

# **VICTORY RESOURCES CORPORATION**

(Owner & Operator)

## **GEOLOGICAL ASSESSMENT REPORT**

*(Event 4344953)  
on a*

## **LINEAMENT ARRAY ANALYSIS**

*Work done on*

**Tenure 633143**

*of the five Tenure*

**Toni 633143 Claim Group**

*of the*

**TONI PROPERTY**

**Nicola Mining Division**

**BCGS Map 092H.088**

**Centre of Work  
5531500N, 678000E**

**BC Geological Survey  
Assessment Report  
31194**

AUTHOR & CONSULTANT

**Laurence Sookchoff, PEng**

**Sookchoff Consultants Inc.**

*(Amended May 7, 2010)*

*Sookchoff Consultants Inc.*

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## SUMMARY

The five claim Toni 633143 claim group of the TONI property covers an area of 2099 hectares located 205 kilometres northeast of Vancouver, 30 kilometres southeast of Merritt, and 10 kilometres northwest of the past productive Elk/Siwash property in south-central British Columbia.

Production from the Elk/Siwash property, located within a Middle Jurassic intrusive peripheral to the Nicola volcanic contact, is reported as 1,518,777 grams (48,830 ounces) of gold and 1,903,000 grams (61,183 ounces) of silver recovered between 1992 and 1995. In 2004, 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. Gold-bearing pyrrhotite and polymetallic gold-silver mineralization are hosted primarily by parallel to subparallel east-northeast trending pyritic quartz veins and stringers in altered pyritic granitic and, less frequently, volcanic rocks.

The Toni 633143 property is underlain predominantly by the upper Triassic Nicola Group of basaltic volcanic rocks (uTrNE). A succession of Upper Triassic mudstone, siltstone, shale, and fine clastic sedimentary rocks (UTrNsf) infringes into the Property from the north and from the south. An intrusive stock of late Triassic to early Jurassic granodiorite (uTrJgd) is partly covered by the Property along the western-central side.

The lineament array analysis on Tenure 633143 of the Toni 633143 Victory Resources property (Property) indicates a primary northerly trending structure, labelled "A" on Figure 4, with an associated conjugate fault array system trending northeasterly and northwesterly. A polyphase fault array system is possibly indicated in a principal indicated fault trending northeasterly (potentially conjugate to "A") designated as "B", or in a principal easterly trending fault designated as "C".

The principal faults are significant in providing structural controls to potential economic mineral zones. The intersection area of the principal faults have an added degree of significance in the provision of a complex fault array system for the emplacement of minerals from mineral bearing fluids emanating from an underlying source via the major plumbing system at the fault intersection. The surface area of the principal fault intersections (Figure 4) would thus be a prime exploration area to explore for geological indications to potentially economic sub-surface mineral zones. Three such areas are noted on Figure 4.

## INTRODUCTION

In September, 2009 a Lineament Array Analysis was completed Tenure 633143 of the five claim Toni 633143 claim group ("Property) of Victory's TONI property. The purpose of the program was to delineate potential structures which may be integral in geological controls to potentially economic mineral zones that may occur on Tenure 633143 or other claims of the Toni 633143 property.

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

## PROPERTY DESCRIPTION AND LOCATION

The Property is comprised of five claims covering an area of 2099.9 hectares. Particulars are as follows:

<u>Tenure Number</u>	<u>Type</u>	<u>Claim Name</u>	<u>Good Until</u> *	<u>Area (ha)</u>
<a href="#">520757</a>	Mineral	WEN	20110525	499.041
<a href="#">567126</a>	Mineral	AU-WEN EAST	20110525	498.8479
<a href="#">582313</a>	Mineral	NEW WEN 2	20110525	166.3116
<a href="#">591361</a>	Mineral	WIN 8	20110525	519.8243
<a href="#">633143</a>	Mineral	WENA	20110525	415.8861

Total Area: 2099.9109 ha

\*Upon the approval of the assessment work filing, Event Number 4345048.

The Property is located within BCGS Map 092H.088 of the Nicola Mining Division, 205 direct kilometres northeast from Vancouver, 30 direct kilometres southeast from Merritt and 10 kilometres northwest from the ELK (Siwash) past productive deposit of Fairfield Minerals Ltd. The centre of the work area is at 5531500N, 678000E (NAD 83).

### ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

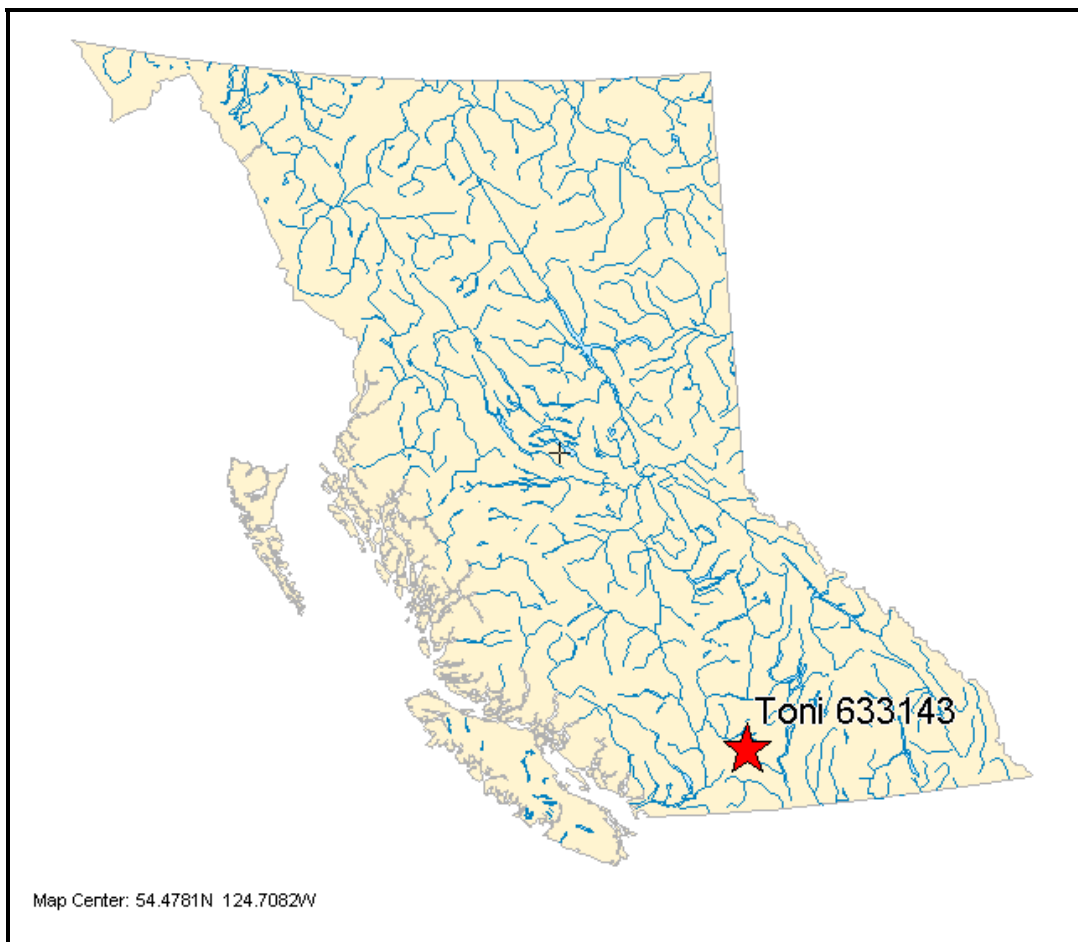
Access to the Property is southward and eastward from Merritt via Highway 97C or the Coquihalla connector Highway for 44 kilometres to the Lost Lake exit and the northward for seven kilometres along the Pothole Lake secondary road to the southern boundary of the Property.

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. Sufficient water for all phases of the exploration program could be available from the many lakes and creeks, which are located within the confines of the property. Water may be scarce during the summer months and any water required for exploratory purposes, would be transported.

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

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 four hours distant by road and less than one hour by air from Kamloops.

**Figure 1. Location Map**



## HISTORY: PROPERTY & AREA

### *Property*

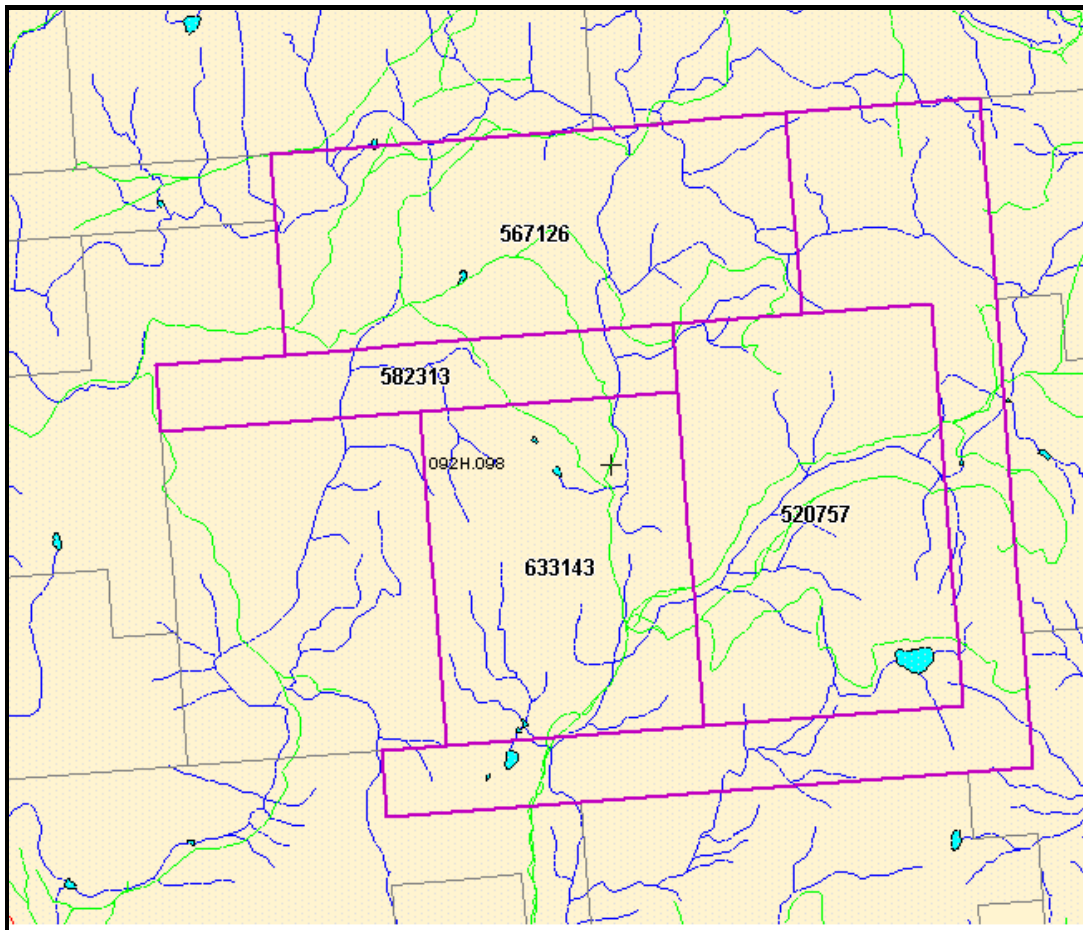
Early **1990's**: Trenching and three short adits were driven on exposures containing chalcopryite bearing quartz veins. The explored area was subsequently designated as the **HN-WEN** prospect, or the **WEN** prospect. (MINFILE 092HNE058).

**1960's**: Consolidated Skeena Mines completed an airborne magnetic survey and geochemical soil survey over the **WEN** prospect and the area.

**1969**: Harry Nesbitt staked the claims over the presently designated **AU-WEN** prospect

**1971**: W. Petrie of Merritt acquired the Hill claims which included the **WEN** prospect.

*Figure 2. CLAIM MAP*



**1972**: Nitracell Canada optioned the claims (**WEN**) and conducted a program of line-cutting, soil sampling, geological mapping, induced polarization and magnetometer surveys, in addition to a five-hole 884.6 metre diamond drill program. An assay from drill-hole HNS 72-1 was reported as 1.12 % Cu and 3.4 g/t Ag (AR 4230).

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

**1974:** Harry Nesbitt carried out trenching of a copper occurrence at the **AU-WEN** prospect and discovered free gold at the “Main” or “Nesbitt” zone.

**1974:** New Pyramid Gold Mines Ltd. conducted trenching and diamond drilling on the **AU-WEN** prospect with no significant results.

**1978:** Invex Resources Ltd. conducted soil sampling and trenching on the **AU-WEN** prospect. A gold-copper-silver soil anomaly was delineated that extended approximately 700 metres north of the initial prospect.

**1978:** Imperial Metals Corp. completed 168 metres of diamond drilling in two drill-holes on the **AU-WEN** prospect. Anomalous gold values were intersected (Dawson, 1986) but the values were not as significant as those obtained from the surface showings

**1979 (?):** Heyman and J.D. Rowe of Fairfield Minerals Ltd. prospected the **AU-WEN** prospect area and discovered the Hodge vein, a new gold-bearing quartz vein to the north of the Nesbitt zone.

**1980 (?):** Fairfield Minerals Ltd. completed a program of geochemical, geological, and geophysical surveys, as well as trenching on the **AU-WEN** prospect.

**1984:** Algo Resources Ltd. conducted induced polarization, magnetometer, geochemical, and geological surveys and drilled nine holes totalling 587 metres on the **AU-WEN** prospect.

Anomalous gold values were intersected but not as high as in surface showings.

**1996:** George Resource Company completed a 16-hole, 1,636.8 metre diamond drill program within the area of the **WEN** showing. The highest reported assay was from drill-hole W96-1 which averaged 16.578 gm/t Au, 18.185 gm/t Ag, and 0.75% Cu over 6.55 metres of core from the designated Main Vein. An assay from drill-hole W-96-3 was reported as 3.6% over 1.68 metres of core from the Stockwork Zone (north of the Lower Adit).

**1996:** George Resource Company conducted trenching and sampling on the **MAL** occurrence. Assays of 1.36% Cu and anomalous gold values (440 ppb Au) were reported. In the early 1960's narrow diameter diamond drilling reportedly intersected 20 feet averaging 1.62% Cu.

**2002:** Lategra Resources Corp. completed two diamond drill holes in the **HN-WEN** area. The highest assay was 0.10% Cu and <0.10 gm/t Au over a 2.74 metre core interval (Verzosa, 2003).

**2006:** Victory Resources Corporation completed an MMI soil survey over a localized area of the **HN-WEN** prospect (Sookochoff, 2007).

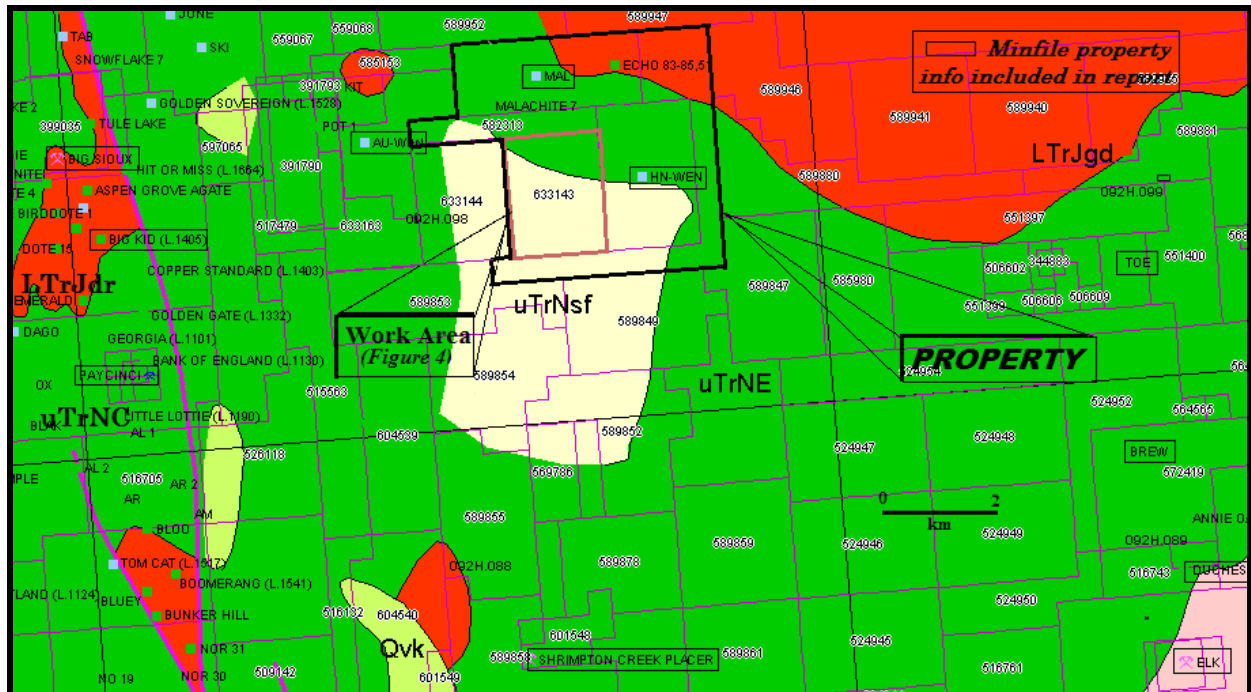
**2006:** Victory Resources Corporation completed an MMI soil survey over a localized area of the **AU-WEN** prospect (Sookochoff, 2007).

**2008,** Victory Resources Corporation completed a four diamond-drill hole, 183.43 metre program (VRW-08-2 to VRW-08-5) in the specific area of the **HN-WEN** Lower Adit and discovered a gold-bearing quartz vein designated as the Adit Vein (50 metres north of the Main Vein) trending east-west and with an indicated true width of up to three metres. The highest assay was from drill hole VRW-08-28.6 g/t Au, 0.24% Cu, and 0.24 g/t Hg over a one metre section of the 3.63 metre quartz vein intersection (Sookochoff, 2009).

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

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers on and peripheral to the Property (Figure 3) are reported as follows

**Figure 3. Claim, Index, Geology, & Minfile**



**MAL** prospect (Cu skarn; Fe skarn; Au skarn)  
MINFILE 092HNE002  
Within property

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).

**HN-WEN** prospect (Volcanic redbed Cu)  
MINFILE 092HNE058  
Within property

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



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

**Area** (cont'd)

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

MINFILE 092HNE073

Seven 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.

Christopher James Gold Corp. drilled the area, including the Big Kidd (092HNE074) in 1997.

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

MINFILE 092HNE074

Six kilometres west

This occurrence was first explored by H.H. Schmidt, with the excavation of several trenches and one adit, 69 metres long, between 1900 and 1915. An additional three adits, 12 to 90 metres long, were excavated some time between 1916 and the 1950s. The deposit was trenched and drilled by Noranda Mines Ltd. in 1956 after completing geological and geophysical surveys. Additional geophysical and soil geochemical surveys were carried out by Norranco Mining and Refining in 1969 and Amax Exploration Inc. in 1971. Amax also mapped and drilled the deposit in 1972. David Minerals Ltd. conducted geological and self potential surveys, trenching and 112 metres of diamond drilling in three holes between 1975 and 1980. The deposit was sampled by Northair Mines Ltd. in 1991 and Placer Dome Inc. in 1992. Drilling by Placer intersected 71 metres averaging 0.75 gram per tonne gold and 0.2 per cent copper in the north zone of the Big Kidd breccia.

Christopher James Gold Corp. drilled 10 holes, totalling 2074 metres in 1997. A 116-metre intersection graded 0.801 grams per tonne gold and 0.124 per cent copper, including a higher grade section of 19.46 metres grading 3.09 grams per tonne gold and 0.113 per cent copper (Exploration in B.C. 1997, page 38). This intersection is from the North zone. The Southwest zone, 350 metres to the south, and the Northeast zone also contained mineralization.

The next program by Christopher James Gold was a 2 staged drilling program completed during the fall in 1999. This program drilled a fan of three holes to the southwest and one parallel hole along the Big Kidd Breccia north contact. All four 1999 holes intersected significant lengths of gold-copper mineralized intrusion breccia with late porphyritic monzonite dyke and potassic (K-feldspar) alteration zones.

In 2003, Christopher James Gold Corp. drilled 9 holes and dug three trenches to test alkalic porphyry hosted by the Big Kidd breccia. Broad intervals of low-grade mineralization were encountered.

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

**Area** (cont'd)

**PAYCINCI** prospect (Volcanic redbed Cu)

MINFILE 092HNE084

Five kilometres west

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).

**AU-WEN** prospect (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)

MINFILE 092HNE144

Two kilometres east

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

**SHRIMPTON CREEK PLACER** past producer (Surficial placers)

MINFILE 092HNE180

Nine kilometres south

The creek was worked by F. Keeling in 1939, between 6.4 and 8 kilometres above Missezula 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 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 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 Property is situated within the eastern belt of the Nicola Group which is in a fault contact by the northerly trending Kentucky-Alleyne fault to the west with the central belt of the Nicola volcanics.

## **GEOLOGY MAP LEGEND**

### **Pleistocene to Recent**

PIRal

Unnamed alluvial till

PIRvk

Unnamed alkalic volcanic rocks

### **Upper Triassic**

#### **Eastern Volcanic Facie**

uTrNE

lower amphibolite/kyanite grade metamorphic rocks

uTtNsf

mudstone, siltstone, shale, fine clastic sedimentary rocks

uTrNMI

basaltic volcanic 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**

As indicated by the BC government supported MapPlace geological maps, the Property is indicated as underlain by the upper Triassic Nicola Group of basaltic volcanic rocks (uTrNE) in the north in contact with a succession of Upper Triassic mudstone, siltstone, shale, and fine clastic sedimentary rocks (UTrNsf) to the south. An intrusive stock of late Triassic to early Jurassic granodiorite (uTrJgd) is partly covered by the Property in the north where the Mal mineral (092HNE002) prospect of skarn mineralization occurs along the intrusive-Nicola contact.

## **GEOLOGY: PROPERTY AREA**

The geology on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers on the Property and peripheral to the Property (Figure 3) are reported as follows:

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

MINFILE 092HNE002

Within property

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).

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).

**GEOLOGY: PROPERTY AREA (cont'd)**

**HN-WEN** prospect (Volcanic redbed Cu)

MINFILE 092HNE058

Within property

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.

The contact between the volcanic rocks and the argillites passes through the centre of the mineralized area. The contact is parallel to bedding, striking 130 degrees and dipping 40 degrees southwest, with the volcanic rocks on the northeast side (Assessment Report 4230).

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

MINFILE 092HNE060

Fourteen kilometres east

The Toe occurrence consists of minor copper mineralization located sporadically in the area between Paradise and Boot lakes, 21 kilometres northeast of the community of Missezula Lake. This area lies 18 kilometres east of the historical Aspen Grove copper camp, between Merritt and Princeton.

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

The occurrence lies in the Eastern belt or facies of the Nicola Group, which is characterized by submarine volcanoclastic rocks and volcanic flows (Bulletin 69; Geological Survey of Canada Map 41-1989). Exposure is limited in the Paradise and Boot lakes Breccias containing rounded volcanic, dioritic and granitic fragments in a granitic matrix crosscut Nicola rocks, Osprey Lake batholith and Otter intrusions rocks. The elongate breccia bodies vary in width from 5 to 30 metres and trend northeasterly.

**GEOLOGY: PROPERTY AREA** (cont'd)

**TOE** (cont'd)

These zones may be portions of major fault structures, but displacement, if any, is not readily apparent. Andesite dikes are the youngest units mapped, postdating all of the above. They are dark greyish green, fine grained and vary in thickness from 30 centimetres to 5 metres. They are commonly muscovite-altered and brown weathering. Strong orange and blue clay alteration is also evident in these rocks.

Mineralization appears to be spatially associated with these (Tertiary (?)) andesite dikes which are locally cut by quartz veins. The Nicola Group lithologies mapped on the Elk property consist of dark greyish green, massive basaltic andesite (some porphyritic containing pyroxene and/or amphibole phenocrysts and some containing 0.5-millimetre laminae of sand-sized black grains); pale grey-green siliceous laminated tuff; and brownish green to pale green agglomerates containing fragments from 5-50 centimetres in size. The Nicola rocks are occasionally silicified, carbonatized or epidote-altered. Iron oxide staining and finely disseminated pyrite are common.

Nicola rocks on the west side of the property dip approximately 60 degrees west, forming the east limb of a syncline. The syncline trends roughly north-south and its axis passes about 5 kilometres west of the property. Structural deformation in the area appears to be minimal.

The Osprey Lake granitic rocks are pinkish grey, medium to coarse-grained, equigranular quartz monzonite to granodiorite in composition. Pink, sugary textured aplite dikes cut the quartz monzonite. Quartz diorite related to the batholith is far less common and occurs as stocks. Dikes of quartz monzonite and hornblende-biotite-quartz monzonite also occur. Alteration includes weak to strong propylitic, argillic, phyllic and silicic assemblages.

The Otter intrusions comprise quartz feldspar porphyry, feldspar porphyry and quartz-biotite-feldspar dikes and stocks. The quartz feldspar porphyry is extensively clay altered

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

MINFILE 092HNE073

Seven kilometres west

The deposit is located at the north end 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.

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.

**GEOLOGY: PROPERTY AREA** (cont'd)

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

MINFILE 092HNE074

Six kilometres west

The deposit is located along the northern 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 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.

Parts of the breccia, especially on the north and east sides of the pipe, show extensive late magmatic and/or hydrothermal alteration and recrystallization. Breccia clasts in these areas have pronounced grey and pinkish grey alteration rims, and the matrix is extensively replaced by epidote, chlorite and calcite.

**PAYCINCI** prospect (Volcanic redbed Cu)

MINFILE 092HNE084

Five kilometres west

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.

**GEOLOGY: PROPERTY AREA** (cont'd)

**ELK** past producer (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn +/-Au; Au-quartz veins)

MINFILE 092HNE096

Seventeen 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. The western property area is underlain by steeply west-dipping andesitic to basaltic flows, agglomerates, tuffs and minor siltstone and limestone units of the Nicola Group. The eastern half of the property is underlain by granitic rocks of the Osprey Lake batholith. Early Tertiary feldspar porphyry and quartz feldspar porphyry stocks and dikes of the Otter intrusions cut both of the above.

**AU-WEN** prospect (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)

MINFILE 092HNE144

Within Property

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). 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). Some of the volcanics have sustained carbonate and epidote alteration, and locally they have pervasive hematite (Assessment Report 16008).



**GEOLOGY: PROPERTY AREA** (cont'd)

**SHRIMPTON CREEK PLACER** past producer (Surficial placers)

MINFILE 092HNE180

Nine kilometres south

Shrimpton Creek flows southwest from its headwaters immediately south of The Wart for 10 kilometres. The creek continues south- southwest for 6 kilometres before entering Missezula Lake, 38.5 kilometres north of Princeton. Most of the creek flows through a broad, gently sloping valley, which steepens somewhat in the lower 4 kilometres.

**DUCHESS** showing (porphyry Cu +/-Mo+-Au)

MINFILE 092HNE137

Eleven kilometres southeast

The Duchess 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 area of the Duchess occurrence straddles the contact between the Eastern belt or facies of the Nicola Group, which is characterized by submarine volcanoclastic rocks and volcanic flows, and the Osprey Lake batholith to the east (Bulletin 69; Geological Survey of Canada Map 41-1989). The volcanics generally consist of augite porphyritic andesitic or basaltic flows and lapilli tuffs, and are accompanied by diorite and minor argillaceous sedimentary rocks (Assessment Reports 4525, 18041, 20994). The Osprey Lake batholith is a large, composite, locally megacrystic granite to granodiorite intrusion of Middle Jurassic age (Geological Survey of Canada Paper 91-2, page 95).

The Duchess occurrence is on the northwestern margin of the batholith, which in this area consists of hornblende biotite granodiorite with a weak foliation parallel to its margin (Assessment Report 4525). The adjacent andesitic volcanics have been contact metamorphosed and hydrothermally epidotized, with minor secondary carbonate (Assessment Report 4525).

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

MINFILE 092HNE275

Fifteen kilometres east-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.

**GEOLOGY: PROPERTY AREA (cont'd)**

**BREW (cont'd)**

Samples of pyritic clay-altered sections have yielded up to 0.280 gram per tonne gold and 0.445 per cent arsenic (Assessment Report, 18041, page 8, samples 128665, 44719)

A sample from a zone of quartz stringers analysed 0.600 gram per tonne gold (sample 239716).

This fault is traversed by several significant fault/shear zones striking 100 to 120 degrees. One major crossfault, the Mugwump fault, is exposed west of the Brew fault, striking 100 degrees and dipping 60 degrees south.

**MINERALIZATION: PROPERTY AREA**

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

MINFILE 092HNE002

Within property

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

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

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

**HN-WEN** prospect (Volcanic redbed Cu)  
MINFILE 092HNE058  
Within property

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).

**TOE** prospect (Volcanic redbed Cu; Alkalic porphyry Cu-Au)  
MINFILE 092HNE060  
Fourteen kilometres east

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

**BIG SIOUX** prospect (Volcanic redbed Cu; alkalic porphyry Cu-Au)  
MINFILE 092HNE073  
Seven kilometres west

Copper mineralization is exposed along a 300-metre long roadcut and in various old workings north of the roadcut, in an area 500 metres long and 300 metres wide. Mineralization consists primarily of pyrite and chalcopyrite, as disseminations, blebs, fracture fillings, and in calcite and epidote veins. Pyrite also forms thin bands, comprising up to 25 per cent of the hostrock. Malachite occurs along fractures in many surface exposures. Chalcocite forms fracture fillings in one prominent 1.8-metres wide shear zone, striking 075 degrees and dipping 75 degrees north. Minor bornite is also reported.

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

### **BIG SIOUX (cont'd)**

One chip sample taken along the roadcut assayed 3.27 per cent copper, 14.45 grams per tonne gold and 34.1 grams per tonne silver over 10 metres (Assessment Report 20834, page 5). Channel sampling along a trench analysed 0.223 per cent copper, 0.106 gram per tonne gold and 1.26 grams per tonne silver over 27 metres (Assessment Report 7100, page 11, trench 4). A composite grab sample from the dump of a shaft, excavated in the chalcocite-bearing shear zone, assayed 12.6 per cent copper, 0.7 gram per tonne gold and 82 grams per tonne silver (Minister of Mines Annual Report 1901, page 1181).

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

MINFILE 092HNE074

Six 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

Five kilometres west

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

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

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

**ELK** Past Producer (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn  
+/-Au; Au-quartz veins)

MINFILE 092HNE096

Seventeen 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. 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 (phyllitic) 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, 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.

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

### **ELK Past Producer (cont'd)**

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).

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.

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

### **ELK Past Producer (cont'd)**

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.

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.

*Sookochoff Consultants Inc.*

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

**ELK Past Producer (cont'd)**

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.

**DUCHESS showing (Porphyry Cu+/-Mo+-Au)**

MINFILE 092HNE137

Seven kilometres east

This alteration zone is mineralized with pyrrhotite and minor chalcopyrite, which are disseminated in the volcanics or localized in fractures. Locally pyrrhotite forms aggregates between 2 and 5 centimetres across. The chalcopyrite is erratic in its distribution and is generally weak. Pyrite was not recorded.

Strongly altered fault zones, with gold and silver mineralization, occur immediately north of the Duchess occurrence in the Wart claim group (see Annie Oakley (092HNE029) and Brew (092HNE275).

**AU-WEN prospect (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)**

MINFILE 092HNE144

Two kilometres east

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).

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



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

**SHRIMPTON CREEK PLACER** past producer (Surficial placers)

MINFILE 092HNE180

Enclosed by the Property

Particles of flat, well-worn, flaky gold, 1.5 to 3 millimetres in diameter, were recovered from unsorted glacial material. Most of the gold was found near surface. Material lying on or near bedrock was found to be barren of gold.

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

MINFILE 092HNE275

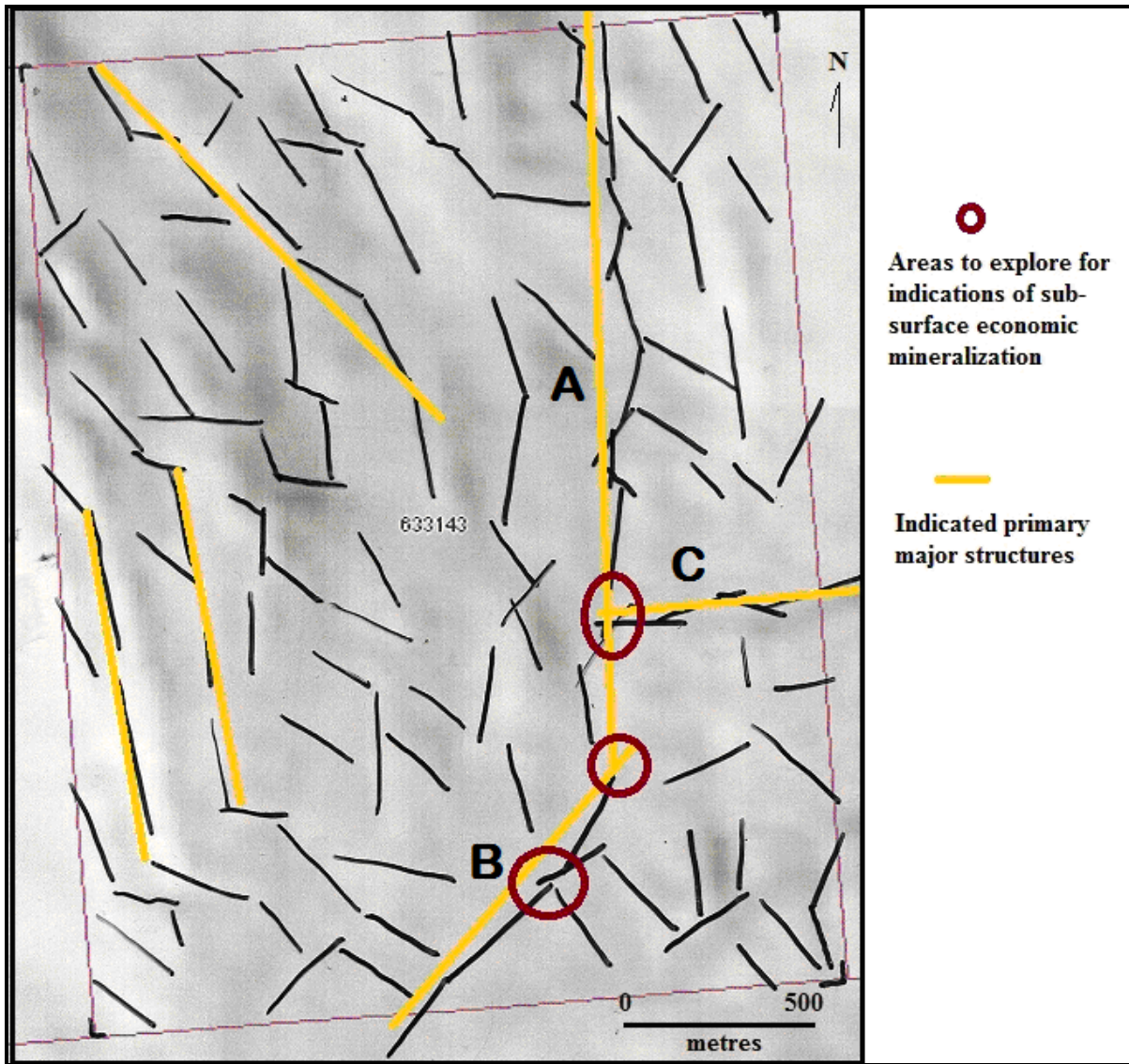
Fifteen kilometres east-southeast

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).

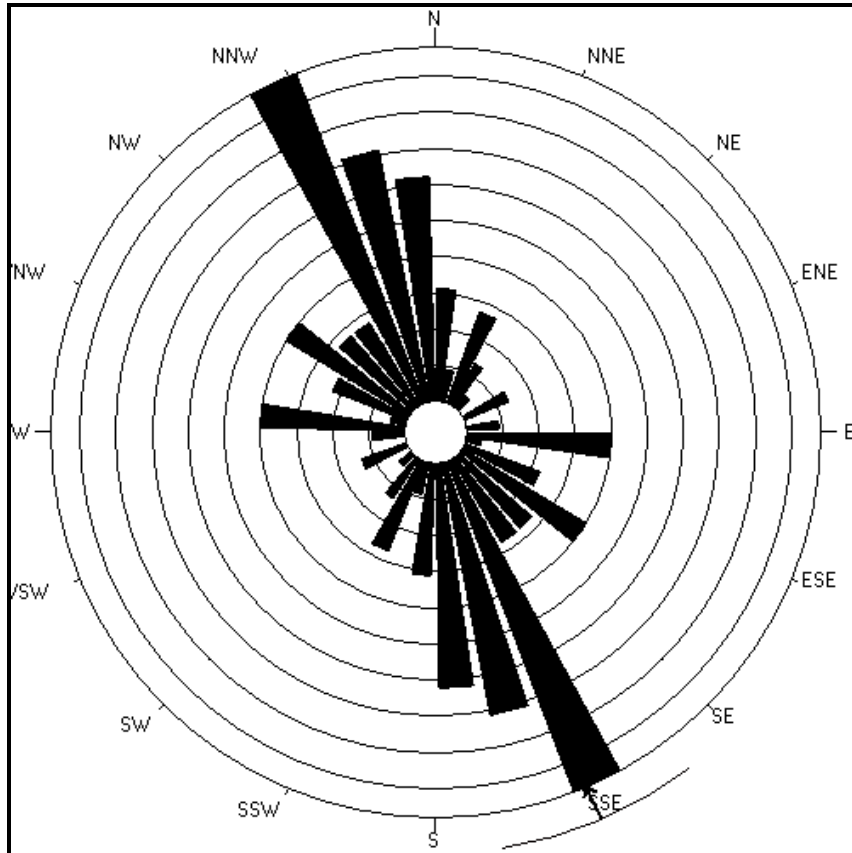
**2009 LINEAMENT ARRAY ANALYSIS**

DEM Image Hillshade maps obtained from MapPlace were utilized as the base map for the lineament array analysis on Tenure 633143. The analysis was accomplished using a stereographic projection viewing of the maps and marking the lineaments on an overlay. A total of 112 lineaments were marked (Figure 4), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on Figure 5.

Figure 4. Indicated Lineaments on Tenure 633143



**Figure 5. Rose Diagram from lineaments of Figure 4.**



Axial (non-polar) data

No. of Data = 112

Sector angle = 10°

Scale: tick interval = 2% [2.2 data]

Maximum = 19.6% [22 data]

Mean Resultant dir'n = 157-337

[Approx. 95% Confidence interval = ±13.8°]

## INTERPRETATION

The lineament array analysis on Tenure 633143 of the Toni 633143 Victory Resources property (Property) indicates a primary northerly trending structure, labelled “A” on Figure 4, with an associated conjugate fault array system trending northeasterly and northwesterly. A polyphase fault array system is possibly indicated in a principal indicated fault trending northeasterly (potentially conjugate to “A”) designated as “B”, or in a principal easterly trending fault designated as “C”.

The principal faults are significant in providing structural controls to potential economic mineral zones. The intersection area of the principal faults have an added degree of significance in the provision of a complex fault array system for the emplacement of minerals from mineral bearing fluids emanating from an underlying source via the major plumbing system at the fault intersection. The surface area of the principal fault intersections (Figure 4) would thus be a prime exploration area to explore for geological indications to potentially economic sub-surface mineral zones. Three such areas are noted on Figure 4.

Excluding other variable geological conditions, the structures are also essential to the localization of potentially economic quartz vein hosted mineralization or other types of mineral deposits such as skarn or porphyry mineralization within the Nicola volcanics and/or the intrusive covered by the Toni 633143 claim group. The potential for these variable types of deposits are evident from the Property area Minfile reported prospects, showings, and past producers included herein.

Respectfully submitted



Sookchoff Consultants Inc.  
Laurence Sookchoff, PEng

## **SELECTED REFERENCES**

- Balon, E.A.** 1994: 2003 Geochemical Report on the AU Property for Fairfield Minerals Ltd. AR 23,446.
- Clayton, C.J.**, 1991: Assessment Report on 1990 Geological Mapping and Sampling, and Soil Geochemistry of the Wart Group for Minnova, Inc. AR 20,994C
- Dahrouge, J.**, 2001: 2000 Geological Mapping, Sampling and Line-Cutting on the AU Property for Commerce Resources Corp. AR 24,460.
- Hall, D.**, 1994: Assessment Report IP/Resistivity Survey on the Nails Property for Cominco Ltd. AR 23,509.
- Kierans, M.D.**, 1972: Mineral Exploration Report on the Hill Group, Wart Mountain Area for Nitracell Canada Ltd. AR 4,230.
- MapPlace** – Map Data downloads
- Marshak, S., Mitra, G.** 1988: Basic Methods of Structural Geology. Prentice-Hall Inc.
- MtOnline** - MINFILE downloads.
- Rowe, J.D.**, 1995: 1995 Geochemical Report on the Wave Property for Fairfield Minerals Ltd. AR 24,253.
- Sookochoff, L.**, 2008: Summary Report & Recommendations for Exploration on the Toe Claim Group for Victory Resources Corporation.

**STATEMENT OF COSTS**

Work on Tenure 633143 was done from September 12, 2009 to September 13, 2009 to the value as follows:

**Lineament Array Analysis**

Laurence Sookochoff, P Eng. 2 days @ \$ 1,000.00/day -----	\$ 2,000.00
Maps -----	1,500.00
Report -----	<u>4,000.00</u>
	\$ 7,500.00
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## CERTIFICATE

I, Laurence Sookochoff, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geologist and principal of Sookochoff Consultants Inc. with an address at 120 125A-1030 Denman Street, Vancouver, BC V6G 2M6.

I, Laurence Sookochoff, further certify that:

- 1) I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
- 2) I have been practicing my profession for the past forty-three 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.
- 6) I am a director of Victory Resources Corporation.



Laurence Sookochoff, P. Eng.