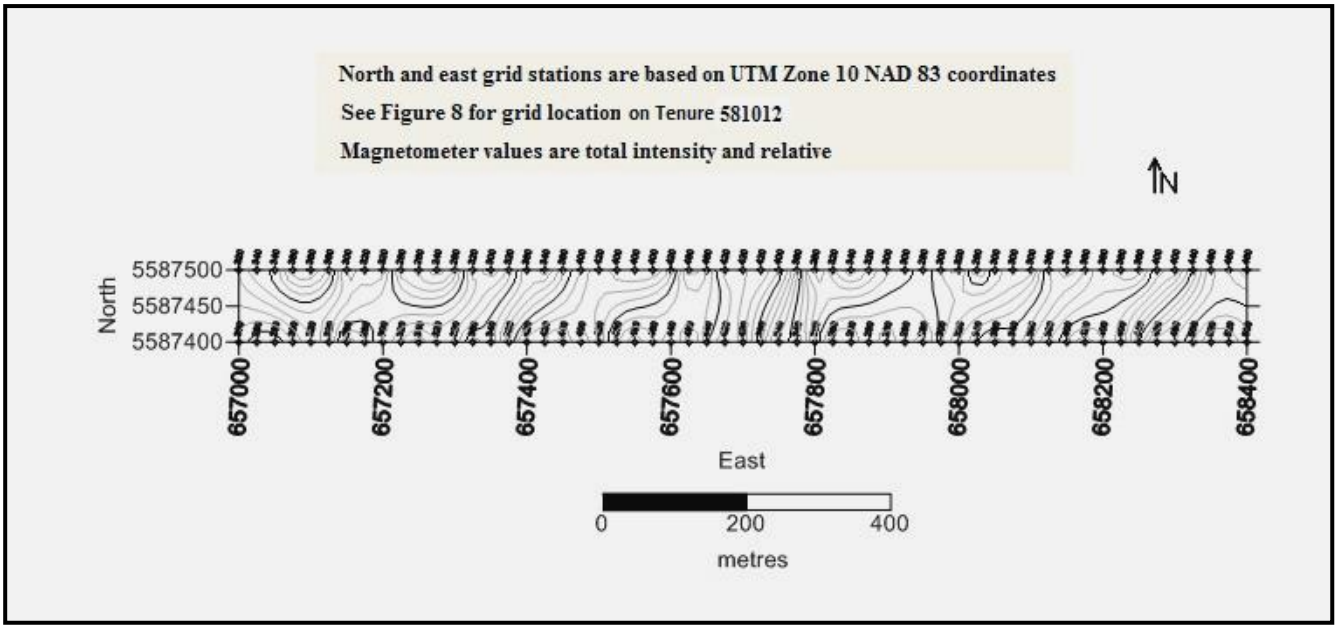
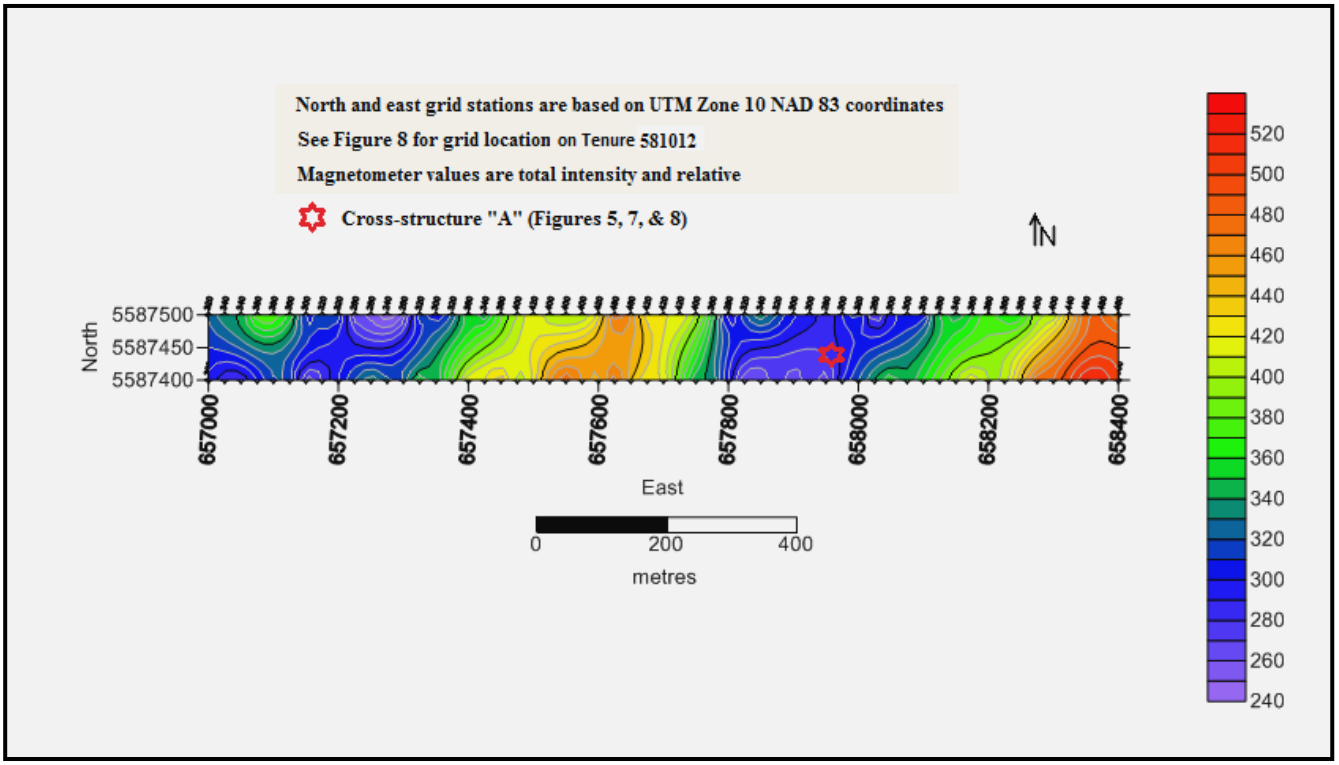


Figure 10. **Magnetometer Survey Contour Map**



***Magnetometer Survey** (cont'd)*

Figure 11. **Magnetometer Survey Coloured Contour Map**



INTERPRETATION and CONCLUSIONS

The two cross-structures that are indicated from the structural analysis on Tenure 581012 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 as at the Bethlehem ore deposits (East Jersey (092ISE002), Huestis (092ISE004), Iona (092ISE006), and Snowstorm (092ISE005) where mineralization is concentrated in breccia bodies, faults and highly fractured areas.

Both cross-structures, A and B, on Tenure 581012 are developed from general northerly and westerly trending structures; a mineral controlling structural setting similar to the structural setting at the Highland Valley/Lornex mineral deposits. Even though the cross-structures are surficially indicated within the Nicola volcanics, the sub-surface geological environment may be of a masked intrusive where the structures are mineral controls to a mineral resource developed at the volcanic/intrusive contact as at the Copper Mountain mineral deposit *(Minfile 092HSE001).*

The two mag LO's of the magnetometer survey indicate structural zones as interpreted from the central mag LO which correlates with cross-structure A. The north-northeasterly and the northeasterly structures that developed cross-structure A are partially reflected by the sub-anomalous to anomalous mag LO's

Interpretation and Conclusions *(cont'd)*

The western mag LO shows a similar structural pattern but with a wider and open mag. This area, centred at approximately 5,587,400N 657,200E, should have been designated as a cross-structure according to the indicated structures of Figure 5. The general mag LO reflects the northerly and the northwesterly structures by the sub-anomalous and the anomalous mag LO with the general open mag LO to the west reflecting the westerly trending structures of Figure 5.

Therefore, the area of exploration priority is at cross-structure A, the western mag LO, then cross-structure B.

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

John, D.A. - Porphyry Copper Deposit Model. Scientific Investigations Report 2010-5070-B. U.S. Department of the Interior. U.S. Geological Survey, Reston, Virginia: 2010.

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
092ISE072 – FIDDLER
092ISE088 – IDE-AM
092ISE154 – WENDY
092ISE170 – POM POM
092ISE190 – QUEN

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

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

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

STATEMENT OF COSTS

Work on Tenure 581012 was done from April 27, 2015 to November 23, 2015 to the value as follows:

Structural Analysis	
Laurence Sookochoff, P Eng. 3 days @ $ 1,000.00/day -----	$ 3,000.00
Magnetometer Survey	
Christopher Delorme & Guy Delorme	
November 22-23, 2015	
Four man days @ $300.00 per day ----------	1,200.00
Truck rental, kilometre charge, fuel, room & board,	
mag rental ----------	1,158.20
	$ 5,358.20
Maps ----------	750.00
Report ----------	3,000.00
	$ 9,108.20
	======

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-nine 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 581012 Claim Group as described herein.

Laurence Sookochoff, P. Eng.

Appendix I

Magnetometer Data

E5552711 T581012

East	North	Mag	East	North	Mag	East	North	Mag
657000	5587500	320	657975	5587500	300	657525	5587400	460
657025	5587500	340	658000	5587500	320	657550	5587400	480
657050	5587500	340	658025	5587500	260	657575	5587400	460
657075	5587500	380	658050	5587500	300	657600	5587400	440
657100	5587500	380	658075	5587500	300	657625	5587400	480
657125	5587500	360	658100	5587500	300	657650	5587400	440
657150	5587500	300	658125	5587500	360	657675	5587400	420
657175	5587500	320	658150	5587500	340	657700	5587400	420
657200	5587500	320	658175	5587500	360	657725	5587400	380
657225	5587500	260	658200	5587500	380	657750	5587400	340
657250	5587500	260	658225	5587500	360	657775	5587400	340
657275	5587500	240	658250	5587500	360	657800	5587400	300
657300	5587500	260	658275	5587500	400	657825	5587400	260
657325	5587500	320	658300	5587500	400	657850	5587400	260
657350	5587500	300	658325	5587500	440	657875	5587400	280
657375	5587500	320	658350	5587500	480	657900	5587400	260
657400	5587500	360	658375	5587500	480	657925	5587400	280
657425	5587500	340	658400	5587500	460	657950	5587400	260
657450	5587500	380	657000	5587400	300	657975	5587400	300
657475	5587500	400	657025	5587400	280	658000	5587400	320
657500	5587500	420	657050	5587400	280	658025	5587400	340
657525	5587500	400	657075	5587400	300	658050	5587400	360
657550	5587500	400	657100	5587400	320	658075	5587400	340
657575	5587500	400	657125	5587400	320	658100	5587400	360
657600	5587500	420	657150	5587400	260	658125	5587400	380
657625	5587500	480	657175	5587400	280	658150	5587400	400
657650	5587500	460	657200	5587400	300	658175	5587400	420
657675	5587500	420	657225	5587400	320	658200	5587400	400
657700	5587500	420	657250	5587400	340	658225	5587400	400
657725	5587500	420	657275	5587400	320	658250	5587400	440
657750	5587500	400	657300	5587400	320	658275	5587400	480
657775	5587500	360	657325	5587400	360	658300	5587400	480
657800	5587500	280	657350	5587400	340	658325	5587400	500
657825	5587500	320	657375	5587400	380	658350	5587400	520
657850	5587500	340	657400	5587400	420	658375	5587400	520
657875	5587500	320	657425	5587400	420	658400	5587400	500
657900	5587500	300	657450	5587400	440			
657925	5587500	300	657475	5587400	400			
657950	5587500	280	657500	5587400	420			