

**Ministry of Energy, Mines & Petroleum Resources**  
Mining & Minerals Division  
BC Geological Survey

**Assessment Report**  
**Title Page and Summary**

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

TOTAL COST: \$ 8,920.40

AUTHOR(S): Laurence Sookochoff, PEng

SIGNATURE(S): *Laurence Sookochoff*

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):

YEAR OF WORK: 2016

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5625491 November 9, 2016

PROPERTY NAME: Toni

CLAIM NAME(S) (on which the work was done): 1047657

COMMODITIES SOUGHT: Copper Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNE166 / .177 / .256 / .257 / .258 / .259

MINING DIVISION: Nicola

NTS/BCGS: 092H.087 092H.088 092H.097 092H.098

LATITUDE: 49 ° 56 ' 11 " LONGITUDE: 120 ° 38 ' 10 " (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)

MAILING ADDRESS:

132366 Cliffstone Court

Lake Country BC V4V 2R1

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

Triassic, Nicola Group, Central Volcanic Facies, Andesite, Chalcopyrite, Chalcocite, Malachite, Bornite, Hematite, Structural Analysis, Cross-Structure, Magnetometer Survey

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 06761, 09491, 11104, 20393, 21678, 27112, 28782, 29964, 30690, 32248, 32362, 33742, 34244, 34673

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping			
Photo interpretation	311 hectares	1047657	\$ 6,000.00
<b>GEOPHYSICAL (line-kilometres)</b>			
Ground			
Magnetic	2.5	1047657	2,920.40
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil			
Silt			
Rock			
Other			
<b>DRILLING (total metres; number of holes, size)</b>			
Core			
Non-core			
<b>RELATED TECHNICAL</b>			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
<b>PROSPECTING (scale, area)</b>			
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
<b>TOTAL COST:</b>			<b>\$ 8,920.40</b>

# **VICTORY RESOURCES CORPORATION**

*(Owner & Operator)*

## **GEOLOGICAL & GEOPHYSICAL**

### **ASSESSMENT REPORT**

*(Event 5625491)*

*Work done on*

**Tenure 1047657**

*of the 12 claim*

**Toni 1047657 Claim Group**

*(Work done from November 5, 2016 to November 7, 2016)*

*Nicola Mining Division*

*BCGS Map 092H.087/.088*

*Centre of Work*

**5,534,234N, 669,634E**

*Author & Consultant*

**Laurence Sookochoff, PEng  
Sookochoff Consultants Inc.**

*Submitted*

**July 12, 2017**

**BC Geological Survey  
Assessment Report  
36559**

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## SUMMARY

The 12 claim, 5,5787 hectare Toni 1047657 Claim Group, is located in south-central British Columbia 196 kilometres northeast of Vancouver and within four kilometres of the of the Ketchan Lake North property (*MINFILE 092HNE115*) and within two kilometres of the Big Kidd mineral prospect (*Minfile 092HNE074*).

At the Ketchan property, the Summers Creek regional structure was indicated to control the emplacement of the diorite stock and the branching fault splays which may have provided the mineral controls to the significant mineral zones on which Aulis (1991) reports that, "Present drillhole spacing within the IP anomaly suggests the possibility of a porphyry copper-gold deposit of significant size (> 80 million tons)". Kaizen (2016) reported a 265.5 metre thick zone of copper-gold mineralization which included a 78 metre interval grading 0.50% copper and 0.15 grams per tonne gold from drill results.

At Ketchan, the highest copper grades occur in the deepest part of the intersection with the best grades of copper and gold generally associated with the margins of magnetic highs (*Kaizen news release*). It is also reported that brecciated areas generally contain stronger overall alteration, mainly chlorite with increased concentrations of magnetite. The strongest areas of brecciated, magnetite-rich rock generally contained the highest concentrations of pyrite/chalcopyrite

At the Big Kidd prospect, one of the many drill holes that tested the 300 metre wide Big Kidd breccia, a 71 metre section of core assayed an average of 0.75 grams per tonne gold and 0.2 per cent copper revealed the significance of a breccia zone as an important geological mineral controlling feature. This feature is also notably exemplified at Copper Mountain where each of the five ore zones correlates with one or more structural intersections (*Figure 12*).

As indicated by the BC government supported MapPlace geological maps, the Toni 1047657 Claim Group is predominantly underlain by the upper Triassic Nicola Group with) in the west in a regional Kentucky-Alleyne fault contact with basalts of the Eastern Volcanic Facies (*uTrNE*) in the east. The division between the western and the eastern volcanics is the regional Kentucky-Alleyne fault system with a splay cutting across Tenure 1047657.

In the localized magnetometer survey within Tenure 1047657, the margins of the two anomalous magnetic HI's to the central anomalous magnetic LO could be the location of a mineral zone. The anomalous mag LO may indicate a non-magnetic/mineral hydrothermally altered breccia pipe. The position of the approximately located cross-structure "A" (*Figure 11*) shown on the anomalous mag HI may actually be correlative with the anomalous mag LO.

Thus, the area of the anomalous mag HI's, the anomalous mag LO, and cross-structure "A", should be explored to gather any geological and/or mineralogical information that could provide information to a potential concealed mineral resource. If the information obtained is interpreted as being within the parameters of this potential, then specific standard exploration procedures would be applied to follow-up exploration. Should the exploration lead to the drill testing of a mineral zone, the analytical results of an mineralogical analysis of drill core from variable depths could provide the most reliable information to the general location and/or the estimated size of a potential mineral resource.

**INTRODUCTION**

From November 5, 2016 to November 7, 2016 a structural analysis and a localized magnetometer survey were completed on Tenure 1047657 of the Toni 1047657 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*



**PROPERTY DESCRIPTION AND LOCATION**

**Description**

The Property is comprised of 12 contiguous claims covering an area of 5787.9769 hectares. Particulars are as follows:

*Table 1: Tenures of Toni 1047657 Claim Group*

<u>Tenure Number</u>	<u>Type</u>	<u>Claim Name</u>	<u>Good Until*</u>	<u>Area (ha)</u>
<a href="#">516708</a>	Mineral		20170715	374.651
<a href="#">535845</a>	Mineral	CASPER WEST	20170715	520.39
<a href="#">898135</a>	Mineral	TOM CAT 1	20170415	270.8666
<a href="#">1015253</a>	Mineral	TONI1211	20170415	312.5199
<a href="#">1015255</a>	Mineral	TC12111	20170715	312.2401
<a href="#">1031276</a>	Mineral	POTHOLE LAKE SOUTH	20170715	520.3022
<a href="#">1035447</a>	Mineral	VICTORY	20170415	979.3378
<a href="#">1035450</a>	Mineral	VICTORY 2	20170415	208.4735
<a href="#">1038803</a>	Mineral		20170501	1311.3278
<a href="#">1040739</a>	Mineral		20171227	249.6533
<a href="#">1044811</a>	Mineral		20170715	416.2669
<a href="#">1047657</a>	Mineral		20171105	311.9478

Total Area: 5787.9769 ha

\*Upon the approval of the assessment work filing of Event Number 5625491.

Figure 2. Claim Location  
(from MapPlace & Google)

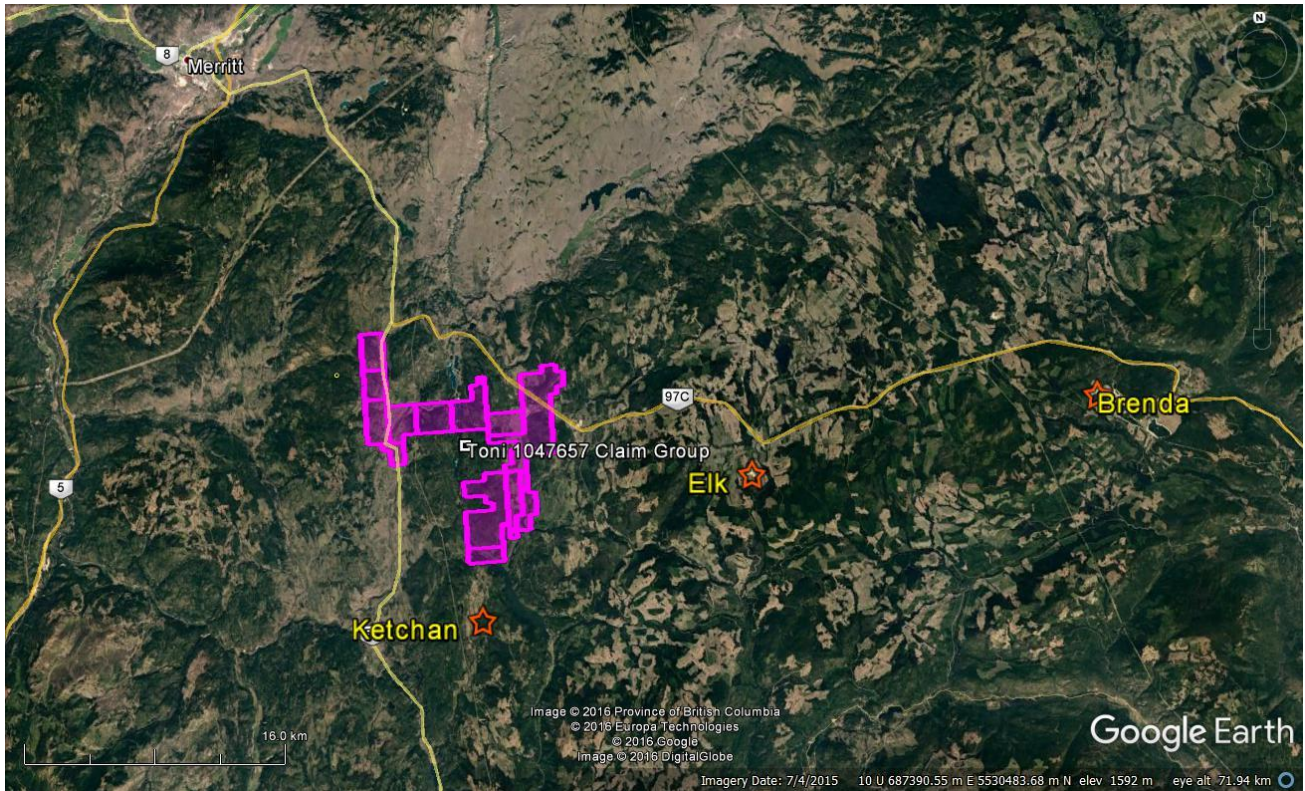
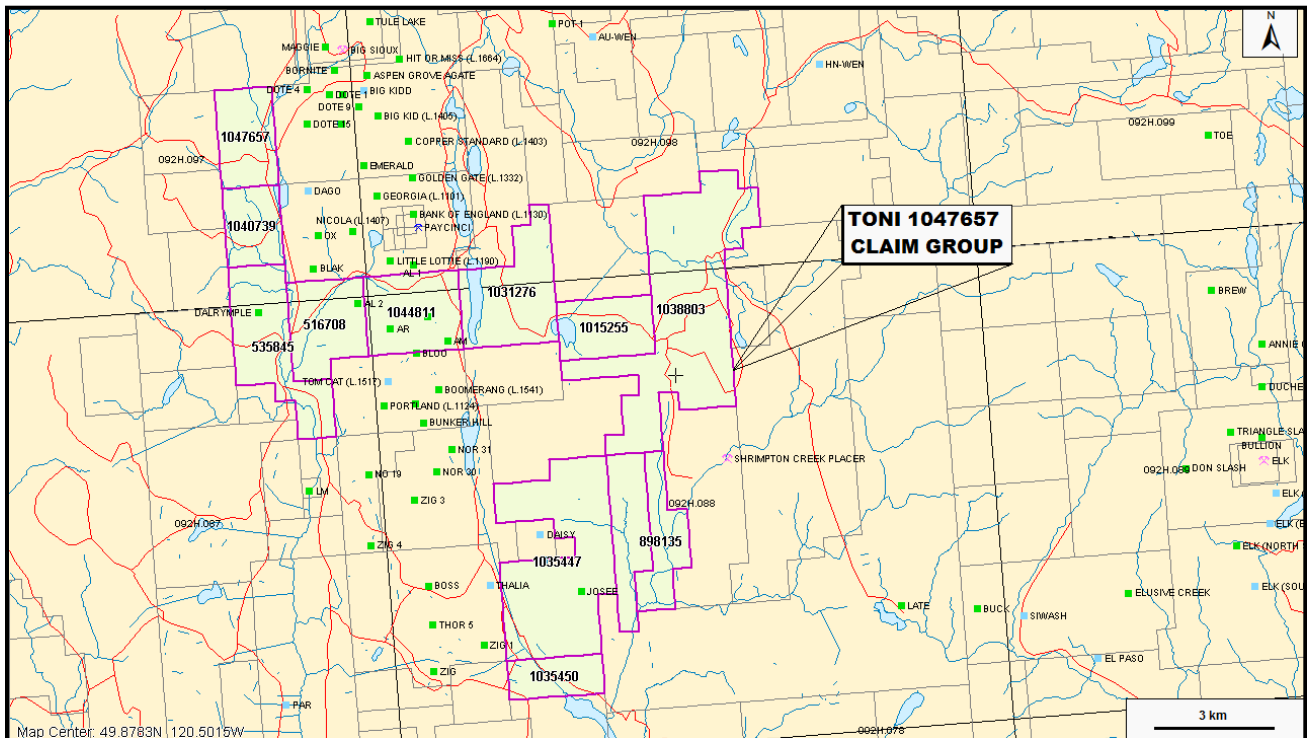


Figure 3. Claim Map  
(from MapPlace)





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

The Property is located within BCGS Map 092H.087/.088/.097/.098 of the Nicola Mining Division, 196 kilometres northeast of Vancouver, 22 kilometres south-southeast of Merritt, and four kilometres north of the Ketchikan property.

**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 southward from via Highway 5A for one kilometre to the northeastern boundary of Tenure 1047657 of the Toni 1047657 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.

**Physiography**

Tenure 1047657 covers a, moderately sloped forested area with localized areas of second growth trees. Elevations range from of 1,050 metres in the southeast at Kidd Lake to 1,212 metres along the northeastern boundary.

**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 1047657. A 138KV power line traverses the western portion of the Property.

**HISTORY: PROPERTY AREA**

The history on some MINFILE reported mineral anomalies, showings, prospects, and past producers in the Toni 1047657 Claim Group area is reported as follows. The distance is relative to the Toni 1047657 Claim Group.

**TOM CAT** prospect (Volcanic redbed-Cu; Subvolcanic-Cu-Ag-Au (As-Sb);  
Porphyry Mo (Low F-type)  
MINFILE 092HNE056  
One kilometre south

*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)**BIG KIDD** prospect (Volcanic redbed Cu; alkalic porphyry Cu-Au)

MINFILE 092HNE074

Two kilometres east

*The Fairweather Hills region is underlain by the Central volcanic facies of the Upper Triassic Nicola Group, comprising intermediate, feldspar and feldspar augite porphyritic ash 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.*

*A vertical or subvertical breccia pipe, nearly circular in outline and about 300 metres wide, is developed in a body of fine-grained diorite, which may in part be recrystallized volcanics. The pipe consists of angular to subrounded clasts of volcanics, fine-grained diorite (microdiorite) and pinkish grey monzonite and syenomonzonite porphyry in a matrix of altered diorite intrusive material and finely comminuted rock. The fragments are 1 centimetre to several metres in diameter.*

**PAYCINCI** prospect (Volcanic redbed Cu)

MINFILE 092HNE084

One kilometre north

*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

Fourteen kilometres east

*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.*

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

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.

**DAGO** prospect (Volcanic redbed Cu, Cu skarn)

MINFILE 092HNE109

600 metres west

The Dago prospect outcrops along the east side of Kidd Lake, 1.6 to 2.1 kilometres northwest of the north end of Miner Lake.

The deposit is located along the western margin 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.

White River Mines Ltd. drilled 14 holes totalling 1926 metres in 1972 after completing geological, geophysical and soil geochemical surveys. Additional drilling was conducted by Tri-Power Minerals Corporation, with the completion of five percussion holes totalling 225 metres in 1977. The deposit was remapped by D.R. Morgan in 1982 and 1985, and magnetically surveyed by Rise Resources Inc. in 1990.

**KETCHAN LAKE NORTH** prospect (Alkalic porphyry Cu-Au)

MINFILE 092HNE115

Four kilometres south

The Ketchan Lake North (previously Log) prospect is 400 metres east of Ketchan (Duke) Lake, 2.25 kilometres southwest of Missezula Lake and 35.5 kilometres north of Princeton.

This prospect was first staked by Plateau Metals Ltd. in 1962, after copper mineralization was uncovered during a logging operation. The company completed a magnetometer survey and drilled three holes, totaling 145 metres, in 1962.

An additional seven holes, totaling 512 metres, were drilled in 1966 after the property was optioned to Adera Mining Ltd. Various geophysical and geological surveys and 768 metres of trenching were also completed in 1966. A channel sample of hard, well-fractured, silicified diorite, containing evenly disseminated fine crystals of chalcopyrite, yielded 1.36 per cent copper over 3.05 metres (National Mineral Inventory). A section of gossan near the north end of the zone analysed 0.17 per cent copper and 8.23 grams per tonne silver over 29 metres (Assessment Report 977). Hole P3 was drilled in the vicinity and yielded 0.22 per cent copper over 39.6 metres (Assessment Report 977).

The deposit was restaked by Bethlehem Copper Corporation in 1973. The company drilled three percussion holes totaling 322 metres, two diamond drillholes totaling 227 metres and one rotary hole, 218 metres deep, in 1974 and 1975.

**History: Property Area (cont'd)****Ketchan Lake North prospect (cont'd)**

Rotary drilling near the centre of the zone intersected disseminated chalcopyrite to a depth of 218 metres (Assessment Report 5824).

Cominco Ltd. completed 1067.3 metres of percussion drilling in 15 holes in 1991. A second hole drilled 695 metres south-southeast of hole P3 assayed 0.379 per cent copper and 0.076 gram per tonne gold over 86.6 metres (Assessment Report 21746).

In 1992, Cominco Ltd. conducted an eight-hole percussion drill program totaling 640 metres. Highlights include drillhole M92-4, which returned 81.4 metres grading 0.2595 per cent copper and 0.124 grams per tonne gold (Assessment Report 22555).

In 2004, William Richard Bergey completed reconnaissance geological mapping on the Aspen Grove property.

In 2005, Copper Belt Resources Ltd. conducted geological mapping and a 10-hole diamond drill program totaling 1210.2 metres. Drillhole K05-07 intersected a 35.8 metre section that assayed 0.54 per cent copper and 0.19 grams per tonne gold (Assessment Report 28484).

In 2006 and 2007, Midland Resources Corp. completed 1416 metres of diamond drilling in seven holes. Highlights include drillhole K-06-11, which returned 36.75 metres grading 0.29 per cent copper and 0.17 grams per tonne gold (Assessment Report 29453).

In 2011, Moag Copper-Gold Resources Inc. completed a mobile metal ion geochemical sampling survey in areas throughout the Aspen Grove property.

In 2013, West Cirque Resources Ltd. acquired the Aspen Grove property, which consists of 37 mineral claims, totaling 5629 hectares, including the Ketchan Lake North prospect, and proceeded to complete an exploration program of geological mapping and rock sampling throughout the property. Twelve samples were taken from trenches and outcrops at the Ketchan Lake North prospect and assayed up to 1.07 per cent copper, 0.458 grams per tonne gold and 52.5 grams per tonne silver (Press Release, West Cirque Resources Ltd., June 11, 2013).

**THALIA prospect (Alkalic porphyry Cu-Au; Volcanic redbed Cu)**

MINFILE 092HNE151

100 metres west

This prospect was initially investigated by Noranda Exploration Company Ltd. with the completion of geological and magnetometer surveys and one drillhole in 1972 and 1973. Cominco Ltd. drilled six percussion holes totalling 277 metres in 1979 after conducting geological and induced polarization surveys in 1978. The deposit was more recently sampled and prospected by Vanco Explorations Ltd. in 1985 and Rayrock Yellowknife Resources Ltd. in 1990.

**HISTORY: PROPERTY****AM** showing (Volcanic redbed Cu)

MINFILE 092HNE166

Within Tenure 1044811

The Am showing is 1.7 kilometres north-northwest of the north end of Bluey Lake and 600 metres west of the south end of Kentucky Lake.

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

**AR** showing (Volcanic redbed Cu)  
MINFILE 092HNE177  
Within Tenure 1044811

*The AR showing is 2.6 kilometres northwest of the north end of Bluey Lake and 2.0 kilometres west-northwest of the south end of Kentucky Lake.*

**DALRYMPLE** showing (Volcanic redbed Cu)  
MINFILE 092HNE256  
Within Tenure 535845

*The Dalrymple showing is 2.5 kilometres south-southwest of the south end of Kidd Lake and 2.3 kilometres northeast of the north end of Dodds Lake.*

**BLOO** showing (Alkalic porphyry Cu-Au; Volcanic redbed Cu)  
MINFILE 092HNE257  
Within Tenure 1044811

*The Bloo showing is 1.8 kilometres north-northwest of the north end of Bluey Lake and 1.4 kilometres west-southwest of the south end of Kentucky Lake.*

**AR2** showing (Volcanic redbed Cu)  
MINFILE 092HNE258  
Within Tenure 1044811

*The AR 2 showing is 2.4 kilometres north-northwest of the north end of Bluey Lake and 1.25 kilometres northwest of the south end of Kentucky Lake.*

**AL2** showing (Volcanic redbed Cu)  
MINFILE 092HNE259  
Within Tenure 1044811

*The AL 2 showing is 1.4 kilometres south-southwest of the south end of Miner Lake and 2.9 kilometres southeast of the south end of Kidd Lake.*

**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.

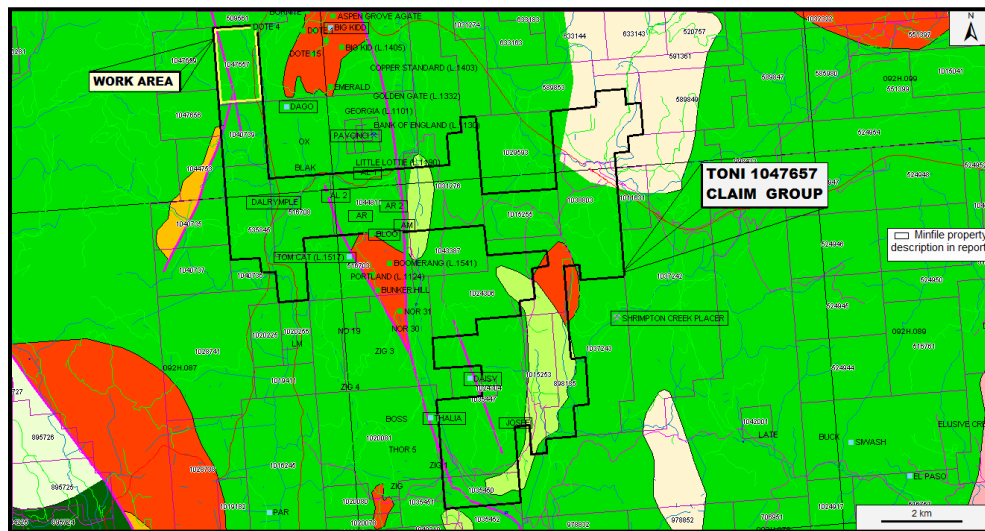
The Nicola Group has been divided into western, central, and eastern belts on the basis of lithology and lithogeochemistry and by major fault systems. Variation from calc-alkaline to shoshinitic compositions from west to east has been interpreted to reflect eastward dipping subduction in the Nicola arc.

**GEOLOGY: PROPERTY AREA**

The geology on some MINFILE reported mineral anomalies, showings, prospects, and past producers peripheral to the Toni 1047657 Claim Group is reported as follows. The distance is relative to the Toni 1047657 Claim Group.

Geology: Property Area (cont'd)

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

**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)**

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

Porphyry Mo (Low F-type)

MINFILE 092HNE056

One kilometre south

*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.*

**Geology: Property Area (cont'd)****PAYCINCI** prospect (Volcanic redbed Cu)

MINFILE 092HNE084

One kilometre north

*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

Fourteen kilometres east

*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.*

**DAGO** prospect (Volcanic redbed Cu, Cu skarn)

MINFILE 092HNE109

300 metres west

*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.*

*Copper mineralization occurs in green laharic breccia, limestone and graphitic argillite near the north-northwest striking contact with red laharic breccia to the east. This mineralization is accompanied by brown-weathering carbonate alteration, and consists primarily of disseminated and fracture-controlled chalcopyrite, bornite and chalcocite, often with malachite and azurite. Chalcopyrite and malachite are also occasionally found in narrow shear zones. Small areas of quartz carbonate skarn contain chalcopyrite and bornite.*

**Geology: Property Area (cont'd)****KETCHAN LAKE NORTH** prospect (Alkalic porphyry Cu-Au)

MINFILE 092HNE115

Four kilometres south

*This region southwest of Missezula Lake is underlain by the eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate augite and hornblende 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. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.*

*Locally, the area is underlain by northwest-striking, moderately northeast-dipping andesitic flows, with lesser andesitic lapilli and crystal tuffs and minor lahar deposits of the Nicola Group (Central Belt, Bulletin 69). This sequence is intruded by a west-trending mass of fine to medium-grained diorite (microdiorite), roughly centred about Ketchan Lake, measuring 4000 by 2000 metres.*

*The diorite commonly contains seams and irregular replacements of orthoclase. Epidote is widespread, and is frequently developed along northwest-striking, northeast-dipping fractures. Disseminations and veinlets of magnetite are also present in this stock.*

**THALIA** prospect (Alkalic porphyry Cu-Au; Volcanic redbed Cu)

MINFILE 092HNE151

100 metres west

*This region north of Missezula Lake is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende 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. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.*

**DAISY** prospect (Volcanic redbed-Cu; Subvolcanic-Cu-Ag-Au (As-Sb); Porphyry Mo (Low F-type)

MINFILE 092HNE191

300 metres west

*This region north of Missezula Lake is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende 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. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.*

*A shear zone 20 to 30 metres wide, striking north-northwest and dipping steeply west, cuts massive green andesite and underlying coarse red volcanic breccia (lahar (?)) of the Nicola Group (Central belt, Bulletin 69).*

**GEOLOGY: PROPERTY**

As indicated by the BC government supported MapPlace geological maps, the Toni 1047657 Claim Group is predominantly underlain by the upper Triassic Nicola Group with andesites of the Central Volcanic Facies (*uTrNC*) in the west in a regional Kentucky-Alleyne fault contact with basalts of the Eastern Volcanic Facies (*uTrNE*) in the east.



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

The claim group also covers a portion of Upper Triassic sedimentary rocks (*UTrNsf*) in the northeast and Pleistocene to Holocene volcanics (*uTrNsf*) and a dioritic stock (*LTrJdr*) in the south.

**AM** showing (Volcanic redbed Cu)

MINFILE 092HNE166

Within Tenure 1044811

*Chalcopyrite, bornite and chalcocite form disseminations and stringers in shear zones within massive green volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69).*

**AR** showing (Volcanic redbed Cu)

MINFILE 092HNE177

Within Tenure 1044811

*Two closely-spaced trenches expose chalcopyrite and bornite in green volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69).*

**JOSEE** showing (Alkalic porphyry Cu-Au; Volcanic redbed Cu)

MINFILE 092HNE249

Within Tenure 1053447

*Chalcocite occurs in a sequence of massive to crudely layered lahar deposits and volcanic conglomerate of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69).*

**DALRYMPLE** showing (Volcanic redbed Cu)

MINFILE 092HNE256

Within Tenure 535845

*Quartz-epidote-carbonate veinlets mineralized with chalcopyrite and malachite occur in andesite and dacite of the Upper Triassic Nicola Group (Western belt, Bulletin 69).*

**BLOO** showing (Alkalic porphyry Cu-Au; Volcanic redbed Cu)

MINFILE 092HNE257

Within Tenure 1044811

*Chalcopyrite, malachite and hematite occur in fine-grained diorite or dioritized volcanics of the Upper Triassic Nicola Group (Central belt, Bulletin 69).*

**AR2** showing (Volcanic redbed Cu)

MINFILE 092HNE258

Within Tenure 1044811

*An old shaft exposes malachite and chalcocite in volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69).*

**AL2** showing (Volcanic redbed Cu)

MINFILE 092HNE259

Within Tenure 1044811

*Copper mineralization occurs in limy siltstone and impure limestone near the contact with green volcanic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69).*

**MINERALIZATION: PROPERTY AREA**

The mineralization on some of the more significant mineral MINFILE mineral anomalies, showings, prospects, and past producers in the Toni 1047657 Claim Group area is reported as follows. The distance is relative to the Toni 1047657 Claim Group.

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

Porphyry Mo (Low F-type)

MINFILE 092HNE056

One kilometre south

*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).*

**BIG KIDD** prospect (Volcanic redbed Cu; alkalic porphyry Cu-Au)

MINFILE 092HNE074

Three kilometres west

*Mineralization is erratic and consists of abundant magnetite, and pyrite, lesser chalcopyrite, and traces of bornite and chalcocite, as disseminations, lenses, scattered blebs and veinlets. Cuprite and native copper are also reported. This mineralization tends to favour the zones of alteration, but is not proportional to the intensity of alteration.*

*The sulphides are in part controlled by zones of shearing and fracturing in the northeastern portion of the deposit. Limonite, malachite and azurite are present at or near surface. Pyrite occurs primarily as disseminations up to 5 millimetres in diameter.*

*The mineral also occurs along fractures in association with chalcopyrite, orthoclase, quartz and/or carbonate. Chalcopyrite tends to be finely disseminated and is usually associated with magnetite, intimately associated with pyrite, and forms pseudomorphs after pyrite. Pyrite-chalcopyrite intergrowths are prevalent along fractures. Bornite is often found in magnetite-chalcopyrite blebs and veinlets, which often display epidote halos.*

*Copper content is quite variable, and precious metal values are low but anomalous. Channel sampling of an adit yielded 0.901 per cent copper, 0.141 gram per tonne gold and 13.66 grams per tonne silver over 14 metres (Assessment Report 7100, page 8, adit no. 1) Channel sampling of a trench, 90 to 190 metres west of the adit, yielded 0.237 per cent copper, 0.095 gram per tonne gold and 3.37 gram per tonne silver over 35 metres (Assessment Report 7100, page 9, trench no. 12). Trenching and sampling of the northern margin of the breccia pipe yielded gold values of up to 1.97 grams per tonne over 6 metres (Assessment Report 8743, Figure 3.)*

**PAYCINCI** prospect (Volcanic redbed Cu)

MINFILE 092HNE084

One kilometre north

*Hypogene and supergene copper mineralization occurs in green laharic breccia, near the contact with red laharic breccia to the east.*

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

*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**

**Fourteen kilometres east**

*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. 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).*

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

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. 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).

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

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 down dip 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.

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.*

Gold Mountain Mining Corporation, the present owner of the Elk property, reports (2012 Corporate Presentation) on recent information at the Elk Property; past gold production at 51,460 ounces at 97 g/t (>3 opt) and an existing gold resource of 301,000 ounces gold in a measured and indicated category with 263,000 ounces of gold in an inferred category. 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.

In October 2013, Gold Mountain had 500 tons of 13.8 gram gold per tonne ore taken from the Elk mineral deposit, and processed at a custom mill; a return of \$250,408.00 was generated.

**DAGO prospect (Volcanic redbed Cu, Cu skarn)**

MINFILE 092HNE109

600 metres west

*Trenching and diamond drilling have intersected narrow sections of copper mineralization in a zone trending north-northwest for 1000 metres. One angled drillhole intersected a 15.8-metre section of limestone with chalcocite, chalcopyrite, bornite and native copper assaying 0.83 per cent copper (Assessment Report 3789, page 3, hole 72-5, 15.3-31.1 metres).*

*A second vertical hole drilled 115 metres south of Hole 72-5 intersected a zone of graphitic argillite with chalcopyrite, analysing 1.40 per cent copper over 9.1 metres (Hole 72-7, 29.0-38.1 metres).*

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

A grab sample of quartz carbonate skarn with banded chalcopyrite, taken 700 metres south-southeast of hole 72-7, assayed 1.74 per cent copper (Assessment Report 3789, page 3). Resampling of old drill core yielded gold values of up to 0.79 gram per tonne and silver values of up to 31.4 grams per tonne (Assessment Report 19591, page 8).

**KETCHAN LAKE NORTH** prospect (Alkalic porphyry Cu-Au)

MINFILE 092HNE115

Four kilometres south

Mineralization is hosted in the diorite and consists of pyrite and chalcopyrite, usually as disseminations, but also as fracture fillings. Rare bornite and chalcocite are also reported.

Seams, patches and blebs of orthoclase, epidote and/or magnetite are sometimes associated with this mineralization. Some malachite is also present in surface exposures. Chlorite, sericite and traces of secondary biotite occur with the sulphides at depth.

Trenching and drilling have intersected copper mineralization in a northwest-trending zone 1400 metres long and up to 600 metres wide, roughly paralleling the northeastern margin of the stock.

**THALIA** prospect (Alkalic porphyry Cu-Au; Volcanic redbed Cu)

MINFILE 092HNE151

100 metres west

Erratic copper mineralization is hosted in fine-grained diorite/andesite porphyry and basalt of the Nicola Group (Central belt, Bulletin 69), in an elongate area trending north-northwest for 1050 metres. Mineralization consists primarily of chalcocite and malachite along fractures and associated with calcite stringers. Pyrite and chalcopyrite are also present. Strongest mineralization occurs in the most southerly exposures, where one trench sample analysed 0.38 per cent copper over 15 metres (Assessment Report 7724, Plate 1). An adjacent vertical percussion hole graded 0.14 per cent copper over 32.0 metres (Assessment Report 7724, hole TPH-79-5)

Analyses of three grab samples taken 480 metres north-northeast averaged 0.23 per cent copper (Assessment Report 21406, Figure 4, site C). A sample of brecciated red basalt with chalcocite, 1000 metres north-northeast, assayed 10 grams per tonne silver and 2.6 per cent copper over 1 metre (Assessment Report 7724, Plate 1). Chalcocite forms scattered blebs and semi massive lenses at this northernmost exposure.

**DAISY** prospect (Volcanic redbed-Cu; Subvolcanic-Cu-Ag-Au (As-Sb); Porphyry Mo (Low F-type)

MINFILE 092HNE191

300 metres west

The shear zone is erratically mineralized with minor bornite and chalcocite smeared along fractures, over a strike length of 350 metres. Malachite and azurite occur frequently along fractures. Hematite and magnetite are also reported. This mineralization is best developed in the andesite. An overlying bed of volcanic sandstone is barren, while only minor amounts of mineralization are found in the breccia.

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

Two samples taken over 4 metres yielded up to 11 grams per tonne silver, 1.07 per cent copper and trace gold (Assessment Report 12351, page 6). An additional chip sample assayed trace gold, 3.4 grams per tonne silver and 0.8 per cent copper over 9.1 metres (Minister of Mines Annual Report 1928, page 222). A sample of sorted ore assayed trace gold, 61.7 grams per tonne silver and 7.8 per cent copper (Minister of Mines Annual Report 1915, page 224).

A second area of copper mineralization occurs 400 metres south-southeast, where copper carbonates and sulphides are developed along fractures.

**MINERALIZATION: PROPERTY****AM** showing (Volcanic redbed Cu)

MINFILE 092HNE166

Within Tenure 1044811

A chip sample from an old shaft assayed 2.05 per cent copper over 1.6 metres (Assessment Report 6821, page 4).

**AR** showing (Volcanic redbed Cu)

MINFILE 092HNE177

Within Tenure 1044811

Two closely-spaced trenches expose chalcopyrite and bornite in green volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

**JOSEE** showing (Alkalic porphyry Cu-Au; Volcanic redbed Cu)

MINFILE 092HNE249

Within Tenure 1053447

Chalcocite occurs in a sequence of massive to crudely layered lahar deposits and volcanic conglomerate of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69).

**DALRYMPLE** showing (Volcanic redbed Cu)

MINFILE 092HNE256

Within Tenure 535845

A rock sample analysed 0.18 per cent copper and 0.9 gram per tonne silver (Assessment Report 10497, page 6, sample PR-4).

**BLOO** showing (Alkalic porphyry Cu-Au; Volcanic redbed Cu)

MINFILE 092HNE257

Within Tenure 1044811

A rock sample analysed 0.483 per cent copper and 1.7 grams per tonne silver (Assessment Report 14141, Drawing 5b, sample 2574).

Three rock samples taken in the vicinity of an old shaft in diorite, 250 metres east-northeast, yielded 0.428 to 0.795 per cent copper (Assessment Report 20551, Figure 3).



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

**AR 2** showing (Volcanic redbed Cu)  
MINFILE 092HNE258  
Within Tenure 1044811

*An old shaft exposes malachite and chalcocite in volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69).*

**AL2** showing (Volcanic redbed Cu)  
MINFILE 092HNE259  
Within Tenure 516708

*A sample analysed 1.43 per cent copper and 0.001 gram per tonne gold (Assessment Report 20551, Figure 3, Sample A1 90001).*

**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**

The structural analysis was performed on a MapPlace DEM image hillshade map of Tenure 1047657 by viewing of the map and marking the lineaments, or indicated structures, thereon. A total of 46 lineaments were marked (*Figure 5*), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on *Figure 6*.

**c) Results**

One cross-structural location, "A", was delineated from an indicated major westerly and a northerly trending structure. The cross-structure is located within a sequence of andesitic volcanic rocks of the Nicola volcanics Central Volcanic Facies.

Structural Analysis (cont'd)

Figure 5. Indicated Structures on Tenure 1047657

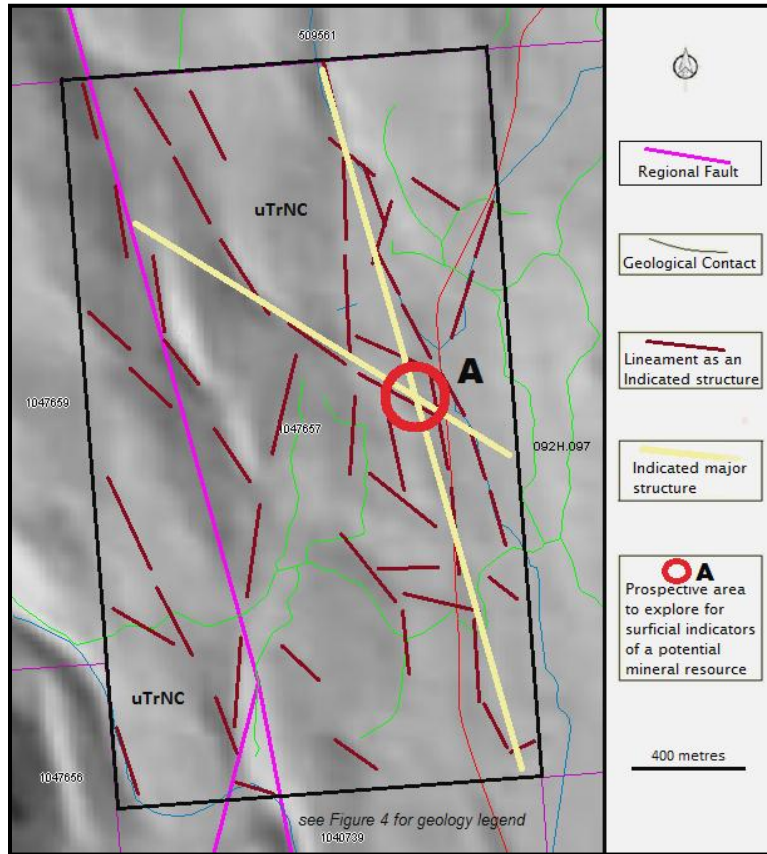
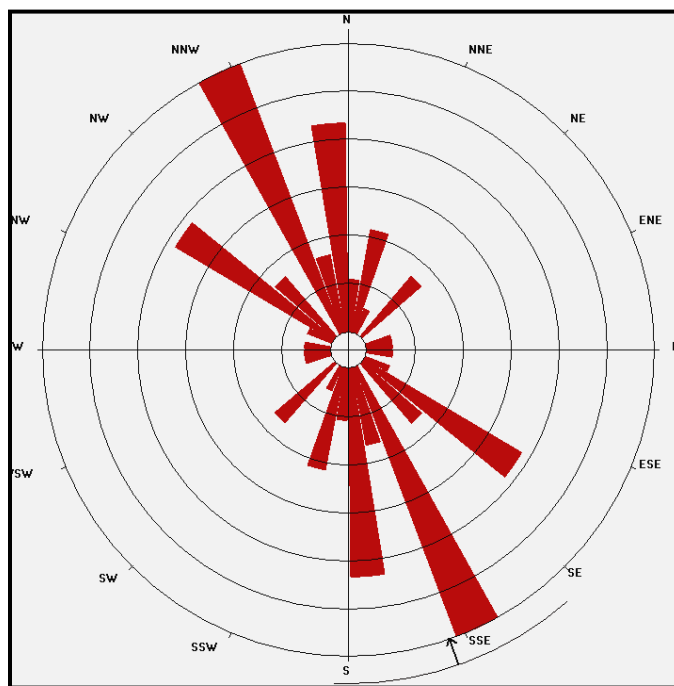


Figure 6. Rose Diagram from the indicated lineaments



Structural Analysis (cont'd)

# STATISTICS

Axial (non-polar) data  
 No. of Data = 46  
 Sector angle = 10°  
 Scale: tick interval = 4% [1.8 data]  
 Maximum = 23.9% [11 data]  
 Mean Resultant dir'n = 161-341  
 [Approx. 95% Confidence interval = ±21.7°]  
 (valid only for unimodal data)

Mean Resultant dir'n = 160.7 - 340.7  
 Circ.Median = 156.5 - 336.5  
 Circ.Mean Dev.about median = 26.1°  
 Circ. Variance = 0.16  
 Circular Std.Dev. = 33.39°  
 Circ. Dispersion = 1.64  
 Circ.Std Error = 0.189  
 Circ.Skewness = 0.28  
 Circ.Kurtosis = -14.47

kappa = 1.17  
 (von Mises concentration param. estimate)

Resultant length = 23.32  
 Mean Resultant length = 0.507

'Mean' Moments: Cbar = 0.3962; Sbar = -0.3164  
 'Full' trig. sums: SumCos = 18.2233; Sbar = -14.5558  
 Mean resultant of doubled angles = 0.1552  
 Mean direction of doubled angles = 145

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

Figure 7. Cross-Structural location on Tenure 1047657  
 (Base map from MapPlace and Google Earth)

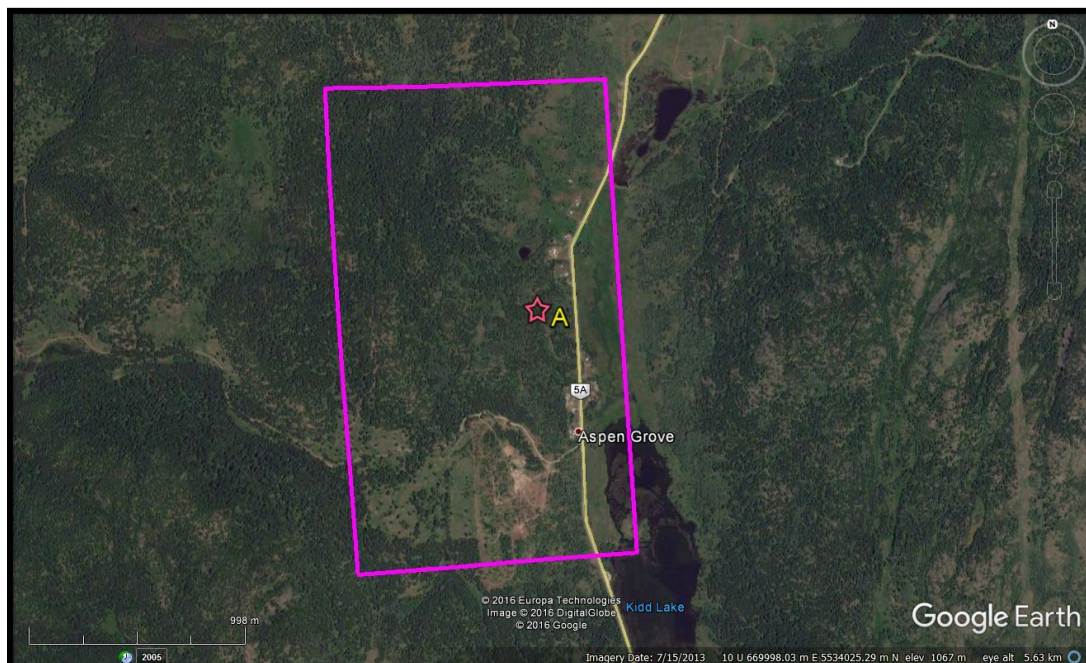


Table II. Approximate location of the cross-structure on Tenure 1047657  
 (UTM-Zone 10 NAD 83)

Area	UTM East	UTM North	Elevation (metres)
A	669,934	5,534,175	1,070

## 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.

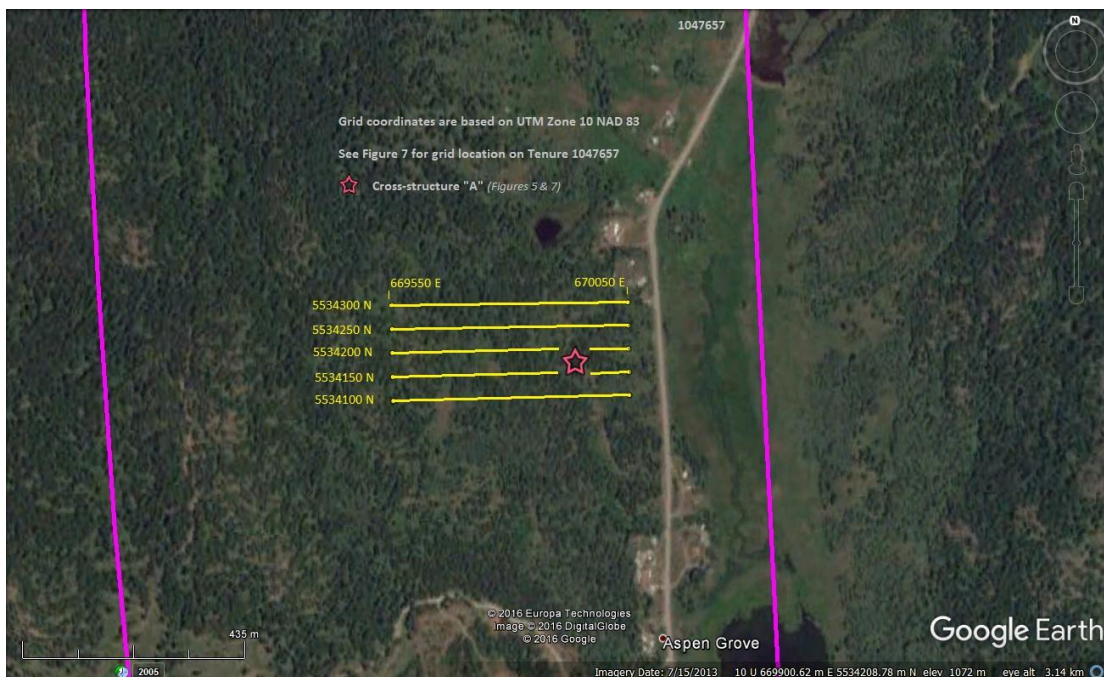
### b) Theory

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

From an initial grid station at 5534300N 670050E four additional base-line station was established southerly at 50 metre intervals located to 5534100N. Magnetometer readings were taken at 25 metre intervals along each of the five grid lines to 669550E. The grid line stations were located with a GPS instrument. Line kilometres of magnetometer survey completed was 2.5. The field data is reported herein in Appendix I.

Figure 8. Magnetometer Survey Grid  
(Base from MapPlace)



Magnetometer Survey (cont'd)

Figure 9 .Magnetometer Survey Data  
(Base from MapPlace)

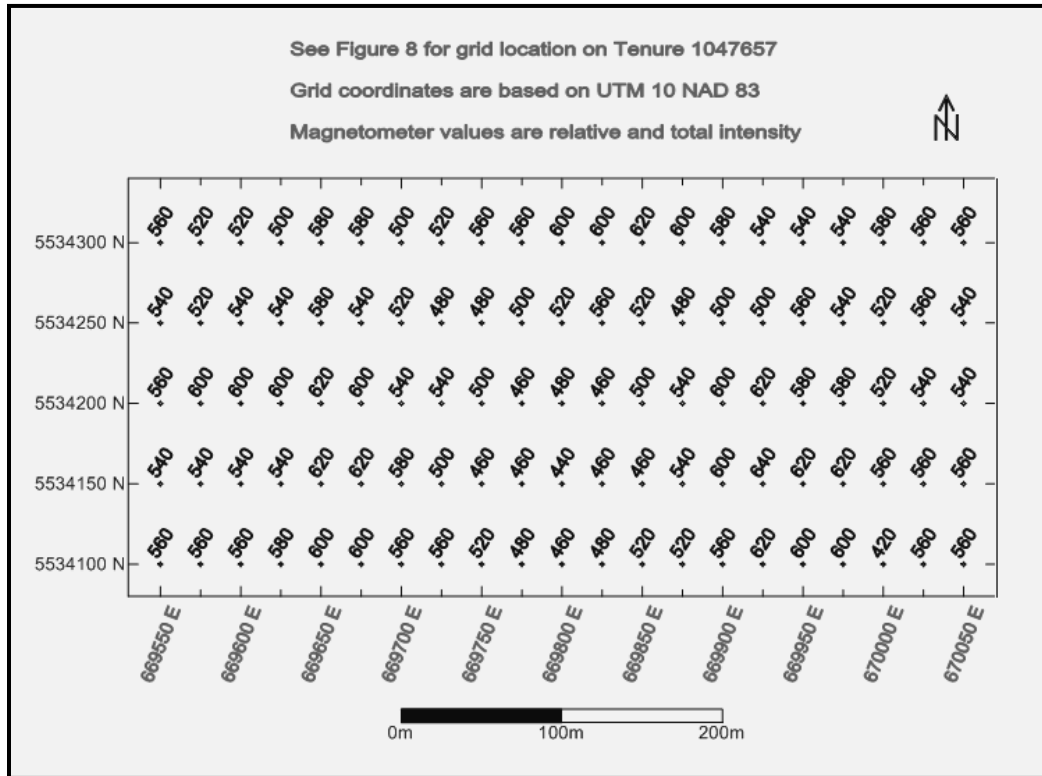
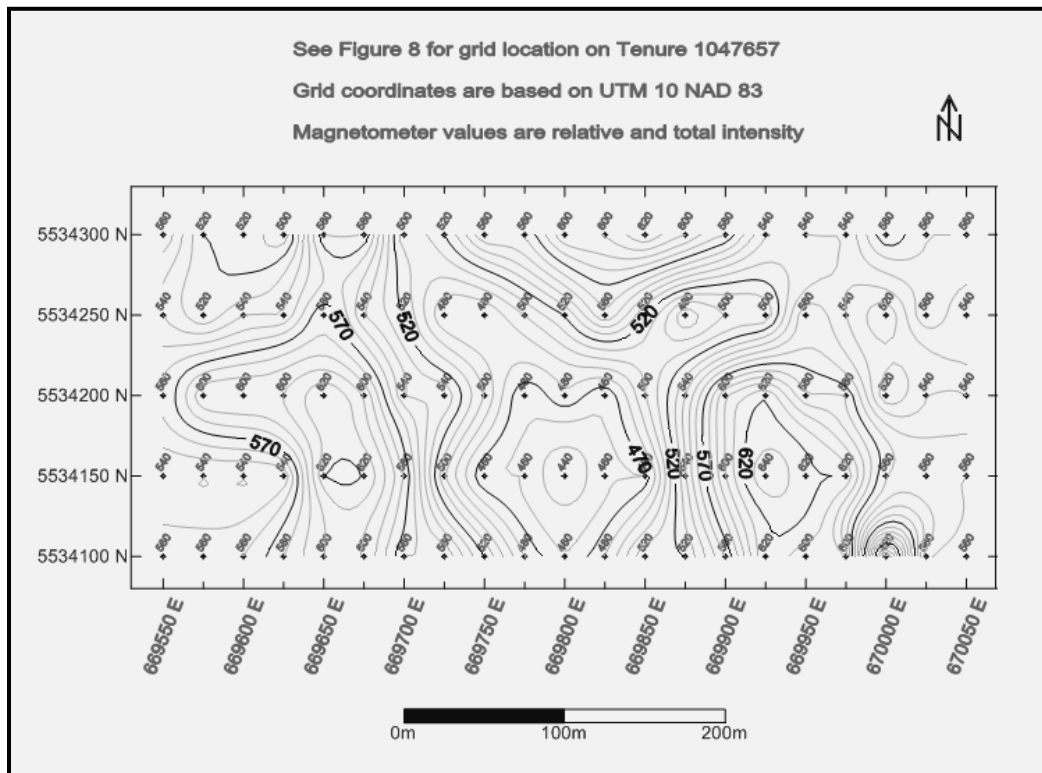


Figure 10. Magnetometer Survey Data Contoured



**Magnetometer Survey (cont'd)**

**d) Data Reduction**

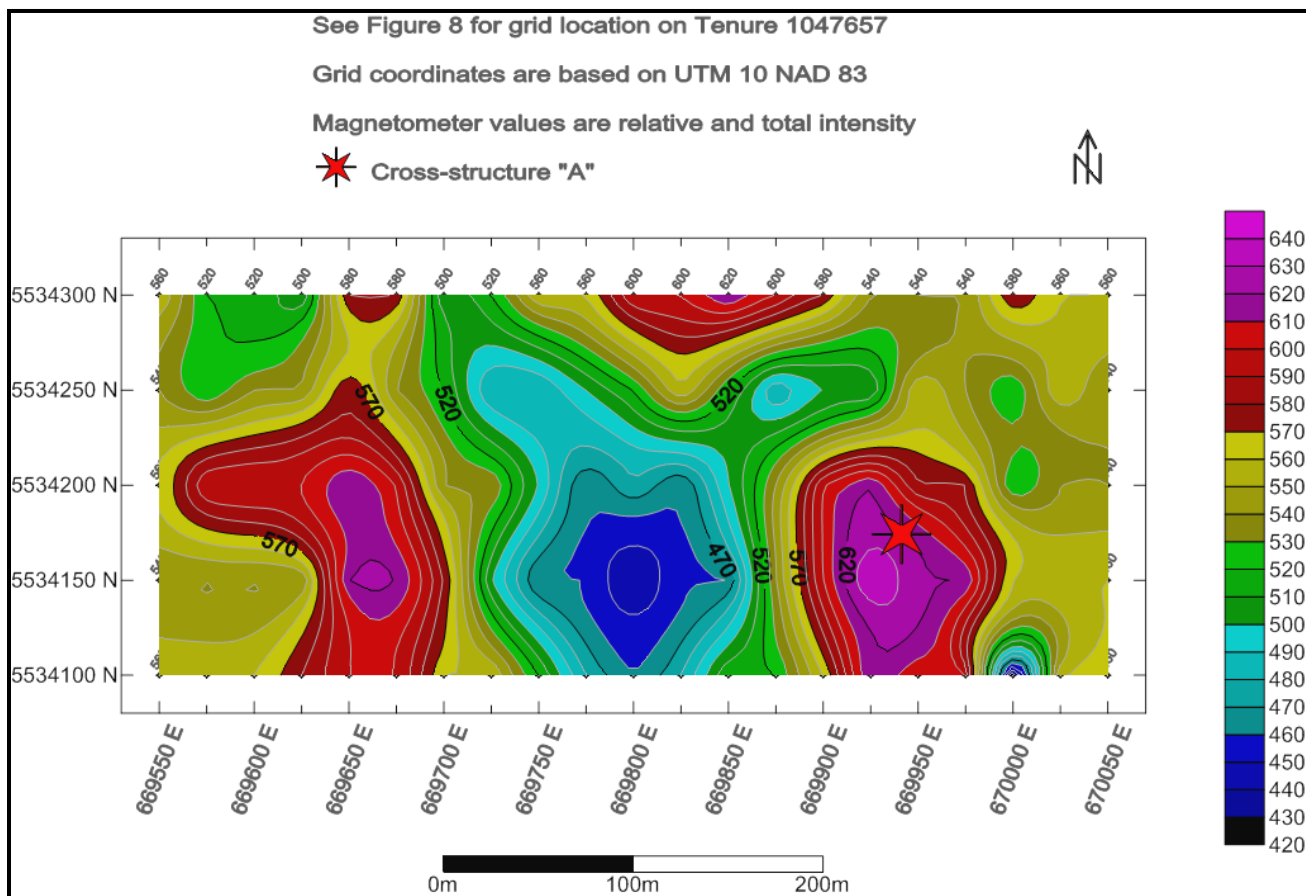
The field results were initially input to an Exel spreadsheet whereupon a Surfer 31 program was utilized to create the maps exemplified herein as Figures 9, 10, & 11.

**e) Results**

The localized magnetometer survey which covered an area of 500 by 200 metres by five east-west grid lines over andesites indicated one central, 100 metre wide, anomalous mag LO and two anomalous mag HI's; each of which is peripheral to the east and to the west. There is a northwest and a northeast trend to the mag LO anomaly, a general northerly and westerly trend to the western mag HI, and a very general northerly trend to the eastern mag HI.

The approximate location of cross-structure "A" is indicated within the eastern mag HI zone.

**Figure 11. Magnetometer Survey Data Colour Contoured**



## INTERPRETATION & CONCLUSIONS

The Structural Analysis of Tenure 1047657 indicated one cross-structural location that could provide some geological and/or mineralogical indicators to a potential mineral resource as the cross-structural location would be the centre of maximum brecciation and could create a breccia pipe like that at the Big Kidd prospect some three kilometres east of the Toni 1047657 Claim Group.

At the Big Kidd prospect, a 71 metre section of core from one of the many drill holes that tested the Big Kidd breccia and which assayed an average of 0.75 grams per tonne gold and 0.2 per cent copper, reveals the significance of a breccia zone as an important geological mineral controlling feature. This feature is also notably exemplified at Copper Mountain where each of the five ore zones correlates with one or more structural intersections (*Figure 12*).

At the Ketchan property, four kilometers to the south, the indicated structural/mineral relationship, may also be a corroboration to the cross-structural mineral controlling association. Thomson, (2006) reports that,

*"It is speculated that the abundant faulting ... is related to fault splays branching from the relatively proximal, Summers Creek Fault."*

At Tenure 1047647, the northerly and the northwesterly indicated structures from which the cross structure developed, were possibly influenced by the regional northwesterly trending structure as indicated on the MapPlace geological map and as shown on Figure 4 with the associated splay faults created from an alternate directional force.

The magnetic response from mineral zones within the Central Belt may be indicated to a greater degree by increased concentrations of magnetite as opposed to magnetic lows from dominant hydrothermal alteration if the mineralization at the Ketchan property is the norm. Thomson (2006) reports that:

*"Brecciated areas generally contain stronger overall alteration, mainly chlorite with increased concentrations of magnetite. The strongest areas of brecciated magnetite-rich rock, observed in most of the 2005 drill holes, generally contained the highest concentrations of pyrite/chalcopyrite."* and

*"... the best grades of copper and gold are generally associated with the margins of magnetic highs ..."*

In the localized magnetometer survey within Tenure 1047657, the margins of the two anomalous magnetic HI's to the central anomalous magnetic LO could be a location of a mineral zone. The anomalous mag LO may indicate a non-magnetic/mineral hydrothermally altered breccia pipe. The actual position of the approximate location of cross-structure "A" (*Table II*) may be correlative with the anomalous mag LO.

Thus, the area of the anomalous mag HI's, the anomalous mag LO, and cross-structure "A", should be explored to gather any geological and/or mineralogical information that could provide information to a potential concealed mineral resource. If the information obtained is interpreted as being within the parameters of this potential, then specific standard exploration procedures would be applied to follow-up exploration. Should the exploration lead to the drill testing of a mineral zone, the mineralogical analysis of drill core from variable depths could provide the most reliable information to the general location and/or the estimated size of a potential mineral resource.

Perhaps the reporting on the Ketchan drill results by Auris (1991) that,

*"Present drillhole spacing within the IP anomaly suggests the possibility of a porphyry copper-gold deposit of significant size (> 80 million tons)",*

was based on such information.

Respectfully submitted  
Sookochoff Consultants Inc.



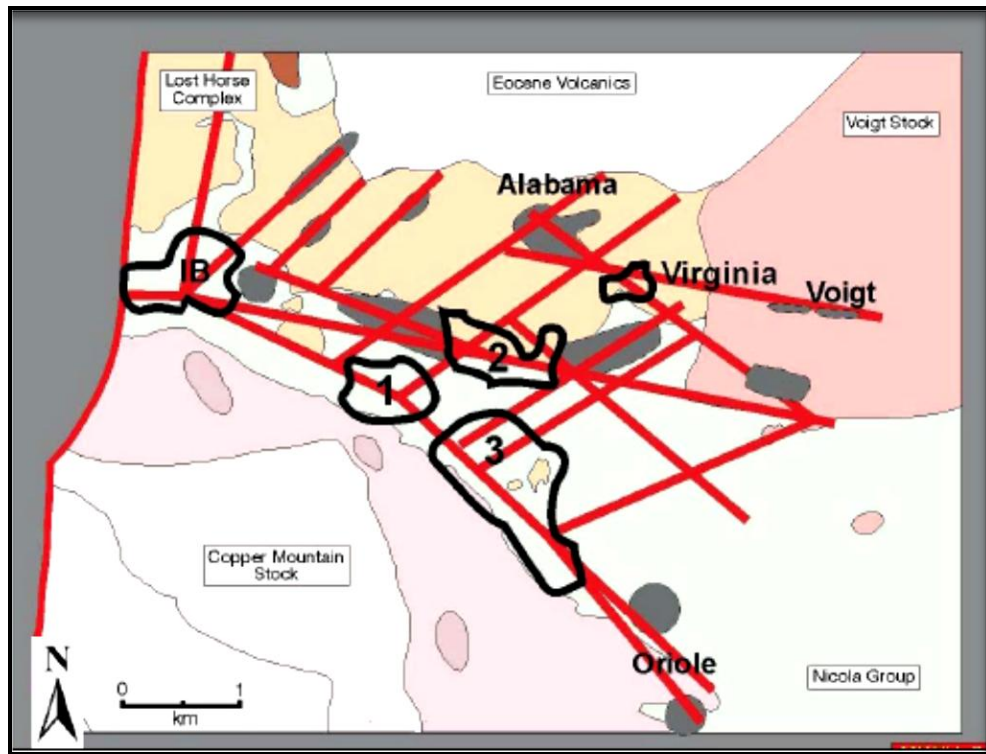
Laurence Sookochoff, PEng



Figure 12. **Geology: Copper Mountain Camp**

(Note the mineral controlling cross-structures.)

(Map from Giroux & Holbek, Figure 9.4)



**SELECTED REFERENCES**

**Aulis, R.J.** – Report on Percussion Drilling Missezula Property for Cominco Ltd. June 30, 1991. AR 21746.

**Bergey, W.R.** - Report on the Ketchan Property for Copper-Hill Exploration Corporation. September 15, 2004. AR 27534.

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**Bergey, W.R.** - Geological and Geochemical Report on the Ketchan Property for Moag Copper-Gold Resources Inc. November 7, 2011. AR 32884.

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**Hall, D.**, 1994: Assessment Report IP/Resistivity Survey on the Nails Property for Cominco Ltd. AR 23509.

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**MapPlace** – Map Data downloads

**MtOnline** - MINFILE downloads.

092HNE056 – TOM CAT

092HNE074 – BIG KIDD

092HNE080 – PAYCINCI

092HNE096 – ELK

092HNE109 – DAGO

092HNE115 – KETCHAN LAKE

NORTH

092HNE151 – THALIA

092HNE166 – AM

092HNE177 – AR

092HNE256 – DALRYMPLE

092HNE257 – BLOO

092HNE258 – AR2 11.

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**Sheahan, PA, Cherry, ME** - Ore Deposit Models, Volume II. Geoscience Canada. Reprint Series 6. Geological Association of Canada

**Sookochoff, L.** – Geological & Geophysical Assessment Report on Tenure 1047656 of the Tom Cat 1047656 Claim Group for Sierra Iron Ore Corp. March 2, 2017.

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**Sookochoff, L.** – Geological Assessment Report on Tenure 1015142 of the Toni 1015142 Claim Group for Stephen Scott, Brian Scott, and Christopher Delorme. September 13, 2014. AR 35451.

**Thomson, G.** – Diamond Drilling Assessment Report on the Ketchan Lake Property for Copper Belt Resources Corporation. April 28, 2006. AR 28484.

**Thomson, G.** – Diamond Drilling Assessment Report on the Ketchan Lake Property for Midland Resources Corporation. November 22, 2007. AR 29453.

**STATEMENT OF COSTS**

Work on Tenure 1047657 was completed from November 5, 2016 to November 7, 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 5-6, 2016

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

Truck rental 3 days @ \$75.00 ----- 220.00

Kilometre charge: 160@ \$0.70 ----- 112.00

Fuel ----- 38.40

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

Mag rental 3 days @ \$80.00 ----- 240.00 970.40

\$5,170.40

Maps ----- 750.00

Report ----- 3,000.00

\$ 8,920.40

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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**

E5625491 T1047657														
East	North	Mag	East	North	Mag	East	North	Mag	East	North	Mag	East	North	Mag
670050	5534300	560	670050	5534250	540	670050	5534200	540	670050	5534150	560	670050	5534100	560
670025	5534300	560	670025	5534250	560	670025	5534200	540	670025	5534150	560	670025	5534100	560
670000	5534300	580	670000	5534250	520	670000	5534200	520	670000	5534150	560	670000	5534100	420
669975	5534300	540	669975	5534250	540	669975	5534200	580	669975	5534150	620	669975	5534100	600
669950	5534300	540	669950	5534250	560	669950	5534200	580	669950	5534150	620	669950	5534100	600
669925	5534300	540	669925	5534250	500	669925	5534200	620	669925	5534150	640	669925	5534100	620
669900	5534300	580	669900	5534250	500	669900	5534200	600	669900	5534150	600	669900	5534100	560
669875	5534300	600	669875	5534250	480	669875	5534200	540	669875	5534150	540	669875	5534100	520
669850	5534300	620	669850	5534250	520	669850	5534200	500	669850	5534150	460	669850	5534100	520
669825	5534300	600	669825	5534250	560	669825	5534200	460	669825	5534150	460	669825	5534100	480
669800	5534300	600	669800	5534250	520	669800	5534200	480	669800	5534150	440	669800	5534100	460
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669750	5534300	560	669750	5534250	480	669750	5534200	500	669750	5534150	460	669750	5534100	520
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669625	5534300	500	669625	5534250	540	669625	5534200	600	669625	5534150	540	669625	5534100	580
669600	5534300	520	669600	5534250	540	669600	5534200	600	669600	5534150	540	669600	5534100	560
669575	5534300	520	669575	5534250	520	669575	5534200	600	669575	5534150	540	669575	5534100	560
669550	5534300	560	669550	5534250	540	669550	5534200	560	669550	5534150	540	669550	5534100	560