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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 Compilation

TOTAL COST: $ 9,355.00

AUTHOR(S): Laurence Sookochoff, PEng

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PROPERTY NAME: Toni

CLAIM NAME(S) (on which the work was done): 1032322

COMMODITIES SOUGHT: Copper Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNE002 / 059 / 060 / 269 / 270 / 312

MINING DIVISION: Nicola

NTS/BCGS: 092H.098 092H.099

LATITUDE: 49 ° 56 ' 18 " **LONGITUDE:** 120 ° 23 ' 54 " **(at centre of work)**

OWNER(S):
1) Victory Resources Corporation
2)

MAILING ADDRESS:
132366 Cliffstone Court
Lake Country BC V4V 2R1

OPERATOR(S) [who paid for the work]:
1) Victory Resources Corporation
2)

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PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Triassic-Jurassic, Pennask Batholith, Granodiorite, Triassic, Nicola Volcanics, Eastern Volcanic Facies, Basalts, Eocene, Penticton Group, Andesite, Cross-structure

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 6208, 17269, 17574, 22684, 23292, 24253, 25663, 30728, 31129, 31422, 31653, 33034, 33113, 33250, 33566, 33747, 34071, 35044, 35209, 35890, 36013

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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			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic	2.8	1032322	$ 3,355.00
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	Compilation		6,000.00
		TOTAL COST:	$ 9,355.00

VICTORY RESOURCES CORPORATION

(Owner & Operator)

ECONOMIC EVALUATION & GEOPHYSICAL

ASSESSMENT REPORT

(Event 5604848)

(Work done from May 20, 2016 to May 30, 2016)

on

Tenure 1032322

of the 16 claim

Toni 1032322 Claim Group

Nicola Mining Division

BCGS Map 092H.098/.099

Centre of Work

5,535,012N, 686,682E
Zone 10 NAD 83

Author & Consultant

Laurence Sookochoff, PEng
Sookochoff Consultants Inc.

Submitted

November 2, 2016

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SUMMARY

The 16 claim, 5,573 hectare Toni 1032322 Claim Group, is located in south-central British Columbia 212 kilometres northeast of Vancouver and within 18 kilometres of the past productive Brenda copper/molybdenum porphyry property. The two properties and the Copper Mountain mine, 68 kilometres to the south, are all within the premier porphyry copper belt of British Columbia.

At Brenda, the resource was defined within the "Brenda stock, a composite quartz diorite/granodiorite body which forms part of the Pennask Batholith. The grade of the orebody was a function of fracture (vein) density and of the thickness and mineralogy of the filling material. Mineralization decreased outwardly from the most intensely fractured/mineralized rock and the centre of the main mineral zone.

At Copper Mountain, the cross-structures are indicated to be an essential feature to the location of five productive mineral zones. This is shown at one of the major mineral zones, the Ingerbelle, where up to five vari-directional structures intersect near the open-pit centre.

As indicated by the BC government supported MapPlace geological maps, the Toni 1032322 Claim Group is predominantly underlain by the upper Triassic Nicola Group of basaltic volcanic rocks (*uTrNE)* with an undulating contact of the Pennask granodiorite *(LTJgd)* in the north and east. In the southwest sector the volcanics are partially overlain by a capping of upper Triassic Nicola Group mudstone, siltstone, shale, and fine clastic sedimentary rocks *(uTrNsf).* In the northwest corner, a localized stock of granodiorite intrudes the volcanics and is partially covered by the northwestern most claim of the Toni 1032322 Claim Group.

Tenure 1032322 on which a localized magnetometer survey was completed, covers a portion of the intrusive/volcanic contact.

The magnetometer survey was performed over an area of indicated volcanics to the west of the 2009 delineated cross-structure "A" and at a location where another undesignated cross-structure is located at the western boundary of Tenure 589880 (Figure, 7, 8, & 11.) (Sookochoff, 2009).

As the southeasterly trending mag LO zone (Figure 18) appears to parallel the intrusive/ volcanic contact, there is a reasonable probability that the zone reflects dynamic or hydrothermal alteration associated with the structure. This structure extends southeasterly to the 2009 cross-structure "B" and further southeasterly to another cross-structure on Tenure 589847 (Figure 7) and may indicate a parallel structure to a potential major structure associated with the contact.

In the economic evaluation of Tenure 1032322, the claim has many comparative qualities to the setting of the Copper Mountain mineral deposits. The comparisons are exceptional in that: both are within a premier porphyry copper belt; the geology of both properties as to intrusives and volcanics is alike; the location of the cross-structures in association with the intrusive/volcanic contact; and perhaps the most significant is the location on the cross-structures and/or mineral deposits within the waning portion of magnetic high's.

Thus, Tenure 1032322, with the indicated major structures and the favourable comparative analysis with the productive Copper Mountain mineral deposits, is in a favourable location for the occurrence of economic mineral zones.

INTRODUCTION

An economic evaluation and a localized magnetometer survey were completed on Tenure 1032322 of the 16 claim Toni 1032322 claim group (Property). The purpose of the program was to determine the potential of Tenure 1032322 to host a hidden porphyry mineral resource based on some of the pertinent exploration information on and peripheral to the claim. To establish this potential, the information obtained was compared to the productive Copper Mountain mine.

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

Figure 1. **Location Map**

PROPERTY DESCRIPTION AND LOCATION

Description

The Property is comprised of 16 claims covering an area of 5573.1358 hectares. Particulars are as follows:

Table I: **Tenures of Toni 1032322 Claim Group**

Tenure Number	Type	Claim Name	Good Until	Area (ha)
551397	Mineral	ENY	20161124	499.1721
551399	Mineral	MEANY	20161124	499.3213
567126	Mineral	AU-WEN EAST	20161012	498.8479
585980	Mineral	VT679	20161124	374.4429
589925	Mineral	TONI 24	20161029	519.7367
591361	Mineral	WIN 8	20161130	519.8243
909389	Mineral	TONI 101	20161029	291.1295
909409	Mineral	TONI102	20161029	415.9075
909429	Mineral		20161012	395.1155
1015041	Mineral	TONIAMAL8	20161124	436.871
1032322	Mineral		20161130	623.8339
1033564	Mineral		20161012	187.0485
1033788	Mineral		20161012	249.5211
1036463	Mineral		20161012	20.7854
1036464	Mineral		20161012	20.7891
1036465	Mineral		20161012	20.7891

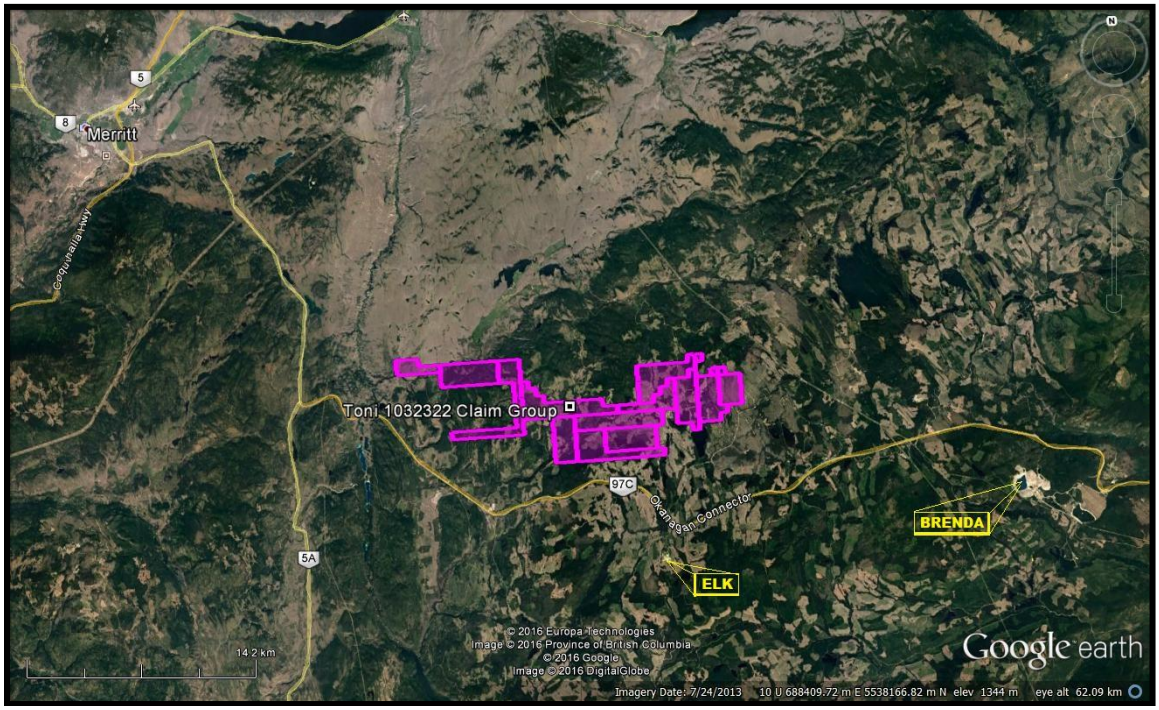
*Upon the approval of the assessment work Event Number 5604848 filing.

***Property Description and Location** (cont'd)*

Location

The Property is located within BCGS Maps 092H.098/.099 of the Nicola Mining Division, 212 kilometres east-northeast of Vancouver, 26 kilometres southeast of Merritt, and 18 kilometres west-northwest of the past productive Brenda copper/molybdenum porphyry deposit.

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



ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE & PHYSIOGRAPHY

Access

Access to the Property is southward from Merritt via Highway 5A/97C or the Princeton/Kamloops Highway for 26 kilometres to the Aspen Grove junction thence eastward from via Highway 97C or the Coquihalla connector for 14 kilometres to the Loon Lake Junction and north under the Highway, thence westward and northward for six kilometres to the southern boundary of Tenure 591361 of the Toni 1032322 Claim Group.

Climate

The region is situated within the dry belt of British Columbia with rainfall between 25 and 30 cm per year. Temperatures during the summer months could reach a high of 35° and average 25°C with the winter temperatures reaching a low of -10° and averaging 8°. On the Property snow cover on the ground could be from December to April and would not hamper a year-round exploration program.

Local Resources and Infrastructure

Merritt, and/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 three hours distant by road and less than one hour by air from Kamloops.

Accessibility, Climate, Local Resources, Infrastructure, & Physiography *(cont'd)*

Physiography

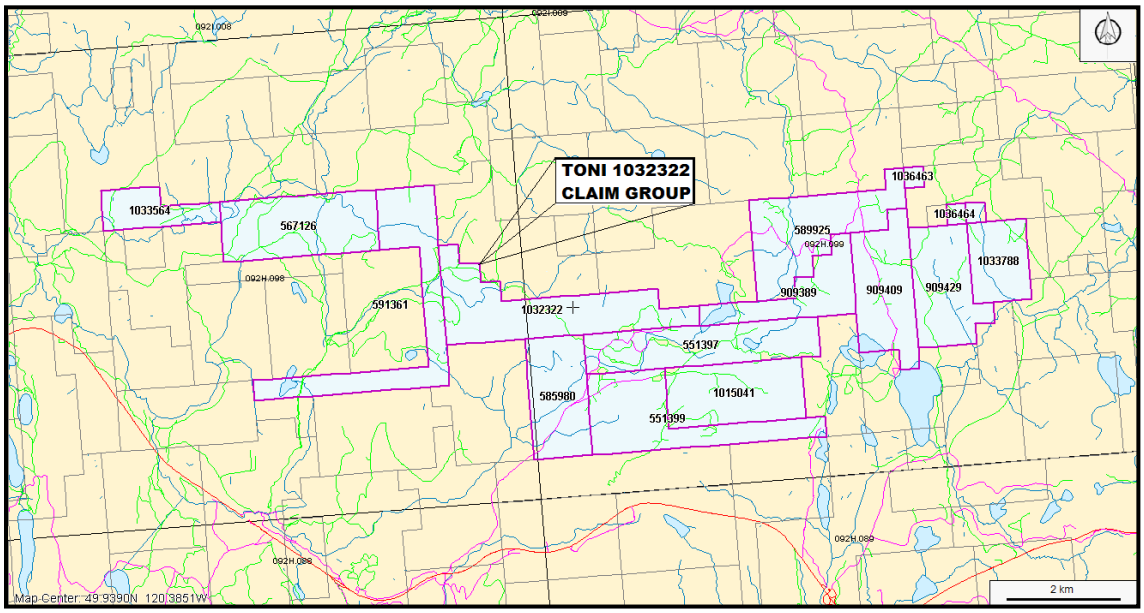
Tenure 1032322 covers a gently sloped area which is predominantly clear-logged with localized forested and second growth areas.

Relief is in the order of 270 metres from an elevation of 1,256 metres at the northwest corner to 1,526 metres in the far eastern sector.

WATER and POWER

Sufficient water for all phases of the exploration program should be available from lakes and creeks, which are located within the confines or peripheral to Tenure 1032322. A 500Kv power line is within four kilometres west of the Property.

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



HISTORY: PROPERTY AREA

The history on some of the more significant mineral MINFILE reported mineral anomalies, showings, prospects, and past producers within the Toni 1032322 Claim Group is are reported as follows. The distance is relative to the Toni 1032322 Claim Group.

SIMILCO (COPPER MOUNTAIN) producer (Alkalic porphyry Cu-Au)
MINFILE 092HSE001
Sixty eight kilometres north

Development by Granby Consolidated Mining, Smelting and Power Company Ltd. during the 1950's and by Newmont Mining Corporation of Canada during 1968-69, outlined two areas of economic grade mineralization centred on Pit 1 and Pit 2.

Most of the ore from the Copper Mountain mine came from glory hole and underground mining, but also included production from several open pits mined from 1952 to 1957. The mine closed in 1957. From 1959 through 1962 the mine was leased and small amounts of ore shipped.

History: Property Area *(cont'd)*

Similco (Copper Mountain) *producer (cont'd)*

In 1977-1978 the Ingerbelle mine (092HSE004) and Copper Mountain mine consolidated operations (the Ingerbelle open pit and mill are across the Similkameen River, west of the Copper Mountain mine). Production from the Ingerbelle orebody commenced in 1972 and mining in the Ingerbelle pit was completed in August 1981. With the installation of an ore conveyor across the Similkameen River canyon, the delivery of Copper Mountain ore from Pit 2 to the Ingerbelle mill began on a limited scale in October 1980, but full production was not implemented until September 1981 after the Ingerbelle orebody was depleted. The mining operation is currently called the Similco mine.

Giroux & Holbek (2009) provide a historical summary of the Copper Mountain mine as follows

The Copper Mountain area has a long history of exploration and production, beginning with initial exploration in the late 1890"s. Successful production was attained in 1923, mostly as an underground mine and continued with minor shut-downs through to 1957 and is referred to as the underground phase. Open pit mining began in 1968 and continued, intermittently through to late 1996 and is termed the open pit phase. An exploration drilling program was carried out in 1997 and thereafter the property was dormant until Copper Mountain Mining Corp resumed exploration in January, 2007.

The 2014 Annual Report for Copper Mountain Mining Corporation reports that 33,606 tonnes per day were milled in Q1 2015 and that the proven and probable reserves were 146 million tonnes at 0.43% copper equivalent (copper, silver, & gold).

BRENDA past producer (Porphyry Cu +/- Mo +/- Au)
MINFILE 092HNE047
Eighteen kilometres west-northwest

The Brenda mine began production in early 1970 with measured geological (proven) reserves of 160,556,700 tonnes grading 0.183 per cent copper and 0.049 per cent molybdenum at a cutoff of 0.3 per cent copper equivalent [eCu = % Cu + (3.45 x % Mo)]. The mine officially closed June 8, 1990.

HN-WEN prospect (Volcanic redbed Cu)
MINFILE 092HNE058
One kilometre west

Adits and trenches were initially cut around 1900; later work included diamond drilling and trenching in the 1960s and 1970s.

PAYCINCI prospect (Volcanic redbed Cu)
MINFILE 092HNE084
Five kilometres south-southwest

The Cincinnatti deposit was first explored by the Bates brothers in the early 1900s. A number of trenches, and one adit 120 metres long, were excavated between 1899 and 1913. Payco Mines Ltd. and Alscope Consolidated Ltd. conducted geological and geophysical surveys, trenching and diamond and percussion drilling between 1963 and 1967. An additional 15 holes totalling 1000 metres were drilled by Gold River Mines and Enterprises Ltd. in 1973 and Sienna Developments Ltd. in 1979.

The deposit was most recently sampled by Pacific Copperfields Ltd. in 1992. In 1998, Christopher James Gold Corp. optioned the property. Reserves are estimated at 1.8 million tonnes grading 1 per cent copper (Tom Schroeter, 1998).

History: Property Area *(cont'd)*

ELK past Producer (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn +/-Au; Au-quartz veins)
MINFILE 092HNE096
Six kilometres south

From 1992 and 1995 (inclusive), 16,570 tonnes of ore were mined and milled and 1,518,777 grams (48,830 ounces) of gold and 1,903,000 grams (61,183 ounces) of silver recovered.

In 1996, Fairfield shipped all remaining stockpiles, estimated to contain 2700 tonnes and grading greater than 12 grams per tonne (Information Circular 1997-1, page 21). A total of 994 metres of ramp access and three development levels exist underground.

Reverse circulation drilling, underground diamond drilling, reclamation, road construction, water sampling and aerial photography were also undertaken during this period.

Surface and underground diamond drill programs were carried out in the Siwash Mine area from 1994 to 1996 to define the resource. Exploration surface drilling was also carried out during the 1995 and 1996 field seasons to test trench targets between the Siwash mine site and the South Showing area 2.5 kilometres to the south. Limited prospecting and environmental monitoring was undertaken from 1997 to 1999.
In 1995, Fairfield Minerals with the support from the Explore B.C. Program carried out an extensive program including geochemistry, 13,972 metres of surface and underground diamond drilling in 315 holes and reserve calculations.

SNOW showing (Porphyry Cu +/- Mo +/- Au; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE292
Two kilometres north

The Pine showing is 500 metres south of Quilchena Creek and 4.8 kilometres north-northeast of the north end of Boot Lake.

WAVE 1 anomaly (Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE311
Two kilometres north

Between 1986 and 1995, Fairfield Minerals conducted exploration, including a program of wide-spaced grid soil sampling. The Wave 1 and 2 claims were staked to cover areas of mineralized quartz float and coincidental soil and stream anomalies. Recently, the area has been explored by Sookochoff Consultants as a part of the Toni property.

HISTORY: PROPERTY

The history on the mineral MINFILE mineral anomalies, showings, prospects, and past producers located within the Toni 1032322 Claim Group area is reported as follows.

MAL prospect (Cu skarn; Fe skarn; Au skarn)
MINFILE 092HNE002
Within Tenure 567126

Initial work consisted of diamond drilling and trenching in the early 1960s on the main showing (Malachite 1 2 and Chalcocite 1-2 claims), on which the occurrence is centred. This is located on access road number 5116, 1 kilometre south of Quilchena Creek, 11.5 kilometres east-northeast of the community of Aspen Grove. A second showing, smaller and less significant but with the same characteristics, is located 1 kilometre to the southwest (Malachite 7, 092HNE269).

***History: Property** (cont'd)*

MALACHITE 7 showing (Cu skarn; Volcanic redbed Cu)
MINFILE 092HNE269
Within Tenure 567126

The Malachite 7 showing is 1.0 kilometre southeast of Quilchena Creek and 10.5 kilometres west-northwest of the south end of Boot Lake.

KIT showing (Alkalic porphyry Cu-Au; Porphyry Mo (Low F Type)
MINFILE 092HNE270
Within Tenure 567126

The Kit showing is exposed on the north bank of Quilchena Creek, 2.0 kilometres east-northeast of the creek's confluence with Pothole Creek and 7.8 kilometres northeast of Aspen Grove.

The intrusive was first prospected for molybdenum by J.E. Bate in 1915. Marengo Mines Ltd. excavated one trench, 60 metres long, and drilled two holes in 1967.

WAVE 2 anomaly (Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE312
Within Tenure 1033788

Between 1986 and 1995, Fairfield Minerals conducted exploration, including a program of wide-spaced grid soil sampling. The Wave 1 and 2 claims were staked to cover areas of mineralized.

GEOLOGY: REGIONAL

The Aspen Grove geological district is located within the regional Quesnel Trough, a 30 to 60, km wide belt of Lower Mesozoic volcanic and related strata enclosed between older rocks and much invaded by batholiths and lesser intrusions (Campbell and Tipper, 1970). The southern part is the well-known Nicola belt, continuing nearly 200 km to its termination at the U.S. border and containing the important copper deposits of the Highland Valley, Craigmont, Copper Mountain, Afton, Brenda, in addition to the historic Hedley gold camp.

The Nicola Group has been divided into western, central, and eastern belts on the basis of lithology and lithogeochemistry and by major fault systems. Variation from calc-alkaline to shoshinitic compositions from west to east has been interpreted to reflect eastward dipping subduction in the Nicola arc.

GEOLOGY: PROPERTY AREA

The geology on some of the more significant mineral MINFILE reported mineral anomalies, showings, prospects, and past producers within the Toni 1032322 Claim Group area is reported as follows. The distance is relative to the Toni 1032322 Claim Group.

SIMILCO (COPPER MOUNTAIN) producer (Alkalic porphyry Cu-Au)
MINFILE 092HSE001
Sixty eight kilometres north

The regional geological setting is characterized by major north-striking high-angle faults which form an ancient, long-lived rift system that extends from the United States border to at least 160 kilometres north. This system was the locus of a long, narrow marine basin in which Nicola Group rocks were deposited during Triassic time, and it then accommodated basins of continental volcanism and sedimentation in Early Tertiary time. The central part of the Nicola basin is marked by an abundance of high-energy, proximal volcanic rocks and contains a large number of coeval, comagmatic, high-level plutons with several associated copper deposits. A group of such plutons, some of which are differentiated, are known as the Copper Mountain Intrusions.

***Geology: Property Area** (cont'd)*

***Similco (Copper Mountain)** producer (cont'd)*

The copper deposits of the Copper Mountain camp occur chiefly in a northwest-trending belt of Upper Triassic Nicola Group rocks, approximately 1100 metres wide and 4300 metres long, that is bounded on the south by the Copper Mountain stock, on the west by a major normal fault system known as the Boundary fault, and on the north by a complex of dioritic to syenitic porphyries and breccias known as the Lost Horse complex. Copper mineralization diminishes markedly to the east, where the Copper Mountain stock and Lost Horse complex diverge sharply.

The Nicola rocks in the vicinity of Copper Mountain are andesitic to basaltic and are composed predominantly of coarse agglomerate, tuff breccia and tuff, with lesser amounts of massive flow units and some lensy layers of volcanic siltstone. These rocks were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171).

The coarse fragmental rocks, which locally contain clasts up to 35 centimetres in diameter, rapidly grade to the southeast and south into massive flows, abundant waterlain tuff and some pillow lava. This distribution of coarse fragmental volcanics, and their spatial association with the porphyry breccia complex and with the copper deposits indicate that one or more Nicola volcanic centres were localized close to the Lost Horse complex. It also indicates the close relationship between copper mineralization and Nicola magmatism in this camp. West of the Boundary fault, the Nicola Group consists of intercalated volcanic and sedimentary rocks that include massive and fragmental andesites, tuff and generally well-bedded calcareous shale, siltstone and sandstone.

The Copper Mountain Intrusions include the Copper Mountain, Smelter Lake and Voigt stocks. These plutons form a continuous alkalic-calcic rock series ranging in composition from pyroxenite to perthosite pegmatite and syenite. The Copper Mountain stock is a concentrically differentiated intrusion, elliptical in plan, and approximately 17 square kilometres in area. Its major axis is 10 kilometres long and strikes 300 degrees. The stock is zoned, with diorite at its outer edge grading through monzonite to syenite and perthosite pegmatite at the core. The two smaller satellites, the Smelter Lake and Voigt stocks, show no differentiation, but are similar in composition to the outer phase of the Copper Mountain stock.

The Lost Horse complex is approximately 4300 metres long and 760 to 2400 metres wide, and consists of porphyries and porphyry breccias which range in composition from diorite to syenite, showing widespread but variable albitization, saussuritization and pink feldspar alteration. These porphyries are not a continuous mass, but are a complex of dykes, sills and irregular bodies. Some phases of the complex are mineralized, but others, such as some major dykes, are clearly post-mineral.

Radiometric age dates on the Lost Horse complex, the Smelter Lake and Voigt stocks, and on sulphide-bearing pegmatite veins indicate that the apparent age of these intrusions and of the associated mineralization is Early Jurassic (Bulletin 59, page 43; Canadian Journal of Earth Sciences, Volume 24, page 2533).

Nicola Group rocks near Copper Mountain exhibit secondary mineral assemblages which are characteristic of greenschist facies, or of albite-epidote hornfels. The volcanic rocks have widespread epidote, chlorite, tremolite-actinolite, sericite, carbonate and locally biotite and prehnite. In the immediate vicinity of the Copper Mountain stock, a narrow aureole of contact metamorphism, generally less than 60 metres wide, overprints the above assemblages and is characterized by a widespread development of granoblastic diopsidic pyroxene, green hornblende, brown to reddish biotite, abundant epidote, intermediate plagioclase and some quartz.

In the narrow belt of Nicola rocks, between the Ingerbelle mine (092HSE004) to the west and Copper Mountain, the alteration differs and, where best developed, involves widespread development of biotite, followed by albite-epidote, with subsequent local potash feldspar and/or scapolite metasomatism in both Nicola rocks and Lost Horse intrusions.

***Geology: Property Area** (cont'd)*

***Similco (Copper Mountain)** producer (cont'd)*

The feldspar and scapolite metasomatism is characterized by intense veining and is controlled by the presence and intensity of fractures and by the proximity of large bodies of Lost Horse intrusive rocks.

The area near Copper Mountain is characterized by brittle deformation which produced a large number of faults and locally, intense fracturing. Very broad, northerly trending folds have been recognized or postulated at widely-spaced localities, but these folds decrease quickly in amplitude and down section. The area is dominated regionally by well-developed, northerly striking, high-angle faults which are best described as forming a rift system. Copper Mountain is dominated by strong easterly and northwesterly faulting. The narrow belt of Nicola rocks between Ingerbelle and Copper Mountain, confined between the Copper Mountain stock and the Lost Horse complex, is highly faulted and fractured, but does not appear appreciably folded.

The strata are mostly flat-lying or very gently dipping where marker beds exist, and the few areas of steep dips can best be explained as blocks tilted by faulting. Faults in this area have been grouped in order of decreasing relative age of their latest movement into: easterly faults (Gully, Pit), "mine breaks", northwest faults (Main), northeast faults (Tremblay, Honeysuckle) and the Boundary fault. Of these, the Boundary fault is part of the regional rift system; the others appear to be local structures, the genesis and history of which are closely related to the evolution of the Copper Mountain Intrusions (Canadian Institute of Mining and Metallurgy Special Volume 15).

Concentric patterns of rock alteration about individual orebodies at Copper Mountain are not evident. Alteration appears to be related mainly to the intrusive bodies and also controlled in distribution by faults and fractures. Biotite is well-developed along the stock contact in the underground mine and appears to be associated with the orebodies, and also forms selvages on bigger veins.

Pale green bleaching of both volcanic and intrusive rocks is best developed at Pit 2, but also occurs and is locally intense at several other localities throughout the camp, such as along the Lost Horse contact, in portions of Pit 1 and in the outer part of the underground mine. It appears to follow the biotite stage and involves the development of albitic plagioclase and epidote, and the destruction of biotite and disseminated magnetite. Pink potash feldspar developed along fractures in the latest stage of alteration and is often accompanied by pegmatite veins. These "veins", found in most orebodies and elsewhere at Copper Mountain, consist of potash feldspar, biotite, calcite, fluorite, apatite and also some chalcopyrite and bornite. They are usually less than 0.3 metre wide and have formed in part by replacement of the wallrock. Closely-spaced thin pegmatite veins form the northeast sheeted zones of ore fractures. As at the Ingerbelle mine, copper mineralization appears to have occurred during the intermediate and late stages of alteration (Canadian Institute of Mining and Metallurgy Special Volume 15).

BRENDA past producer (Porphyry Cu +/- Mo +/- Au)
MINFILE 092HNE047
Eighteen kilometres west-northwest

The Pennask Mountain area is mainly underlain by a roof pendant comprising westerly younging, Upper Triassic sedimentary and volcaniclastic rocks of the Nicola Group. These are intruded and enclosed to the north, east and south by plutonic rocks of the Early Jurassic Pennask batholith and Middle Jurassic Osprey Lake batholith. Both the Nicola rocks and the Pennask batholith are unconformably overlain by Tertiary sediments and volcanics of the Princeton Group.

The Brenda copper-molybdenum deposit is within the "Brenda stock", a composite quartz diorite/granodiorite body which forms part of the Pennask batholith. Several ages and compositions of pre and post-ore dikes cut the stock. The deposit is approximately 390 metres from the contact with Nicola Group rocks to the west.

***Geology: Property Area** (cont'd)*

***Brenda** past producer (cont'd)*

Nicola Group tuffs, volcanic breccias and flows adjacent to the Brenda stock have been altered to "schistose hornfels".

This hornfels, which is as wide as 450 metres, is characterized by the development of bands and aligned lenses of felted brown to black biotite. Schistosity generally strikes roughly parallel to the intrusive contact and dips west at 30 to 70 degrees. The schistose hornfels grades westerly into recognizable west-dipping volcanic rocks which in turn are overlain by greywacke, argillite and shales.

The Brenda stock is a composite, zoned quartz diorite to granodiorite body which can be divided into two units. Unit 1 is of quartz diorite composition and contains abundant mafic minerals (hornblende > biotite) and angular quartz grains, whereas unit 2 is porphyritic granodiorite and contains fewer mafic minerals (biotite > hornblende), well-defined biotite phenocrysts and subhedral quartz grains. The contact between units 1 and 2 is generally gradational, but locally sharp. At sharp contacts, unit 2 is chilled against unit 1

Dikes of several ages and compositions cut the Brenda stock. At least four types, aplite-pegmatite, andesite, trachyte porphyry and basalt, have been identified in the Brenda orebody. Similar dikes, as well as felsite, dacite and quartz diorite have been mapped beyond the limits of economic mineralization. The aplite-pegmatite dikes are cut by all other dikes and by all mineralized fractures. The andesite dikes have been altered and mineralized during ore formation. Two types of quartz diorite dikes are found and both are cut by quartz-sulphide veins. Dacite porphyry and felsite dikes are also cut by quartz-sulphide veins.

A trachyte porphyry dike up to 4.5 metres wide and 300 metres in strike length is exposed in the Brenda pit. A weakly mineralized vein was observed in the dike which suggested an intermineral age for the dike. Further evidence has clearly shown that the dikes cut all stages of mineralization, except some of the latest quartz veins (Canadian Institute of Mining and Metallurgy Special Volume 15). Several post-mineral hornblende lamprophyre dikes also occur within the Brenda orebody and are probably genetically related to the trachyte porphyry dikes.

Irregular, branching basalt dikes, probably related to Tertiary volcanism, have been intruded along pre-existing fault zones. They cut all phases of mineralization and alteration.

Initial potassium-argon dating of two samples from the Brenda mine area resulted in different ages for hornblende (176 Ma) and biotite (148 Ma). Interpretation of these results suggests that the Brenda stock crystallized about 176 million years ago. Biotite samples from the pit area have been dated at about 146 Ma, which probably represents the age of mineralization (Canadian Institute of Mining and Metallurgy Special Volume 15).

Faults in the Brenda pit are expressed as fracture zones in which the rock is intensely altered to clay minerals, sericite, epidote and chlorite.

These fracture zones range in width from a few centimetres to 9 metres. Most strike 070 degrees and dip steeply south. Northwest-striking faults exhibit left-lateral movement. The faults transect all mineralization, except some calcite veins. Sulphides, especially molybdenite, have been smeared along fault planes. Shear zones are wider and more numerous in the north half of the pit, where they control bench limits.

HN-WEN prospect (Volcanic redbed Cu)
MINFILE 092HNE058
One kilometre west

The HN-WEN occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A).

Geology: Property Area *(cont'd)*

HN-WEN *prospect (cont'd)*

This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69).

PAYCINCI prospect (Volcanic redbed Cu)
MINFILE 092HNE084
Five kilometres south-southwest

The deposit is located in the southern portion of an area of hilly upland situated in the centre of the Aspen Grove copper camp, known as the Fairweather Hills. The Fairweather Hills region is underlain by the Central volcanic facies of the Upper Triassic Nicola Group, comprising intermediate, feldspar and feldspar augite porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic.

Locally, the area is underlain by red and green laharic breccias, augite andesite porphyry and minor sediments of the Nicola Group (Central belt, Bulletin 69). The units generally strike north-northwest and dip east. This sequence is broken up into a series of tilted fault blocks trending north.

Hypogene and supergene copper mineralization occurs in green laharic breccia, near the contact with red laharic breccia to the east. This mineralization consists primarily of disseminated and fracture controlled chalcocite and native copper, accompanied by lesser malachite and azurite, and minor chalcopyrite, bornite, cuprite and pyrite. Drilling indicates chalcopyrite becomes more abundant at depth at the expense of chalcocite. This mineralization is exposed along the crest and east flank of a small northerly trending ridge, over a north-south distance of 400 metres.

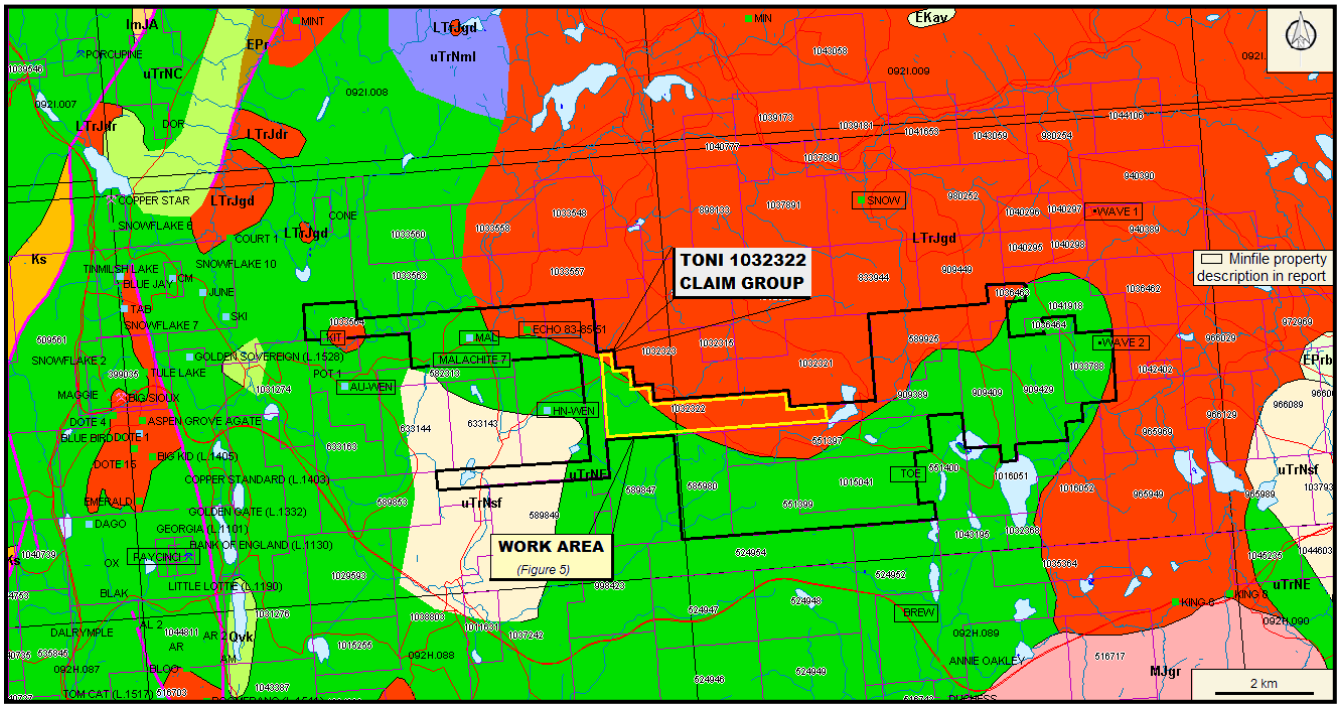
ELK past Producer (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn +/-Au; Au-quartz veins)
MINFILE 092HNE096
Six kilometres south

The Elk property is underlain by Upper Triassic volcanics and sediments of the Nicola Group and by Middle Jurassic granites and granodiorites of the Osprey Lake batholith. The contact between these units trends northeasterly across the property. Early Tertiary feldspar porphyry stocks and dikes of the Otter intrusions occur throughout the property. The western property area is underlain by steeply west-dipping andesitic to basaltic flows, agglomerates, tuffs and minor siltstone and limestone units of the Nicola Group. The eastern half of the property is underlain by granitic rocks of the Osprey Lake batholith. Early Tertiary feldspar porphyry and quartz feldspar porphyry stocks and dikes of the Otter intrusions cut both of the above.

AU-WEN prospect (Intrusion related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE144
One kilometre south

The occurrence lies in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of well-bedded submarine volcaniclastic rocks, ranging from tuffaceous volcanic siltstones characteristic of the lower part, to coarse volcanic conglomerate and laharic breccias in the upper part.

Figure 4. **Property, Index, Geology, & Minfile**



GEOLOGY MAP LEGEND

Pleistocene to Holocene

Qvk

Unnamed alkalic volcanic rocks

Upper Triassic: Nicola Group

Eastern Volcanic Facies

uTrNE

basaltic volcanic rocks

uTtNsf

mudstone, siltstone, shale, fine clastic sedimentary rocks

uTrNMl

lower amphibolite/kyanite grade metamorphic rocks

uTrJum

unnamed ultramafic rocks

Central Volcanic Facies

uTrNc

andesitic volcanic rocks

Late Triassic to Early Jurassic

LTrJgd

unnamed granodiorite intrusive rocks

LTrJdr

dioritic to gabbroic intrusive rocks

Geology: Property Area *(cont'd)*

Au-Wen *prospect (cont'd)*

The AU occurrence is centred on the main gold showing, a small stripped, drilled and trenched area just off a gravel road south of Quilchena Creek (Assessment Reports 5766, 16008). This and most of the surrounding area is underlain by andesitic to dacitic tuff, cherty tuff, black argillite, and volcanic sandstone and siltstone

The rocks are strongly fractured in a variety of orientations. Bedding in the tuff has been measured to strike 060 degrees and dip 54 degrees northwest, but it varies.

About 1 kilometre to the north of the main showing is biotite hornblende granodiorite and quartz monzonite of the Early Jurassic Pennask batholith, and about 500 metres to the west are porphyritic andesitic and basaltic volcanic rocks (Bulletin 69; Assessment Report 16008).

Geology: Property Area *(cont'd)*

Au-Wen *prospect (cont'd)*

Small bodies of diorite and micromonzonite, possibly subvolcanic, are quite common in the area, on the surface and in drill core (Assessment Report 16008). Some of the volcanics have sustained carbonate and epidote alteration, and locally they have pervasive hematite (Assessment Report 16008).

Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

BREW showing (Alkalic porphyry Cu-Au; Subvolcanic Cu-Ag-Au; As-Sb)
MINFILE 092HNE275
Two kilometres south

This occurrence is hosted in volcanics and minor sediments of the Upper Triassic Nicola Group, 2.6 kilometres northwest of the Middle Jurassic Osprey Lake batholith. The volcanics consist primarily of andesite and fine-grained diorite. The contact between the two units is gradational, suggesting the diorite may be a subvolcanic equivalent of the andesite. Minor tuffs, lapilli tuffs, agglomerates, and feldspar porphyritic andesite are also present. The sediments consist of mudstone, siltstone, shale, and rare carbonate, intercalated with the pyroclastic units. A major fault zone, the Brew fault, striking 140 degrees and dipping steeply southwest, is exposed along the Coquihalla Highway for 600 metres. The zone is approximately 40 metres wide. It is somewhat gossanous and exhibits carbonate and clay alteration and sporadic silicification.

Some quartz +/- calcite stringers and blebs are present but not common. Pyrite is ubiquitous along the entire fault. Sections of the zone are strongly mineralised with massive veins, narrow stringers and occasional disseminations of marcasite, pyrite and pyrrhotite. Samples of pyritic clay-altered sections have yielded up to 0.280 gram per tonne gold and 0.445 per cent arsenic (Assessment Report, 18041, page 8, samples 128665, 44719) A sample from a zone of quartz stringers analysed 0.600 gram per tonne gold (sample 239716). This fault is traversed by several significant fault/shear zones striking 100 to 120 degrees. One major crossfault, the Mugwump fault, is exposed west of the Brew fault, striking 100 degrees and dipping 60 degrees south.

SNOW showing (Porphyry Cu +/- Mo +/- Au; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE292
Two kilometres north

The Pine showing is 500 metres south of Quilchena Creek and 4.8 kilometres north-northeast of the north end of Boot Lake.

A drillhole intersected minor copper mineralization in weakly to moderately chloritized granite of the Early Jurassic Pennask batholith.

WAVE 1 anomaly (Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE311
Two kilometres north

The area is underlain by granitic rocks of the Jurassic Pennask batholith and basaltic volcanics of the Triassic Nicola Group.

GEOLOGY: PROPERTY

As indicated by the BC government supported MapPlace geological maps, the Property is predominantly underlain by the upper Triassic Nicola Group of basaltic volcanic rocks (uTrNE) with an undulating contact of the Pennask granodiorite (LTJgd) in the north and east. in the northeast by which is in contact to the south and the southwest. In the southwest sector the volcanics are partially overlain by a capping of upper Triassic Nicola Group mudstone, siltstone, shale, and fine clastic sedimentary rocks (uTrNsf). In the northwest corner, a localized stock of granodiorite intrudes the volcanics and is partially covered by Tenure 1033564, the northwestern most claim of the Toni 1032322 Claim Group.

The geology on the mineral MINFILE mineral anomalies, showings, prospects, and past producers located within the Toni 1032322 Claim Group area is reported as follows.

MAL prospect (Cu skarn; Fe skarn; Au skarn)
MINFILE 092HNE002
Within Tenure 567126

The Malachite occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization. The occurrence lies in the northern assemblage of the Eastern belt or facies of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of well-bedded submarine volcaniclastic rocks and volcanic flows.

The area of the Malachite occurrence is underlain by dark green, augite porphyritic andesitic to basaltic volcanics and fragmental rocks, with subordinate black argillite with local limy horizons, and feldspar porphyry (Assessment Reports 449, 1586). Some volcanic flow breccia contains pink trachytic fragments (Assessment Report 9590). Stratified rocks strike north-northwest and dip moderately to steeply west (Geological Survey of Canada Map 41-1989).

ECHO showing (Volcanic redbed Cu)
MINFILE 092HNE059
Within Tenure 567126

The Echo occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of well-bedded submarine volcaniclastic rocks and volcanic flows. The main Aspen Grove copper camp lies several kilometres to the west in the Central belt, separated by the north-striking Kentucky-Alleyne fault system (Bulletin 69).

The area of the occurrence is underlain by augite porphyritic volcanic flows of andesitic to basaltic composition, and volcanic tuff and breccia (Assessment Report 1586; Geological Survey of Canada Map 41-1989). The volcanics may be affected by low grade propylitic and chloritic alteration. Less than 1 kilometre to the north of the occurrence is the east-striking contact of the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite.

TOE prospect (Volcanic redbed Cu; Alkalic porphyry Cu-Au)
MINFILE 092HNE060
Within Tenure 1015041

The Toe occurrence consists of minor copper mineralization located sporadically in the area between Paradise and Boot lakes, 21 kilometres northeast of the community of Missezula Lake.

Geology: Property Area *(cont'd)*

Toe *prospect (cont'd)*

The Toe occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the Eastern belt or facies of the Nicola Group, which is characterized by submarine volcaniclastic rocks and volcanic flows (Bulletin 69; Geological Survey of Canada Map 41-1989). Exposure is limited in the Paradise and Boot lakes area (mainly on the Toe 27-29, 51, 54, 55 claims), which is underlain by augite porphyritic volcanic flows of andesitic to basaltic composition, fragmental rocks including tuff and breccia, minor argillite and diorite (Assessment Reports 1049, 1586)

The Nicola rocks in this area form a northeasterly-closing embayment largely surrounded by the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite (Geological Survey of Canada Map 41-1989).

MALACHITE 7 showing (Cu skarn; Volcanic redbed Cu)
MINFILE 092HNE269
Within Tenure 567126

Chalcopyrite occurs in a small zone of skarn alteration in dioritized volcanics of the Upper Triassic Nicola Group, near the contact with the Early Jurassic Pennask batholith to the northeast.

KIT showing (Alkalic porphyry Cu-Au; Porphyry Mo (Low F Type)
MINFILE 092HNE270
Within Tenure 567126

A small body of granodiorite of Late Triassic to Early Jurassic age intrudes volcanics of the Upper Triassic Nicola Group. The granodiorite is cut by narrow, steeply-dipping shears striking north and northeast, near the faulted contact with slightly pyritic Nicola Group greenstone to the northwest.

WAVE 2 anomaly (Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE312
Within Tenure 1033788

The area is underlain by granitic rocks of the Jurassic Pennask batholith and basaltic volcanics of the Triassic Nicola Group.

MINERALIZATION: PROPERTY AREA

The mineralization on some of the more significant mineral MINFILE mineral anomalies, showings, prospects, and past producers in the area of the Toni 1032322 Claim Group area is reported as follows. The distance is relative to the Toni 1032322 Claim Group.

SIMILCO (COPPER MOUNTAIN) producer (Alkalic porphyry Cu-Au)
MINFILE 092HSE001
Sixty eight kilometres north

Three major orebodies are confined to a 1100 by 4300-metre belt. Numerous other occurrences of copper mineralization related to the Copper Mountain Intrusions are found over an area with maximum dimensions of 10 by 11 kilometres.

***Mineralization: Property Area** (cont'd)*

***Copper Mountain** producer (cont'd)*

Development by Granby Consolidated Mining, Smelting and Power Company Ltd. during the 1950's and by Newmont Mining Corporation of Canada during 1968-69, outlined two areas of economic grade mineralization centred on Pit 1 and Pit 2. The Pit 1 (Princess May) orebody lies in a chalcopyrite zone immediately northwest of the underground mine. It is 700 metres long and up to 300 metres wide, with open pit ore extending to a maximum depth of 170 metres. The bulk of the ore was emplaced along the Main fault in massive and fragmental volcanic rocks above the lower bedded tuff horizon. Recognizable pre-ore porphyritic intrusive rocks are scarce. Sulphides occur mainly as fine disseminations of chalcopyrite and pyrite and only rarely as blebs and stringers. Mineralization at the west end of the orebody, between the stock contact and the fault, consists typically of thin fracture coatings of bornite and chalcopyrite in the fine-grained tuff bed. Pits 1 and 7 are developed in this orebody.

The Pit 2 orebody is 900 metres long, 90 to 360 metres wide and appears to have a maximum mineable depth of 170 metres. It is located 240 metres northeast of Pit 1. It lies along an indistinct and irregular contact of volcanic rocks with Lost Horse intrusive rocks, both rock types being host to ore. Faults control the boundaries of the orebody to a considerable degree. The northern boundary is formed in part by a zone of faulting and crushing; the southern boundary, although relatively straight, has not been related to any structure to date. To the west, the ore diminishes in grade in the vicinity of a strong northerly fault; to the east, the outline of the orebody becomes most irregular and mineralization grades to predominant pyrite with minor chalcopyrite. Within the orebody, ore-grade material is distributed irregularly, but several local trends and centres of copper mineralization occur. The sulphides are predominantly chalcopyrite and pyrite; bornite is rare. The largest known breccia pipe in the area, 90 metres in diameter and at least 150 metres deep, lies in the north-central part of the orebody. Although fine disseminations and fracture coatings of sulphide are common, the Pit 2 orebody has a much greater proportion of coarse blebs and veinlets than Pit 1.

The Pit 3 (Sunset) orebody begins 200 metres southeast of the Pit 1 orebody and continues southeast, along the eastern margin the Copper Mountain stock, for 1200 metres. This zone is located over old caved and collapsed workings of the underground mine and is therefore also referred to as the Subsidence Area zone (Bulletin 59, page 68). The orebody is 120 to 250 metres wide over most of its length, and is hosted almost entirely in the Nicola Group volcanics. Mineralization occurs along the northwest-striking intrusive contact, along major faults such as the Main fault or the "Mine breaks" or at the intersection of a series of steeply-dipping, west-striking, Lost Horse porphyry dykes with northeast-striking breaks and pegmatite-sheeted zones. Mineralization penetrates only a metre or so into the diorite of the stock. The form of the orebody segments is pipe-like in many places, as a result of their control by steep planar elements and division by a series of barren north-striking felsite dykes. The diameter of the segments that were mined ranged from about 15 to 60 metres. The contact orebody, which produced about half of the underground ore, was mined over widths of 9 to 38 metres, along a length of 900 metres and a maximum depth of 400 metres. The most productive areas of the mine consisted mainly of sequences of fine-grained bedded tuffs. These rocks, being more brittle than the adjacent flows, tuffs and agglomerates, shattered readily and yielded more "ore fractures". The lower bedded unit warped downward near the contact of the stock, so that it also formed a hostrock on deeper levels of the orebody. In addition, Lost Horse Intrusions which occur within the less favourable massive flows and coarse tuffs contained more fractures, and copper mineralization was concentrated in the contact areas of these irregular masses. Ore minerals are bornite and chalcopyrite in roughly equal proportions, with most of the bornite occurring within 60 metres of the stock contact. Minor chalcocite occurs with the best bornite ore. Pyrite exists in areas of chalcopyrite mineralization, but was absent in areas where bornite was present. The sulphide content of the rocks generally decreases sharply at the limits of the mine area. This orebody has been mined from the Nos. 3, 5 and 6 pits over a vertical elevation of 450 metres and from an elaborate system of underground workings.

***Mineralization: Property Area** (cont'd)*

***Copper Mountain** producer (cont'd)*

Concentric patterns of rock alteration about individual orebodies at Copper Mountain are not evident. Alteration appears to be related mainly to the intrusive bodies and also controlled in distribution by faults and fractures. Biotite is well-developed along the stock contact in the underground mine and appears to be associated with the orebodies, and also forms selvages on bigger veins. Pale green bleaching of both volcanic and intrusive rocks is best developed at Pit 2, but also occurs and is locally intense at several other localities throughout the camp, such as along the Lost Horse contact, in portions of Pit 1 and in the outer part of the underground mine. Pink potash feldspar developed along fractures in the latest stage of alteration and is often accompanied by pegmatite veins. These "veins", found in most orebodies and elsewhere at Copper Mountain, consist of potash feldspar, biotite, calcite, fluorite, apatite and also some chalcopyrite and bornite. They are usually less than 0.3 metre wide and have formed in part by replacement of the wallrock. Closely-spaced thin pegmatite veins form the northeast sheeted zones of ore fractures. As at the Ingerbelle mine, copper mineralization appears to have occurred during the intermediate and late stages of alteration (Canadian Institute of Mining and Metallurgy Special Volume 15).

The well-differentiated Copper Mountain stock is thought to have been emplaced at the roots of an active volcanic centre. The various phases of the Lost Horse complex were intruded, with rapid uplift and erosion, as a series of separate injections from a differentiating magma. Their shallower, subvolcanic level of emplacement is indicated by their finer grained porphyritic texture, their highly variable contact relationships, including chilled margins, and the pipes and irregular bodies of breccia. The various characteristics of the orebodies suggest that they formed during the later stages of this magmatism. The Copper Mountain stock was probably not the immediate source of hydrothermal fluids at that time, but it most likely was still a hot mass and could easily have provided a temperature gradient as well as a physical and chemical barrier to the sulphide-bearing fluids which probably came from the same source as the Lost Horse rocks.

Magnetite-rich parts of the Copper Mountain orebodies demonstrate textures of magmatic origin; the elevated PGE (platinum group elements) content of sulphide ore supports a mantle source similar to that of coeval and possibly cogenetic PGE-rich zoned Alaskan-type intrusions in eastern Quesnellia (e.g. Tulameen Ultramafic Complex, Polaris Intrusive Complex). Analyses of sulphide concentrate from the mine yielded up to 2.8 grams per tonne palladium and 0.155 gram per tonne platinum. A sample of a bornite- chalcopyrite vein from the glory hole yielded 3.25 grams per tonne palladium (Property File - Cordilleran Roundup 1991, Program and Abstracts Volume).

BRENDA past producer (Porphyry Cu +/- Mo +/- Au)
MINFILE 092HNE047
Eighteen kilometres west-northwest

The Brenda orebody is part of a belt of copper-molybdenum mineralization that extends north-northeast from the Nicola Group-Brenda stock contact.

Mineralization of economic grade (0.3 per cent copper equivalent) is confined to a somewhat irregular zone approximately 720 metres long and 360 metres wide. Ore-grade mineralization extends more than 300 metres below the original surface. Lateral boundaries of ore-grade mineralization are gradational and appear to be nearly vertical. Primary mineralization is confined almost entirely to veins, except in altered dike rocks and in local areas of intense hydrothermal alteration which may contain minor disseminations.

The grade of the orebody is a function of fracture (vein) density and of the thickness and mineralogy of the filling material. The average total sulphide content within the orebody is 1 per cent or less. Chalcopyrite and molybdenite, the principal sulphides, generally are accompanied by minor, but variable, quantities of pyrite and magnetite.

***Mineralization: Property Area** (cont'd)*

***Brenda** past producer (cont'd)*

Bornite, specular hematite, sphalerite and galena are rare constituents of the ore. Johnson (1973), in a study of 17 samples from the deposit, reported minor pyrrhotite, mackinawite, carrollite, cubanite, ilmenite, rutile and native gold (?), as well as several secondary sulphides (Canadian Institute of Mining and Metallurgy Special Volume 15). Pyrite is most abundant in altered andesite dikes and in quartz-molybdenite veins. The ratio of pyrite to chalcopyrite in the orebody is about 1:10, with the chalcopyrite content diminishing beyond the ore boundaries. Because mineralization is confined almost entirely to veins in relatively fresh homogeneous rock, the veins are divided into separate stages, based on crosscutting relations and their mineralogy and alteration effects on the hostrock. The vein density within the orebody is not uniform.

Ranges are recorded from less than 9 per metre near the periphery of the orebody to 63 per metre and occasionally 90 per metre near the centre of the orebody. Some veins have very sharp contacts with wallrocks, but most contacts are irregular in detail where gangue and sulphide minerals replace the wallrock. A vein may show features characteristic of fracture- filling in one part and of replacement in another. Mineralized solutions were introduced into fractures and, during development of the resultant veins, minor replacement of the wallrock ensued.

The chronological stages of mineralization are as follows: (1) biotite-chalcopyrite (oldest); (2) quartz-potassium feldspar- sulphide; (3) quartz-molybdenite-pyrite; (4) epidote-sulphide- magnetite; and (5) biotite, calcite and quartz. Stages 1 through 4 are all genetically related to a single mineralizing episode, which was responsible for the orebody. Stage 5 represents a later, probably unrelated, event(s) (Canadian Institute of Mining and Metallurgy Special Volume 15). Stage 2 veins form the bulk of the mineralization in the deposit, and are the most important source of ore.

Hydrothermal alteration at the Brenda deposit generally is confined to narrow envelopes bordering veins. These alteration envelopes commonly grade outward into unaltered or weakly propylitic-altered rock. Where veins are closely spaced, alteration envelopes on adjacent veins may coalesce to produce local areas of pervasive alteration. For the most part, hydrothermal alteration at the Brenda deposit is exceptionally weak for a porphyry copper system.

Four types of alteration are recognized in the Brenda deposit, three of which are related to the mineralizing process. Two of these are potassic (potassium feldspar) and biotite, and the other is propylitic. Later argillic alteration has been superimposed on the system along post-mineral faults.

Potassium feldspar and biotite alteration generally are separated in space, but locally occur together. Both types of alteration accompanied sulphide deposition. Potassium feldspar replaces plagioclase adjacent to most stage 2 and, to a lesser extent, stage 3 veins. These irregular envelopes range in width from a centimetre or less up to a metre, with an average of about 2 centimetres. Potassium feldspar also occurs as a minor constituent of stage 1 veins.

Hydrothermal biotite replaces magmatic mafic minerals (hornblende, biotite) and, more rarely, plagioclase in hostrock adjacent to stage 2 and especially stage 3 veins.

These envelopes of hydrothermal biotite range in width from less than 1 millimetre to several centimetres.

Weak to intense propylitic alteration, which is characterized by the development of chlorite and epidote, as well as less obvious microscopic sericite and carbonate, is sporadically distributed throughout the Brenda stock.

Large areas within the orebody have not been propylitized and in these areas, veins with potassic alteration envelopes clearly cut across propylitized quartz diorite, indicating an early hydrothermal or even a pre-ore origin for the propylitization (Canadian Institute of Mining and Metallurgy Special Volume 15). A second period of propylitization accompanied the development of stage 4 veins and is reflected as envelopes of epidote and chlorite.

***Mineralization: Property Area** (cont'd)*

***Brenda** past producer (cont'd)*

Locally intense argillic alteration is confined to post-mineral fault zones where the hostrock has been highly shattered. Kaolinite, sericite and epidote have almost completely replaced the host rocks.

Surface weathering, which is expressed predominantly by the development of limonite, extends as a highly irregular blanket over the mineralized zone for depths ranging from a few metres to greater than 30 metres. In this weathered area, limonite stains all fractures. Fault zones have been especially susceptible to surface weathering, and the argillic alteration of these zones may be primarily the result of groundwater action. Secondary minerals developed during weathering, all highly subordinate in quantity to limonite, include malachite, azurite, hematite, ferrimolybdite, powellite and cupriferous manganese oxides. Cuprite, covellite, chalcopyrite, native copper, tenorite and ilsemannite are rare constituents.

Copper-molybdenum mineralization in the Brenda deposit was developed during several sequential stages, all of which constitute one mineralizing episode.

Each stage occupies unique sets of fractures, which are filled with specific combinations of metallic and gangue minerals. Although the attitudes of veins in each stage are unique in detail, most stages include conjugate steeply dipping sets of northeast and northwest striking veins. If these veins occupy shear fractures, it is probable that they were formed by generally east-west compressive forces. Examination of the structure in the Nicola Group rocks to the west reveals that north-northwest and north trending fold axes also indicate an east-west compression.

It is suggested that intermittent east-west compressional forces intensely fractured the rocks of the Brenda stock during several stages of time and tapped a hydrothermal source, either a later phase of the Brenda stock or a separate intrusive system.

As each stage of fractures developed, hydrothermal fluids introduced vein material which healed the fractures. Renewed build-up of compressional forces again fractured the rocks, which were again healed. Repetition of this sequence can explain all stages of mineralization within the Brenda deposit. East-west compression continued after ore deposition ceased and produced prominent east-northeast and northwest striking shear zones (Canadian Institute of Mining and Metallurgy Special Volume 15).

In 2008, drilling returned up to 488.5 parts per million copper over 1.0 metre (Assessment Report 30340).

HN-WEN prospect (Volcanic redbed Cu)
MINFILE 092HNE058
One kilometre west

The mineralization is restricted to the volcanics. It is exposed in 3 adits and at least 8 trenches, and is marked by alteration, mainly epidotization, silicification, carbonatization, moderate chloritization and local pyritization.

Chalcopyrite is the only copper mineral: it is disseminated, or concentrated in quartz and calcite veins and veinlets between 0.3 and 30 centimetres thick, usually about 8 centimetres thick.

Pyrite, pyrrhotite and rare specular hematite are also present in the veins. Locally oxidation has produced abundant malachite, azurite and limonite.

The mineralized zone measures 760 by 90 metres and has a depth of about 75 metres. Diamond drilling indicates that it strikes 160 degrees and dips vertically or steeply east, so it is not parallel to the volcanic-sedimentary contact, indicating that the contact is not the controlling factor.

Mineralization: Property Area *(cont'd)*

HN-WEN *prospect (cont'd)*

Rather, the veins hosting the mineralization are structurally controlled by numerous faults and fractures which consistently strike 160 degrees and dip 85 degrees east (Assessment Report 4230). Incidentally, the Echo occurrence (092HNE059) lies on this trend, 2 kilometres to the north-northwest, and the mineralization may also extend south-southeast of the HN-WEN occurrence (Assessment Report 4230).

Some significant copper and silver values have been obtained from the workings and diamond drill core. A 1.5-metre chip sample from Adit Number 1 was assayed at 4.39 per cent copper, 92.6 grams per tonne silver, and 0.7 gram per tonne gold (Assessment Report 4230).
A grab sample from here was assayed at 4.84 per cent copper, 46.6 grams per tonne silver and 0.7 gram per tonne gold (Assessment Report 4230). Both samples were from oxidized material and may not be representative of grade throughout the deposit (Assessment Report 4230). A drill core sample (hole HNS 72-1) assayed 1.12 per cent copper and 3.4 grams per tonne silver (Assessment Report 4230).

The average grade of the whole deposit has been estimated at 0.08 per cent copper, with a generally low gold and silver content (Assessment Report 4230).

Sookochoff (2011) reports that recent exploration work at the HN-WEN by Victory Resources resulted in the delineation of the Adit 1 east-west trending quartz vein within the 90 metre wide northwesterly striking shear zone. The Adit 1 vein occurs within the Nicola volcanics 50 metres north of the W96-1 drill hole where a mineral hosting quartz vein was intersected from which assays reportedly average 16.578 gm/t Au, 18.185 gm/t Ag, and 0.75% Cu over 6.55 metres of core or 3.81 metres of 28.43 g/t Au and 0.98% Cu.

PAYCINCI prospect (Volcanic redbed Cu)
MINFILE 092HNE084
Five kilometres south-southwest

Hypogene and supergene copper mineralization occurs in green laharic breccia, near the contact with red laharic breccia to the east. This mineralization consists primarily of disseminated and fracture controlled chalcocite and native copper, accompanied by lesser malachite and azurite, and minor chalcopyrite, bornite, cuprite and pyrite. Drilling indicates chalcopyrite becomes more abundant at depth at the expense of chalcocite. This mineralization is exposed along the crest and east flank of a small northerly trending ridge, over a north-south distance of 400 metres.

Drill indicated reserves are 54,000 tonnes grading 0.876 per cent copper (Assessment Report 7654, page 1). Precious metal values are generally low. Six rock samples analysed 1.1 to 2.4 per cent copper, 0.005 to 0.010 gram per tonne gold and 1.3 to 5.7 grams per tonne silver (Assessment Report 14108, Figure 5, samples 2051 to 2056). One chip sample taken along a trench yielded 0.89 per cent copper over 49 metres (George Cross News Letter No. 90 (May 8), 1992).

ELK Past Producer (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn +/-Au; Au-quartz veins)
MINFILE 092HNE096
Six kilometres south

Gold-silver mineralization on the Elk property is hosted primarily by pyritic quartz veins and stringers in altered pyritic granitic and, less frequently, volcanic rocks. Crosscutting relationships indicate that the veins are Tertiary in age; they may be related to Tertiary Otter intrusive events.

To date, mineralization has been located in four areas on the Elk property: Siwash North, South Showing (092HNE261), North Showing (092HNE281) and Siwash Lake (092HNE041, 295).

Mineralization: Property Area (*cont'd)*

Elk *past producer (cont'd)*

The Siwash Lake zone is 800 metres south of the Siwash North deposit; the North Showing and South Showing areas are 2 and 3 kilometres south of Siwash North respectively.

In the Siwash North area, gold occurs in veins measuring 5-70 centimetres wide, hosted by a zone of strongly sericitic altered granite and, in the west, volcanic rocks. In general, the mineralized zone trends east-northeast with southerly dips from 20-80 degrees (from east to west), and appears to be related to minor shearing. Quartz veining occurs in a number of parallel to subparallel zones. Each zone consists of one or more veins within an elevation range of 5 to 10 metres that can be correlated as a group to adjacent drillholes. In the eastern parts of the area, up to six subparallel zones occur. Five of these zones are consistent enough to be labelled the A, B, C, D and E zones.

Mineralization in the west has been identified in one or locally two zones (the B and C zones).

The main mineralized zone (B) is consistent, with only minor exceptions, across the entire drill grid. The Siwash North structure has been tested to 335 metres downdip and along a strike length of 925 metres. The zone remains open to depth and along strike.

At surface, supergene alteration has leached out most of the sulphides with some pyrite and chalcopyrite remaining. Mineralization occurs primarily as native gold, occasionally as spectacular aggregates of coarse flakes in frothy quartz (strong pyrite boxwork) or in fractures in the vein. Electrum was noted in one area as very coarse-grained flakes associated with strong manganese staining. Gold is rarely seen in boxworks in sericitic (phyllic) alteration.

In drill core, mineralization has not been affected by supergene processes. Metallic minerals in drill core include pyrite, chalcopyrite, sphalerite, galena, tetrahedrite, maldonite ? pyrrhotite and native gold in order of decreasing abundance).

Gold is strongly associated with pyrite and with a blue-grey mineral. Photomicrographs show the gold commonly in contact with this mineral, which may be a gold-bismuth alloy (maldonite?) or a copper-bismuth- antimony sulphosalt.

Gangue mineralogy consists primarily of quartz and altered wallrock fragments. Ankerite is commonly present, with lesser amounts of calcite.

Minor barite is also present. Fluorite was noted in one vein as very small (less than 1 millimetre) zoned purple cubes scattered in the quartz.

Stronger alteration generally accompanies higher grade gold mineralization. Seven main types of alteration were recognized in the granitic rocks throughout the property: propylitic, argillic, sericitic, potassium feldspar stable phyllic, phyllic, advanced argillic and silicic. Locally, potassic alteration, skarnification and silicification are evident, but are relatively minor and do not appear to be related to mineralization.

Propylitic alteration is generally light green with biotite and hornblende altered to chlorite, and plagioclase is saussuritized. In volcanics, the colour is generally olive green, and the rock is soft.

Argillic alteration is exemplified by bleached rock, with plagioclase white and clay-altered; potassium feldspar is slightly altered.

Volcanics are bleached to light green or grey. Sericitic alteration is typically pale green with a micaceous sheen, with plagioclase altered to sericite; trace disseminated pyrite may be present. This type of alteration is often associated with quartz veins and appears to be the lowest grade alteration associated with gold mineralization. It is not recognized in volcanics.

Potassium feldspar stable phyllic alteration is light pink, green or yellowish with potassium feldspar fresh and pink and blocky.

Mineralization: Property Area (*cont'd)*

Elk *past producer (cont'd)*

Plagioclase and mafic minerals are altered to fine-grained quartz-sericite-pyrite. It often occurs with veins and is associated with gold mineralization; it is not recognized in volcanics.

Phyllic alteration is generally grey, fine-grained quartz-sericite-pyrite alteration usually associated with veins and often gradational to quartz and often auriferous. Advanced argillic alteration is exemplified by most or all of feldspar being destroyed, quartz is "free-floating". The alteration is often sheared and white in colour and is often associated with quartz veins. Volcanics are white or blue coloured. Silicic alteration is quartz veining or replacement that is hard with moderate conchoidal fracture. There is a strong symmetrical zoning of alteration around the quartz veins: vein-advanced argillic-phyllic-potassium feldspar stable phyllic-argillic-propylitic.

Measured geological reserves of the Siwash North deposit are 308,414 tonnes grading 22.17 grams per tonne gold and 24.68 grams per tonne silver using a cutoff grade of 10 grams per tonne gold.

Reserves are based on results from 107 drillholes at 50-metre grid spacings along 804 metres of strike length to 304 metres downdip. All veining intercepts have been adjusted for true width and assays diluted to 2-metre mining widths (George Cross News Letter No. 223 (November), 1991).

The revised drill indicated reserve, based on more realistic open pit and underground mining widths of 0.39 to 0.79 metre with a 20.5 grams per tonne gold cutoff grade, is 122,458 tonnes averaging 54.5 grams per tonne gold (George Cross News Letter No. 65 (April 2), 1993).

From 1992 and 1995 (inclusive), 16,570 tonnes of ore were mined and milled and 1,518,777 grams (48,830 ounces) of gold and 1,903,000 grams (61,183 ounces) of silver recovered.

In 1996, Fairfield shipped all remaining stockpiles, estimated to contain 2700 tonnes and grading greater than 12 grams per tonne (Information Circular 1997-1, page 21). A total of 994 metres of ramp access and three development levels exist underground.

Reverse circulation drilling, underground diamond drilling, reclamation, road construction, water sampling and aerial photography were also undertaken during this period.

Surface and underground diamond drill programs were carried out in the Siwash Mine area from 1994 to 1996 to define the resource.

Exploration surface drilling was also carried out during the 1995 and 1996 field seasons to test trench targets between the Siwash mine site and the South Showing area 2.5 kilometres to the south. Limited prospecting and environmental monitoring was undertaken from 1997 to 1999.

In 1995, Fairfield Minerals with the support from the Explore B.C. Program carried out an extensive program including geochemistry, 13,972 metres of surface and underground diamond drilling in 315 holes and reserve calculations.

Surface drilling was done on fences 10-50 metres apart, underground drilling on fences 10 metres apart. Reserve calculations by the company and consultant Roscoe Postle gave the following results (Explore B.C. Program 95/96 - A38):

Probable (undiluted) 16,991 tonnes at 28,200 tonnes at 50.2 g/t gold 26.6 g/t gold

Possible (undiluted) 50,260 tonnes at 66,400 tonnes at 42.0 g/t gold 31.4 g/t gold

The 1996 exploration program consisted of 6873 metres of drilling in 91 holes. The Siwash zone has been traced along a 914 metre strike length and downdip to 245 metres.

Reserves estimated by the company at January 1, 1996 were 121,350 tonnes grading 25.4 grams per tonne gold and 35.3 grams per tonne silver.

Mineralization: Property Area (*cont'd)*

Elk *past producer (cont'd)*

These include a diluted, probable open-pit resource of 11,340 tonnes grading 58.97 grams per tonne gold, an underground probable resource below the open pit of 20,225 tonnes grading 26.74 grams per tonne gold, and a further possible underground resource of 89,790 tonnes grading 23.66 grams per tonne gold (Information Circular 1997-1, page 21).

Surface diamond drilling totaling 1413.96 metres in 12 holes was completed on the Siwash Mining lease during 2000 testing the B, WD and Gold Creek West (GCW) zones.

A trenching program was carried out in 2001 in the Siwash East Area consisting of six trenches totaling 202 meters. Almaden Resources and Fairfield Minerals Ltd. merged into Almaden Minerals Ltd. in February, 2002.

In 2002, Almaden undertook a 26 hole surface diamond drill program for a total of 4995.67 metres testing the B, WD, GCW and Bullion Creek zones.

During the 2003 field season a 6570 metre, 30 hole, diamond drill program was carried out by Almaden in the Siwash North area testing the WD zone. The WD vein system is located approximately 100 metres north of the Siwash B zone vein and has been tested over a strike length of 610m and down dip for 380m.

By the end of May 2004, a total of eight mineralized veins had been discovered on the property. Four vein systems had been drilled in the Siwash area: the B system with a strike length of 900 m has been tested down dip to 320 m; the WD zone with a strike length of 650 m has been tested to 370 m down dip; the GCW zone with a strike length of 300 m has been tested to 130 m down dip and the Bullion Creek (BC) zone which has been tested with two holes to a depth of 75 m.

A new 43-101 compliant resource was calculated using drill data for the Siwash B and WD veins, just two of eight known mesothermal vein structures on the property.

Global (bulk-tonnage and underground mineable) measured and indicated resources were reported to total 668,300 tonnes grading 9.66 grams per tonne gold (207,600 ounces) plus an additional 1,317,200 tonnes grading 4.91 grams per tonne gold (207,800 ounces) in the inferred category (News Release, Almaden Minerals Limited, May 28, 2004).

Included in the global figures is a higher grade, underground-mineable resource totaling 164,000 tonnes grading 33.69 g/t gold in the measured and indicated category, plus another 195 200 tonnes grading 16.38 g/t gold in the inferred category.

In 2004 a diamond drill program consisting of 10,265 meters of NQ drilling in 44 holes was completed. As reported by Almaden in 2001, a possible extension to the B and WD vein systems was found roughly two kilometres along strike to the east, on the other side of an area of overburden cover and no outcrop, as part of a trenching program.

Grab samples of the vein material taken at surface returned averaged analyses of 31.6 grams per tonne gold and 104.4 grams per tonne silver (News Release, Almaden Minerals Limited, March 4, 2005. This discovery added about two kilometres of prospective, unexplored strike length to the high-grade vein system.

AU-WEN prospect (Intrusion related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE144
One kilometre south

Pyrite, pyrrhotite, chalcopyrite and arsenopyrite are disseminated sporadically in the tuffaceous rocks and argillite, up to about 1 per cent, and also occur in fractures (Assessment Reports 11241, 16008).

Mineralization: Property Area (*cont'd)*

Native gold is associated with the sulphides in narrow quartz-filled fractures in these rocks (Assessment Report 16008). Minor malachite occurs in volcanics.

The overall extent of the mineralization has not been determined, although diamond drilling has demonstrated that minor pyrite, pyrrhotite and chalcopyrite, disseminated or associated with quartz or calcite fracture veinlets, does persist below the surface (Assessment Reports 11241, 16008).

Gold values in the area are generally low, but high values have been obtained from trench sampling and drill core at the main showing. Significant gold assays in chip samples range from 6.8 grams per tonne over 5.1 metres to 10.8 grams per tonne over 4.9 metres (Assessment Report 16008).

Grab and select samples assayed between 14.4 and 91 grams per tonne gold (Assessment Reports 5766, 16008). The best drill core intersection assayed 4.97 grams per tonne gold over 1.5 metres (Assessment Report 16008).

Copper is associated with the gold mineralization; one rock sample from the main trench yielded 0.29 per cent copper (Assessment Report 7293). Another sample yielded 26 grams per tonne silver and 0.14 per cent lead (Assessment Report 7293). Silver in diamond drill core is generally under 1 gram per tonne (Assessment Report 11241).

BREW showing (Alkalic porphyry Cu-Au; Subvolcanic Cu-Ag-Au; As-Sb)
MINFILE 092HNE275
Two kilometres south

The zone has been traced on surface for 400 metres and is 30 to 40 centimetres wide. It is comprised of strongly gossanous clay and fault gouge containing 1 to 2 per cent pyrite. Quartz and quartz-calcite stringers and quartz blebs occur sporadically throughout the zone. A sample of quartz vein material yielded 0.14 gram per tonne gold and 14.4 grams per tonne silver (Assessment Report, 18041, page 8, sample 239774).

SNOW showing (Porphyry Cu +/- Mo +/- Au; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE292
Two kilometres north

A sample of drill core from 28.0 metres depth contained fine-grained magnetite accompanied by fine-grained chalcocite or bornite along the margins of a zeolite vein. Copper mineralization also occurs along fractures and as disseminations in the granite.

Copper mineralization also occurs along fractures and as disseminations in the granite. Two assays of a grab sample taken in the vicinity of the drillhole yielded less than 0.3 gram per tonne gold, 3.1 grams per tonne silver and 0.54 per cent copper, and 0.45 gram per tonne gold, 3.1 grams per tonne silver and 0.30 per cent copper, respectively (Assessment Report 3415, assay certificates).

WAVE 1 anomaly (Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE311
Two kilometres north

Locally, mineralized quartz vein float was found and contain disseminated pyrite and limonite with occasional specks of chalcopyrite, galena or sphalerite. In 1991, samples of mineralized vein float, up to 0.20 metre in diameter, returned up to 8230 parts per billion gold, 249.3 parts per million silver, 844 parts per million copper and 4091 parts per million lead (Assessment Report 22864).

MINERALIZATION: PROPERTY

The mineralization on the mineral MINFILE mineral anomalies, showings, prospects, and past producers located within the Toni 1032322 Claim Group area is reported as follows.

MAL prospect (Cu skarn; Fe skarn; Au skarn)
MINFILE 092HNE002
Within Tenure 567126

Copper mineralization is concentrated in the skarn zones. Pyrite and subordinate magnetite and chalcopyrite are associated with quartz-calcite veins, or are disseminated in variable amounts (Assessment Report 1586). Chalcocite and malachite are also present at the main showing (Assessment Report 8453). Finely disseminated pyrite is common in most rocks, particularly the argillaceous rocks (Assessment Reports 1718, 9590). A zone of massive, medium-grained pyrite between 1 and 13 metres thick, in altered volcanic rocks, has been found below the surface by diamond drilling; the paragenesis is epidote, magnetite, pyrite (Assessment Report 9590).

Copper values appear to be erratic. In early diamond drilling, the best result reported is 1.62 per cent copper over 6 metres; this section contained at least 50 per cent magnetite (Assessment Report 449, page 6). More recent diamond drilling has resulted in generally low metal values, although one split core sample assayed 0.37 per cent copper and 6.8 grams per tonne silver (Assessment Report 9590).

More recent diamond drilling has resulted in generally low metal values, although one split core sample assayed 0.37 per cent copper and 6.8 grams per tonne silver (Assessment Report 9590). A grab sample from the main trenched and drilled area assayed 0.34 gram per tonne gold, 3.4 grams per tonne silver, and 0.2 per cent copper (Assessment Report 8453).

The high magnetite and pyrite content of the rocks at this occurrence is reflected in significant magnetic and induced polarization anomalies, respectively, over the mineralized zones (Assessment Reports 1586, 8453).

ECHO showing (Volcanic redbed Cu)
MINFILE 092HNE059
Within Tenure 567126

Chalcopyrite and malachite are present in trenches and open cuts in volcanics over an area 1000 by 800 metres. Chalcopyrite is disseminated, or concentrated in quartz-calcite veins. The Echo occurrence lies directly along the strike of prominent fractures which host significant copper-silver mineralization at the HN-WEN occurrence (092HNE058), 2 kilometres to the south-southeast (Assessment Report 4230).

TOE prospect (Volcanic redbed Cu; Alkalic porphyry Cu-Au)
MINFILE 092HNE060
Within Tenure 1015041

A major copper soil anomaly occurs within the Toe claim group, measuring 3500 by 900 metres; a mercury anomaly is associated (Assessment Reports 1049, 1586). The highest soil anomaly was 0.07 per cent copper (Assessment Report 1586)

In 2008, drilling returned up to 488.5 parts per million copper over 1.0 metre (Assessment Report 30340).

MALACHITE 7 showing (Cu skarn; Volcanic redbed Cu)
MINFILE 092HNE269
Within Tenure 567126

Chalcopyrite occurs in a small zone of skarn alteration in dioritized volcanics of the Upper Triassic Nicola Group, near the contact with the Early Jurassic Pennask batholith to the northeast.

Mineralization: Property *(cont'd)*

KIT showing (Alkalic porphyry Cu-Au; Porphyry Mo (Low F Type)
MINFILE 092HNE270
Within Tenure 567126

Some of the shears are graphitic and they locally contain quartz lenses 2.5 to 5 centimetres wide with minor disseminated molybdenite. The intrusive is also fractured to some extent, with one prominent set striking 055 to 070 degrees and dipping steeply southeast. Some of the fractures contain quartz with minor chalcopyrite, malachite and molybdenite.

WAVE 2 anomaly (Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE312
Within Tenure 1033788

Locally, mineralized quartz vein float was found and contain disseminated pyrite and limonite with occasional specks of chalcopyrite, galena or sphalerite. In 1991, samples of mineralized vein float, up to 0.20 metres in diameter, returned up to 25.7 parts per million silver, 1732 parts per million lead and 2107 parts per million zinc (Assessment Report 22864).

ECONOMIC EVALUATION of TENURE 1032322

The purpose of the economic evaluation of Tenure 1032322 is to show the potential of Tenure 1032322 to the location of a potential economic resource. In this respect, the potential will be compared to the economic mineral deposit of the Copper Mountain mine *(MINFILE 092HSE001);*to which a detailed description is provided herein as copied from the BC Government supported Minfile records.

Figure 5. **Copper Mountain-Existing Facilities**

(from Similco Mines Copper Mountain Project 2008)

Figure 6.: **Copper Mountain Camp: Major Structures**

(Note the cross-structures at every mineral deposit)

(Map from Giroux & Holbek, Figure 9.4)

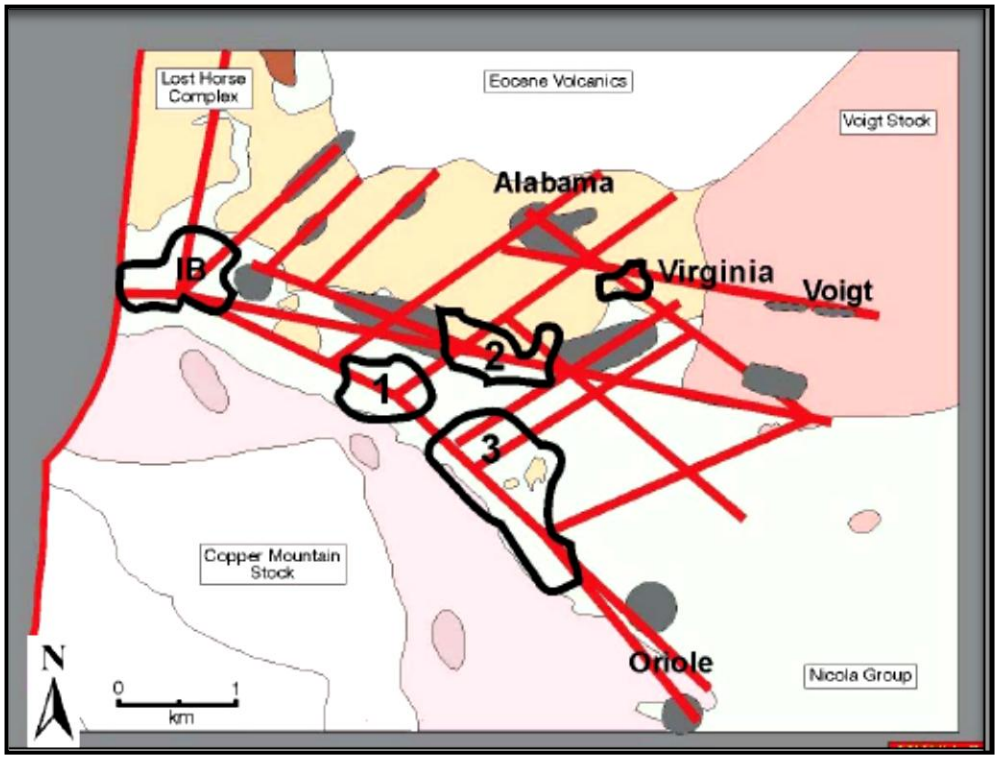


Figure 7. **Tenure 589880 (1032322) Cross-structures**

(Map from AR 35209)

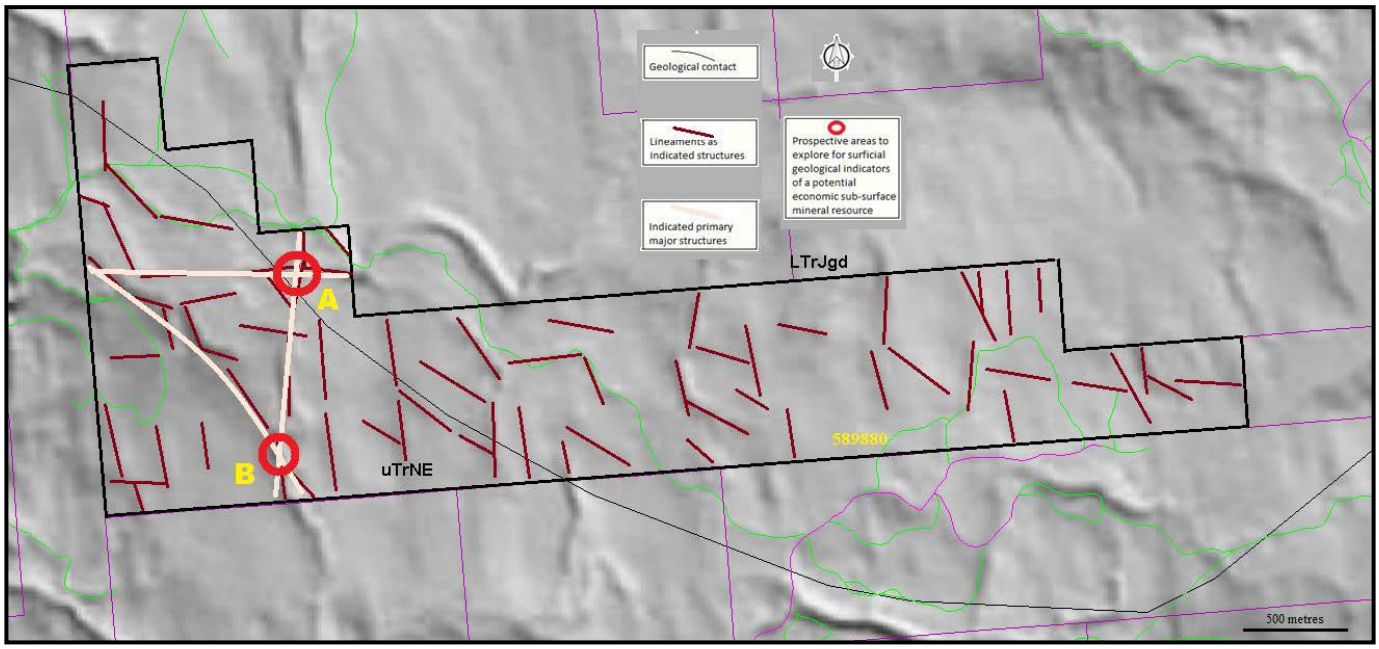


Figure 8. **Tenure 589880 (1032322)** *&* **Tenure 589846 Cross-structures**

(Showing the cross-structures and the projections of the southeast structure which appears to parallel the intrusive/volcanic contact)
(Maps from AR 31129 & 35209)

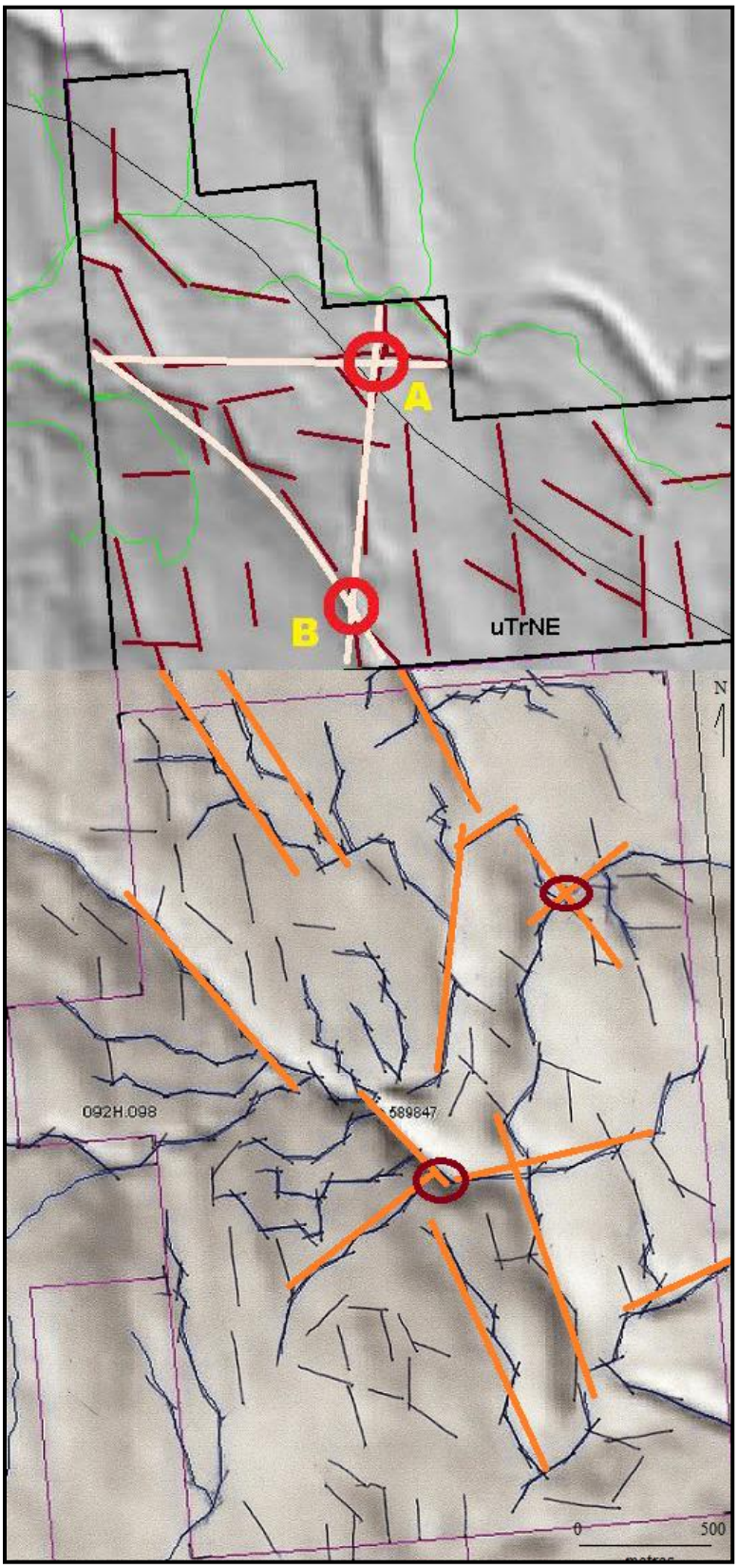


Figure 9. **Copper Mountain Camp: Geology showing the relationship of the Pit 1, Pit 2 *(Pit 3 on Figure 10),*** Ingerbelle Pit ***(1B on Figure 10),*** **& the Oriole Ore Deposits to the Copper Mountain Stock.**

(from Holbek & Blower, Fig 2.1)

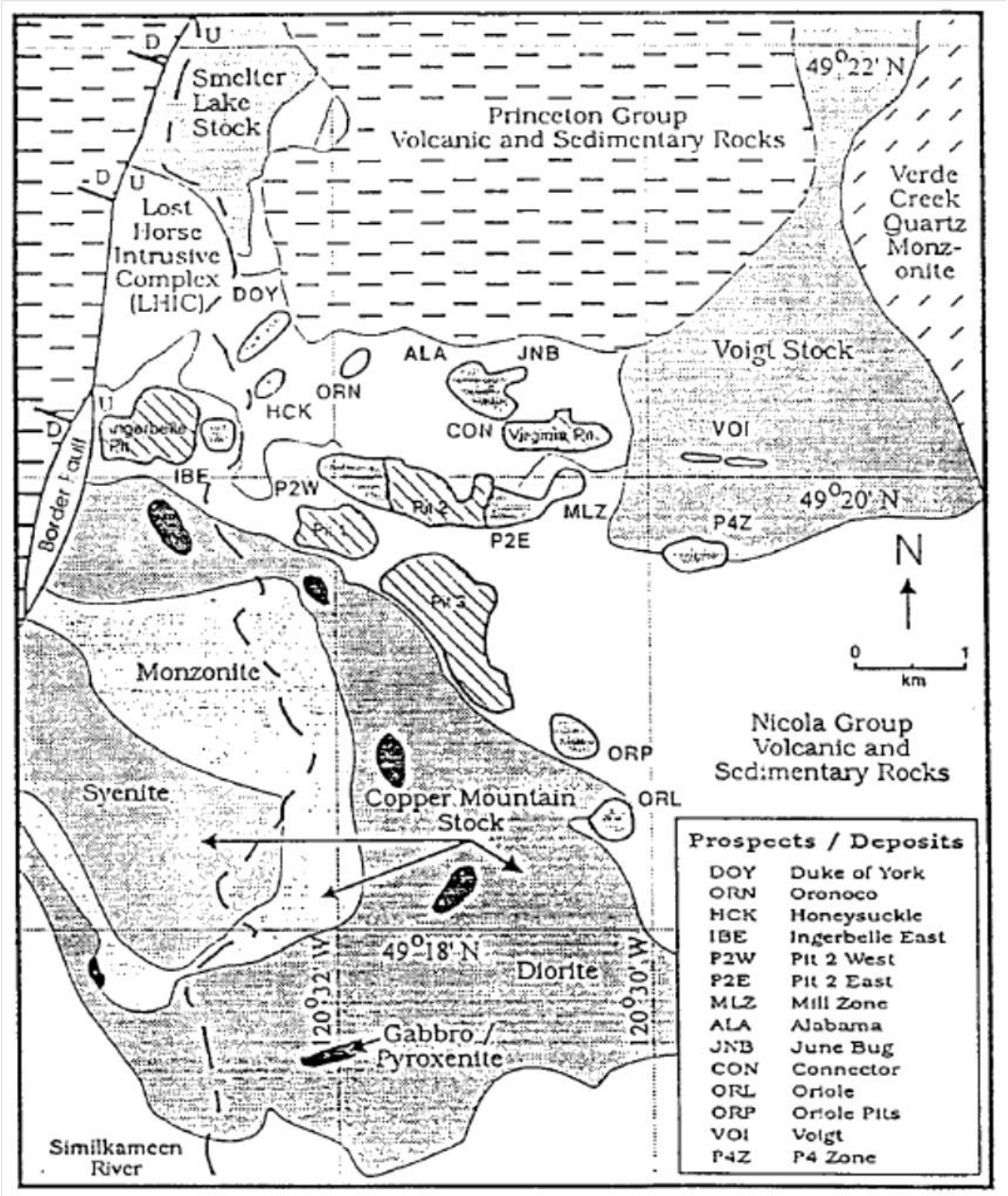


Figure 10. **Geology: Copper Mountain Camp**

(Note the mineral deposit locations proximal to the Nicola Group/Copper Mountain Intrusive

(Map from Giroux & Holbek, Figure 9.4)

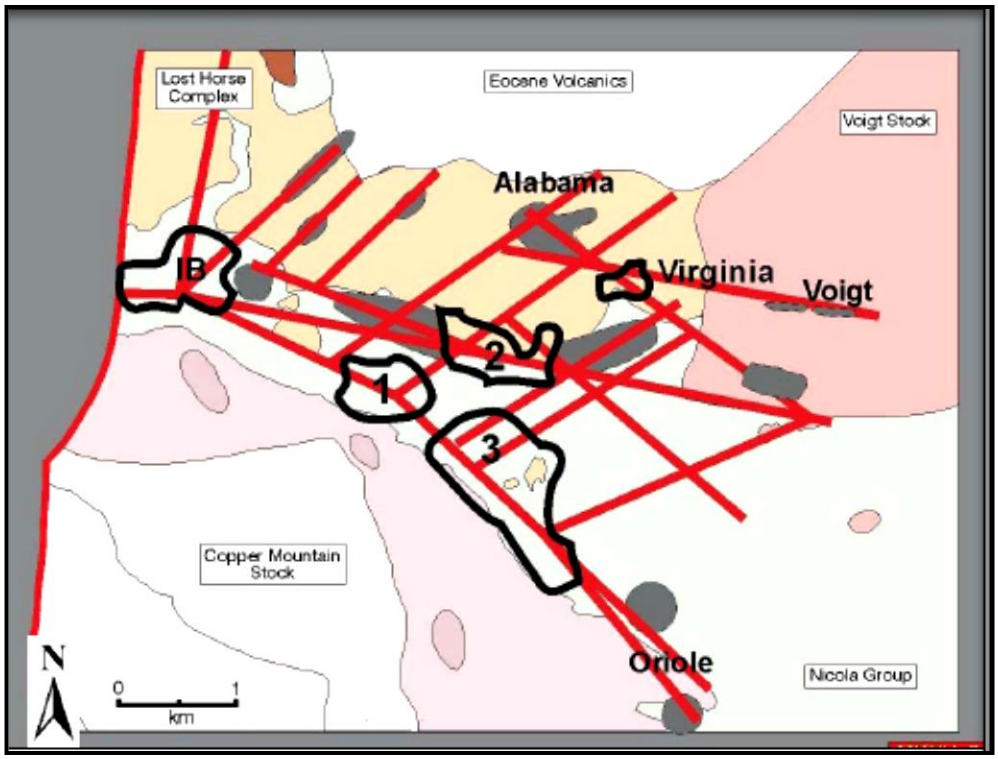


Figure 11 **Tenure 589880 (1032322): Geology**

(Note the location of cross-structure "A" (Sookochoff, 2009) proximal to the intrusive/volcanic boundary)

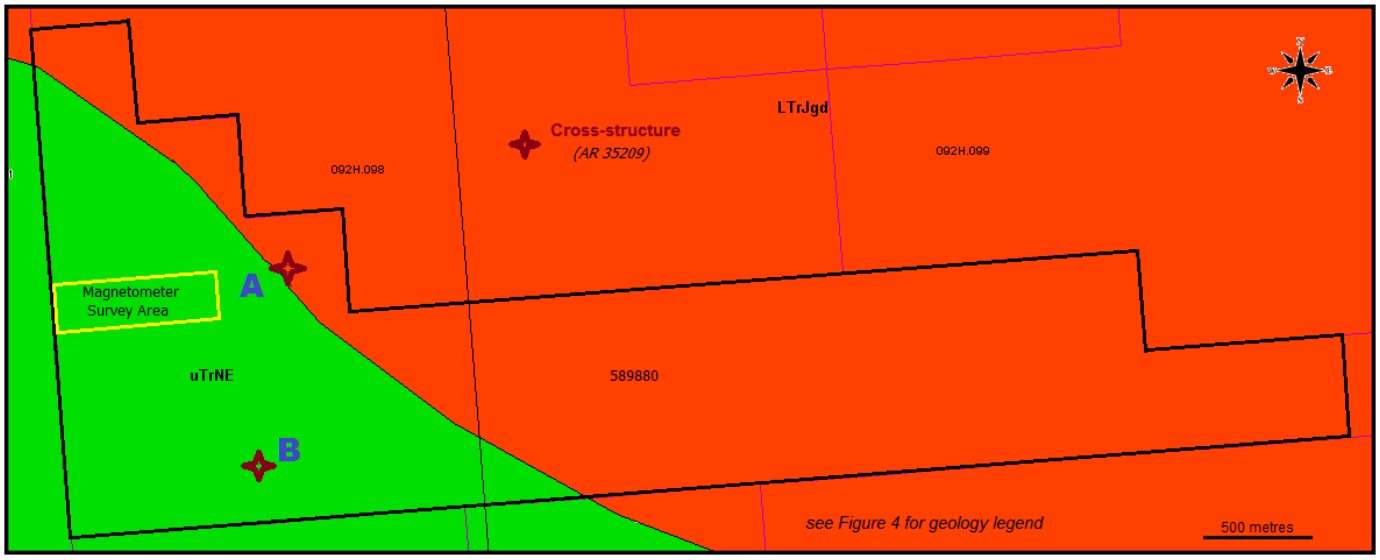


Figure 12. **Copper Mountain: Geology and cross-structure at the Ingerbelle open-pit**

(Note the mineral Ingerbelle location association with the Nicola Group/Copper Mountain Stock and the cross-structure centralized in the outline of the open-pit)

(Maps & Caption from Hasek, 2009 Figure 5)

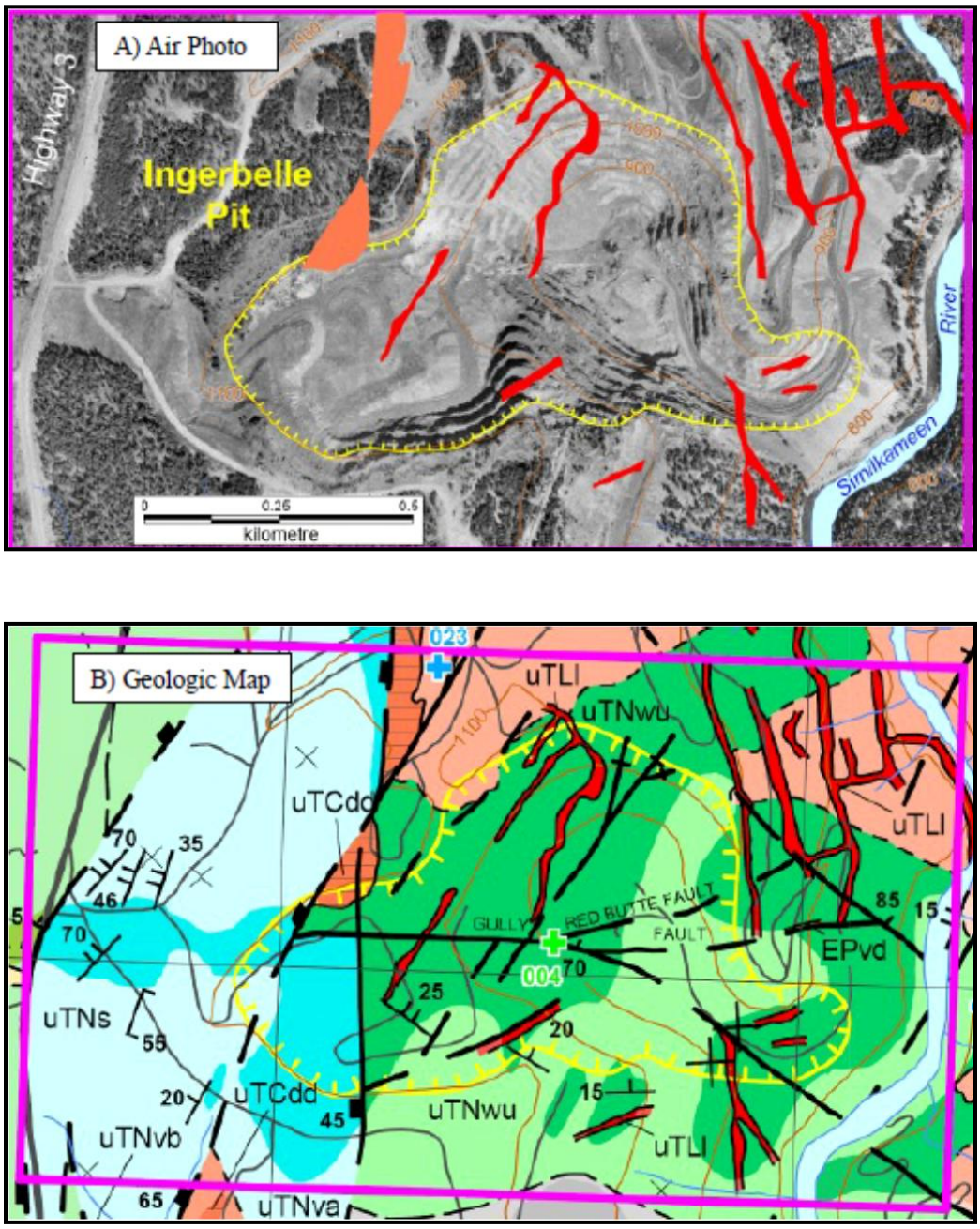


Figure 5: The Ingerbelle mine. A) Air photo and B) geologic map of the open pit (outlined in yellow) with Lost Horse latite, microdiorite and microsyenite porphyry dykes in red and Copper Mountain microdiorite and latite porphyry dykes in salmon pink (Preto et al., 2004). Geologic legend of Figure 3 applies to this figure. The pink rectangles indicate the same area on both images.

Figure 13. **Copper Mountain: Magnetic Response of known mineral deposits**
(black cross-hatched polygons)

(Note the mineral deposit locations on the waning potion of the magnetic high)
(Map from Hasek, 2009 Figure 10)

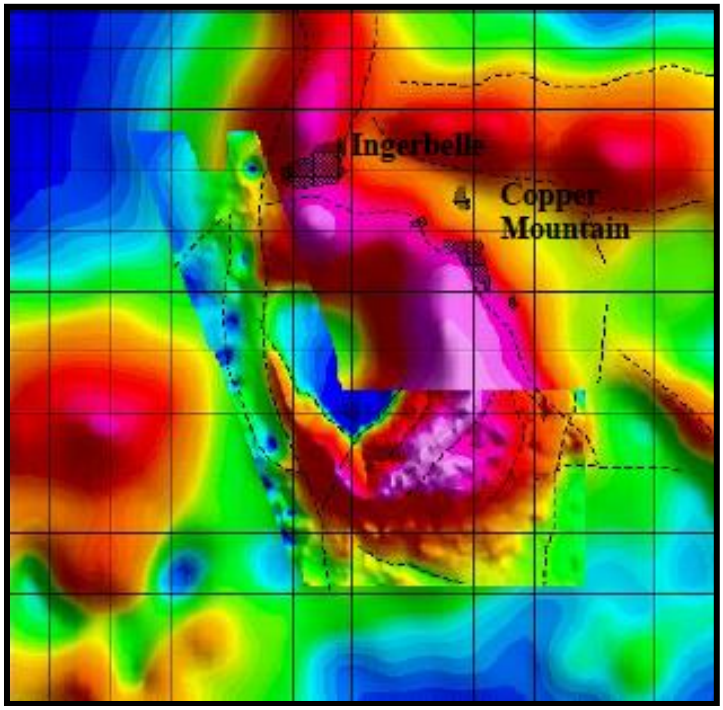
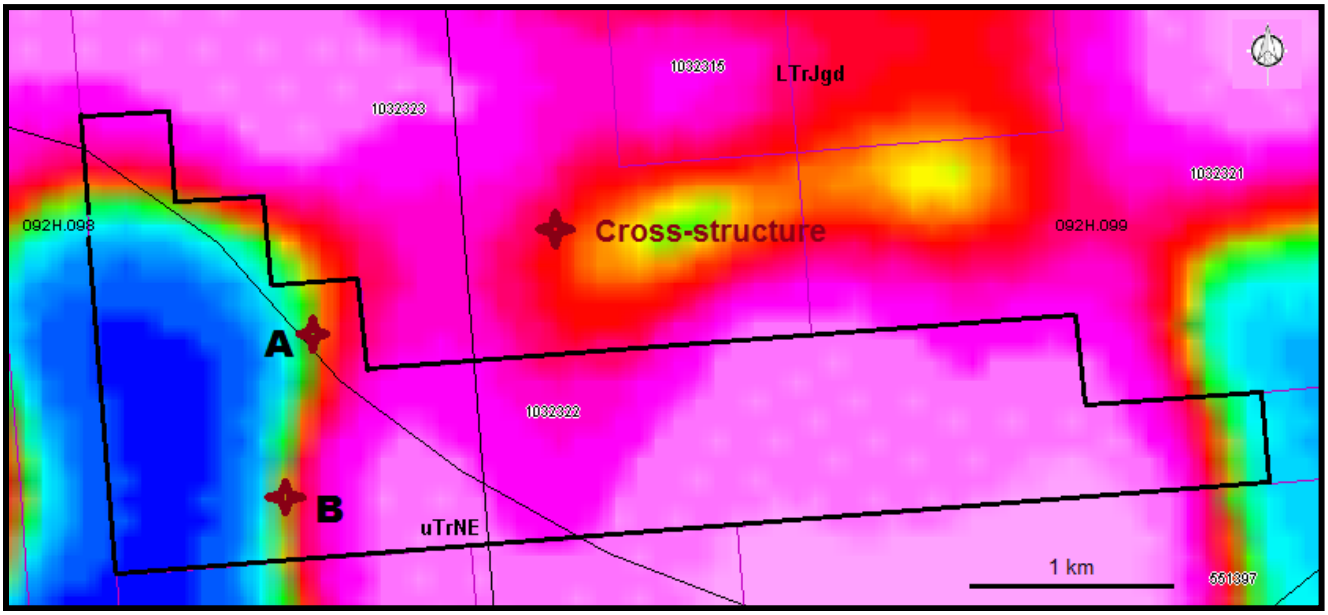


Figure 14. **Tenure 1032322** *(Former 589880)***: Cross-structural locations** *(AR 35209)*
(Note the cross-structural locations on the waning potion of the magnetic high)
(Base map from MapPlace)



Magnetometer Survey

a) Instrumentation

A Scintrex MF 2 Model magnetometer was used for the magnetometer survey. Diurnal variations were 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.

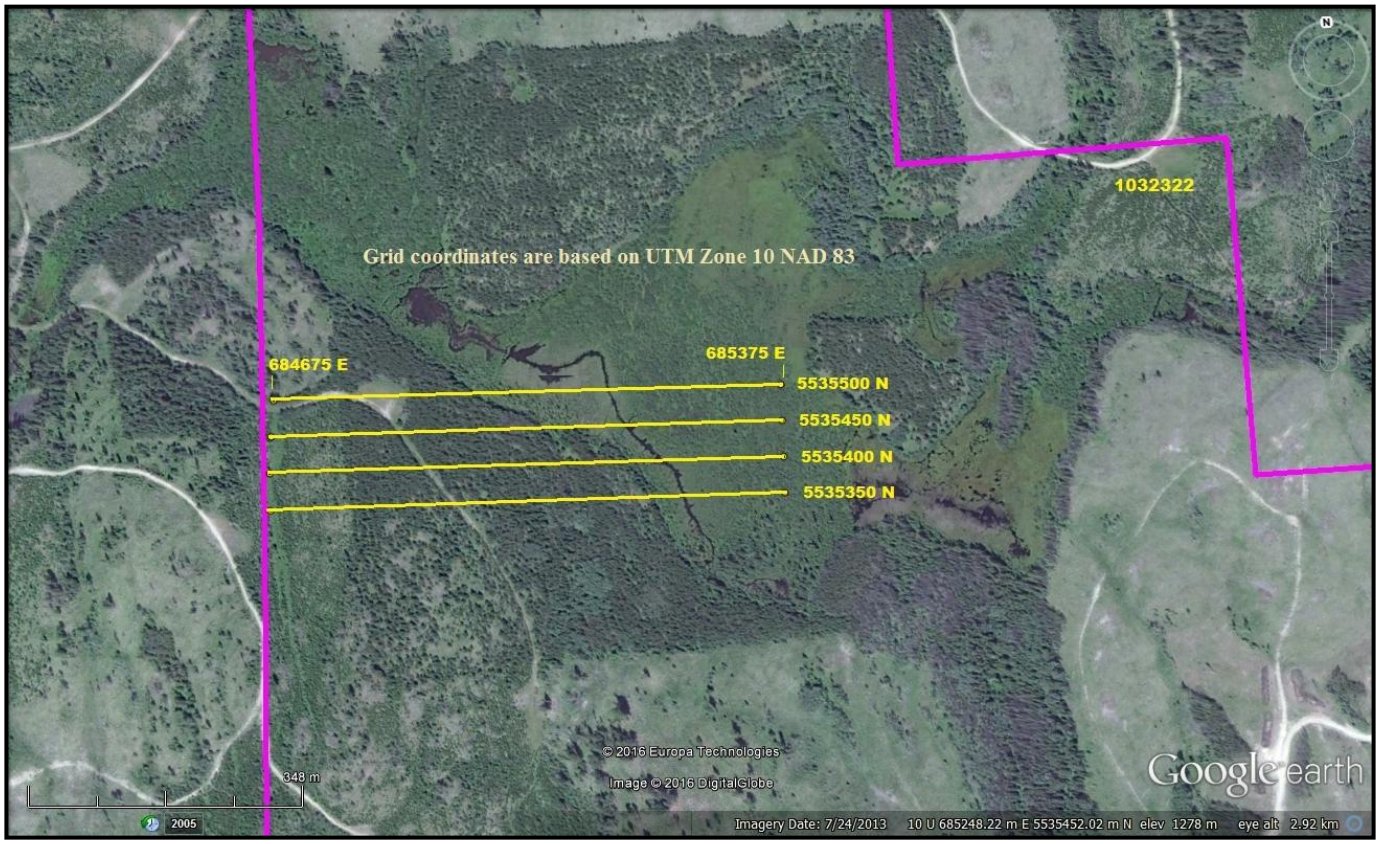
c) Survey Procedure

A 150 metre base line was established from 5535500N 684675E southward to 55355350 684675E with base line stations at every 50 metres. From each of the four base line stations magnetometer readings were taken at 25 metre intervals easterly to 685375E along each of the four grid lines. The grid line stations were established with a GPS instrument. Line kilometres of magnetometer survey completed was 2.8. The field results are reported 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 the maps exemplified as Figures 9, 10, & 11.

Figure 15. **Magnetometer Survey Grid**
(Base from MapPlace)



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

Figure 16 .**Magnetometer Survey Data**
(Base from MapPlace)

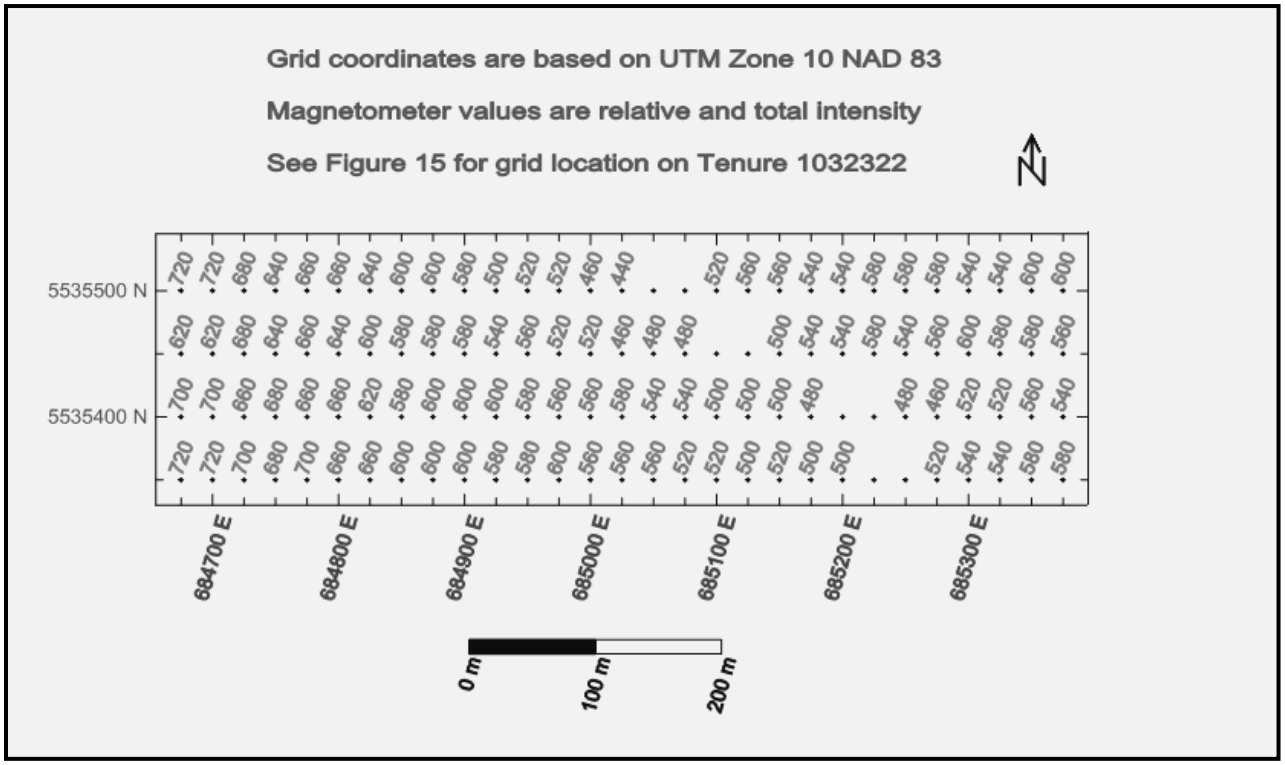
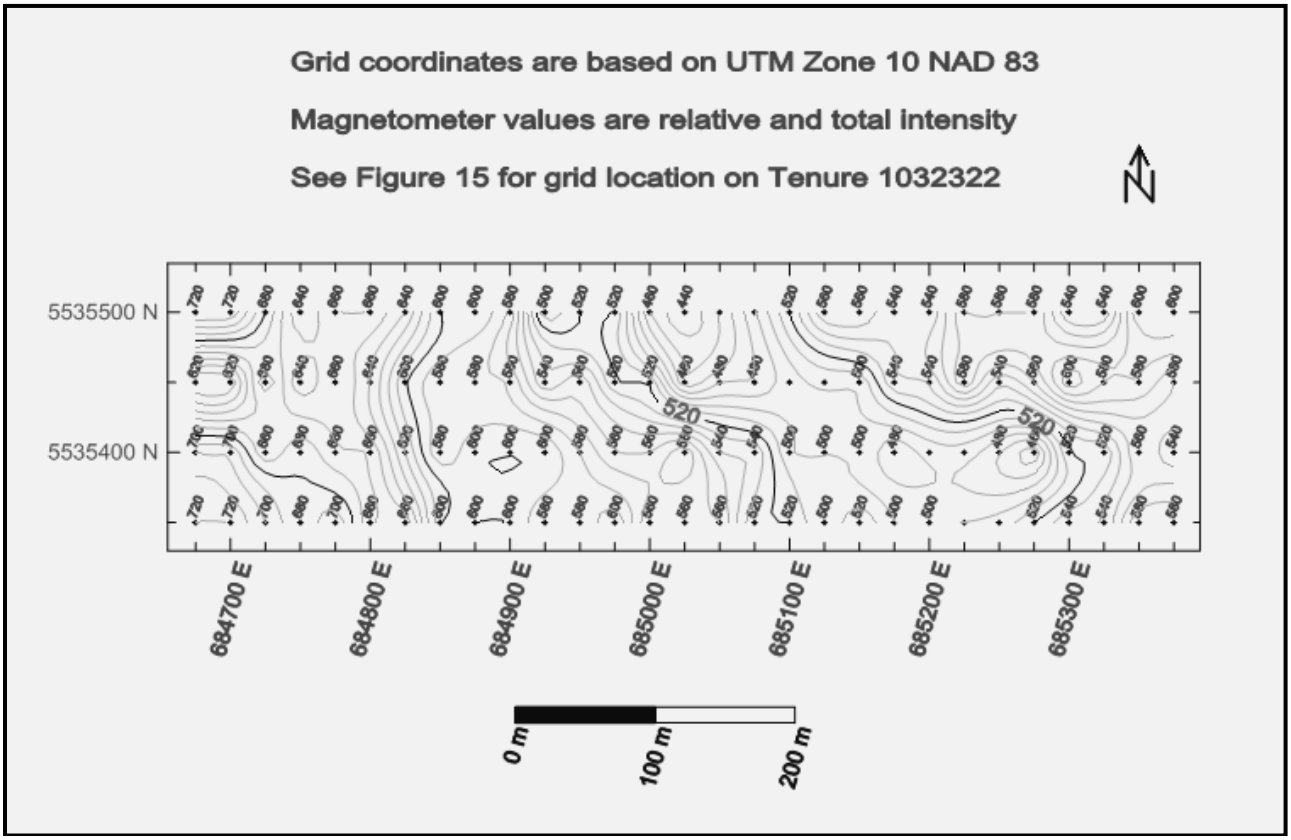


Figure 17. **Magnetometer Survey Data Contoured**



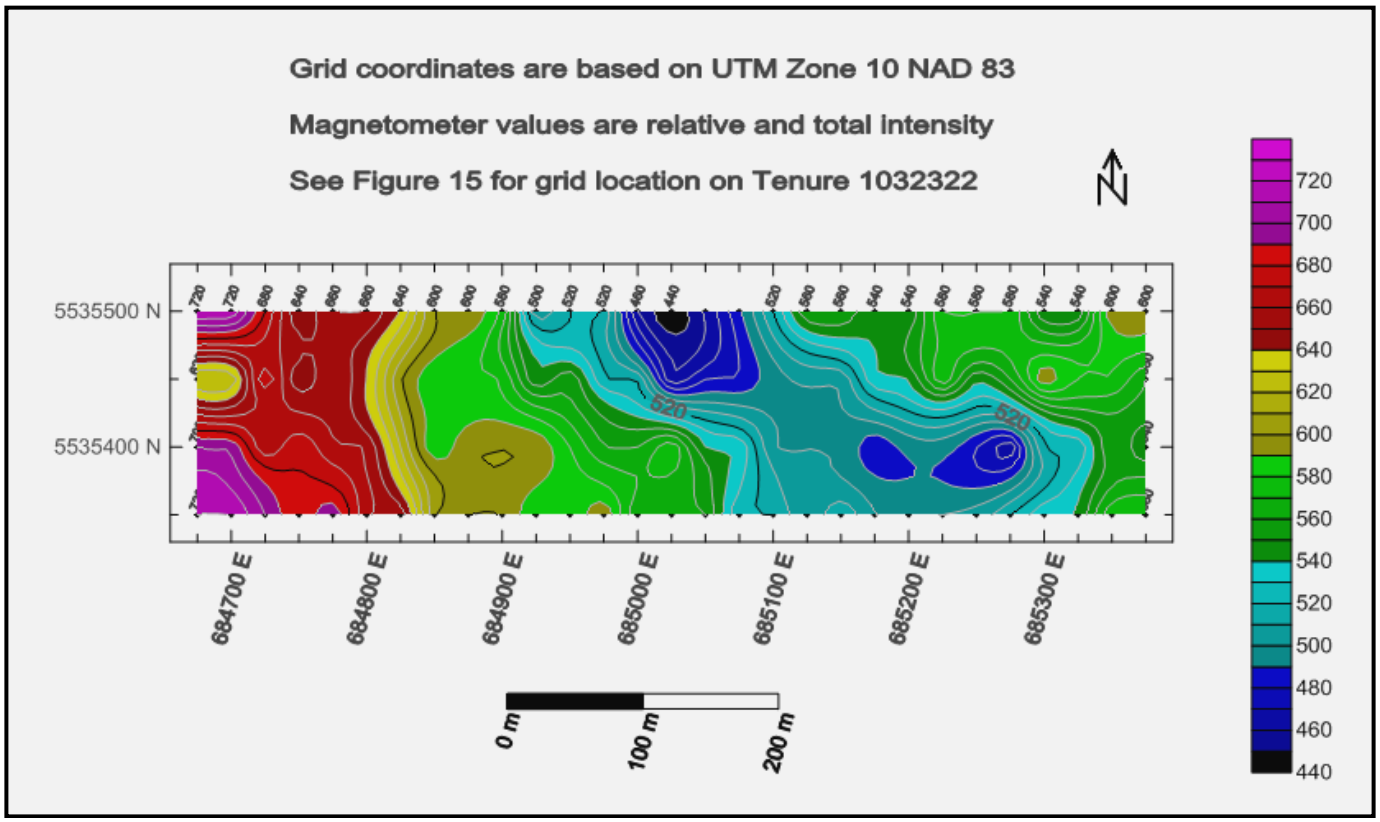
Magnetometer Survey *(cont'd)*

e) Results

The localized magnetometer survey which covered Nicola volcanics indicated a 200 to 250 metre wide open-ended central northwesterly trending zone of a relative magnetometer low (mag LO) which envelope a 100 metre wide zone of an open-ended sub-anomalous mag LO which envelops two localized mag LO anomalies in the southern sector and one 50 metre wide open-ended anomalous mag LO in the northern sector.

As indicated on Figure 11 and in Appendix I, cross-structure "A" was not covered by the survey and magnetometer readings at some stations could not be taken due to marshy ground and water courses. However, the approximate location of cross-structure "A" is indicated some 50 metres northwest of the open-ended anomalous mag LO and at the projected transitional portion between the sub-anomalous and the anomalous zone.

Figure 18. **Magnetometer Survey Data Colour Contoured**



INTERPRETATION & CONCLUSIONS

Economic Evaluation

Comparing the geological setting of Tenure 1032322 to the productive geological setting of the Copper Mountain mineral deposits, the potential for an underlying porphyry mineral resource within Tenure 1032322 is encouraging.

As the cross-structures at Copper Mountain are indicated to be an essential feature to the location of five productive mineral zones, the two cross-structures on Tenure 1032322 are potential for controls to the development of mineral zones. This is shown at the one of the major mineral zones, the Ingerbelle, where up to five vari-directional structures intersect near the open-pit centre.

As both the Copper Mountain and Tenure 1032322 are within the prolific "porphyry copper belt" of British Columbia and the geology of both properties as to intrusives and volcanics is alike, the potential for comparable mineral zones on Tenure 1023233 is enhanced.

At Copper Mountain most of the mineral zones are indicated at cross-structural locations within the volcanics adjacent to the intrusive contact, cross-structure "A" on Tenure 1032322 is also indicated at an intrusive/volcanic contact.

Another comparative analysis between the Copper Mountain mineral deposits and cross-structural "A" on Tenure 1032322 is that most of the mineral zones/deposits at Copper Mountain are not only directly associated with cross-structural locations and adjacent to the volcanic/intrusive contact, but are located on the waning portion of magnetic high's as is the location of cross-structural "A".

Magnetometer Survey

The magnetometer survey was performed over an area to the west of cross-structure "A" at a location where another undesignated cross-structure is located at the western boundary of the 2019 structurally analyzed Tenure 589880 (Figure, 7, 8, & 11.) (Sookochoff, 2009).

As the southeasterly trending mag LO zone (Figure 18) appears to parallel the intrusive/ volcanic contact, there is a reasonable probability that the zone reflects dynamic or hydrothermal alteration associated with the structure. This structure which extends southeasterly to cross-structure "B" and further southeasterly to another cross-structure on Tenure 589847 (Figure 7).

Thus, Tenure 1032322, with the indicated major structures and the favourable comparative analysis with the productive Copper Mountain mineral deposits, is in a favourable location for the occurrence of economic mineral zones.

Respectfully submitted
Sookochoff Consultants Inc.

Laurence Sookochoff, PEng

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STATEMENT OF COSTS

Work on Tenure 1032322 was completed from May 20, 2016 to May 30, 2016 to the value as follows:

Tenure 1032322 Economic Evaluation

Laurence Sookochoff, P Eng. ----------	$ 3,000.00
Magnetometer Survey	
Rick Pearson & Ross Heyer	
May 23-24, 2016	
Four man days @ $300.00 per day ----------	1,200.00
Truck rental, kilometre charge, fuel, room & board,	
mag rental ----------	1,155.00
	$ 5,355.00
Maps ----------	700.00
Report ----------	3,300.00
	$ 9,355.00
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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 fifty 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 on the Toni Property since 2006.

5) I have no interest in the Property as described herein.

Laurence Sookochoff, P. Eng.

Appendix I

Magnetometer Data

E5604848 T1032322											
East	**North**	**Mag**	**East**	**North**	**Mag**	**East**	**North**	**Mag**	**East**	**North**	**Mag**
684675	5535350	720	684675	5535400	700	684675	5535450	620	684675	5535500	720
684700	5535350	720	684700	5535400	700	684700	5535450	620	684700	5535500	720
684725	5535350	700	684725	5535400	660	684725	5535450	680	684725	5535500	680
684750	5535350	680	684750	5535400	680	684750	5535450	640	684750	5535500	640
684775	5535350	700	684775	5535400	660	684775	5535450	660	684775	5535500	660
684800	5535350	660	684800	5535400	660	684800	5535450	640	684800	5535500	660
684825	5535350	660	684825	5535400	620	684825	5535450	600	684825	5535500	640
684850	5535350	600	684850	5535400	580	684850	5535450	580	684850	5535500	600
684875	5535350	600	684875	5535400	600	684875	5535450	580	684875	5535500	600
684900	5535350	600	684900	5535400	600	684900	5535450	580	684900	5535500	580
684925	5535350	580	684925	5535400	600	684925	5535450	540	684925	5535500	500
684950	5535350	580	684950	5535400	580	684950	5535450	560	684950	5535500	520
684975	5535350	600	684975	5535400	560	684975	5535450	520	684975	5535500	520
685000	5535350	560	685000	5535400	560	685000	5535450	520	685000	5535500	460
685025	5535350	560	685025	5535400	580	685025	5535450	460	685025	5535500	440
685050	5535350	560	685050	5535400	540	685050	5535450	480	685050	5535500	
685075	5535350	520	685075	5535400	540	685075	5535450	480	685075	5535500	
685100	5535350	520	685100	5535400	500	685100	5535450		685100	5535500	520
685125	5535350	500	685125	5535400	500	685125	5535450		685125	5535500	560
685150	5535350	520	685150	5535400	500	685150	5535450	500	685150	5535500	560
685175	5535350	500	685175	5535400	480	685175	5535450	540	685175	5535500	540
685200	5535350	500	685200	5535400		685200	5535450	540	685200	5535500	540
685225	5535350		685225	5535400		685225	5535450	580	685225	5535500	580
685250	5535350		685250	5535400	480	685250	5535450	540	685250	5535500	580
685275	5535350	520	685275	5535400	460	685275	5535450	560	685275	5535500	580
685300	5535350	540	685300	5535400	520	685300	5535450	600	685300	5535500	540
685325	5535350	540	685325	5535400	520	685325	5535450	580	685325	5535500	540
685350	5535350	580	685350	5535400	560	685350	5535450	580	685350	5535500	600
685375	5535350	580	685375	5535400	540	685375	5535450	560	685375	5535500	600