

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

TOTAL COST: \$7,500.00

AUTHOR(S): Laurence Sookochoff, PEng

SIGNATURE(S): *Laurence Sookochoff*

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): _____ YEAR OF WORK: 2014

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5512506 July 11, 2014

PROPERTY NAME: Tom Cat

CLAIM NAME(S) (on which the work was done): 535845

COMMODITIES SOUGHT: Copper Gold

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092HNE056 092HNE088 09HNE056

MINING DIVISION: Nicola NTS/BCGS: 092H.087 092M.088 092H.097 092H.098

LATITUDE: 49 ° 53 ' 43 " LONGITUDE: 120 ° 38 ' 12 " (at centre of work)

OWNER(S):

1) Sierra Iron Ore Corporation

2) _____

MAILING ADDRESS:

13236 Cliffstone Court

Lake Country BC V4V 2R1

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

1) Sierra Iron Ore Corporation

2) _____

MAILING ADDRESS:

13236 Cliffstone Court

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

Pleistocene Holocene volcanics Upper Triassic Eastern Volcanic Facies Central Volcanic Facies Late Triassic to Early Jurassic dioritic to gabbroic intrusives. Regional Kentucky-Alleyne Fault System. Indicated major northwesterly and northerly structures. Three indicated cross-structures. At Tom Cat prospect alteration of chloritization and sericitization at mineralized contact breccia zone. Breccia erratically mineralized with chalcocite, magnetite, bornite chalcocite, and native copper.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 10497 32382

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation	520 hectares	535845	\$ 7,500.00
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
TOTAL COST:			\$ 7,500.00

SIERRA IRON ORE CORP.

GEOLOGICAL ASSESSMENT REPORT

(Event 5512506)

*Work done on Tenure 535845
(from May 10, 2014 to May 15, 2014)*

of the six claim

TOM CAT 535845 CLAIM GROUP

Nicola Mining Division

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

British Columbia, Canada

Centred Near:

5,529,667 N, 669729 E

UTM (NAD: 83)

Author & Consultant:

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SOOKOCHOFF CONSULTANTS INC.

Vancouver, BC Canada

Amended Report Submitted

August 21, 2015

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Summary

The six claim Tom Cat 535845 Claim Group, located 194 kilometres east-northeast of Vancouver, is comprised of six claims covering an area of 2747 hectares in the historic Aspen Grove copper camp of south-central British Columbia. The Property is also situated within the belt of Mesozoic rocks, which include the Nicola Volcanics, that are host to such major porphyry deposits as the recently revived Similkameen mine to the south and the world-class Highland Valley mine to the north.

The Aspen Grove area was recognized for its potential in developing economic mineral deposits since the late 1880's when copper mineralization was first discovered in the area. One of the earlier discoveries, the Tom Cat was made on the ground covered by the Tom Cat 535845 Claim Group. The 12 claim Tom Cat Property includes ten documented mineral prospects or showings in a localized three by two kilometre area or within approximately only one-quarter of the entire Property.

Although the Tom Cat Property has a history of exploration, the only significant results reported prior to 2006 was a drill intersection of 45.7 metres of 0.32% copper in a 1965 Pyramid Mining drill hole on the Tom Cat showing. Exploration work by Bold Ventures in 2006 & 2007 resulted in the delineation of viable chargeability IP drill targets and copper soil anomalies associated with mineral showings. A drill hole on the Tom Cat showing confirmed the historic result in the intersection of 4.4 meters of 0.54% copper in a 40 meter section of mineralization. The entire 40 meters of mineralization was not sampled.

The geology of the six claim Tom Cat 535845 Claim Group is of the regional north trending Kentucky-Alleyne bisecting the Property with the Nicola Central Volcanic Facies (UTrNC) comprised of andesitic volcanic rocks in the west and the Nicola Eastern Volcanic Facies comprised of lower amphibolite/kyanite grade metamorphic rocks (UTrNE) in the east.

Dioritic to gabbroic intrusive rocks outcrop within the Central portion of the Nicola Volcanics where the major portion of mineralization occurs.

The three cross-structures delineated within Tenure 535845 of the six claim Tom Cat 516703 Claim Group. are prime prospective areas to explore for surficial geological indicators of a potential economic sub-surface mineral resource. Due to the predominance of brecciation and fracturing at the intersections, the expansive area would be the favoured site for the deposition of any hydrothermal fluids released from a buried intrusive source.

Should the fluids bear minerals, the degree of mineralization and thus the mineral resource potential is often dependent on the degree of fracture intensity as at the Brenda past producer where the grade of the orebody is a function of fracture (vein) density and of the thickness and mineralogy of the filling material. Mineralization decreases outwardly from the most intensely fractured/mineralized rock and the centre of the main mineral zone

The included Minfile reports of fracture zone and fracture related mineral zones may reflect surficial peripheral indications of mineral seepage along peripheral structures to the main cross-structural location where more definitive geological indicators would occur

Thus, the significance of the structures, and/or brecciation, shearing and cross fractures is in the provision for a means of the ultimate deposition of hydrothermal solutions. The mineral bearing solutions could be expressed mineralogically as sulphides in quartz veins, as replacements in various carbonated rock units, or any variation thereof as indicated in the Minfile properties reported herein.

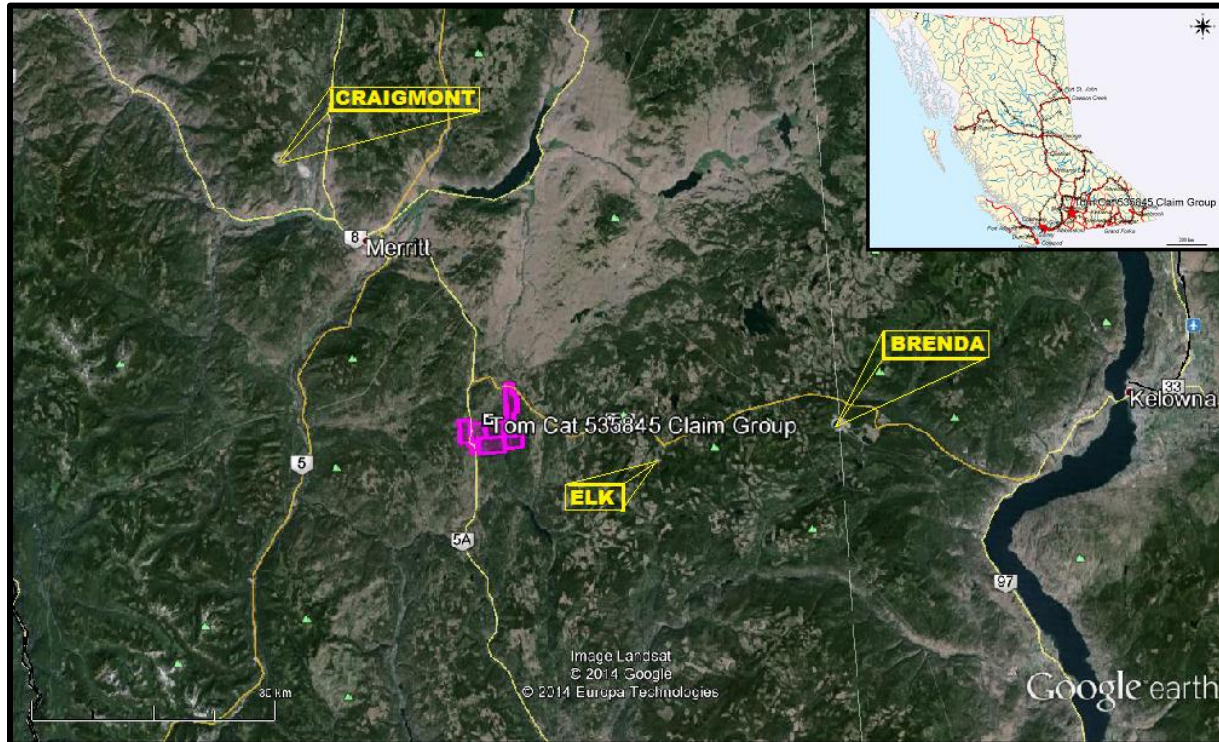
A geological examination of the three intersecting locations is recommended and if warranted, a subsequent localized VLF-EM survey be completed. The VLF-EM survey should provide information on the prime structural location and possibly any related host mineralization.

INTRODUCTION

In May 2014 a Structural Analysis was completed on Tenure 535845 of the six claim Tom Cat 535845 Claim Group (“Property”). The purpose of the program was to delineate potential structures which may be integral in geological controls to potentially economic mineral zones that may occur on Tenure 535845 or other claims of the Property.

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

Figure 1. Location Map
(from MapPlace)



PROPERTY DESCRIPTION and LOCATION

Description

The Property consists of six contiguous claims totalling 2747.4099 hectares. Particulars are as follows:

Table 1. TOM CAT 535845 CLAIM GROUP TENURES
(from MtOnline)

<u>Tenure Number</u>	<u>Type</u>	<u>Claim Name</u>	<u>Good * Until</u>	<u>Area (ha)</u>
516703	Mineral		20140731	582.976
516705	Mineral		20140731	416.267
516708	Mineral		20140731	374.651
535845	Mineral	CASPER WEST	20140731	520.39
1015128	Mineral	BROWN	20140720	312.2933
1018452	Mineral	NAA1	20140731	540.8326

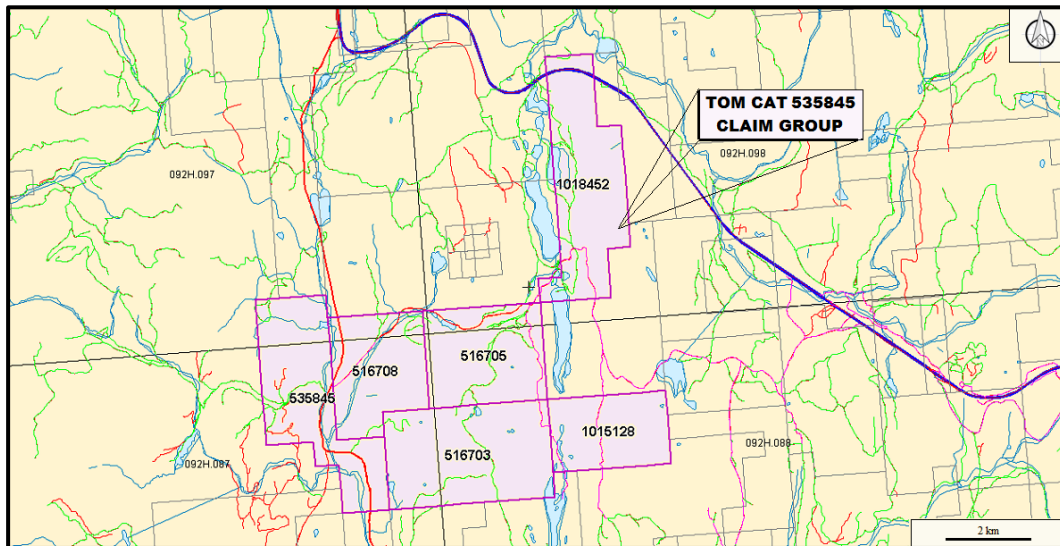
*On the approval of this assessment report

Property Description and Location (cont'd)

Location

The Property is located in the Nicola Mining Division of British Columbia Canada, 194 kilometres east-northeast of Vancouver and 27 kilometres southeast of Merritt

Figure 3. **CLAIM MAP**
(base map from MapPlace)



ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE and PHYSIOGRAPHY

Access

Access from Merritt is for four kilometres southeastward to the junction between Highways 5 and 5A; thence via Highway 5A southward for 24 kilometres to the junction between Highways 5A and 97C or the Aspen Grove junction; thence via Highway 5A through Aspen Grove for six kilometres to the northern border of Tenure 516708 of the Tom Cat 535845 Claim Group. Within two kilometres further southward on Highway 5A is the Kentucky Lake Provincial campsite junction. A secondary road leading westward from this junction would provide access to much of the western portion of the Tom Cat 535845 Claim Group.

An alternate route to the Property from the Aspen Grove junction is via Highway 97C eastward for six kilometres to the western boundary of Tenure 1018452 of the Tom Cat 535845 Claim Group. Six additional kilometres eastward is the Loon Lake junction from which a secondary road taken westward for 1.5 kilometres to an underpass of Highway 97C and westward for six kilometres to the northeastern boundary of Tenure 1015128 and northward to the southern boundary of Tenure 1028452. A continuation on these roads would access much of the eastern portion of the Tom Cat 535845 Claim Group.

Climate

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

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

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

Physiography

The Property is situated at the western edge of the Douglas Plateau, which is within the physiographic area designated as the Interior Plateau of British Columbia. Vegetation is grassland with pine groves and thickets of fir at higher elevations.

Within Tenure 535845, the subject of the Structural Analysis, gentle to moderate forested slopes with patches of selectively logged areas in the west and barren lowlands in the central east to forested areas fringing the claim in the southeast.

Elevations range from 990 metres within the valley of a southerly flowing river along the mid-south boundary to 1,225 metres on the crest of a mountain in the northwest.

HISTORY: PROPERTY AREA

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Tom Cat 535845 Claim Group are reported as follows; the distance is from Tenure 535845, the subject of the Structural Analysis.

HN-WEN prospect (Volcanic redbed Cu)

MINFILE 092HNE058

Fourteen kilometres northeast

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

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

MINFILE 092HNE073

Five kilometres north

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.

History: Property Area (cont'd)**BIG KIDD** prospect (Volcanic redbed Cu; alkalic porphyry Cu-Au)

MINFILE 092HNE074

Four kilometres north-northeast

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 sometime 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

PAYCINCI prospect (Volcanic redbed Cu)

MINFILE 092HNE084

Four kilometres west-southwest

The Cincinnatti deposit was first explored by the Bates brothers in the early 1900s. A number of trenches, and one adit 120 metres long, were excavated between 1899 and 1913. Payco Mines Ltd. and Alscope Consolidated Ltd. conducted geological and geophysical surveys, trenching and diamond and percussion drilling between 1963 and 1967. An additional 15 holes totalling 1000 metres were drilled by Gold River Mines and Enterprises Ltd. in 1973 and Sienna Developments Ltd. in 1979. The deposit was most recently sampled by Pacific Copperfields Ltd. in 1992. In 1998, Christopher James Gold Corp. optioned the property. Reserves are estimated at 1.8 million tonnes grading 1 per cent copper (Tom Schroeter, 1998).

HISTORY: PROPERTY

The history on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers within the Tom Cat 535845 Claim Group are reported as follows.

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

Porphyry Mo (Low F-type)

MINFILE 092HNE086

Within Tenure 516703

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.

PORTLAND showing (Volcanic redbed Cu)

MINFILE 092HNE088

Within Tenure 516703

The Portland showing is 1.95 kilometres west-northwest of the north end of Bluey Lake and 2.6 kilometres southwest of the south end of Kentucky Lake.

This occurrence was explored periodically between 1900 and 1905. Portland Mining Company excavated a shaft, 35 metres deep and a drift from the bottom of the shaft, 32 metres long, in 1905.

DALRYMPLE showing (Volcanic redbed Cu)

MINFILE 092HNE256

Within Tenure 516703

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.

GEOLOGY: REGIONAL

Kerr provides an excellent account of the regional geological setting in a 2006 assessment report (AR 28,782).

“The project area lies within the Intermontane belt of Mesozoic rocks between Princeton and Merritt. This belt of rocks carries south into the United States and north into the Yukon Territory. The distinguishing and oldest rock group in this belt is the volcanic and sedimentary rocks of the Triassic Nicola group.

Preto (Bulletin 69) has subdivided this group into the western, central, and eastern facies. The eastern facies is dominantly intermediate purple/gray/green flows, breccias, tuffs, lahar breccias, with minor sandstones and siltstones. The central facies is intermediate to basic flows, breccias and tuffs, with more dominant limestone, siltstone, argillite, and conglomerate.

The western facies is acidic to intermediate flows, breccias and tuffs, with minor limestone. Intruding the Nicola volcanics are numerous stocks, sills, small plutons, batholiths and dikes of various ages and of a varied composition.

The more sizeable intrusions are the Jurassic Pennask batholith, the lower Jurassic Allison Lake pluton, and the Cretaceous Summers Creek stocks. The intrusive rocks are acidic to basic in composition, however most are alkalic in nature. The most dominant rock descriptions are diorite, monzonite and granodiorite. The lower Cretaceous Kingsvale group of dominantly volcanic rocks unconformably overly the Nicola group and earlier intrusions. These rocks are intermediate to felsic flows, tuffs, ash flows and lahar breccias. The Summers Creek stocks intrude rocks of the Kingsvale group, Overlying all rocks are Tertiary basalts and andesites of the Princeton group and sedimentary rocks of the Coldwater beds.”

GEOLOGY: PROPERTY AREA

The geology on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Tom Cat 535845 Claim Group are reported as follows; the distance is from Tenure 535845, the subject of the Structural Analysis.

HN-WEN prospect (Volcanic redbed Cu)

MINFILE 092HNE058

Fourteen kilometres northeast

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).

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

MINFILE 092HNE073

Five kilometres north

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

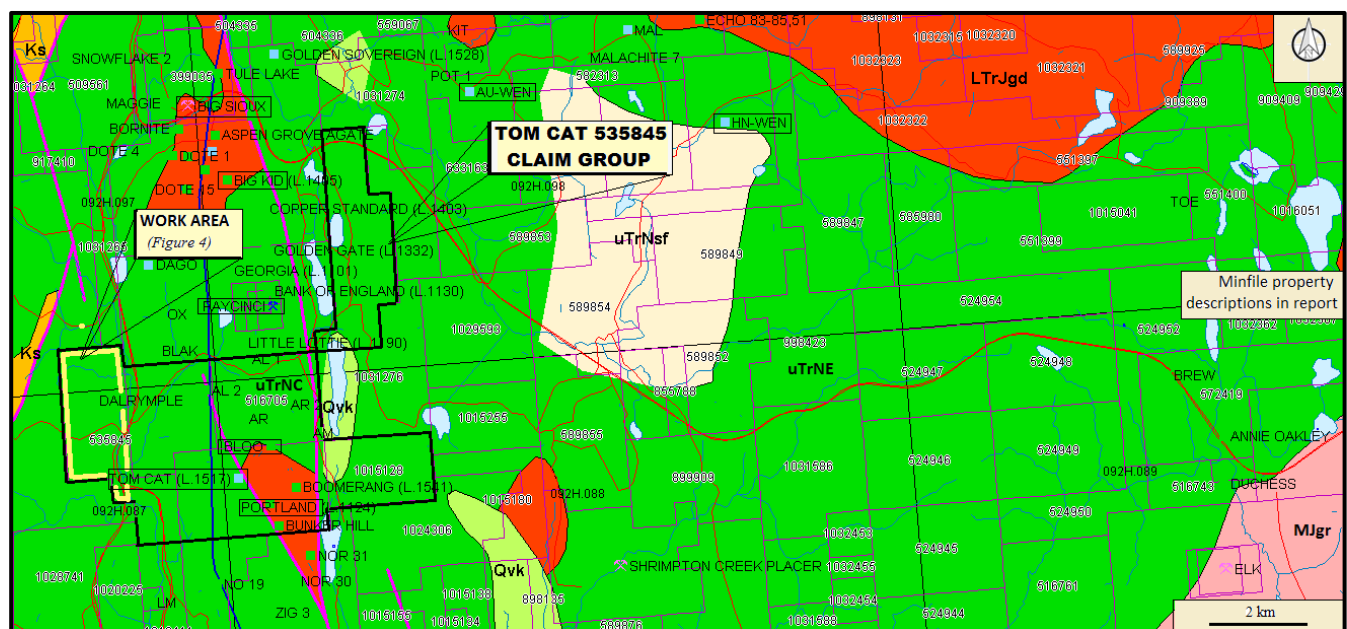
MINFILE 092HNE074

Four kilometres north-northeast

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.

Figure 3 Geology, Claim, Index & Minfiles
(Base Map from MapPlace)



GEOLOGY MAP LEGEND

Pleistocene to Holocene

Qvk

Unnamed alkalic volcanic rocks

Upper Triassic: Nicola Group

Eastern Volcanic Facies

uTrNE

lower amphibolite/kyanite grade metamorphic rocks

uTrNsf

mudstone, siltstone, shale, fine clastic sedimentary rocks

uTrNMI

basaltic volcanic rocks

uTrJum

unnamed ultramafic rocks

Central Volcanic Facies

uTrNc

andesitic volcanic rocks

Middle Jurassic

MJgr

unnamed, granite, alkalic feldspar granite intrusive rocks

Late Triassic to Early Jurassic

LTrJgd

unnamed granodiorite intrusive rocks

LTrJdr

dioritic to gabbroic intrusive rocks

Geology: Property Area (cont'd)**Big Kidd prospect (cont'd)**

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

Four kilometres west-southwest

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

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

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

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

MINFILE 092HNE144

Nine kilometres northeast

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.

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

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).

GEOLOGY: PROPERTY

As indicated by the BC government supported MapPlace geological maps, the regional north trending Kentucky-Alleyne bisects the Toni 909429 Claim Group with the Nicola Central Volcanic Facies (UTrNC) comprised of andesitic volcanic rocks in the west and the Nicola Eastern Volcanic Facies comprised of lower amphibolite/kyanite grade metamorphic rocks (UTrNE) in the east.

Late Triassic to Early Jurassic dioritic to gabbroic intrusive rocks outcrop within the Central portion of the Nicola Volcanics where the major portion of mineralization occurs.

The geology on some of the more significant mineral MINFILE reported showings and prospects within the Tom Cat 535845 Claim Group are reported as follows.

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

Porphyry Mo (Low F-type)

MINFILE 092HNE086

Within Tenure 516703

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.

PORTLAND showing (Volcanic redbed Cu)

MINFILE 092HNE088

Within Tenure 516703

Chalcocite, magnetite and hematite occur in a fracture zone in red and green laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

Geology: Property(cont'd)

DALRYMPLE showing (Volcanic redbed Cu)
MINFILE 092HNE256
Within Tenure 516703

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

MINERALIZATION: PROPERTY AREA

The mineralization on some of the more significant mineral MINFILE reported occurrences, prospects, and past producers peripheral to the Tom Cat 535845 Claim Group are reported as follows; the distance is from Tenure 535845, the subject of the Structural Analysis.

HN-WEN prospect (Volcanic redbed Cu)
MINFILE 092HNE058
Fourteen kilometres northeast

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

Chalcopyrite is the only copper mineral: it is disseminated, or concentrated in quartz and calcite veins and veinlets between 0.3 and 30 centimetres thick, usually about 8 centimetres thick. Pyrite, pyrrhotite and rare specular hematite are also present in the veins. Locally oxidation has produced abundant malachite, azurite and limonite

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

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

Some significant copper and silver values have been obtained from the workings and diamond drill core. A 1.5-metre chip sample from Adit Number 1 was assayed at 4.39 per cent copper, 92.6 grams per tonne silver, and 0.7 gram per tonne gold (Assessment Report 4230).

A grab sample from here was assayed at 4.84 per cent copper, 46.6 grams per tonne silver and 0.7 gram per tonne gold (Assessment Report 4230). Both samples were from oxidized material and may not be representative of grade throughout the deposit (Assessment Report 4230). A drill core sample (hole HNS 72-1) assayed 1.12 per cent copper and 3.4 grams per tonne silver (Assessment Report 4230).

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

Mineralization: Property Area (cont'd)

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

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).

BIG KIDD prospect (Volcanic redbed Cu; alkalic porphyry Cu-Au)
MINFILE 092HNE074
Four kilometres north-northeast

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.)

Mineralization: Property Area (cont'd)

PAYCINCI prospect (Volcanic redbed Cu)
MINFILE 092HNE084
Four kilometres west-southwest

Hypogene and supergene copper mineralization occurs in green laharic breccia, near the contact with red laharic breccia to the east. This mineralization consists primarily of disseminated and fracture controlled chalcocite and native copper, accompanied by lesser malachite and azurite, and minor chalcopyrite, bornite, cuprite and pyrite. Drilling indicates chalcopyrite becomes more abundant at depth at the expense of chalcocite.

This mineralization is exposed along the crest and east flank of a small northerly trending ridge, over a north-south distance of 400 metres.

Drill indicated reserves are 54,000 tonnes grading 0.876 per cent copper (Assessment Report 7654, page 1). Precious metal values are generally low. Six rock samples analysed 1.1 to 2.4 per cent copper, 0.005 to 0.010 gram per tonne gold and 1.3 to 5.7 grams per tonne silver (Assessment Report 14108, Figure 5, samples 2051 to 2056.

AU-WEN prospect (Intrusion-related Au pyrrhotite veins; Polymetallic veins Ag-Pb-Zn+/-Au)
MINFILE 092HNE144
Nine kilometres northeast

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).

MINERALIZATION: PROPERTY

TOM CAT prospect (Volcanic redbed Cu; Subvolcanic Cu-Ag-Au (As-Sb);
Porphyry Mo (Low F- type)
MINFILE 092HNE086
Within Tenure 516703

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.

Mineralization: Property (cont'd)**Tom Cat prospect (cont'd)**

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).

PORTLAND showing (Volcanic redbed Cu)

MINFILE 092HNE088

Within Tenure 516703

The mineralized zone is reported to be over 9 metres wide. A sample from about 100 tonnes of dump material assayed 0.4 per cent copper (Minister of Mines Annual Report 1913, page 223). A sample from an opencut assayed 0.9 per cent copper (Minister of Mines Annual Report 1901, page 1183).

DALRYMPLE showing (Volcanic redbed Cu)

MINFILE 092HNE256

Within Tenure 516703

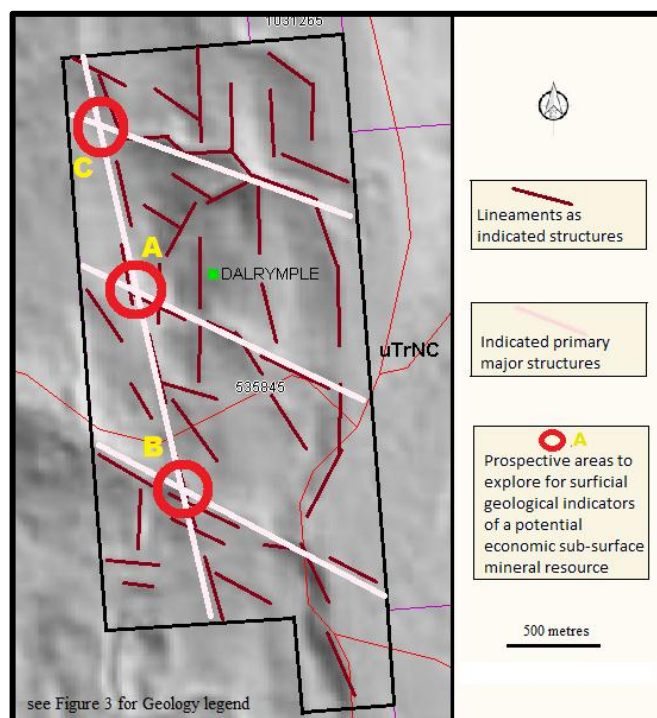
A rock sample analysed 0.18 per cent copper and 0.9 gram per tonne silver (Assessment Report 10497, page 6, sample PR-4).

STRUCTURAL ANALYSIS

A DEM Image Hillshade map downloaded from MapPlace was utilized as the base map for the structural analysis on Tenure 535845. A total of 50 structurally indicated lineaments were marked (Figure 4), compiled into a 10 degree class interval, and plotted as a rose diagram as indicated on Figure 5.

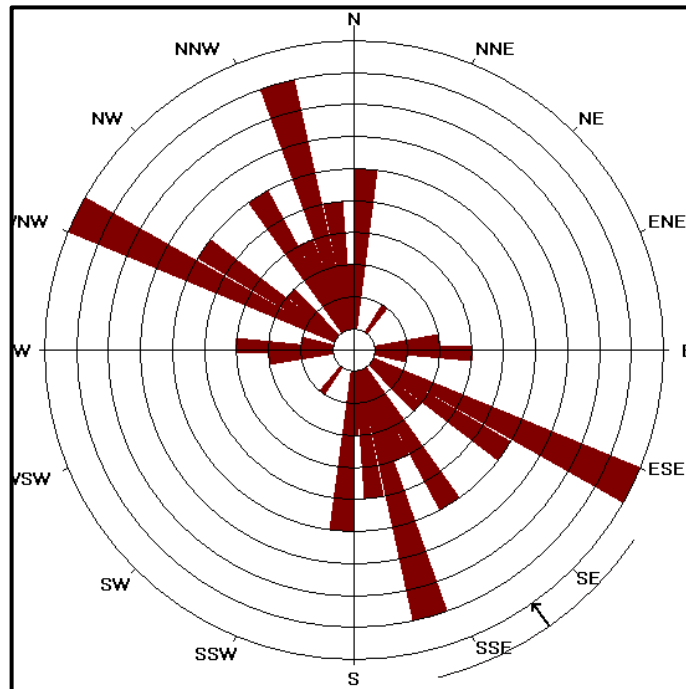
The centre of the work area is at 5,529,667N, 669,729E (10 NAD 83).

Figure 4. **Indicated Structures on Tenure 535845**
(Base map from MapPlace)



Structural Analysis (cont'd)

Figure 5. **Rose Diagram from Indicated structures of Figure 4.**
(Based on Lineaments from Figure 5)

**STATISTICS**

Axial (non-polar) data

No. of Data = 50

Sector angle = 8°

Scale: tick interval = 2% [1.0 data]

Maximum = 18% [9 data]

Mean Resultant dir'n = 145-325

[Approx. 95% Confidence interval = ±20.7°]

(valid only for unimodal data)

Mean Resultant dir'n = 144.8 - 324.8

Circ.Median = 001.0 - 181.0

Circ.Mean Dev.about median = 38.8°

Circ. Variance = 0.16

Circular Std.Dev. = 33.30°

Circ. Dispersion = 1.63

Circ.Std Error = 0.1805

Circ.Skewness = 1.61

Circ.Kurtosis = -26.09

kappa = 1.18

(von Mises concentration param. estimate)

Resultant length = 25.45

Mean Resultant length = 0.509

'Mean' Moments: Cbar = 0.1701; Sbar = -0.4797

'Full' trig. sums: SumCos = 8.5071; Sbar = -23.9836

Mean resultant of doubled angles = 0.156

Mean direction of doubled angles = 180

(Usage references: Mardia & Jupp,

'Directional Statistics', 1999, Wiley;

Fisher, 'Statistical Analysis of Circular Data', 1993, Cambridge University Press)

Note: The 95% confidence calculation uses

Fisher's (1993) 'large-sample method'

Structural Analysis (cont'd)

Figure 6. **Cross-structures on Google Earth**
 (Based on Lineaments and locations from Figure 4)

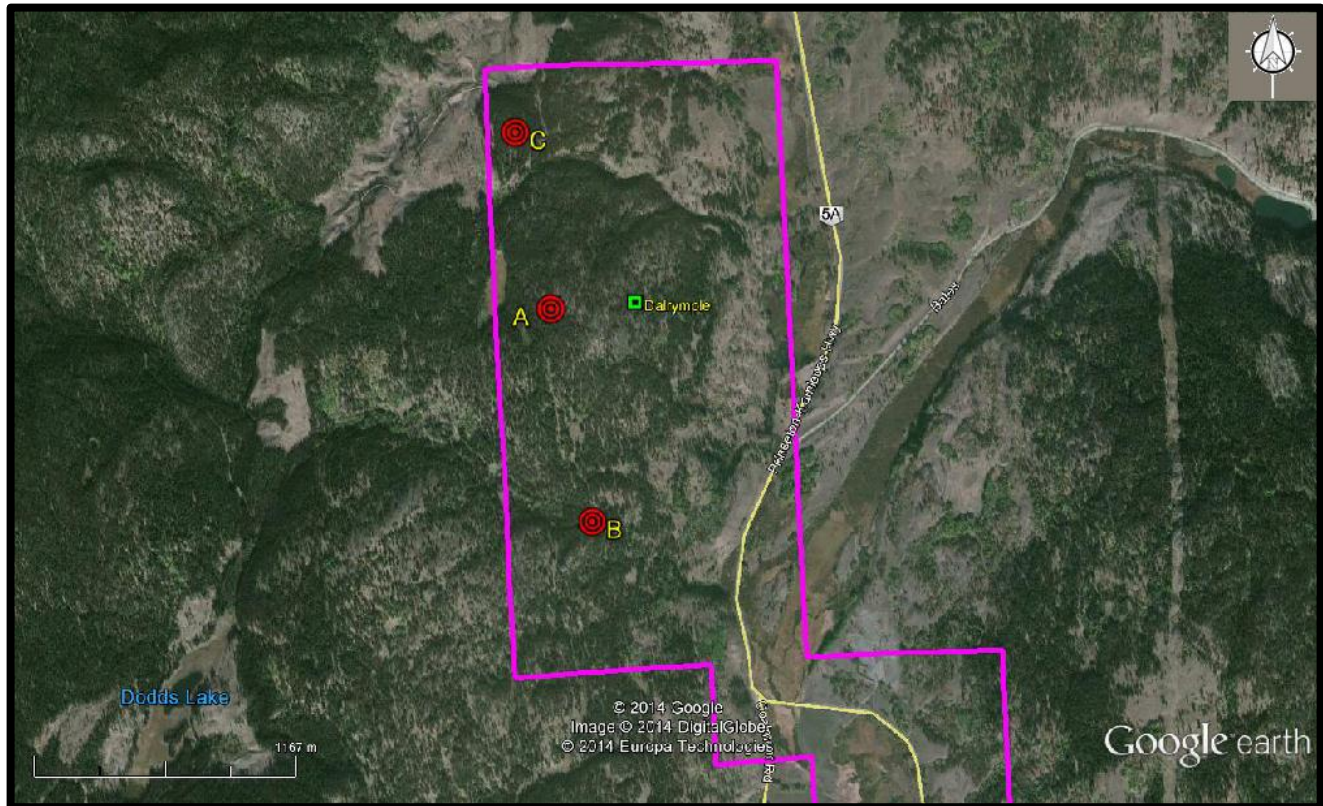


Table II. **Approximate location of cross structures of Tenure 535845**
 (UTM NAD 83)

Cross-structure	UTM East	UTM North	Elevation
A	669,380	5,529,970	1,208
B	669,542	5,529,007	1,108
C	669,230	5,530,776	1,175
Minfile			
Dalrymple	669,762	5,530,006	1,134

INTERPRETATION and CONCLUSIONS

Three cross-structures were indicated within Tenure 535845 of the six claim Tom Cat 516703 Claim Group. The cross-structures were the result of one dominant northerly trending structure intersected by three northwesterly trending structures.

The cross-structures are prime prospective areas to explore for surficial geological indicators of a potential economic sub-surface mineral resource as, due to the predominance of brecciation and fracturing, the expansive area would be the favoured site for the deposition of any hydrothermal fluids released from a buried intrusive source.

Should the fluids bear minerals, the degree of mineralization and thus the mineral resource potential is often dependent on the degree of fracture intensity as at the Brenda past producer where the grade of the orebody is a function of fracture (vein) density and of the thickness and mineralogy of the filling material. Mineralization decreases outwardly from the most intensely fractured/mineralized rock and the centre of the main mineral zone

In the Tom Cat 516703 Claim Group area, reports on Minfile property reports describe localities with narrow mineralized quartz veins occupying many of the fractures, which are likely related to the nearby north-striking Kentucky-Alleyne fault. Many of the Minfile reported showings and prospects in the Property area describe mineralization in fracture zones and/or fractures.

These mineral zones may reflect surficial peripheral indications of mineral seepage along peripheral structures to the main cross-structural location where more definitive geological indicators would occur. These geological indicators may be revealed as minerals and/or alteration products and would be subject to interpretation as economic mineral indicators

Thus, the significance of the structures, and/or brecciation, shearing and cross fractures is in the provision for a means of the ultimate deposition of hydrothermal solutions. The mineral bearing solutions could be expressed mineralogically as sulphides in quartz veins, as replacements in various carbonated rock units, or any variation thereof as indicated in the Minfile properties reported herein. The cross-structural locations could be of greater significance as a means for tapping a hydrothermal source at depth and its delivery to the structural host. As a result, the cross-structural locations would be prime areas to explore for surficial geological indicators of a potential mineral source or resource to depth such as a mineralized intrusive

A geological examination of the three intersecting locations is recommended and if warranted, a subsequent localized VLF-EM survey be completed. The VLF-EM survey should provide information on the prime structural location and possibly any related host mineralization.

Respectfully submitted,
Sookochoff Consultants Inc.



Laurence Sookochoff, PEng

STATEMENT OF COSTS

The structural analysis on Tenures 535845 was completed from May10, 2014 to May 15, 2014 for the following costs.

Laurence Sookchoff, PEng.: three days @ \$1,000.00 /day -----	\$ 3,000.00
Maps -----	1,000.00
Report -----	<u>3,500.00</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-eight years.
- 3) I am registered and in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
- 4) The information for this report is based on information as itemized in the Reference section of this report and from a Tom Cat property examination.
- 5) I have no interest in the Tom Cat property as described herein.
- 6) I am a director of Sierra Iron Ore Corp.



Laurence Sookochoff, PEng.