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Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

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

TOTAL COST: \$ 9,042.10

AUTHOR(S): Laurence Sookochoff, PEng

SIGNATURE(S): *Laurence Sookochoff*

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YEAR OF WORK: 2016

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5626903 November 24, 2017

PROPERTY NAME: Toni

CLAIM NAME(S) (on which the work was done): 1048005

COMMODITIES SOUGHT: Copper Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNE058, 092HNE144

MINING DIVISION: Nicola

NTS/BCGS: 092H.098

LATITUDE: 49 ° 58 ' 17 " LONGITUDE: 120 ° 32 ' 43 " (at centre of work)

OWNER(S):

1) Victory Resources Corporation

2) Sierra Iron Ore Corporation

MAILING ADDRESS:

132366 Cliffstone Court

132366 Cliffstone Court

Lake Country BC V4V 2R1

Lake Country BC V4V 2R1

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

1) Victory Resources Corporation

2) Sierra Iron Ore Corporation

MAILING ADDRESS:

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

Cretaceous, Triassic. Nicola Group, Eastern Volcanic Facies, Basaltic Volcanics, Triassic Jurassic, Granodiorite

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 00925. 01016, 07399, 23446, 24036, 27112, 28397, 29115, 29964, 30690, 34771

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	332 hectares	1048005	\$ 6,000.00
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic	2.5	1048005	3,042.10
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
TOTAL COST:			\$ 9,042.10

SIERRA IRON ORE CORPORATION

GEOLOGICAL & GEOPHYSICAL

ASSESSMENT REPORT

(Event 5626903)

BC Geological Survey
Assessment Report
36557

Work done on Tenure 1048005

(from November 22, 2016 to November 24, 2016)

of the eight claim

TOM CAT 1048005 CLAIM GROUP

Nicola Mining Division

BCGS 092H.098

British Columbia, Canada

Centred Near:

5,538,331 N, 676,018 E

(10 NAD: 83)

Author & Consultant:

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Sookochoff Consultants Inc.

Submitted

July 21, 2017

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SUMMARY

The eight claim 3,201 hectare Tom Cat 1048005 Claim Group ("Property") is located 198 kilometres east-northeast of Vancouver within the historic Aspen Grove of south-central British Columbia. The Property is situated within the belt of Mesozoic rocks, including the Nicola Volcanics and intrusives, which host such major porphyry deposits as at the Brenda mineral deposit and the world-class Highland Valley mine. The dominant mineral controlling feature at these mines is a central cross-structural feature with an expansive zone of fractures.

At the Brenda past producer (MINFILE 092HNE047) the mineral deposit is within the "Brenda stock", a composite quartz diorite/granodiorite body which forms part of the Pennask batholith, was comprised of a core of intense fracturing with mineralization decreasing outwardly from this, the centre of the main mineral zone. The grade of the deposit was a function of fracture (vein) density and of the thickness and mineralogy of the filling material. The Brenda mine was in production from 1970 to 1990 originating with measured geological (proven) reserves of 160,556,700 tonnes grading 0.183 per cent copper and 0.049 per cent molybdenum.

The Highland Valley low-grade copper/molybdenum deposit lies within the Late Jurassic Guichon Creek batholith in Bethsaida phase porphyritic quartz monzonite and granodiorite. The most prominent structural features are the north trending, west dipping Lornex fault and the east trending Highland Valley fault. The cross-faulting relationship may have been the initiation to the formation of the mineral resource in that a mineralization conduit was provided. The reactivation of the Lornex fault created a progressively expansive structural system to accommodate the mineralizing fluids.

As indicated by the BC government supported MapPlace geological maps, the Property is predominantly underlain by basaltic and sedimentary rocks and of the Eastern Volcanic Facies (UTrNE) with a portion of a granodioritic stock, and a portion of the Pennask batholith (LTrJgd) in the northeast corner.

In the structural analysis of Tenure 1048005, two cross-structural locations, "A" and "B", were delineated from major northerly and westerly trending structures. The cross-structures are located within the Nicola volcanics and indicated approximately 200 metres from an indicated intrusive stock.

The localized magnetometer survey within Tenure 1048005 and including cross-structure "A", indicated that the location of the cross-structure correlates with a north-northwest trending relative "anomalous" magnetometer LO which is a consistent 50 metres wide and open to the north and the south of the 200 metre wide survey area.

The magnetometer survey may indicate a potential buried intrusive in that the anomalous magnetometer LO, may indicate a zone of hydrothermal alteration associated with a major structure. The approximate location of a cross-structure within the general mag LO zone may indicate that the altered zone is the result of hydrothermal fluids accessing the surface via the brecciated cross-structure.

Thus, the priority locations for exploration within Tenure 1048005 would initially be cross-structure "A" and subsequently the mag LO anomaly area, and cross-structure "B". The objective of the exploration program would be to search for surficial geological signatures of a concealed mineral resource. These geological indicators may be revealed as pathfinder minerals, minerals and/or alteration products that would be subject to interpretation as economic mineral indicators.

INTRODUCTION

Between November 22, 2016 and November 24, 2016 a structural analysis and a localized magnetometer survey were completed on Tenure 1048005 of the eight claim Toni 1048005 claim group (Property). The purpose of the program was to delineate potential structures and correlative magnetic responses which may be integral in indicating near surface indications and/or geological controls to a potential mineral resource.

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

Figure 1. Location Map
(from MapPlace)



PROPERTY LOCATION and DESCRIPTION

Location

The Property is located in the Nicola Mining Division of British Columbia Canada, 198 kilometres east-northeast of Vancouver and 25 kilometres south of Merritt.

Description

The Property consists of eight contiguous claims totalling 3201.8101 hectares. Particulars are as follows:

Table 1. TOM CAT 1048005 CLAIM GROUP TENURES
(from MtOnline)

<u>Tenure Number</u>	<u>Type</u>	<u>Claim Name</u>	<u>Good Until*</u>	<u>Area (ha)</u>
520757	Mineral	WEN	20170717	499.041
582313	Mineral	NEW WEN 2	20170717	166.3116
591361	Mineral	WIN 8	20170717	519.8243
633143	Mineral	WENA	20170717	415.8861
633144	Mineral	WENB	20170717	415.8874
633183	Mineral	WEND	20170717	394.9934
1031274	Mineral	POT HOLE LAKE NORTH	20170724	457.3688
1048005	Mineral		20171122	332.4975

*On the approval of this assessment report

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

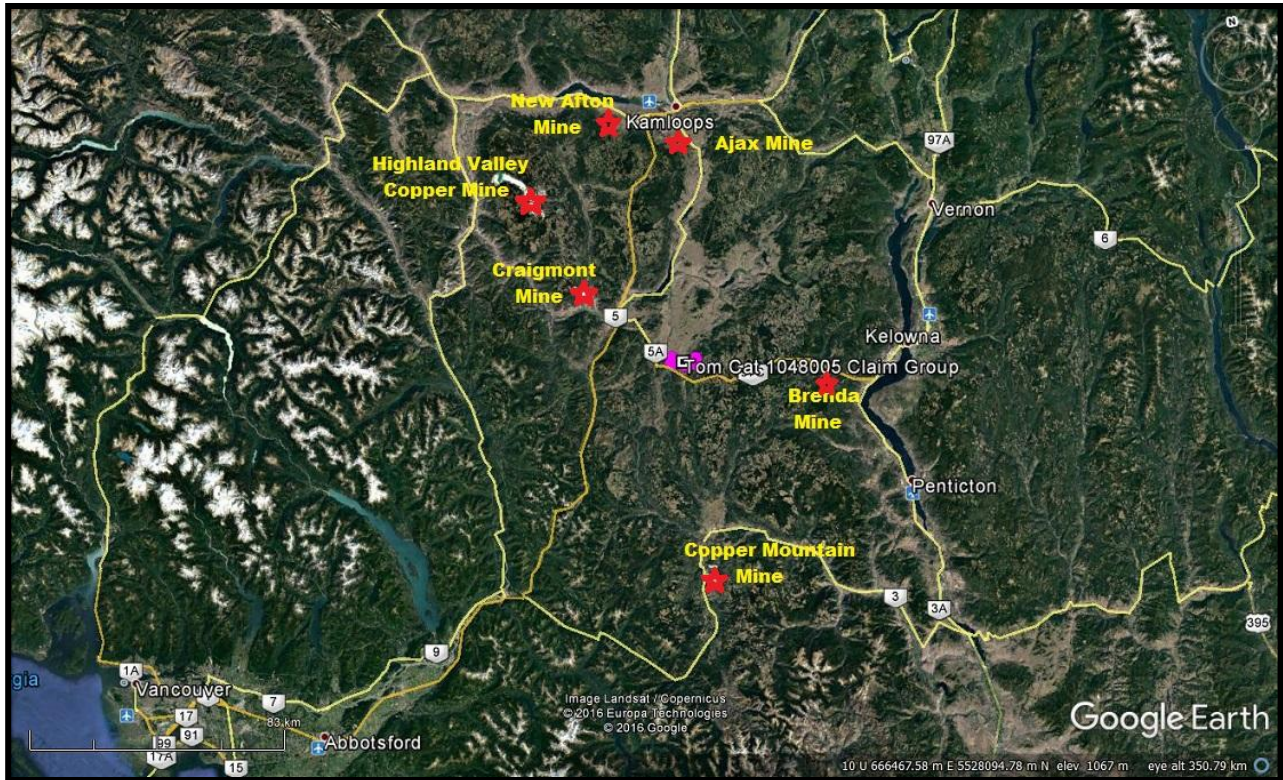
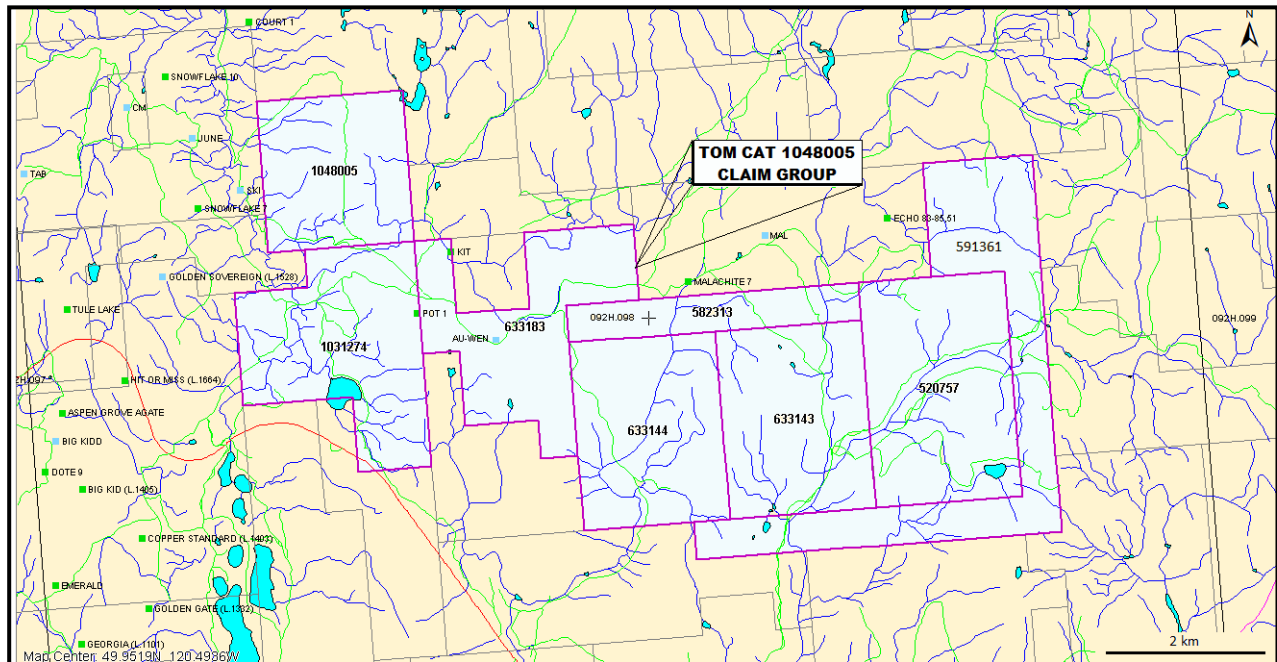


Figure 3. **Claim Map**
(base map from MapPlace)



ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY

Access

Access to the Toni 1050488 Claim Group is southward from Merritt via Highway 5A/97C for 27 kilometres to the Aspen Grove junction thence eastward on Highway 5A or the Coquihalla Connector for five kilometres to the western boundary of Tenure 1018452 of the Toni 1050488 Claim Group. Secondary roads provide access to many areas of the Toni 1050488 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 could be from December to April which should not hamper a year-round exploration program.

Local Resources and Infrastructure

Merritt or Kamloops, historic mining centres, could be a source of experienced and reliable exploration and mining personnel and a supply for most mining related equipment. Kamloops is serviced daily by commercial airline and is a hub for road and rail transportation. Vancouver, a port city on the southwest corner of, and the largest city in the Province of British Columbia, is four hours distant by road and less than one hour by air from Kamloops.

Physiography

Within Tenure 1048005 the topography is of predominantly gentle to moderate lightly forested slopes with elevations ranging from 894 metres within the southwest corner to 1,077 metres on a knoll peripheral to the location of cross-structure "A".

HISTORY: PROPERTY AREA

The history on some of MINFILE reported occurrences, prospects, and past producers peripheral to the Tom Cat 1048005 Claim Group is reported as follows. The distance is from the Tom Cat 1048005 Claim Group.

MAL prospect (Cu skarn; Fe skarn; Au skarn)

MINFILE 092HNE002

One kilometre north

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).

TOM CAT prospect (Volcanic redbed-Cu; Subvolcanic-Cu-Ag-Au (As-Sb);

Porphyry Mo (Low F-type)

MINFILE 092HNE056

Eight kilometres southwest

The occurrence was initially prospected and trenched by W. Murray between 1906 and 1913. Pyramid Mining Company Ltd. drilled 13 holes totalling 1042 metres in 1965.

History: Property Area (cont'd)**ECHO** showing (Volcanic redbed Cu)

MINFILE 092HNE059

Four kilometres north

The Echo occurrence refers to a group of minor copper showings in an area east of the historical Aspen Grove copper camp, between Merritt and Princeton. The occurrence is centred on the northernmost of three showings which were worked on in the 1960s, in a small area (less than 0.5 square kilometre) located southeast of Quilchena Creek, 8.5 kilometres west-northwest of Boot Lake, and 13 kilometres east of the community of Aspen Grove (Assessment Report 1586).

BIG SIOUX past producer (Volcanic redbed Cu; Alkalic porphyry Cu-Au)

MINFILE 092HNE073

Three kilometres west

This deposit was one of the first showings to be explored in the Aspen Grove copper camp. It was staked in 1899, and investigated periodically by H.H. Schmidt up to 1914. One shaft, 10 metres deep, an adit, 46 metres long, and numerous pits and trenches were excavated during this time. Forty-four tonnes of ore were shipped in 1918 grading 9.78 per cent copper and 67.9 grams per tonne silver. David Minerals Ltd., Amax Exploration Inc. and Norranco Mining and Refining completed soil and rock geochemical and geophysical surveys over the deposit between 1968 and 1978.

The occurrence was restaked in 1989 after copper mineralization was exposed in a roadcut along the north side of the recently completed Coquihalla Highway (Phase 3 - Okanagan Connector). The deposit was subsequently mapped and sampled by Amex Exploration Services Ltd. in 1990, Northair Mines Ltd. in 1991 and Placer Dome Inc. in 1992.

PAYCINCI prospect (Volcanic redbed Cu)

MINFILE 092HNE084

Four kilometres south

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).

ELK past producer (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn

+/-Au; Au-quartz veins)

MINFILE 092HNE096

Eleven kilometres southeast

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).

History: Property Area (cont'd)**ELK past producer (cont'd)**

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.

MALACHITE 7 showing (Skarn)

MINFILE 092HNE269

100 metres north

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.

SNOW showing (Porphyry Cu+/-Mo+/-; Polymetallic veins Ag-Pb-Zn+/-Au)

MINFILE 092HNE292

Seven kilometres northeast

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.

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.

HISTORY: PROPERTY

The history on the mineral MINFILE reported occurrences, prospects, and past producers within the Tom Cat 1048005 Claim Group is reported as follows.

HN-WEN prospect (Volcanic redbed Cu)

MINFILE 092HNE058

Six kilometres southwest

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

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.

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 volcanoclastic rocks and volcanic flows.

History: Property (cont'd)**HN-WEN prospect (cont'd)**

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).

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 significance of the Adit 1 vein is that it 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 averaging 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.

AU-WEN prospect (Intrusion related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE144
Within Tenure 633183

The AU occurrence consists of gold-silver-copper mineralization just east of the historical Aspen Grove copper camp, between Merritt and Princeton. Work on this showing dates back to the 1930s when visible gold was discovered in soil.

The occurrence is located 1.8 kilometres east-northeast of Pothole Lake, between Quilchena and Pothole creeks, 8 kilometres east-northeast of the community of Aspen Grove. This prospect includes the Au claims and the FLIM and FLAM. The area was prospected in the 1930's for gold (Balon, 1994). McGoran (1979) reported that two prospectors, M. Bresnick and J. Kohler were able to pan colours from test pits although they failed to determine the source of the gold. Harry Nesbitt of Merritt staked the AU claims in 1969 and on his discovery of free gold in trenches prompted an option agreement with New Pyramid Gold Mines who in 1974 conducted further trenching followed by the completion of seven diamond drill holes. No details of the results of the drilling are available.

The claims reverted back to Nesbitt who in 1978 sold them to Invex Resources Ltd. A program of soil sampling and trenching by Invex delineated a copper-gold-silver anomaly extending some 700m northwards of the original Nesbitt showing. The combined soil and rock sampling however indicated, that the copper and gold anomalies were more pronounced in the rock sampling where gold values ranged up to 740ppb and copper values to 2,900ppm. McGoran (1979) observed, "the gold mineralization appears to be confined to one or more microdiorite dykes".

Invex merged with Imperial Metals Corp. who continued exploring the claims and in 1983 drilled 2 holes near the Nesbitt zone. The drilling returned anomalous gold values ranging up to 650ppb. In 1984, David Heyman optioned the claims from Imperial Metals and after adding the FLIM and FLAM claims optioned the claim group to Algo Resources Ltd. In 1986 Algo conducted IP, magnetometer, soil sampling and geological surveys and the following year drilled nine HQ diamond holes totaling 587 metres. One drill hole, DDH 87-8 obtained the best grade intercept over a near surface 1.5m section that yielded 1.4 gpt Au, 92.89 gpt Ag and 3.58% Cu.

Algo relinquished its option and returned the claims to Heyman. Subsequent prospecting by Heyman and J.D. Rowe of Fairfield Minerals Ltd. resulted in the discovery of a 0.75m wide gold-bearing quartz vein north of the Nesbitt zone. Chip sampling of these newly discovered vein yielded gold values of up to 1.402 opt Au.

History: Property (cont'd)**AU-WEN prospect (cont'd)**

In 1993 Fairfield optioned the ground from Heyman and undertook soil geochemical, geological and geophysical surveys, as well as trenching. A soil grid covered the entire AU claims as well as the FLIM and FLAM claims resulting in a few scattered gold values greater than 50ppb. Fairfield dropped its option and the claims reverted back to Heyman.

History: Property Area (cont'd)**Au-Wen prospect (cont'd)**

In 1996, George Resources Company Ltd. commenced a program of line cutting and soil sampling covering parts of the AU 1, AU 3, AU 4 and FLAM claims. In addition, trenching and chip sampling of the Hodge Vein and the Nesbitt Zone were carried out.

A grid consisting of 25 line kilometers was laid out from which 274 soil samples were collected. None of the soil samples analyzed by ICP yielded a gold value greater than 5ppb while the highest copper value was 77ppm. Carl Verley (1997) observed, "the area sampled was underlain by a blanket of boulder till or outwash". Channel sampling from three trenches cut across the Hodge Vein yielded gold values ranging from 30ppb to 6,600 ppb in the wall rock and greater than 20,000 ppb from the vein. At the Nesbitt zone, two trenches yielded gold ranging from 5 ppb to 1,620 ppb.

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 which has been divided into western, central, and eastern belts on the basis of lithology and litho-geochemistry 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. The Vault 246374 Claim Group is situated within the eastern belt of the Nicola Group.

GEOLOGY: PROPERTY AREA

The geology on some MINFILE reported occurrences, prospects, and producers peripheral to the Tom Cat 1048005 Claim Group is reported as follows. The distance is from the Tom Cat 1048005 Claim Group.

MAL prospect (Cu skarn; Fe skarn; Au skarn)

MINFILE 092HNE002

One kilometre north

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 volcanoclastic 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).

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

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).

Within 1 or 2 kilometres to the north of these rocks is the east-trending contact of the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite.

The volcanics and sedimentary rocks have been altered, probably the result of hydrothermal activity related to the Pennask batholith. Epidote alteration is common; potassium feldspar alteration is more restricted. Skarn alteration is most characteristic of this occurrence, as it hosts the main mineralization. It is closely associated with limy rocks, and is marked by epidote and garnet. North-trending gossanous shear zones have been exposed in trenches near the skarn zones (Assessment Report 449).

TOM CAT prospect (Volcanic redbed-Cu; Subvolcanic-Cu-Ag-Au (As-Sb);

Porphyry Mo (Low F-type)

MINFILE 092HNE056

Eight kilometres southwest

This deposit is hosted in green laharic breccia or basaltic flow breccia near the contact with red laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The unit strikes north-northwest and dips 60 degrees east. Massive basaltic flows outcrop to the northeast. Alteration of the breccia consists of some chloritization of olivine and pyroxene, and sericitization of feldspar.

ECHO showing (Volcanic redbed Cu)

MINFILE 092HNE059

500 metres west

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 volcanoclastic 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.

Geology: Property Area (cont'd)

BIG SIOUX past producer (Volcanic redbed Cu; Alkalic porphyry Cu-Au)
MINFILE 092HNE073
Three kilometres west

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.

The occurrence is hosted in variably amphibole, augite and feldspar porphyritic basaltic andesite, subjected to extensive fracturing, shearing and faulting. Alteration minerals include abundant epidote, and minor silica and chlorite. Some microdiorite and diorite are also present.

PAYCINCI prospect (Volcanic redbed Cu)
MINFILE 092HNE084
Four kilometres south

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.

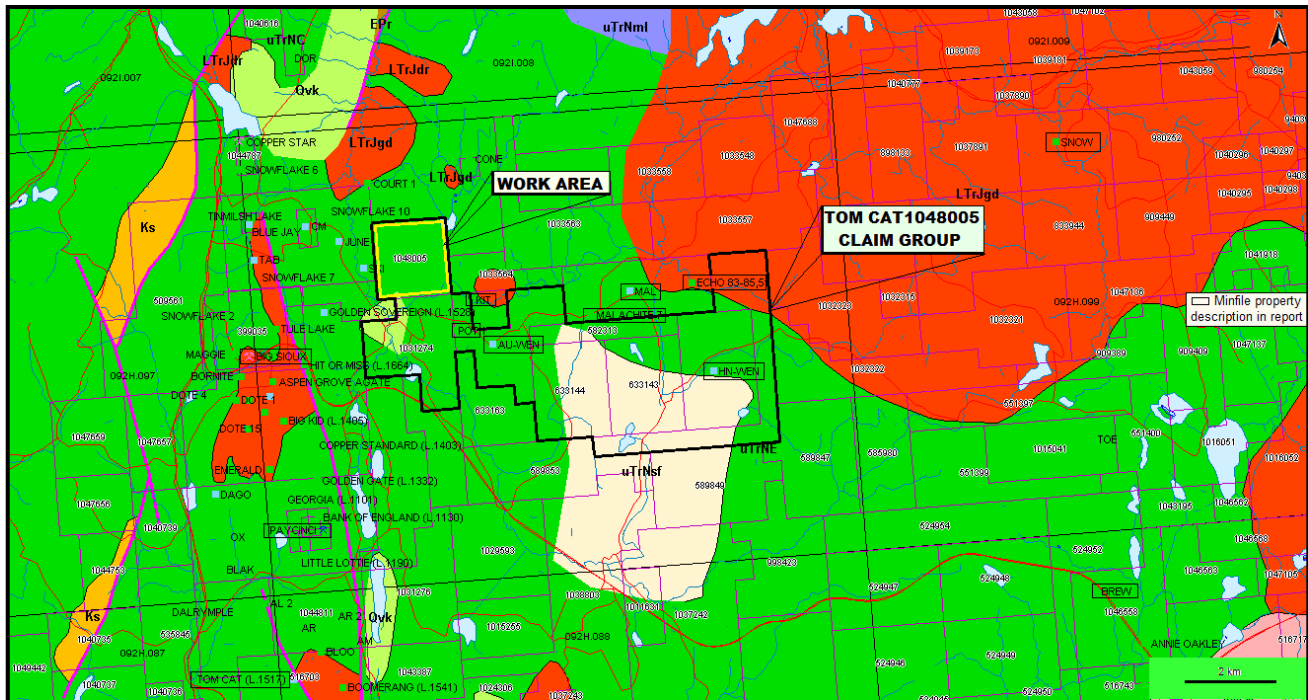
Locally, the area is underlain by red and green laharic breccias, augite andesite porphyry and minor sediments of the Nicola Group (Central belt, Bulletin 69). The units generally strike north-northwest and dip east. This sequence is broken up into a series of tilted fault blocks trending north.

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
Eleven kilometres southeast

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.

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



GEOLOGY MAP LEGEND

Pleistocene to Holocene

Qvk
unnamed alkalic volcanic rocks

Cretaceous

Ka
unnamed, undivided sedimentary rocks

Upper Triassic: Nicola Group

Eastern Volcanic Facies

uTrNE
basaltic volcanic rocks

uTrNsf
mudstone, siltstone, shale, fine clastic sedimentary rocks

uTrNMI
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)**Elk past producer** (cont'd)

This assemblage mainly consists of well-bedded submarine volcanoclastic rocks, ranging from tuffaceous volcanic siltstones characteristic of the lower part, to coarse volcanic conglomerate and laharic breccias in the upper part. The assemblage is characterized by a paucity of intrusive rocks in comparison to the main Aspen Grove copper camp in the Central belt a few kilometres to the west, separated by the Kentucky-Alleyne fault system (Bulletin 69).

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). Small bodies of diorite and micromonzonite, possibly subvolcanic, are quite common in the area, on the surface and in drill core (Assessment Report 16008).

MALACHITE 7 showing (Skarn)

MINFILE 092HNE269

100 metres north

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.

BREW showing (Alkalic porphyry Cu-Au; Subvolcanic Cu-Ag-Au; As-Sb)

MINFILE 092HNE275

Eight kilometres southeast

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 mineralized 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).

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

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+/-; Polymetallic veins Ag-Pb-Zn+/-Au
MINFILE 092HNE292
Seven kilometres northeast

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.

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.

GEOLOGY: PROPERTY

As indicated by the BC government supported MapPlace geological maps, the Property is predominantly underlain by basaltic and sedimentary rocks and of the Eastern Volcanic Facies (UTrNE) with a portion of a granodioritic stock within 200 metres east of Tenure 1048005 and a portion of the Pennask batholith (LTrJgd) in the northeast corner.

The geology of the MINFILE reported showings and prospects within the Tom Cat 1048005 Claim Group is reported as follows.

HN-WEN prospect (Volcanic redbed Cu)
MINFILE 092HNE058
Within Tenure 520727

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). 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 volcanoclastic 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, fragmental rocks including tuff and breccia, and argillites (Assessment Reports 1586, 4230). The argillites are dark grey to black, well bedded, and locally limy. They are somewhat carbonaceous and pyritic. Minor rock types present include feldspar porphyry and locally lenses of diorite. About 2.5 kilometres to the northeast is the contact with the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite.

Geology: Property Area (cont'd)

AU-WEN prospect (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE144
Within Tenure 633183

The AU 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).

POT 1 showing (Volcanic redbed Cu)
MINFILE 092HNE204
Within Tenure 1031274

The Pot 1 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 alkalic volcanic flows and well bedded submarine volcanoclastic rocks, ranging from tuffaceous volcanic siltstones characteristic of the lower part, to coarse volcanic conglomerate and laharic breccias in the upper part. The assemblage is characterized by a paucity of intrusive rocks in comparison to the main Aspen Grove copper camp in the Central belt a few kilometres to the west, separated by the Kentucky-Alleyne fault system (Bulletin 69).

KIT showing (Alkalic porphyry Cu-Au; Porphyry Mo (Low F type))
MINFILE 092HNE270
Within Tenure 633183

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.

MINERALIZATION: PROPERTY AREA

The mineralization on some MINFILE reported occurrences, prospects, and producers peripheral to the Tom Cat 1048005 Claim Group is reported as follows. The distance is from the Tom Cat 1048005 Claim Group.

MAL prospect (Cu skarn; Fe skarn; Au skarn)
MINFILE 092HNE002
One kilometre north

Copper mineralization is concentrated in the skarn zones.

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

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). 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).

TOM CAT prospect (Volcanic redbed-Cu; Subvolcanic-Cu-Ag-Au (As-Sb);

Porphyry Mo (Low F-type)

MINFILE 092HNE056

Eight kilometres southwest

The laharic breccia is erratically mineralized with chalcocite, magnetite, bornite, chalcopyrite, native copper and hematite, as disseminations and fracture coatings. Trenching and diamond drilling has intersected this mineralization over a width of 30 metres and a depth of at least 45 metres.

One drillhole analysed 0.32 per cent copper over 45.7 metres (Minister of Mines Annual Report 1965, page 157, hole 1). Two chip samples assayed 2.4 and 1.6 per cent copper over 2.1 and 3.0 metres respectively (Minister of Mines Annual Report 1913, page 223).

ECHO showing (Volcanic redbed Cu)

MINFILE 092HNE059

500 metres west

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 (Assessment Report 1586). 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).

BIG SIOUX past producer (Volcanic redbed Cu; Alkalic porphyry Cu-Au)

MINFILE 092HNE073

Three kilometres west

Mineralization: Property Area (cont'd)**Big Sioux** past producer (cont'd)

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). 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).

PAYCINCI prospect (Volcanic redbed Cu)

MINFILE 092HNE084

Four kilometres south

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).

ELK past producer (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn

+/-Au; Au-quartz veins)

MINFILE 092HNE096

Twelve kilometres southeast

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).

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.

Mineralization: Property Area (cont'd)**Elk** past producer (cont'd)

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 drill holes. 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 down dip 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.

Mineralization: Property Area (cont'd)**ELK** past producer (cont'd)

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

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.

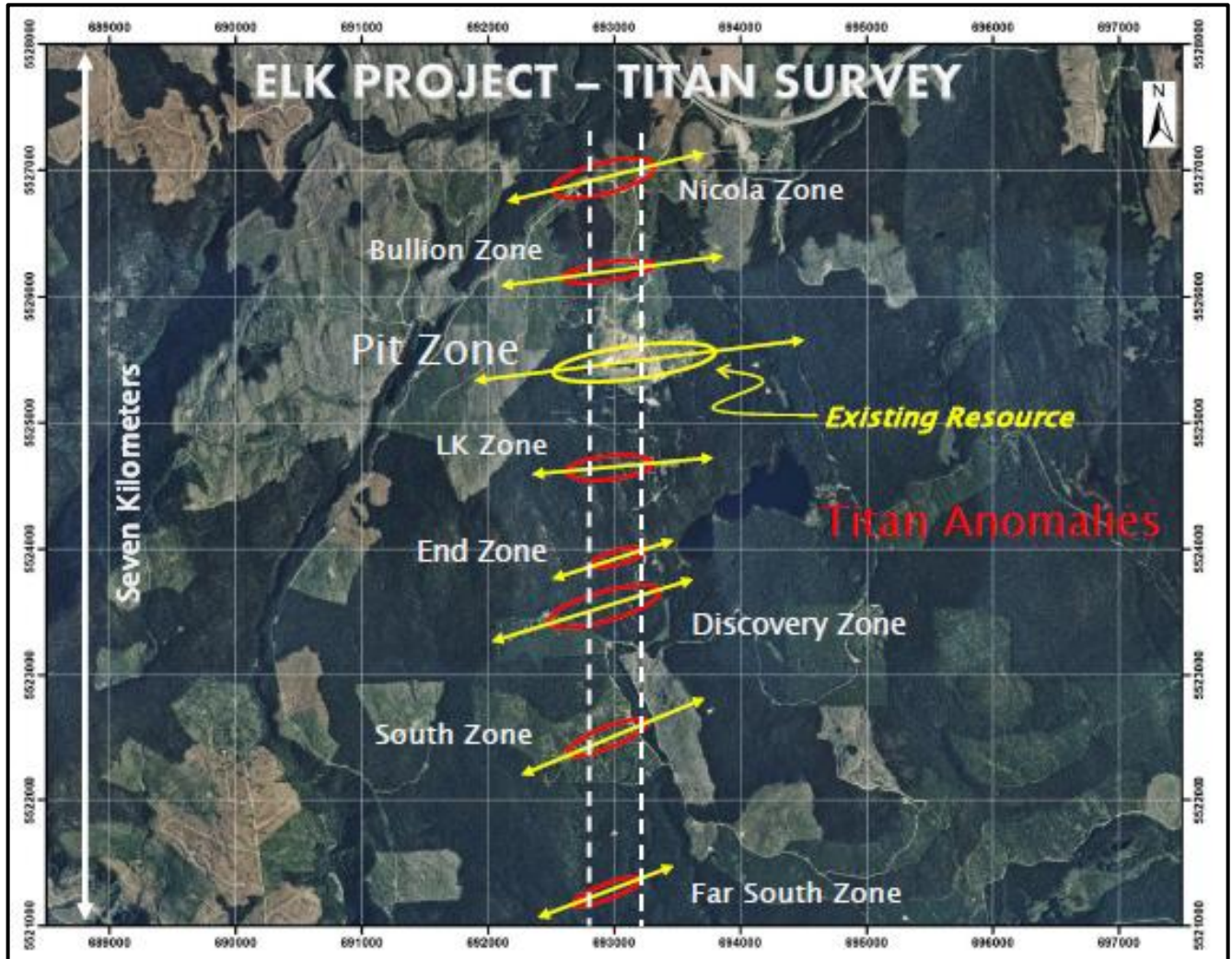
Reserves estimated by the company at January 1, 1996 were 121,350 tonnes grading 25.4 grams per tonne gold and 35.3 grams per tonne silver.

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.

Figure 4a. Elk Mineral Zones showing the indicated localized association to structural intersections of the major north trending Elk or Siwash fault and a subsidiary set of easterly to northeasterly trending faults.

(Map from Gold Mountain Mining Corporation January 2012 Corporate Presentation)



Mineralization: Property Area (cont'd)

ELK past producer (cont'd)

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.

Mineralization: Property Area (cont'd)**ELK** past producer (cont'd)

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.

MALACHITE 7 showing (Skarn)

MINFILE 092HNE269

100 metres north

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.

BREW showing (Alkalic porphyry Cu-Au; Subvolcanic Cu-Ag-Au; As-Sb)

MINFILE 092HNE275

Eight kilometres southeast

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+/-; Polymetallic veins Ag-Pb-Zn+/-Au)

MINFILE 092HNE292

Seven kilometres northeast

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

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. 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.

MINERALIZATION: PROPERTY

The mineralization of the MINFILE reported showings and prospects within the Tom Cat 1048005 Claim Group is reported as follows.

HN-WEN prospect (Volcanic redbed Cu)

MINFILE 092HNE058

Within Tenure 520727

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. 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).

Mineralization: Property (cont'd)

AU-WEN prospect (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE144
Within Tenure 633183

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). 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).

POT 1 showing (Volcanic redbed Cu)
MINFILE 092HNE204
Within Tenure 1031274

Mineralization comprises erratically disseminated chalcopyrite, malachite, azurite and pyrite (Preliminary Map 15; Assessment Report 13714). The copper minerals occur in narrow zones striking southwest, transverse to the regional strike but parallel to a fault 1 kilometre to the northwest (Bulletin 69).

Individual rock samples from the showing were analysed at up to 0.95 gram per tonne gold and 4.8 grams per tonne silver (Assessment Report 13714). A composite chip sample across the showing was analysed at 2.55 grams per tonne gold and 1.9 grams per tonne silver over 130 metres (Assessment Report 13714, Drawing No. 2, sample W301). Gold and silver values appear to be proportional to the degree of alteration and copper mineralization (Assessment Report 13714).

KIT showing (Alkalic porphyry Cu-Au; Porphyry Mo (Low F type))
MINFILE 092HNE270
Within Tenure 633183

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.

STRUCTURAL ANALYSIS

a) Purpose

The purpose of the structural analysis was to delineate any area of relative major fault intersections which location could be the centre of maximum brecciation and be depth intensive to provide the most favourable feeder zone to any convective hydrothermal fluids sourced from a potentially mineral laden reservoir. The fluid constituents and/or the indications thereof should be etched in the surface material; where by means of standard exploratory procedures, the source and location may be identified and a foundation on which to warrant any follow-up exploration.

These surficial indications such as prime minerals, indicator minerals, or alteration patterns, may be an expression of sub-surface mineralization that originated from a potentially developed mineral resource. Thus, a cross-structural location would be the prime area to initially prospect for the surficial indicators which may be revealed as pathfinder minerals, minerals and/or alteration products that would be subject to interpretation as economic mineral indicators.

b) Method

A DEM image hillside shade map downloaded from MapPlace was utilized as the base map for the structural analysis on Tenure 1048005. A total of 68 structurally indicated lineaments were marked (Figure 5), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on Figure 6.

The centre of the work area is at 5,538,331N, 676,018E (10NAD 83).

c) Results

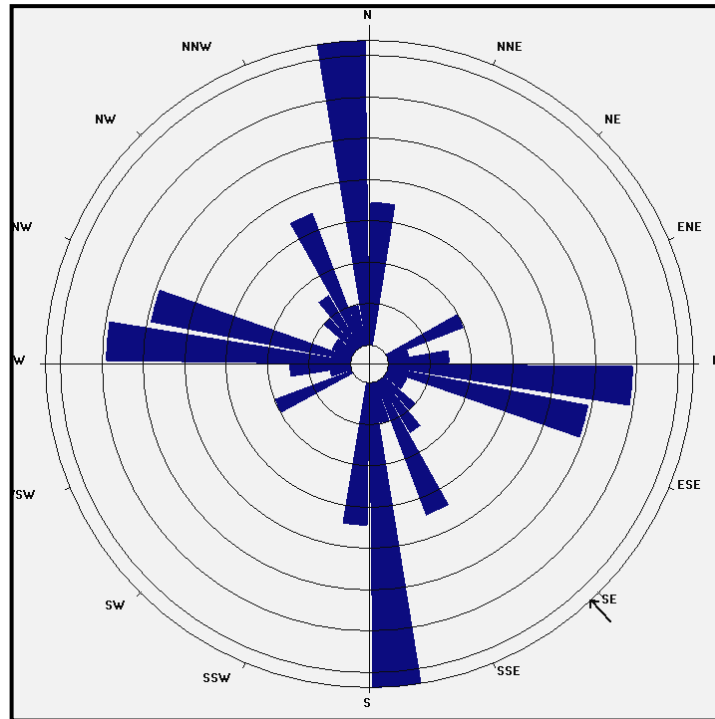
Two cross-structural locations, "A" and "B", were delineated from major northerly and westerly trending structures. The cross-structures are located within the Nicola volcanics and indicated approximately 200 metres from an indicated intrusive stock.

Figure 5. Indicated Structures on Tenure 1048005
(Base map from MapPlace)



Structural Analysis (cont'd)

Figure 6. Rose Diagram from Indicated structures
(Based on Lineaments from Figure 5)

**STATISTICS**

Axial (non-polar) data

No. of Data = 68

Sector angle = 10°

Scale: tick interval = 3% [2.0 data]

Maximum = 22.1% [15 data]

Mean Resultant dir'n = 137-317

[Approx. 95% Confidence interval = ±28.7°]

(valid only for unimodal data)

Mean Resultant dir'n = 136.9 - 316.9

Circ.Median = 007.0 - 187.0

Circ.Mean Dev.about median = 47.4°

Circ. Variance = 0.30

Circular Std.Dev. = 47.96°

Circ. Dispersion = 4.07

Circ.Std Error = 0.2446

Circ.Skewness = 0.85

Circ.Kurtosis = -8.40

kappa = 0.51

(von Mises concentration param. estimate)

Resultant length = 16.75

Mean Resultant length = 0.2463

'Mean' Moments: Cbar = 0.0165; Sbar = -0.2457

'Full' trig. sums: SumCos = 1.1228; Sbar = -16.7092

Mean resultant of doubled angles = 0.5063

Mean direction of doubled angles = 176

(Usage references: Mardia & Jupp, 'Directional Statistics', 1999, Wiley; Fisher, 'Statistical Analysis of Circular Data', 1993, Cambridge University Press)

Note: The 95% confidence calculation uses Fisher's (1993) 'large-sample method'

Structural Analysis (cont'd)

Figure 7. **Cross-structures on Google Earth**
(Base map from Google Earth)

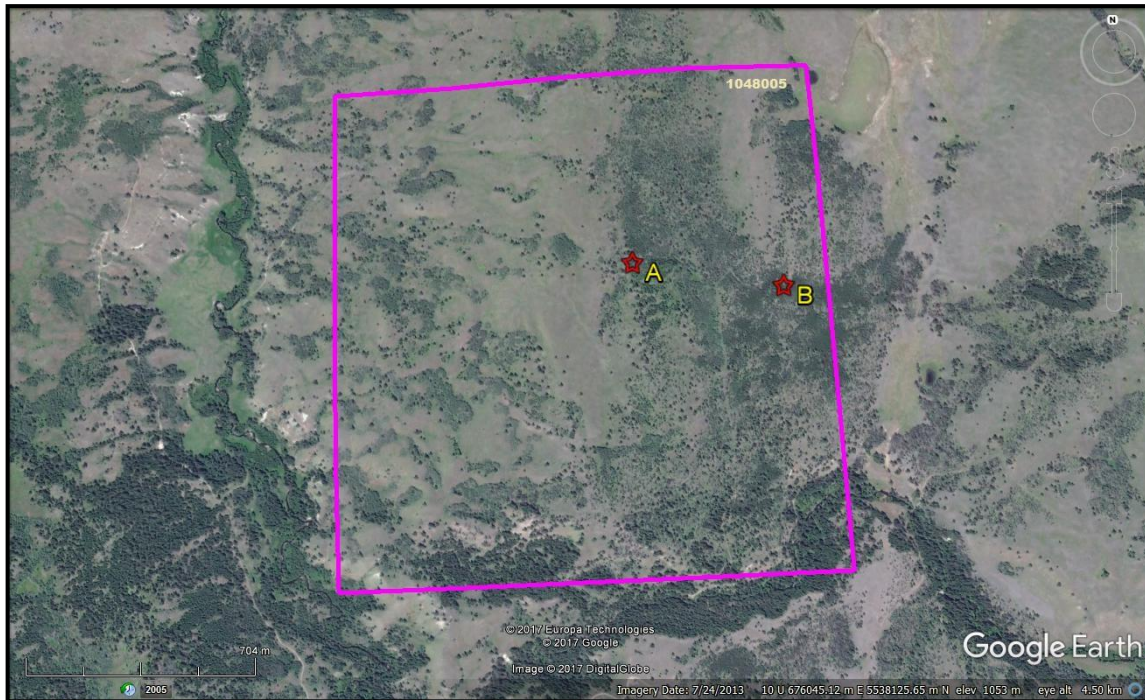


Table II. **Approximate location of cross structures on Tenure 1048005**
(UTM NAD 83)

Location	UTM North	UTM East	Elevation (m)
A	5,538,480	676,236	1,059
B	5,538,354	676,776	1,063

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 as 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 200 metre base line was established from 5538550N 676500E southward to 5538350N with base line stations at every 50 metres. From each of the five base line stations magnetometer readings were taken at 25 metre intervals easterly to 676500E. The grid line stations were established with a GPS instrument. Line kilometres of magnetometer survey completed was 2.5. The field results are reported in Appendix I.

Magnetometer Survey (cont'd)

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 herein as Figures 9, 10, & 11.

Figure 8. Magnetometer Survey Grid
(Base Map from Google Earth)

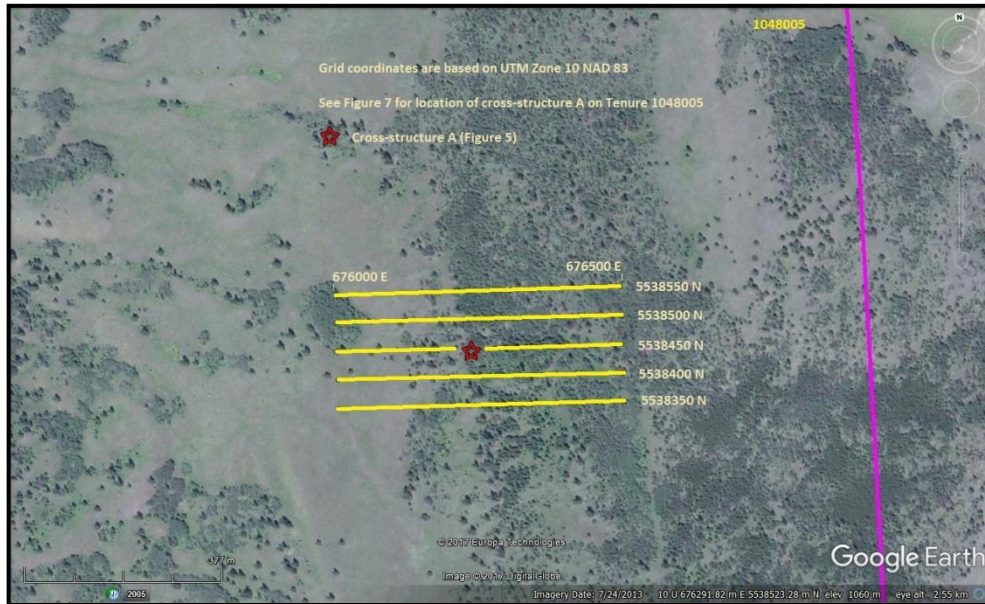
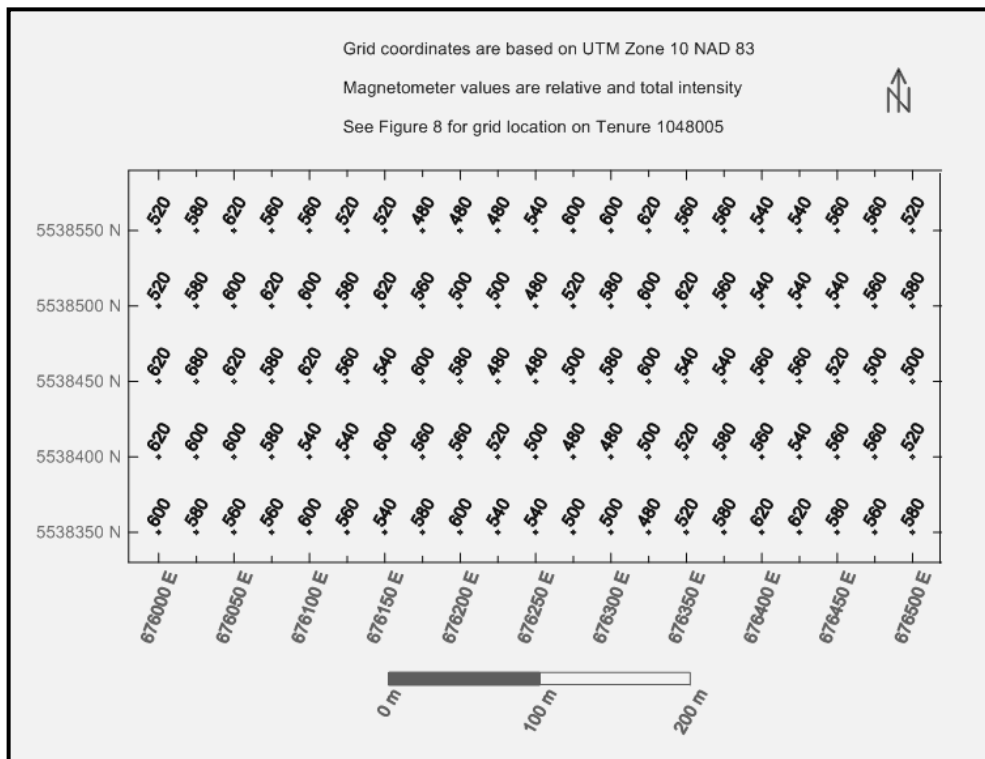


Figure 9. Magnetometer Survey Data



Magnetometer Survey (cont'd)

e) Results

The outstanding feature from the results of the magnetometer survey, which was over Nicola volcanics, indicated that the location of cross-structure "A" correlates with a north-northwest trending relative anomalous magnetometer LO which is a consistent 50 metres wide and open to the north and the south of the 200 metre wide survey area.

Figure 10. Magnetometer Survey Data Contoured

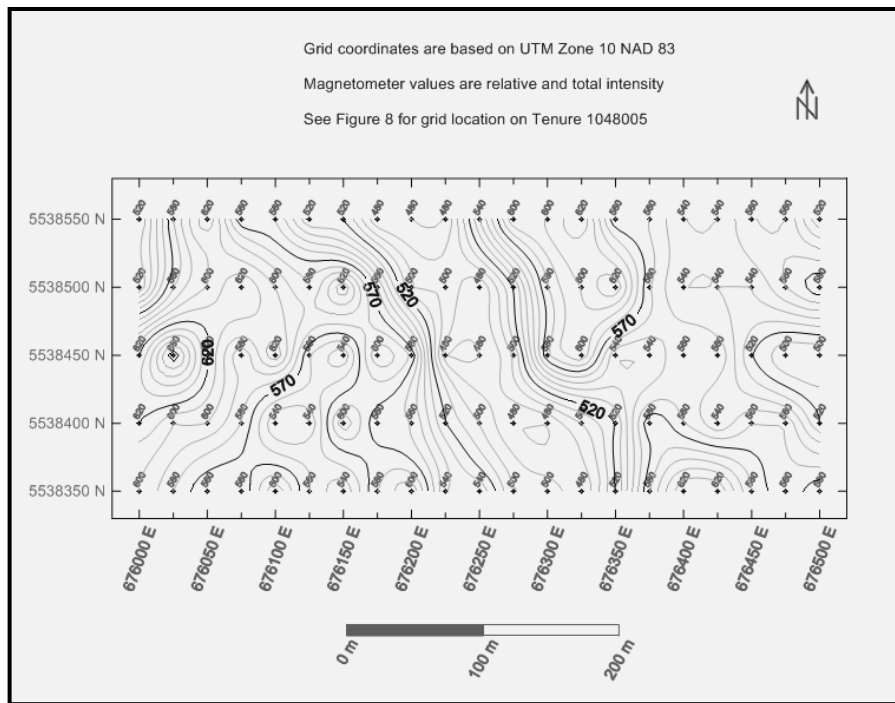
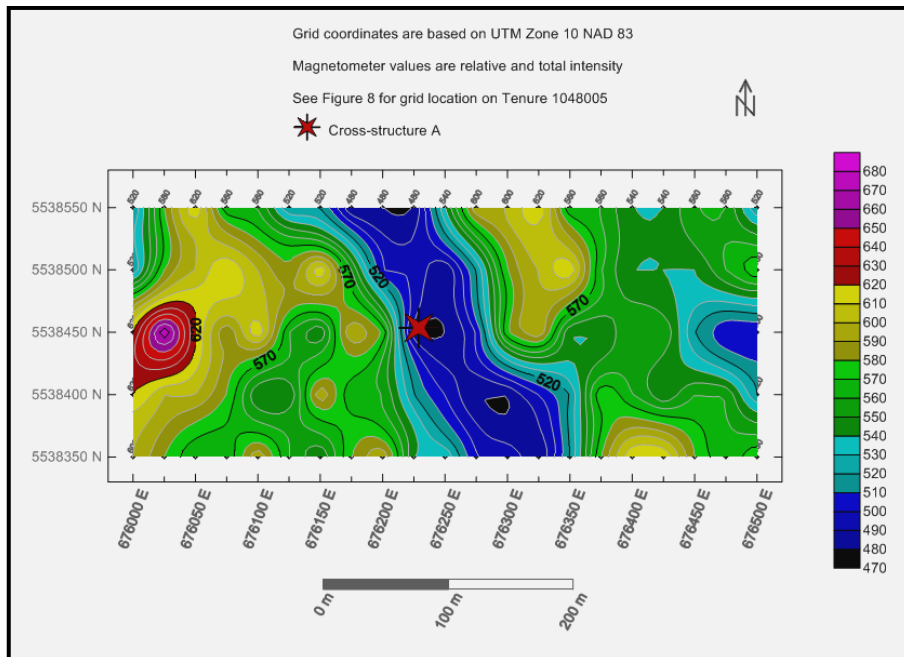


Figure 11. Magnetometer Survey Data Colour Contoured



INTERPRETATION and CONCLUSIONS

The two cross-structures on Tenure 1048005 shown as being developed from indicated northerly and westerly trending structures could be indications of breccia zones with peripheral fracturing that are mineral controlling in that the brecciation generated an extensive zone for the acceptance of mineralizing hydrothermal fluids to produce a mineral resource such as occurred at the past productive Brenda or at the productive Highland Valley mineral deposits (*Figure 2*).

At the Brenda past producer (*MINFILE 092HNE047*) the mineral deposit is within the "Brenda stock", a composite quartz diorite/granodiorite body which forms part of the Pennask batholith, was comprised of a core of intense fracturing with mineralization decreasing outwardly from this zone; the centre of the main mineral zone. The grade of the deposit was a function of fracture (vein) density and of the thickness and mineralogy of the filling material. The Brenda mine was in production from 1970 to 1990 originating with measured geological (proven) reserves of 160,556,700 tonnes grading 0.183 per cent copper and 0.049 per cent molybdenum.

Mineral controlling cross structures are also plentiful at the Elk (*092HNE096*) property where the location of the cross-structures are obvious in the many mineral zones associated with the cross-structural locations as shown on *Figure 5a*. One of these zones was explored and developed to a mineral resource from which a reported 51,460 ounces of gold at more than three ounces of gold per ton (97grams per tonne) were produced.

Although the cross-structures of Tenure 1048005 are within Nicola volcanics, the localized magnetometer survey over the area indicates a potential buried intrusive in that the 200 meter anomalous magnetometer LO, as determined from the localized 500 by 200 metre magnetometer survey, may indicate hydrothermal alteration. Based on the premise that a magnetometer LO could be indicative of a hydrothermally altered zone, the delineated anomalous zone may indicate such a zone. The approximate location of a cross-structure within the general mag LO zone may indicate that the altered zone is the result of hydrothermal fluids accessing the surface via the brecciated cross-structure.

Thus, the priority locations for exploration within Tenure 1048005 would initially be cross-structure "A" and subsequently the mag LO anomaly area and cross-structure "B". The objective of the exploration program would be to search for surficial geological signatures of a concealed mineral resource. These geological indicators may be revealed as pathfinder minerals, minerals and/or alteration products that would be subject to interpretation as economic mineral indicators

Respectfully submitted,

Sookochoff Consultants Inc.



Laurence Sookochoff, PEng

STATEMENT OF COSTS

Work on Tenure 1048005 was completed from November 22, 2016 to November 24, 2016 to the value as follows:

Structural Analysis

Laurence Sookochoff, P Eng. 3 days @ \$ 1,000.00/day ----- \$ 3,000.00

Magnetometer Survey

Rick Pearson & Ross Heyer

November 23-24, 2016

Four man days @ \$300.00 per day ----- \$ 1,200.00

Truck rental: 2 days @ \$145.00 ----- 290.00

Kilometre charge: 305@ \$0.70 ----- 213.50

Fuel ----- 68.60

Room & board 4 man days @ \$90.00 ----- 360.00

Mag rental 2 days @ \$80.00 ----- 160.00 2,292.10

\$ 5,292.10

Maps ----- 750.00

Report ----- 3,000.00

\$ 9,042.10

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REFERENCES

Google - Downloads.

Guilbert, J.M., Park Jr., C.F. - The Geology of Ore Deposits. Waveland Press, Inc. 2007.

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

Gold Mountain Mining Corporation – 2012 Corporate Presentation

Guilbert, J.M., Park Jr., C.F. - The Geology of Ore Deposits. Waveland Press, Inc. 2007.

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

Kerr, J.R. – Geophysical and Geochemical Report on the Kentucky Lake Property for Max Investments Inc. on behalf of Bold Ventures Inc., dated January 15, 2007. AR 28782.

- Diamond Drill Report on the Kentucky Lake Property, for Bold Ventures Inc. March 7, 2008. AR 29728.

MapPlace – Map Data downloads.

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

MtOnline - MINFILE downloads.

092HNE002 – MAL

092HNE056 – TOM CAT

092HNE058 – HN-WEN

092HNE059 – ECHO

092HNE073 – BIG SIOUX

092HNE084 – PAYCINCI

092HNE096 – ELK

092HNE144 – AU-WEN

092HNE204 – POT 1

092HNE269 – MALACHITE 7

092HNE270 – KIT

092HNE275 – BREW

092HNE292 – SNOW

Pareta, K., Pareta, U. – Geomorphological Interpretation Through Satellite Imagery & DEM Data. American Journal of Geophysics, Geochemistry and Geosystems. Vol 1, No. 2 , pp19-36.

Poloni, J.R. - Geophysical Report on the Marge Mineral Claims for Highland Mercury Mines Ltd.. November 15, 1972. AR 04089

Sheldrake, R. - 3D Induced Polarization Survey. Geophysical Report for Max Investments on behalf of Bold Ventures Inc. on the Kentucky Lake Project. September 25, 2006.

. 3D Induced Polarization Survey on the Kentucky Lake Property, Merritt Area BC. October, 2006.

Solgold.plc: www.solgold.com.au – Characteristics of Porphyry Copper Deposits.

Sookchoff, L. Geological & Geophysical Assessment Report on the Tom Cat 1040735 Claim Group for Sierra Iron Ore Corp. May 27, 2016. AR 36013.

Sookchoff, L. Geological & Geophysical Assessment Report on the Tom Cat 535845 Claim Group for Sierra Iron Ore Corp. October 5, 2016. AR 35063.

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-one 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 Reference section of this report and from exploration work the author previously performed on the Tom Cat Property.
- 5) I have no interest in the property as described herein.



Laurence Sookochoff, PEng.

Appendix I

Magnetometer Data

E5626903 T1048005														
East	North	Mag	East	North	Mag	East	North	Mag	East	North	Mag	East	North	Mag
676000	5538350	600	676000	5538400	620	676000	5538450	620	676000	5538500	520	676000	5538550	520
676025	5538350	580	676025	5538400	600	676025	5538450	680	676025	5538500	580	676025	5538550	580
676050	5538350	560	676050	5538400	600	676050	5538450	620	676050	5538500	600	676050	5538550	620
676075	5538350	560	676075	5538400	580	676075	5538450	580	676075	5538500	620	676075	5538550	560
676100	5538350	600	676100	5538400	540	676100	5538450	620	676100	5538500	600	676100	5538550	560
676125	5538350	560	676125	5538400	540	676125	5538450	560	676125	5538500	580	676125	5538550	520
676150	5538350	540	676150	5538400	600	676150	5538450	540	676150	5538500	620	676150	5538550	520
676175	5538350	580	676175	5538400	560	676175	5538450	600	676175	5538500	560	676175	5538550	480
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676475	5538350	560	676475	5538400	560	676475	5538450	500	676475	5538500	560	676475	5538550	560
676500	5538350	580	676500	5538400	520	676500	5538450	500	676500	5538500	580	676500	5538550	520