# Interpretation of Heliborne Magnetic Data, Regional Geophysical and Stream Geochemical Surveys on the Nat Property

Omineca Mining Division Tenure Numbers: 847536, 847537, 847540

NTS: 093M/01 Latitude 55° 03' N Longitude 126° 03'W

> UTM Zone 09 (NAD 83) Easting 686000 Northing 6104900

Work performed February 8-24, 2012 by Ken Galambos

> BC Geological Survey Assessment Report 33500

For Ken Galambos 1535 Westall Ave. Victoria, British Columbia V8T 3G6

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## Item 1: Summary

The Nat property consists of 3 claims (75 cells) covering an area of 1389.22ha lying approximately 73 km northeast of the community of Smithers and 9km north-northeast of the former producing Granisle mine in west-central British Columbia. The claims are situated on map sheet NTS 93M/01, at latitude 55° 03'N longitude 126° 03'W, UTM Zone 9, 686000E, 6104900N. Logging roads extend from the ferry landing at Nose Bay roughly 30km through to the centre of the property. The four geophysical targets covered by the claims are road accessible.

The project area lies on the northwest side of the Skeena Arch within the Intermontane tectonic belt of west-central B C. The Babine Lake area is underlain principally by Mesozoic layered rocks, the most widespread in this area being volcanic and sedimentary rocks of the Jurassic Hazelton and Bowser Lake Groups. These are intruded by plutonic rocks of various ages including lower Jurassic Topley intrusions, Omineca intrusions of early Cretaceous age, late Cretaceous rhyolite and granodiorite porphyrites and Babine intrusions of early Tertiary age. Deformation consists of moderate folding, transcurrent boundary faults, thrusting and normal faulting. Younger early Cretaceous Skeena Group undivided sedimentary rocks and subvolcanic rhyolite domes are preserved in a large cauldera setting roughly 24km in diameter that sits between the West Arm and Fisheries Arm of Babine Lake to the west of the Nat property.

The best known style of mineralization in the Babine Lake area is porphyry copper mineralization associated with small stocks and dyke swarms of biotite feldspar porphyry of the Babine intrusions. Eccene aged BFP hosts annular porphyry copper deposits such as the Bell Mine (296 mT of 0.46% Cu and 0.2 gpt Au), the Granisle Mine (119 mT of 0.41% Cu and 0.15 gpt Au) (Carter et al, 1995) and the Morrison Deposit (207 mT of 0.39% Cu and 0.20 gpt Au) (Simpson, 2007).

The Babine/Takla Lakes area has been explored since the discovery of copper mineralization on McDonald Island in 1913. Extensive exploration has occurred since the mid 1960's following the recognition of the potential of porphyry copper mineralization and the Granisle and Bell deposits. Exploration for Equity Silver type massive sulphides occurred through the 1980's following the decline in copper prices and the sharp rise in precious metal values during that time. The focus returned to copper in the early 1990's with extensive exploration programs by Noranda and others. Little information exists in the public domain of exploration in the area over the past 20 years.

The Nat property has been held continuously by the author since 2008. The claims that are subject to this report are 100% owned by K. Galambos in partnership with Ralph Keefe of Francois Lake, B.C.

It is the author's belief that previous exploration programs on the Nat property and surrounding area suggested a potential for significant volcanic massive sulphide or porphyry style mineralization. These programs also failed to adequately test this potential. Additional exploration in the form of geological, geophysical and geochemical

surveys and drilling is warranted to determine if one or more economic mineralized bodies are present within the existing property boundaries.

#### Item 2: Introduction

This report is being prepared by the author for the purposes of filing assessment on the Nat property and to create a base from which further exploration will be completed.

#### 2.1 Qualified Person and Participating Personnel

Mr. Kenneth D. Galambos P.Eng. conducted the current evaluation and interpretation of data to focus further exploration expected to be completed in the summer of 2012, and to make recommendations to test the economic potential of the area.

This report describes the property in accordance with the guidelines specified in National Instrument 43-101 and is based on historical information and an examination and interpretation of technical data covering the property. This evaluation was completed by the author over a time period from February 8-24, 2012.

#### 2.2 Terms, Definitions and Units

- All costs contained in this report are denominated in Canadian dollars.
- Distances are primarily reported in metres (m) and kilometers (km) and in feet (ft) when reporting historical data.
- GPS refers to global positioning system.
- Minfile showing refers to documented mineral occurrences on file with the British Columbia Geological Survey.
- The term ppm refers to parts per million, equivalent to grams per metric tonne (g/t).
- ppb refers to parts per billion.
- The abbreviation oz/t refers to troy ounces per imperial short ton.
- The symbol % refers to weight percent unless otherwise stated. 1% is equivalent to 10,000ppm.
- Elemental and mineral abbreviations used in this report include: arsenic (As), copper (Cu), gold (Au), iron (Fe), lead (Pb), molybdenum (Mo), zinc (Zn), chalcopyrite (Cpy), molybdenite (MoS2) and pyrite (Py).

#### 2.3 Source Documents

Sources of information are detailed below and include the available public domain information and private company data.

- Research of the Minfile data available for the area at http://www.empr.gov.bc.ca/Mining/Geoscience/MINFILE/Pages/default.aspx
- Research of mineral titles at <a href="https://www.mtonline.gov.bc.ca/mtov/home.do">https://www.mtonline.gov.bc.ca/mtov/home.do</a>
- Review of company reports and annual assessment reports filed with the government at http://www.empr.gov.bc.ca/Mining/Geoscience/ARIS/Pages/default.aspx
- Review of geological maps and reports completed by the British Columbia Geological Survey at

 $\underline{\text{http://www.empr.gov.bc.ca/Mining/Geoscience/MapPlace/MainMaps/Pages/default.aspx}}.$ 

 Published scientific papers on the geology and mineral deposits of the region and on mineral deposit types.

## 2.4 Limitations, Restrictions and Assumptions

The author has assumed that the previous documented work in the area of the property is valid and has not encountered any information to discredit such work.

#### 2.5 Scope

This report describes the geology, previous exploration history, interpretation of regional geophysical, geochemical surveys including the Quest West surveys and the Heliborne Magnetic Surveys completed by Astorius Resources Ltd. of Vancouver over the Nat project. Research included a review of the historical work that related to the immediate and surrounding areas. Regional geological data and current exploration information have been reviewed to determine the geological setting of the mineralization and to obtain an indication of the level of industry activity in the area.

#### Item 3: Reliance on Other Experts

Some data referenced in the preparation of this report was compiled by geologists employed by various companies in the mineral exploration field. These individuals would be classified as "qualified persons" today, although that designation did not exist when some of the historic work was done. The author believes the work completed and results reported historically to be accurate but assumes no responsibility for the interpretations and inferences made by these individuals prior to the inception of the "qualified person" designation.

#### Item 4: Property Description and Location

The Nat property consists of 3 claims (75 cells) covering an area of 1389.22ha, located between Natowite and Nizik Lakes, 73 km northeast of the community of Smithers and 9km north-northeast of the former producing Granisle mine in west-central British Columbia. The claims are situated on map sheet NTS 93M/01, at latitude 55° 03'N longitude 126° 03'W, UTM Zone 9, 6104900E, 686000N. Logging roads extend from the ferry landing at Nose Bay roughly 30km through to the centre of the property.

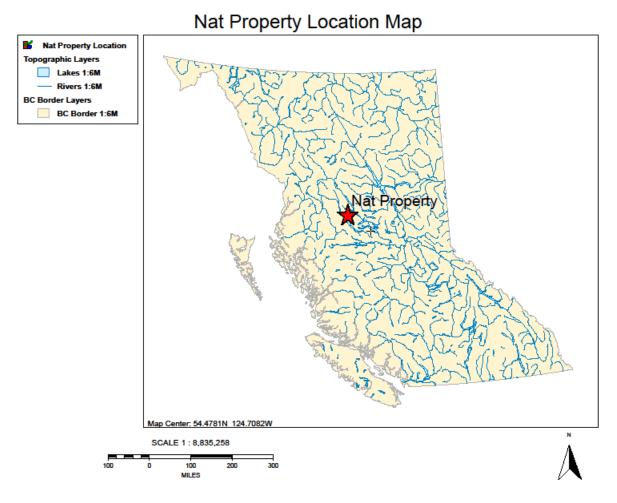


Figure 1: Nat Property location map

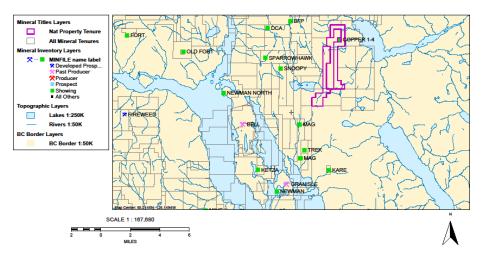
Upon acceptance of this report, the highlighted mineral tenures will have their expiry dates moved to November 1, 2012.

Table 1: Claim Data

Tenure #	Claim	Issue date	Expiry date	Area (Ha)	Owner				
847536	Nat	2011/Feb/26	2012/Nov/01	463.02	GALAMBOS, KENNETH D 100%				
847537	Nat	2011/Feb/26	2012/Nov/01	463.24	GALAMBOS, KENNETH D 100%				
847540	Nat	2011/Feb/26	2012/Nov/01	462.96	GALAMBOS, KENNETH D 100%				
			Total	1389.22					

The Claims comprising the Nat property as listed above are being held as an exploration target for possible hardrock mining activities which may or may not be profitable. Any exploration completed will be subject to the application and receipt of necessary Mining Land Use Permits for the activities recommended in this report. There is no guarantee that this application process will be successful.

#### Nat Property Claim Map



The Claims lie in the Traditional territories of a number of local First Nations and to date no dialog has been initiated with these First Nations regarding the Natlan property. There is no guarantee that approval for the proposed exploration will be received.

Fig. 2: Nat Project Claim Map

Item 5: Accessibility, Climate, Local Resources, Infrastructure and Physiography



Plate 1: Satellite Image of Nat Project

Most parts of the Property are accessible by a network of private logging roads. These roads are usable during spring to fall, but are not reliably maintained when snow-covered. Connection from the provincial highway system can be obtained by private barge from Topley Landing to the east shore of Babine Lake. Alternatively, the Property is accessible yearround by helicopter from Smithers, Houston or Burns Lake.

Climate in the region is continental, periodically modified by maritime

influences. Summers are cool and moist, and winters cold. Following climate statistics from Environment Canada are for Burns Lake, the town with climate most analogous to Babine Lake region. Mean January temperature is -10.5°C, and for July is 14.3°C. Extreme winter temperature may fall below -30°C for brief periods. Annual rainfall is 291.4mm and annual snowfall is 189.1mm, with mean snow accumulation of 45cm. Anecdotal evidence indicates that the Babine Lake area can retain more than a metre of snow depth. Snow-free field operations season for exploration spans May through October, dependant on elevation and aspect relative to the sun.

The Property occupies the northern part of the Nechako Plateau, within the Intermontane Belt of north-central British Columbia. Topography consists of rolling to locally steep hills, with low-relief valleys, containing many lakes and wetlands. The property is adjacent to Babine Lake, which is the longest natural lake in British Columbia, at approximately 100km length. Vegetation is dominated by boreal mixed forest of coniferous (spruce and pine) and deciduous (alder, poplar and birch) trees, with understory of willow, berry bushes and devil's club. Wetland sedges and grasses occupy parts of poorly-drained lowlands. Approximately 30% of the Property has been logged in the past two decades, and resultant clear-cuts are in the early stage of regrowth. A smaller area adjacent to the shoreline of Babine Lake has been logged in earlier decades, and now contains an established second-growth forest.

Infrastructure adequate for mine development is present in the region. A residential capacity powerline connecting Fort Babine with Takla Lake exists 36km north of the Property. Also, power connection to the British Columbia grid exists at the village of Granisle, on the opposite shore of Babine Lake, 16km southwest of the Property. During operations of the Bell Copper and Granisle open pit mines, power was conducted from the Granisle substation via lake-bottom power cables. Similar infrastructure could be installed for mine development on the Nat property. The Property hosts a network of private logging roads. These roads are connected to the provincial highway system by private barge from Topley Landing (near Granisle village). Babine Lake is able to supply any quantity of water needed for property development. The lower-relief portions of the property, especially the central part, contain adequate space for concentrator site, tailing ponds or waste dumps required in any contemplated mine operation. The village of Granisle, originally constructed to serve the Granisle open-pit mine, contains adequate accommodation and basic services to support a mining operation. The communities of Northwestern British Columbia contain industrial and consumer suppliers, and a pool of labour skilled in mining trades and professions.

#### Item 6: History

The Babine/Takla Lakes area has been explored since the discovery of copper mineralization on McDonald Island in 1913. Extensive exploration has occurred since the mid 1960's following the recognition of the potential of porphyry copper mineralization and the Granisle and Bell deposits. Various companies such as Granby Mining Company Ltd., Bethex Explorations Ltd., Canadian Superior Exploration Limited, Quintana Minerals Corporation and Noranda Exploration held claims in the area and

conducted geochemical, geophysical surveys and drilled various targets without much success.

Exploration for Equity Silver type massive sulphides occurred through the 1980's following the decline in copper prices and the sharp rise in precious metal values during that time.

In 1984, Northair Mines Inc. and Vital Pacific Resources Inc. completed VLF-EM and magnetic geophysical surveys over the Newsam 1-6 claims, which covered the southern part of the present day Nat claims near Nizik Lake. Numerous VLF conductors were discovered and one magnetic anomaly thought to be caused by a small intrusion. No further work was completed by the companies.

Gold Canyon Resources Inc. explored their Danny Boy claims west of Natowite Lake with VLF-EM, magnetic and horizontal loop EM geophysical surveys and geochemical surveys. Eight conductors were discovered in an area now covered by the northern half of the Nat claims. No further work is recorded by the company.

A small geochemical program was conducted by Joe Hidber and Roy Woolverton over the extension of a small silver-lead-zinc vein located in a road cut west of Natowite Lake. Samples were analysed in field for heavy metals using a Bloom Geochemical kit. A number of sample sites were found to be anomalous but no further work was recorded.

The focus returned to copper in the early 1990's with extensive exploration programs by Noranda Exploration. In 1991, the company drilled two BQ sized drill holes for a total of 295.1m to test previously detected ground magnetic and electromagnetic anomalies in search of a massive sulphide body.

In 1992, Noranda completed geochemical surveys on a number of claim groups in the area. Maximum values from patchy chalcopyrite in andesite volcanics was 10, 356ppm Cu.

Noranda flew a combined Airborne magnetic, electromagnetic and VLF-EM survey over their Nat Lake property in early 1993. the company hoped to find geophysical signatures characteristic of porphyry deposits.

Little information exists in the public domain of exploration in the area over the past 20 years.

## Item 7: Geological Setting and Mineralization

#### 7.1 Regional Geology

The project area lies on the northwest side of the Skeena Arch within the Intermontane tectonic belt of west-central B C. The Babine Lake area is underlain principally by Mesozoic layered rocks, the most widespread in this area being volcanic and sedimentary rocks of the Jurassic Hazelton and Bowser Lake Groups. These are

intruded by plutonic rocks of various ages including lower Jurassic Topley intrusions, Omineca intrusions of early Cretaceous age, late Cretaceous rhyolite and granodiorite porphyrites and Babine intrusions of early Tertiary age. Deformation consists of moderate folding, transcurrent boundary faults, thrusting and normal faulting. Younger early Cretaceous Skeena Group undivided sedimentary rocks and subvolcanic rhyolite domes are preserved in a large cauldera setting roughly 24km in diameter that sits between the West Arm and Fisheries Arm of Babine Lake to the west of the Nat property.

A very late structural event (possibly Eocene or later) has been noted by the author in an area that stretches from Takla Lake to the east to at least the Natlan Peak area on the west. This event is believed to be a fairly close spaced dextral shearing 800m-2km between shears with only 200-300m of right lateral offset. Evidence for this event was first noted with the Don showing, Minfile 093N 220, where a northeast-striking fault defines a 300m apparent dextral offset to the contact between the volcanic and eastern clastic units. A review of the regional 1<sup>st</sup> derivative magnetic data from MapPlace in the area of the Don showing shows a repeated dextral offset of 200-300m to a magnetic high anomaly that cuts across Takla Lake. This northeast trending late structural event is noted at many of the Minfile occurrences in the Babine and Takla Lake areas, including at the former Bell and Granisle mines and other more advanced showings in the area. In the Natlan area, mineralization is hosted in northeast trending quartz veins at American Boy (Minfile 093M 047), Mohawk (Minfile 093M 051), Babine (Minfile 093M 116) and Ellen (Minfile 093M 123) and in quartz stockworks at Mt Thomlinson (093M 080). At the Ellen showing, veins and veinlets in granites occur in association with shear zones trending between 020° and 040°, dipping steeply 70° east to west. The mineralization is late in the evolution of the granitic complex, post-dating hornfelsing and post-dating the guartz-molybdenite mineralization. The mineralization process is multiphased, **as** demonstrated by the distinctive banding of guartz and sulphides (Reid. 1985). This structural event is important in that it hosts high grade base metal mineralization as at the Granisle and Bell mines and is shown to carry significant precious metal values as at the Ellen showing and the Mohawk and American Boy past producing mines. At the Granisle pit, coarse-grained chalcopyrite is widespread, occurring principally in quartz filled fractures with preferred orientations of 035° to 060° and 300° to 330° with near vertical dips.

In the Nat project area, this same late structural event is seen as the north and northeast trending Takla fault that lies immediately east of the property. A second north-northeast structure is suggested by a number of narrow diorite intrusions that occur along the western margin of the property. This second fault may also control the late dyke present in the Granisle pit that hosts significant high grade mineralization.

The best known style of mineralization in the Babine Lake area is porphyry copper mineralization associated with small stocks and dyke swarms of biotite feldspar porphyry of the Babine intrusions. Eocene aged BFP hosts annular porphyry copper deposits such as the Bell Mine (296 mT of 0.46% Cu and 0.2 gpt Au), the Granisle

Mine (119 mT of 0.41% Cu and 0.15 gpt Au) (Carter et al, 1995) and the Morrison Deposit (207 mT of 0.39% Cu and 0.20 gpt Au) (Simpson, 2007).

Copper molybdenum mineralization is also known to occur in late phases of the Topley intrusions and in late Cretaceous granodiorite porphyrites. Other deposit types include narrow veins with base and precious metal values which commonly occur marginal to porphyry deposits and disseminated copper mineralization in Hazelton Group volcanic rocks (Carter, 1985).

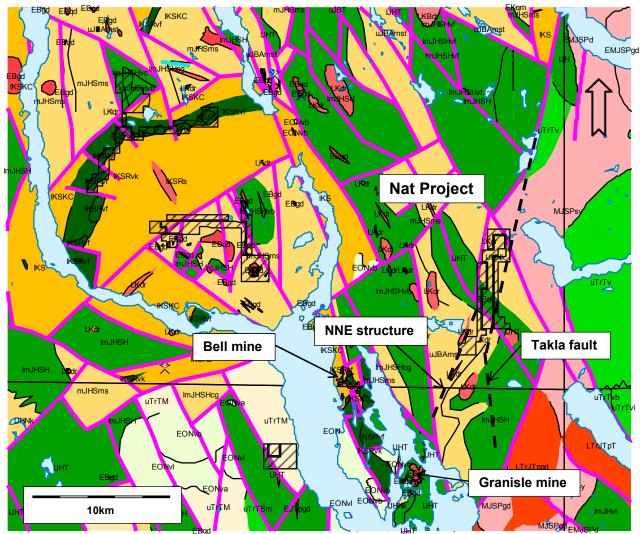


Figure 3: Regional Geology Map

#### Table 2

# **Geology Legend**

Bounding Box: North: 55.236 South: 54.903 West: -126.648 East: -125.878

NTS Mapsheets: 093L, 093K, 093N, 093M

#### **Eocene**

#### **Babine Plutonic Suite**

EBgd	Biotite-Feldspar Porphyritic Phase: granodioritic intrusive rocks

**EBqd** Quartz Diorite to Granodiorite Phase: quartz dioritic intrusive rocks

#### Nechako Plateau Group

	EON	Newman Formation: andesitic volcanic rocks
	<b>EONva</b>	Newman Formation - Mafic Flows Member: andesitic volcanic rocks
	EONvb	<b>Newman Formation - Porphyritic Flows Member:</b> basaltic volcanic rocks

EEvl Endako Formation: coarse volcaniclastic and pyroclastic volcanic rocks

Newman Formation - Breccia Member: coarse volcaniclastic and

pyroclastic volcanic rocks

#### **Late Cretaceous to Eocene**

**LKdr** dioritic intrusive rocks

#### **Late Cretaceous**

#### **Bulkley Plutonic Suite**

LKBdr Diorite Phase: dioritic intrusive rocks

#### **Early Cretaceous**

EKqm Wedge Mountain Stock: quartz monzonitic to monzogranitic intrusive rocks

#### Skeena Group

IKSRvk Rocky Ridge Formation - Subvolcanic Rhyolite Domes: alkaline volcanic rocks

Rocky Ridge Formation - Subvolcanic Rhyolite Domes: rhyolite, felsic volcanic rocks

IKS undivided sedimentary rocks

IKSKC Kitsuns Creek Formation: undivided sedimentary rocks

Red Rose Formation: undivided sedimentary rocks

#### Middle to Late Jurassic

#### Bowser Lake Group

**IKSRs** 

**uJBAmst** Ashman Formation: argillite, greywacke, wacke, conglomerate turbidites uJBT Trout Creek Formation: conglomerate, coarse clastic sedimentary rocks Middle Jurassic Hazelton Group Smithers Formation: marine sedimentary and volcanic rocks **mJHSms** Spike Peak Intrusive Suite Quartz Monzonite Phase: granodioritic intrusive rocks MJSPgd **MJSPsy** syenitic to monzonitic intrusive rocks **Early to Middle Jurassic** Hazelton Group Saddle Hill Formation - Megacrystic Porphyry Member: andesitic **lmJHSHva** volcanic rocks Saddle Hill Formation - Mafic Submarine Volcanic Member: basaltic lmJHSHvb volcanic rocks lmJHvl coarse volcaniclastic and pyroclastic volcanic rocks Saddle Hill Formation - Volcaniclastic-Sedimentary Member: **lmJHSHcg** conglomerate, coarse clastic sedimentary rocks Saddle Hill Formation - Subvolcanic Rhyolite Domes: rhyolite, felsic lmJHSHvf volcanic rocks lmJHSH Saddle Hill Formation: undivided volcanic rocks Saddle Hill Formation - Intermediate Volcanic Member: volcaniclastic **lmJHSHvc** 

Spike Peak Intrusive Suite

**EMJSPd** dioritic intrusive rocks EMJSPgd granodioritic intrusive rocks

rocks

#### **Early Jurassic**

#### Hazelton Group

IJH andesitic volcanic rocks Telkwa Formation - Felsic to Intermediate Volcanic Member: andesitic IJHT volcanic rocks Nilkitkwa Formation: argillite, greywacke, wacke, conglomerate **IJHN**k turbidites IJHT Telkwa Formation - Mafic Volcanic Member: basaltic volcanic rocks

#### **Lower Jurassic**

**IJHN**k Nilkitkwa Formation: undivided sedimentary rocks

#### **Late Triassic to Early Jurassic**

uTrJcg conglomerate, coarse clastic sedimentary rocks

**Topley Intrusive Suite** 

LTrJTpT Tochcha Lake Stock: dioritic intrusive rocks

EJTpfp Megacrystic Porphyry Dykes: feldspar porphyritic intrusive rocks

LTrJTpgd Granodiorite to Monzonite Phase: granodioritic intrusive rocks

**EJTpgd Porphyritic Phase:** granodioritic intrusive rocks

#### **Late Triassic**

#### Takla Group

uTrTva andesitic volcanic rocks

**uTrTM Moosevale Formation:** argillite, greywacke, wacke, conglomerate

turbidites

uTrTvb basaltic volcanic rocks

uTrTSm Savage Mountain Formation: basaltic volcanic rocks

uTrTvl coarse volcaniclastic and pyroclastic volcanic rocks

uTrTv undivided volcanic rocks

#### **Early Permian**

#### Asitka Group

PAls limestone, marble, calcareous sedimentary rocks

7.2 Property Geology

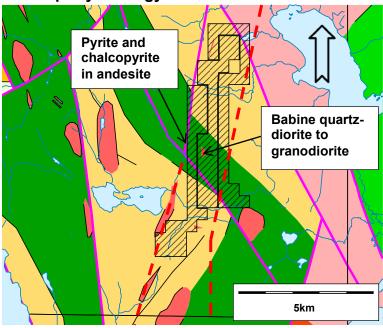


Figure 4: Property Geology Map

The main feature noted in the geology of the area near the Nat property is the number of narrow Cretaceous aged diorite intrusions that are seen paralleling various faults mapped by the BC Geological survey. Of interest is that no fault has been identified along the southwestern edge of the Nat claim group despite the linear alignment of a number of these same diorite intrusions in a north-northeast trend. The Takla fault is mapped to the west of Natowite Lake but not shown on the geological image from MapPlace. (Schiarizza and MacIntyre, 1998)

It is proposed that the fault mapped along the northwestern boundary of the Nat claims actually extends to the southwest and acted as a zone of weakness allowing for the emplacement of the diorite dykes present. The younger Eocene aged Babine quartz-diorite to granodiorite plug mapped in the central portion of the claim group intruded near the intersection of the northwest and two north-northeast faults.

#### **Item 8: Deposit Types**

The most important mineral occurrences in the area of the Property are porphyry copper-molybdenite-gold deposits associated with the Late Cretaceous Bulkley intrusions and the Eocene Babine intrusions. There is also epithermal or high sulphidation VMS potential with silver-lead- zinc mineralization similar to that at the Fireweed prospect in Skeena Group rocks. Potential also exists for Besshi-type massive sulphides, volcanic redbed copper deposits, polymetallic veins with silver-lead-zinc and possibly gold, and intrusion related gold-pyrrhotite deposits. The most important focus for exploration on the Property is for calc-alkaline porphyry copper-molybdenum-gold deposits.

## 8.1 Calc-Alkaline Porphyry Copper-Gold Deposits

According to Panteleyev (1995), Volcanic-type calc-alkaline porphyry copper-gold deposits are characterized by stockworks of quartz veinlets and veins, closely spaced fractures, disseminations and breccias, containing pyrite and chalcopyrite with lesser molybdenite, bornite and magnetite, occurring in large zones of economically bulk mineable mineralization, in or adjoining porphyritic stocks, dikes and related breccia bodies. Intrusions compositions range from calc-alkaline quartz diorite to granodiorite

and quartz monzonite. Commonly there are multiple emplacements of successive intrusive phases and a wide variety of breccias.

The mineralization is spatially, temporally and genetically associated with hydrothermal alteration of the host rock intrusions and wallrocks. Propylitic alteration is widespread and generally flanks early, centrally located potassic alteration which is commonly well mineralized. Younger mineralized phyllic alteration commonly overprints the early mineralization. Barren advanced argillic alteration is rarely present as a late, high-level hydrothermal carapace.

Ore controls include igneous contacts, both internal between intrusive phases, and external with wallrocks; dike swarms, breccias, and zones of most intense fracturing, notably where there are intersecting multiple mineralized fracture sets.

Porphyry Cu-Au deposits have been the major source of copper for British Columbia, and a significant source of gold. Median values for 40 B.C. deposits with reported reserves are: 115 Mt with 0.37 % Cu, 0.01 % Mo, 0.3g /t Au and 1.3 g/t Ag.

#### 8.1.1 Babine Lake District Porphyry Copper-Gold Deposits

Common features shared by porphyry copper-gold deposits in the Babine Lake district include (Carter et al, 1995) porphyritic host lithology, concentric alteration, pyrite halo, polymetallic peripheral veins and coincident north to northwest trending regional faults.

Associated biotite-feldspar, hornblende-feldspar, or feldspar porphyry plugs and dikes are commonly less than one square kilometre. They are ubiquitously mineralized with magnetite. The cores of the deposits show a potassic alteration that is dominated by biotite, and commonly contains magnetite. Annular phyllic (quartz-sericite-pyrite) alteration surrounds the core sections. Pyrite halos surrounding deposits are up to 300 metres wide.

Mineralization is principally chalcopyrite and pyrite, with lesser bornite, and possibly molybdenite, occurring as disseminations, fracture coatings and in fine stockworks of quartz.

Exploration guides (Carter et al, 1995) are summarized:

- 1. Ubiquitous magnetite in the host intrusive, and common magnetite in the central potassic alteration zone make an excellent target for magnetic surveys.
- 2. Pyrite halos provide a broad target for which induced polarization (IP) technique is very effective.
- 3. Copper signature in soil samples ranges from 100ppm to 500ppm for individual deposits.
- 4. Zinc signature in soils is effective in detecting the outer margin of the pyrite halo.
- 5. Target grades for economic deposits are 0.45% Cu and 0.23 g/t Au.

Panteleyev (1995) indicates that central zones with Cu commonly have coincident Mo, Au and Ag with possibly Bi, W, B and Sr anomalies. Peripheral enrichment in Pb, Zn, Mn, V, Sb, As, Se, Te, Co, Ba, Rb and possibly Hg is documented.

#### 8.2 High and Low Sulphidation VMS Deposits

Analogous to epithermal precious metal deposits, volcanogenic massive sulphide (VMS) deposits are recently recognized to occur in two associations: high- and low sulphidation. High sulphidation VMS have been only recently recognized in the geological record, and are notable for their exceptionally high grades of gold and silver, in addition to their base metal content.

#### 8.2.1 Low Sulphidation VMS Deposits

Based on the mineralogical classification used for epithermal deposits, the majority of volcanogenic massive sulphide (VMS) deposits, could be classified as low sulphidation. These VMS deposits formed from an ore fluid that was dominated by modified seawater, and as with low sulphidation epithermal deposits, evidence for magmatic contributions to these systems is limited.

#### 8.2.2 High Sulphidation VMS Deposits

Certain VMS deposits and seafloor occurrences contain mineralogy that suggests that a high sulphidation classification is appropriate. These high sulphidation VMS deposits probably formed from magmatic hydrothermal systems that were active in submarine settings. High sulphidation deposits form in magmatic-hydrothermal systems according to Thompson (2007). In a similar manner, Dubé et al. (2007) describe a class of deposits that are a subtype of both volcanogenic massive sulphide (VMS) and lode gold deposits, namely gold-rich VMS deposits. Like most VMS deposits, they consist of semi-massive to massive, concordant sulphide lenses underlain by discordant stockwork feeder zones. They have diverse geochemical signatures dominated by Au, Ag, Cu and Zn and often accompanied by elevated concentrations of As, Sb, Pb, Te and Hg.

Figures 5 and 6 demonstrate schematically the geological and spatial characteristics of these types of VMS deposits. High-sulphidation VMS deposits can also be described as shallow submarine hot spring deposits. They are represented by stratiform Au-Ag barite deposits, pyritic Cu-Au stockworks, and auriferous polymetallic sulfides.

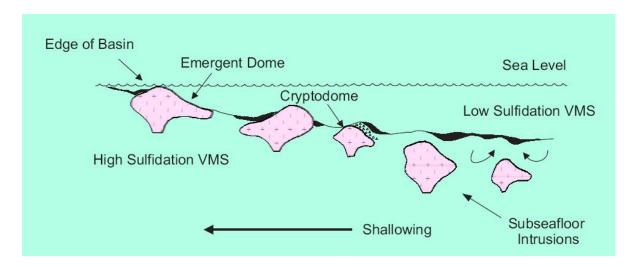


Figure 5: Development of high-sulphidation versus low-sulphidation hydrothermal systems in a submarine setting in relation to the depth of emplacement of associated sub-volcanic intrusions (from Dubé et al., 2007; after Hannington et al., 1999)

# ESKAY CREEK GOLD-SILVER-RICH VMS DEPOSIT Classification and Mineralization Types

In British Columbia, perhaps the best example of production from this high sulphidation subclass of volcanogenic massive sulphide deposit is the Eskay Creek deposit located 75 kilometres northwest of Stewart. At Eskay Creek, mineralization is a stratabound assemblage of volcanogenic massive sulphide mineralization and stockwork vein systems with local high-grade gold-silver replacement mineralization. The Eskay Creek deposits are examples of shallow subaqueous hot spring deposits, an important new class of submarine mineral deposits that has only recently been recognized in modern geological environments. The deposit type is transitional between subaerial hot spring Au-Ag deposits and deeper water, volcanogenic massive sulphide exhalites (Kuroko or Besshi types) and shares the mineralogical, geochemical, and other characteristics, of both.

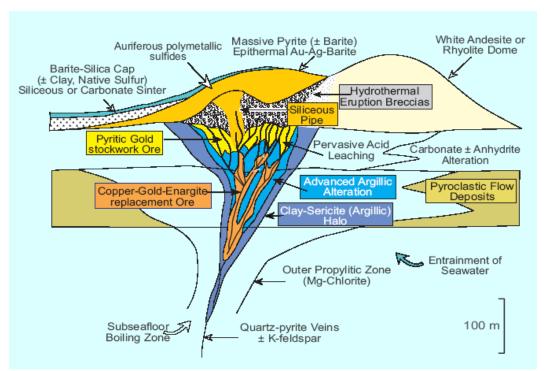


Figure 6: Geological setting of Au-rich high sulphidation VMS systems (from Dubé et al., 2007).

According to Roth (2002) and Roth et al. (1999), the mineralization is described as follows:

Stratiform mineralization is hosted in marine mudstone at the contact between underlying rhyolite and overlying basalt packages. This succession forms the upper part of the Lower to Middle Jurassic Hazelton Group. At the same stratigraphic horizon as the 21B zone are the 21A zone, characterized by As-Sb-Hg sulphides, and the barite-rich 21C zone. Stratigraphically above the 21B zone, mudstones host a localized body of base-metal-rich, relatively precious metal poor, massive sulphide (the "hanging wall" zone). Stockwork vein mineralization is hosted in the rhyolite footwall in the Pumphouse, Pathfinder and 109 zones. The Pumphouse and Pathfinder zones are characterized by pyrite, sphalerite, galena and chalcopyrite rich veins and veinlets hosted in strongly sericitized and chloritized rhyolite. The 109 zone comprises gold-rich quartz veins with sphalerite, galena, pyrite, and chalcopyrite associated with abundant carbonaceous material hosted mainly in siliceous rhyolite.

The 21B zone consists of stratiform clastic sulphide-sulphosalt beds. The ore Minerals are dominantly sphalerite, tetrahedrite and Pb-sulphosalts with lesser freibergite, galena, pyrite, electrum, amalgam and minor arsenopyrite. Sphalerite in the 21B zone is typically Fe-poor. Stibnite occurs locally in late veins and as a replacement of clastic sulphides. Rare cinnabar is associated with the most abundant accumulations of stibnite. Barite occurs as isolated clasts and in the

matrix of bedded sulphides and sulphosalts, or as rare clastic or massive accumulations, mainly in the northern portion of the deposit and in the 21C zone.

The clastic ore beds in the 21B zone show rapid lateral facies variations. Individual beds range from <1 mm to 1 m thick. The thickest beds occur at the core of the deposit and comprise sulphide cobbles and pebbles in a matrix of fine grained sulphides. These beds have an elongate trend, which approximately defines the long axis of the deposit, and which probably were deposited in a channel-like depression. Lithic clasts within the beds are mainly chloritized rhyolite and black mudstone. Angular, laminated mudstone rip-up clasts have locally been entrained within the clastic sulphide-sulphosalt beds. Both laterally and vertically, the ore beds become progressively thinner, finer grained and interbedded with increasing proportions of intervening black mudstone. Vertically successive clastic beds, either graded or ungraded, vary from well to poorly sorted. Bedded ore grades outwards from the core of the deposit into areas of very fine grained, disseminated sulphide mineralization.

#### **Cumulative Gold and Silver Production**

Based on data available from the BC Geological Survey Branch MINFILE and "Exploration and Mining" reports to the end of 2006, Barrick Gold Corporation websites for 2007, and R. Boyce, P. Geo. personal communication, the authors estimate that cumulative production at Eskay Creek until closure in early 2008, was 102.00 tonnes of gold and 4,995.24 tonnes of silver (3,279,415 oz gold, 160,597,110 oz silver) from 2,238,255 tonnes of production milled.

The grade of production was an exceptional 45.57 g/t gold and 2,231 g/t silver (1.33 oz/ton gold and 65.1 oz/ton silver) over the life of the mine. These cumulative estimates have not been audited by the authors and are subject to revision when the production for the final 14 months of mine operation is publically reported.

This clearly demonstrates the exceptionally high grade nature of this style of high sulphidation VMS mineralization. While Eskay Creek was considered primarily a gold deposit, it was the fifth largest silver producer in the world during its mine life (Massey, 1999).

## Salmon River Formation Rift Setting

The Eskay Creek VMS mineralization is closely related to an assemblage of rift-related volcanic and sedimentary rocks and to controlling fault structures that bound and crosscut the local rift basins. Metallogenic studies by the Mineral Deposit Research Unit (MDRU), and federal and provincial government geological survey branches have determined the Eskay Creek mine sequence is a Lower to Middle Jurassic succession of bi-modal volcanism and clastic sedimentation, termed the Salmon River Formation, a sub-division of the regional Hazelton Group.

## Item 9: Exploration

#### 9.1 Current Evaluation Program

A review and interpretation was completed of all public domain data including Regional Geochemical Survey (RGS) data to determine drainages containing anomalous elements commonly associated with porphyry copper-molybdenum deposits. An interpretation of the regional geophysical surveys, including Quest West geophysical and geochemical data, was completed to assess the claim area for magnetic electromagnetic and gravity anomalies. Finally a detailed magnetic survey was flown over the Nat property by Astorius Resources Limited of Vancouver as part of a larger survey completed over their Babine property which surrounds the Nat claims on three sides. The survey data was graciously supplied by the company despite its confidential nature. These interpretations will be used as a basis for exploration programs planned for the 2012 exploration season.

## 9.2 Review and Interpretation of Regional Geochemical Survey Data

Review of RGS data show that the Nat claim area is highly anomalous in zinc (158ppm)

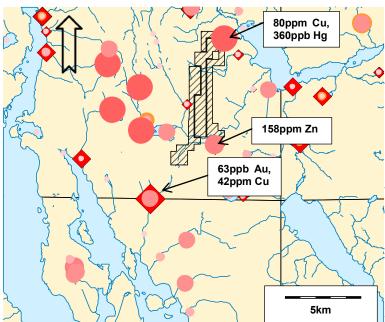


Figure 7: RGS anomalies showing precious and base metal enrichment

and gold (63ppb) from streams draining the southern claim area. Streams draining the northern claims are anomalous in zinc (100ppm) and moderately anomalous in arsenic (12ppm), molybdenum (5ppm) and silver (0.4ppm). A small lake on the northern boundary of the claims returned a lake sediment analysis of 80ppm copper and 360ppb mercury.

The presence of anomalous zinc is important in that it is used as a pathfinder element as it is often found peripheral to the pyrite halo of a mineralized porphyry system.

Till geochemical studies by Victor Levson, in Bulletin 110, identified the area as being up ice from a number of highly anomalous basal till samples. Sampling in a down ice direction showed a gradual lowering of values, suggesting a well-developed dispersal plume with maximum values at the up ice end of the anomalies. Two dispersal plumes are evident down ice from the claim group suggesting the possibility of a number of sources may be present. The northern till dispersal plume returned results with >98%tile Zn, Pb, Cd; 90%tile Cu, Ag, Hg, Fe; and 70%tile As, Sb. The most anomalous sample

was collected up ice of the small silver-lead vein identified as the Copper 1-4 showing (Minfile 093M 162) eliminating it as the source for the anomaly. The second till dispersal plume in the central claim area is highly anomalous with >95%tile Hg, Cu, Fe; and 70%tile Zn, Mo, Ag, As. Immediately up ice from the dispersal plume is mapped a small exposure of an Eocene aged Babine quartz diorite. Levson also notes pyrite and chalcopyrite in andesite at sample site 95-3172 a few hundred metres west of the Babine intrusion.

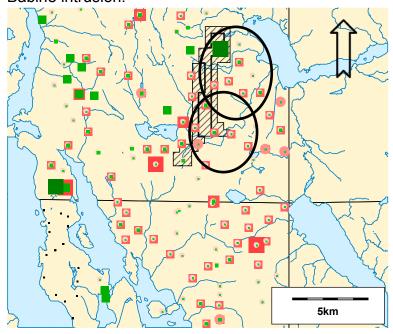


Figure 8: Highly anomalous till dispersal plumes

## 9.3 Review and Interpretation of Regional Magnetic Survey Data

The Nat claims cover a large 1<sup>st</sup> vertical derivative mag low that trends north-northeast from the Granisle deposit, a distance of approximately 9km. The area was initially staked as the possible sources for the anomalous till dispersal plumes identified by Levson in Bulletin 110 and that the signature is similar to that seen on present day surveys at the Granisle open pit. Initially, two magnetic low anomalies were targeted

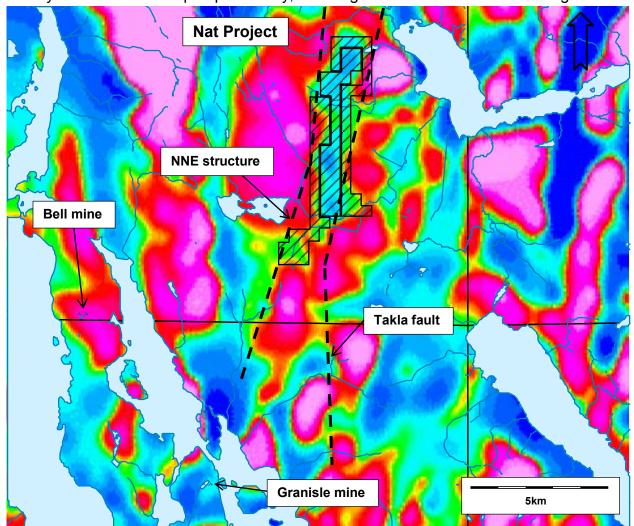


Figure 9: 1st Vertical Derivative Magnetic data

with a third magnetic low identified and covered with the lapsing of a large claim group to the south. A fourth target was then staked to cover a showing of silicified sandstone with finely disseminated pyrite and chalcopyrite at sample location 95-3222.

It has been proposed by various sources that the Bell and Granisle mines were at one time both associated with magnetic high anomalies. In the mining of the Granisle deposit it is further suggested that the magnetic portion of the deposit has been removed, now leaving a magnetic low anomaly over the pit area. In studying the 1<sup>st</sup> vertical derivative magnetic data in detail for the Granisle mine area, it is seen that the waste rock removed from the pit exhibits the same magnetic signature as the open pit

and the positive magnetic anomaly sits outside of the area of disturbance at the minesite.

A google image of the area with the 1<sup>st</sup> vertical derivative magnetic data draped shows the magnetic low trend that parallels a large BFP dyke known to control much of the mineralization at the mine. Note that the waste dump does not exhibit a positive magnetic anomaly. The general trend of the dyke is shown with the blue dashed line.

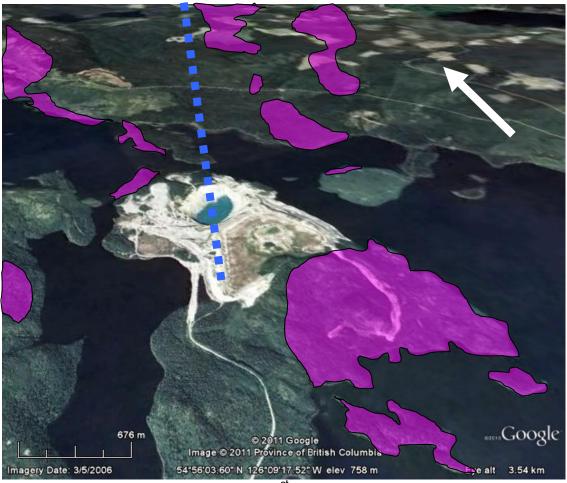


Plate 2: Google image with overlay of 1<sup>st</sup> vertical derivative magnetic high anomalies

# **9.4 Review and Interpretation of Astorius Airborne Magnetic survey data**A review of the magnetic data supplied by Astorius Resources Ltd. confirms the data

that is present on MapPlace and adds significant detail with the various filter enhanced products supplied.

As a reference for planned exploration on the Nat property, the four targets identified are named the Northern, Central, Southern and Far South targets as shown below.

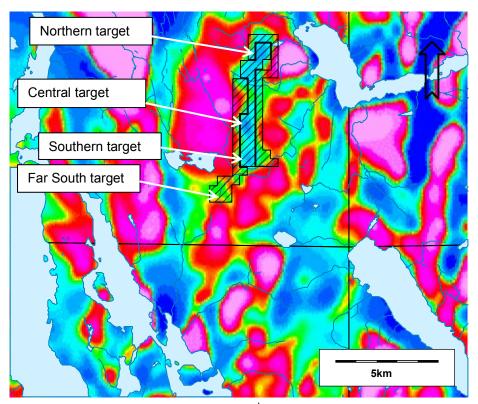


Figure 10: Nat Property showing 1<sup>st</sup> Vertical Derivative magnetic geophysical targets

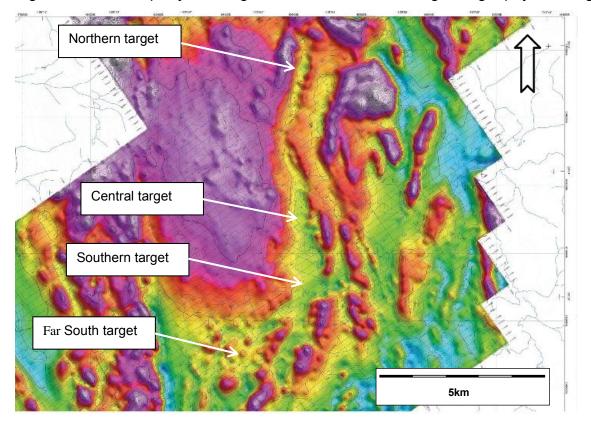


Figure 11: Nat Property targets with Astorius Total Magnetic data

The Astorius survey has identified a narrow linear magnetic high feature that has a width of approximately 200m that cores the historical 1<sup>st</sup> Vertical Derivative magnetic low anomaly previously identified from MapPlace. The 1<sup>st</sup> VD magnetic data from the Astorius survey shows the same magnetic feature and others with more detail.

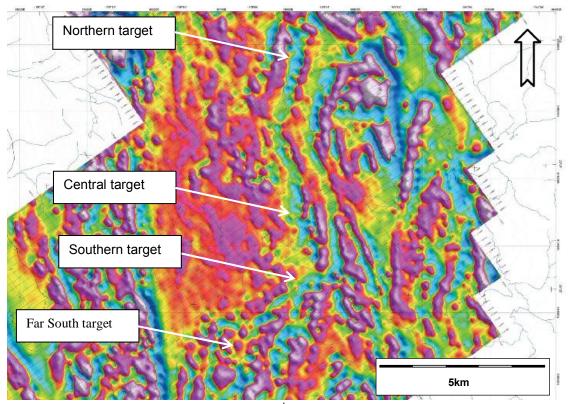


Figure 12: Nat Property targets with 1st Vertical Derivative Magnetic data

The same general area was flown by Noranda in 1993 over their Nat Lake property. Noranda geophysicists interpreted the long narrow magnetic linears to reflect mafic tuff/flow horizons or intrusive dyke structures while semi-circular features with complex magnetic amplitudes may be produced by local plug-like intrusive sources such as pegmatites, carbonatites or kimberlites.

The calculated vertical magnetic gradient assists considerably in mapping weaker magnetic linears that are partially masked by nearby higher amplitude magnetic features. The broad zones of higher magnetic amplitude, however, are severely attenuated in the vertical magnetic gradient results. These higher amplitude zones reflect rock units having magnetic susceptibility signatures. For this reason both the total and gradient magnetic data sets must be evaluated.

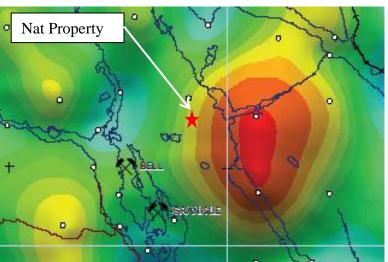
Noranda and others have identified a number of conductors in the vicinity of the Northern target. The major area of conductive response is located in the south central part of the survey block. Here, there are a cluster of parallel linear conductors ranging

from medium to excellent in conductivity. They parallel magnetic linear horizons but do not appear to have magnetic correlation (Robertson, 1993).

Previous exploration programs in 1984 and 1986 targeted massive sulphide mineralization similar to that found at Equity Silver over parts of the Nat claim group. Both programs identified conductors varying in strength from very weak to medium with ground geophysical surveys (VLF and Horizontal Loop EM). All of the conductors strike in a northerly to north-easterly direction. The strongest conductor found immediately east of the Northern target is thought to be caused by sulphides due to a good correlation with soil geochemical results (Mark, 1987).

## 9.5 Review and Interpretation of Quest West Airborne survey data

A review of the Quest West magnetic data revealed much the same anomalies as previously discussed. Two data sets from the survey are of interest with respects to the



Nat property. The 1<sup>st</sup> Vertical Derivative Gravity map reveals a small dense body immediately to the south of Natowite Lake. The claim group would lie on the western flank of this anomaly between Natowite and Nizik Lakes.

Figure 13: Quest West 1st Vertical Derivative Gravity data

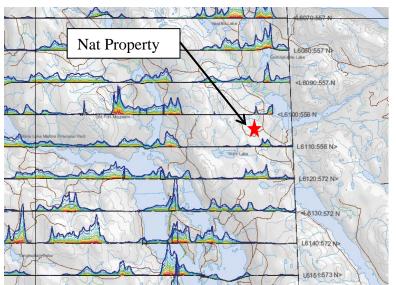


Figure 14: Quest West Electromagnetic anomalies

A review of the Electromagnetic data from the Quest West surveys reveal at least one conductive zone passing through the Nat Property. The more prominent conductor to the east is probably related to the Takla fault as the anomaly continues to the north, to the east arm of Takla Lake. The EM anomaly broadens to the south and extends to the Granisle minesite.

## Item 10: Drilling

No drilling was completed as part of the exploration program.

## Item 11: Sample Preparation, Analyses and Security

No samples were collected as part of the exploration program.

#### Item 12: Data Verification

No data verification was completed as part of the exploration program.

## Item 13: Mineral Processing and Metallurgical Testing

No mineral processing or metallurgical testing was completed as part of the exploration program.

#### **Item 14: Mineral Resource Estimates**

No mineral resource estimates were completed as part of the exploration program

### **Item 15: Adjacent Properties**

Porphyry copper-gold deposits and occurrences in the Babine district, located approximately 9km to the southwest, described below, serve as analogues to the exploration model applied to the Property. The table below lists resources and production from major deposits in the district. The values from Bell and Granisle predate NI 43-101 reporting standards and should not be considered reliable. They are included as geological information only.

**Table 3: Resources and Production of major Babine Porphyry Deposits** 

Property	Mineral Resource			Mined			Reference	Category
	Million Tonnes	Cu %	Au g/t	Million Tonnes	Cu %	Au g/t		
Bell	296	0.46	0.20	77.2	0.47	0.26	Carter et al, 1995	non NI 43-101 compliant
Granisle	119	0.41	0.15	52.7	0.47	0.20	Carter et al, 1995	non NI 43-101 compliant
Morrison	207	0.39	0.2				Simpson, 2007	measured+ indicated
Hearne Hill	0.14	1.73	8.0				Simpson, 2008	indicated

The author has been unable to verify the information on mineral occurrences and deposits detailed below. Mineralization style and metal grades described are not necessarily representative of mineralization that may exist on the subject Property, and are included for geological illustration only. The mine and mineral occurrence descriptions described as follows are modified after the BC MINFILE occurrence descriptions and BC ARIS assessment report files.

#### 15.1 Bell Copper Mine (Minfile 093M 01, rev. McMillan, 1991)

The Bell mine is a porphyry copper deposit hosted primarily in a biotite-feldspar porphyry (BFP) stock of the Eocene Babine Intrusions. The stock is crosscut by the northwest trending Newman fault which juxtaposes the two groups that host the intrusion. These groups are the Lower Jurassic Telkwa Formation (Hazelton Group) and the Lower Cretaceous Skeena Group. Telkwa Formation rocks are primarily fine grained tuffs and andesites and the younger Skeena Group rocks are mostly fine grained greywackes. The deposit overlaps onto both of these assemblages. The mineralization has been dated at 51.0 million years (Bulletin 64).

Chalcopyrite and lesser bornite occur as disseminations in the rock matrix, in irregular quartz lenses and in a stockwork of 3 to 6- millimetre quartz veinlets which cut the feldspar porphyries and the siltstones. Molybdenite is rare, and occurs in the feldspar porphyry in the northern part of the mineralized zone. Gold occurs as electrum associated with the copper mineralization. Specular hematite and magnetite are common in quartz veinlets and hairline fractures. There is also significant supergene enrichment with chalcocite coating chalcopyrite. A supergene chalcocite zone capped the deposit and extended to depths of 50 to 70 metres. Some gypsum together with copper-iron sulphate minerals and iron oxides were also present (Open File 1991-15).

The ore zone has pervasive potassic (mainly biotitization) alteration with a surrounding concentric halo of chlorite and sericite-carbonate alteration (propylitic and argillic) which corresponds to the two kilometre pyrite halo which surrounds the deposit. A late quartz-sericite-pyrite-chalcopyrite alteration has been superimposed on part of the earlier biotite-chalcopyrite ore at the western part of the ore body. A number of late-stage breccia pipes cut the central part of the ore zone near the Newman fault and alteration associated with their intrusion has apparently depleted the copper grades in the area of the pipes. Veinlets of gypsum are present in the upper part of the ore body. Anhydrite is a significant component in the biotite chalcopyrite zone but is not present in other alteration facies. Monominerallic veinlets of anhydrite are rare (Open File 1991-15).

The copper mineralization occurs in a crescent-shaped zone along the western contact of the porphyry plug. Better grades of copper mineralization are contained in a 60 by 90-metre thick flat-lying, blanket-like deposit which is connected to a central pipe-like zone, centred on the western contact of the intrusive. The pipe-like zone of copper mineralization is 150 metres in diameter and extends to a depth of at least 750 metres.

Reserves in the open pit and in the Extension zone were (in 1990) 71,752,960 tonnes grading 0.23 gram per tonne gold, 0.46 per cent copper and 0.48 gram per tonne silver (Noranda Inc. Annual Report 1990).

## 15.2 Granisle Mine (Minfile 093L 146, rev. Duffett, 1987)

MacDonald Island is underlain by Lower-Middle Jurassic Telkwa Formation (Hazelton Group) volcanics comprised of green to purple waterlain andesite tuffs and breccias with minor intercalated chert pebble conglomerates in the central and eastern part of the island. These rocks strike northerly and dip at moderate angles to the west and are overlain in the western part of the island by massive and amygdaloidal andesitic flows and thin bedded shales.

Copper mineralization at the Granisle mine is associated with a series of Eocene Babine Intrusions which occur in the central part of the island. The oldest is an elliptical plug of dark grey quartz diorite approximately 300 by 500 metres in plan. The most important intrusions are biotite-feldspar porphyries of several distinct phases which overlap the period of mineralization. The largest and oldest is a wide north easterly trending dike which is intrusive into the western edge of the quartz diorite pluton. The contact is near vertical and several small porphyry dikes radiate from the main dike. Several of the phases of the porphyry intrusions are recognized within the pit area. Potassium-argon age determinations on four biotite samples collected in and near the Granisle ore body yielded the mean age of 51.2 Ma plus or minus 2 Ma (Minister of Mines Annual Report 1971).

The wide porphyry dike which strikes northeast is bounded by two parallel northwest striking block faults. The westernmost crosses the island south of the mine and the eastern fault extends along the channel separating the island from the east shore of Babine Lake.

An oval zone of potassic alteration is coincident with the ore zone. The main alteration product is secondary biotite. This potassic alteration zone is gradational outward to a quartz-sericite- carbonate-pyrite zone which is roughly coaxial with the ore zone. Within this zone, the intrusive and volcanic rocks are weathered to a uniform buff colour with abundant fine-grained quartz. Mafic minerals are altered to sericite and carbonate with plagioclase clouded by sericite. Pyrite occurs as disseminations or as fracture-fillings. Beyond the pyrite halo, varying degrees of propylitic alteration occurs in the volcanics with chlorite, carbonate and epidote in the matrix and carbonate-pyrite in fractured zones. Clay mineral alteration is confined to narrow gouge in the fault zones.

The principal minerals within the ore zone are chalcopyrite, bornite and pyrite. Coarse-grained chalcopyrite is widespread, occurring principally in quartz-filled fractures with preferred orientations of 035 to 060 degrees and 300 to 330 degrees with near vertical dips. Bornite is widespread in the southern half of the ore zone with veins up to 0.3 metres wide hosting coarse-grained bornite, chalcopyrite, quartz, biotite and apatite.

Gold and silver are recovered from the copper concentrates. Molybdenite occurs within the ore zone, most commonly in drusy quartz veinlets which appear to be later than the main stage of mineralization. Magnetite and specularite are common in the north half of the ore zone where they occur in fractures with chalcopyrite and pyrite. Pyrite occurs in

greatest concentrations peripheral to the orebody as blebs, stringers and disseminations.

Mining at Granisle was suspended in mid-1982. Production from 1966 to 1982 totalled 52,273,151 tonnes yielding 69,752,525 grams of silver, 6,832,716 grams of gold, 214,299,455 kilograms of copper and 6,582 kilograms molybdenum.

Unclassified reserves are 14,163,459 tonnes grading 0.442 per cent copper (Noranda Mines Ltd. Annual Report 1984).

Remaining in situ reserves, as modelled in 1992 using a 0.30 per cent copper cutoff, are estimated to be 119 million tonnes grading 0.41 per cent copper and 0.15 grams per tonne gold (CIM Special Volume 46, page 254).

### 15.3 Morrison-Hearne Hill Project (From Simpson, 2007)

The Morrison deposit is a calc-alkaline copper-gold porphyry hosted by a multi-phase Eocene intrusive body intruding Middle to Upper Jurassic Ashman Formation siltstones and greywackes. Copper-gold mineralization consists primarily of chalcopyrite and minor bornite concentrated in a central zone of potassic alteration. A pyrite halo is developed in the chlorite-carbonate altered wall rock surrounding the copper zone.

Sulphide mineralization at Morrison shows strong spatial relationships with the underlying biotite-feldspar porphyry (BFP) plug and associated alteration zones. The central copper-rich core is hosted mainly within a potassically altered BFP plug with intercalations of older siltstone. This plug was initially intruded into the siltstone unit as a near-vertical sub-circular intrusion approximately 700 m in diameter. It was subsequently disrupted by the East and West faults and now forms an elongated body extending some 1500 metres in the northwest direction.

Chalcopyrite is the primary copper-bearing mineral and is distributed as fine grained disseminations in the BFP and siltstone, as fracture coatings or in stockworks of quartz. Minor bornite occurs within the higher grade copper zones as disseminations and associated with the quartz-sulphide stockwork style of mineralization.

Alteration is concentrically zoned with a central biotite (potassic) alteration core surrounded by a chlorite-carbonate zone. No well-developed phyllic zone has been identified.

Hearne Hill deposit lies two kilometres southeast of Morrison. The Hearne Hill Property has been extensively explored, and a comparatively small but high grade copper-gold resource has been defined in two breccia pipes within a larger porphyry system.

#### 15.4 Wolf (Minfile 093M 008, rev. McMillan, 1991)

The Wolf prospect is located on the west side of Morrison Lake, The Wolf area has been explored since 1965 when it was staked as the Bee claims.

A granodiorite stock containing phases of quartz monzonite and hornblende biotite feldspar porphyry of the Eocene Babine Intrusions cuts grey, locally graphitic siltstones of the Middle to Upper Jurassic Ashman Formation (Bowser Lake Group). A north-northwest trending block fault separates Ashman Formation rocks from volcaniclastic sandstones and tuffs of the Jurassic Smithers Formation (Hazelton Group) on the east side of the property. The Newman fault, associated with mineralization in the area, occurs just to the northeast of the claims parallel to the baseline.

At least nine copper occurrences, hosted in quartz monzonite, have been documented. Chalcopyrite occurs as disseminations and as grains and films on fracture surfaces and is occasionally accompanied by molybdenite. Minor malachite and iron-oxides have been noted.

A drill hole in biotite feldspar porphyry intersected 1.2 metres grading 4.2 per cent copper (Assessment Report 8779).

## 15.5 Fireweed (Minfile 093M 151, rev. Payie, 2009)

The Fireweed occurrence is located on the south side of Babine Lake, approximately 54 kilometres northeast of Smithers. In the occurrence area, Upper Cretaceous marine to non-marine clastic sediments, of Skeena group are found adjacent to volcanic rocks of the Rocky Ridge Formation. Interbedded mudstones, siltstones and sandstones of a thick deltaic sequence, appear to underlie much of the area and were originally thought to belong to the Kisum Formation of the Lower Cretaceous Skeena Group. They are now assigned to the Red Rose Formation. The sediments commonly strike 070 to 080 degrees and dip sub-vertically. Locally the strike varies to 020-030 degrees at the discovery outcrop, the MN showing. Several diamond-drill holes have intersected sills of strongly altered feldspar porphyritic latite.

Skeena Group sediments are dominantly encountered in diamond drilling. The sediments are dark and medium to light grey and vary from mudstone and siltstone to fine and coarse-grained sandstone. Bedding can be massive, of variable thickness, changing gradually or abruptly to finely laminated. Bedding features such as rip-up clasts, load casts and cross-bedding are common. The beds are cut by numerous faults, many of them strongly graphitic. Drilling indicates Skeena Group sediments are in fault contact with Hazelton Group volcanic rocks. Strongly sericitized and carbonatized latite dikes cut the sediments.

Mineralization generally occurs in one of three forms: 1) breccia zones are fractured or brecciated sediments infilled with fine to coarse-grained massive pyrite-pyrrhotite and lesser amounts of sphalerite, chalcopyrite and galena 2) disseminated sulphides occur as fine to very fine grains which are lithologically controlled within coarser grained sandstones, pyrite, marcasite, sphalerite, galena and minor tetrahedrite are usually found interstitial to the sand grains and 3) massive sulphides, which are finegrained, commonly banded, containing rounded quartz-eyes and fine sedimentary fragments, occur as distinct bands within fine-grained sediments. The massive sulphides generally contain alternating bands of pyrite/ pyrrhotite and sphalerite/galena. They are

associated with the breccia zones and are commonly sandwiched between altered quartz latite dikes.

Alteration in the sediments occurs in the groundmass and appears associated with the porous, coarse sandstones. Common secondary minerals are quartz, ankerite, sericite, chlorite and kaolinite.

Three main zones have been identified by geophysics (magnetics, induced polarization) and are named the West, East and South zones. Three other zones identified are the 1600, 3200 and Jan zones.

## 15.6 Equity Silver (Minfile 093L 001, rev. Robinson, 2009)

Silver, copper and gold were produced from the Equity Silver deposit, located 150km to the southeast of the Property.

The mineral deposits are located within an erosional window of uplifted Cretaceous age sedimentary, pyroclastic and volcanic rocks near the midpoint of the Buck Creek Basin. Strata within the inlier strike 015 degrees with 45 degree west dips and are in part correlative with the Lower-Upper Skeena(?) Group. Three major stratigraphic units have been recognized. A lower clastic division is composed of basal conglomerate, chert pebble conglomerate and argillite. A middle pyroclastic division consists of a heterogeneous sequence of tuff, breccia and reworked pyroclastic debris. This division hosts the main mineral deposits. An upper sedimentary-volcanic division consists of tuff, sandstone and conglomerate. The inlier is flanked by flat-lying to shallow dipping Eocene andesitic to basaltic flows and flow breccias of the Francois Lake Group (Goosly Lake and Buck Creek formations).

Intruding the inlier is a small granitic intrusive (57.2 Ma) on the west side, and Eocene Goosly Intrusions gabbro-monzonite (48 Ma) on the east side.

The chief sulphides at the Equity Silver mine are pyrite, chalcopyrite, pyrrhotite and tetrahedrite with minor amounts of galena, sphalerite, argentite, minor pyrargyrite and other silver sulphosalts. These are accompanied by advanced argillic alteration clay minerals, chlorite, specularite and locally sericite, pyrophyllite, and alusite, tourmaline and minor amounts of scorzalite, corundum and dumortierite. The three known zones of significant mineralization are referred to as the Main zone, the Southern Tail zone and the more recently discovered Waterline zone. The ore mineralization is generally restricted to tabular fracture zones roughly paralleling stratigraphy and occurs predominantly as veins and disseminations with massive, coarse-grained sulphide replacement bodies present as local patches in the Main zone. Main zone ores are finegrained and generally occur as disseminations with a lesser abundance of veins. Southern Tail ores are coarse-grained and occur predominantly as veins with only local disseminated sulphides. The Main zone has a thickness of 60 to 120 metres while the Southern Tail zone is approximately 30 metres thick. An advanced argillic alteration suite includes andalusite, corundum, pyrite, quartz, tourmaline and scorzalite. Other zones of mineralization include a zone of copper-molybdenum mineralization in a quartz stockwork in and adjacent to the quartz monzonite stock and a large zone of tourmalinepyrite breccia located to the west and northwest of the Main zone.

Alteration assemblages in the Goosly sequence are characterized by minerals rich in alumina, boron and phosphorous, and show a systematic spatial relationship to areas of mineral deposits. Aluminous alteration is characterized by a suite of aluminous minerals including andalusite, corundum, pyrophyllite and scorzalite. Boron-bearing minerals consisting of tourmaline and dumortierite occur within the ore zones in the hanging wall section of the Goosly sequence. Phosphorous-bearing minerals including scorzalite, apatite, augelite and svanbergite occur in the hanging wall zone, immediately above and intimately associated with sulphide minerals in the Main and Waterline zones. Argillic alteration is characterized by weak to pervasive sericite-quartz replacement. It appears to envelope zones of intense fracturing, with or without chalcopyrite/tetrahedrite mineralization.

The copper-silver-gold mineralization is epigenetic in origin. Intrusive activity resulted in the introduction of hydrothermal metal-rich solutions into the pyroclastic division of the Goosly sequence. Sulphides introduced into the permeable tuffs of the Main and Waterline zones formed stringers and disseminations which grade randomly into zones of massive sulphide. In the Southern Tail zone, sulphides formed as veins, fracture-fillings and breccia zones in brittle, less permeable tuff. Emplacement of post-mineral dikes into the sulphide-rich pyroclastic rocks has resulted in remobilization and concentration of sulphides adjacent to the intrusive contacts. Remobilization, concentration and contact metamorphism of sulphides occurs in the Main and Waterline zones at the contact with the postmineral gabbro-monzonite complex.

The Southern Tail deposit has been mined out to the economic limit of an open pit. With its operation winding down, Equity Silver Mines does not expect to continue as an operating mine after current reserves are depleted. Formerly an open pit, Equity is mined from underground at a scaled-down rate of 1180 tonnes-per-day. Proven and probable ore reserves at the end of 1992 were about 286,643 tonnes grading 147.7 grams per tonne silver, 4.2 grams per tonne gold and 0.46 per cent copper, based on a 300 grams per tonne silver-equivalent grade. Equity has also identified a small open-pit resource at the bottom of the Waterline pit which, when combined with underground reserves, should provide mill feed through the first two months of 1994 (Northern Miner - May 10, 1993).

Equity Silver Mines Ltd. was British Columbia's largest producing silver mine and ceased milling in January 1994, after thirteen years of open pit and underground production. Production totaled 2,219,480 kilograms of silver, 15,802 kilograms of gold and 84,086 kilograms of copper, from over 33.8 Million tonnes mined at an average grade of 0.4 per cent copper, 64.9 grams per tonne silver and 0.46 gram per tonne gold.

#### Item 16: Other Relevant Data and Information

There is no other relevant data or information other than that included in this report.

#### **Item 17: Interpretation and Conclusions**

The area is predominantly till covered and previous attempts at exploration have proven difficult. Despite this, historical exploration highlights on the Nat property have identified a number of possible sulphide related conductors associated with north and northeast trending magnetic anomalies. Prospecting by Noranda Exploration personnel located several pieces of chalcopyrite bearing Biotite Feldspar Porphyry (BFP) float scattered in a zone measuring 1.5km wide by 11km long, open in the up-ice direction to the northwest. Best results reported were 6.1% Cu and 0.43g/t Au (Robertson, 1993).

A review of Regional Geochemical data shows that the Nat Property area is highly anomalous in stream and lake sediment, (80ppm Cu, 63ppb Au, 360ppb Hg and 158ppm Zn). The area is also at the up-ice end of a number of well-formed till dispersal plumes, highly anomalous in Zn, Pb, Cd, Hg, Cu, Fe; and moderately anomalous in As, Sb, Ag and Mo.

Geophysical data from MapPlace, the Quest West surveys and a confidential report from Astorius Resources Ltd. all point to possible sources on the property for the stream, lake and till anomalies present in the area. Four separate targets have been identified on the property having similar magnetic signatures to the Granisle Mine located 9km to the southwest. The Northern target has the strongest associated geophysical (EM) and geochemical (lake sediment and till) anomalies while the Central and Far South targets have associated bedrock showings with pyrite and chalcopyrite mineralization in volcanic and sedimentary rocks.

On review of the historical exploration data in conjunction with the interpretations of RGS, regional magnetic, EM and gravity data, the Nat property presents as an intriguing exploration project with multiple target areas worthy of further exploration. The author believes that the Nat property is a property of merit and has the potential of hosting one or more significant mineral deposits.

#### Item 18: Recommendations

The Nat property hosts a number of significant exploration targets, some of which have received preliminary evaluation in the past. While none of the data is believed to be erroneous, most of it would be regarded as dated. As a result, a two phase program of exploration is proposed. Phase 1 would include establishing a picket grid over the Northern, Central, and Southern targets and a second small grid over the Far South target for follow up geochemical and geophysical (magnetic and Induced Potential) surveys. The larger grid should be established with an 8000m long baseline oriented at 000° with 2000m long lines spaced 200m apart. This line orientation will cross the trend of the magnetic and EM anomalies. The Far South target should be covered with a 2000m base line again oriented at 000° with 2000m long lines spaced 200m apart. Geophysical surveys (magnetics and Induced Potential) should be initially completed at

400m line spacing, with a 200m line spacing over known conductors, resulting in 83line km of grid being surveyed.

An orientation geochemical (MMI/ah/Ph) survey should also be completed as early in the season as possible to establish the most reliable sampling media for producing the highest contrast anomalies for blind mineralization. Follow-up surveys should include either MMI or Ah sampling as well as the collection of appropriate material for Ph measurements.

Phase 2 would be dependent on the results obtained in the geochemical and geophysical surveys and would include the drilling of 2000m of NQ core in 10 holes over the property. Samples should be assayed in 2m intervals from surface with the entire hole being analysed.

## Proposed budget for 2012

Phase 1		
Project Geologist (60 days @ \$600/day)		36,000
Geologist (60 days @ \$500/day)		30,000
Prospector/sampler x 2 (60 days @ \$300/day)		36,000
Grid layout (83 line km @ \$100/km)		8,300
Assaying (1000 samples @ \$55/sample)		55,000
Geophysical surveys mag/IP (45 line km @ 2500/	km)	112,500
Room and Board (440 person days @ \$150/day)	,	66,000
Mob/demob		5,000
Reporting		20,000
Contingency (15%)		55,320
	Phase 1 Total	\$424,120
Phase 2		
Project Geologist (70 days @ \$600/day)		42,000
Geologist (70 days @ \$500/day)		35,000
Core cutter (70 days @ \$200/day)		14,000
Drilling NQ (2000m @ \$220/m)		440,000
Assaying (1000 samples @ \$55/sample)		55,000
Room and Board (510 person days @\$150/day)		76,500
Mob/demob		15,000
Reporting		20,000
Contingency (15%)	DI 0.T.I.	<u>104,625</u>
	Phase 2 Total	808,125

Respectfully submitted this 23<sup>rd</sup> day of May, 2012

Ken Galambos P. Eng. Victoria, British Columbia

#### Item 19: References

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## Item 20: Date and Signature Page

- 1) I, Kenneth Daryl Galambos of 1535 Westall Avenue, Victoria, British Columbia am self-employed as a consultant geological engineer, authored and am responsible for this report entitled "Interpretation of Heliborne Magnetic Data, Regional Geophysical and Stream Geochemical Surveys on the Nat Property", dated May 23, 2012.
- 2) I am a graduate of the University of Saskatchewan in Saskatoon, Saskatchewan with a Bachelor's Degree in Geological Engineering (1982). I began working in the mining field in 1974 and have more than 28 years mineral exploration and production experience, primarily in the North American Cordillera. Highlights of this experience include the discovery and delineation of the Brewery Creek gold deposit, near Dawson City, Yukon for Noranda Exploration Ltd.
- 3) I am a registered member of the Association of Professional Engineers of Yukon, registration number 0916 and have been a member in good standing since 1988. I am a registered Professional Engineer with APEGBC, license 35364, since 2010.
- 4) This report is based upon the author's personal knowledge of the region and a review of additional pertinent data.
- 5) As stated in this report, in my professional opinion the property is of potential merit and further exploration work is justified.
- 6) To the best of my knowledge this report contains all scientific and technical information required to be disclosed so as not to be misleading.
- 7) I am partners with Ralph Keefe on the Nat property and a number of other properties in British Columbia. My professional relationship is as a non-arm's length consultant, and I have no expectation that this relationship will change.
- 8) I consent to the use of this report by Ralph Keefe for such assessment and/or regulatory and financing purposes deemed necessary, but if any part shall be taken as an excerpt, it shall be done only with my approval.

Dated at Victoria, British Columbia this 23rd day of May, 2012. "Signed and Sealed"

Ken Galambos, P.Eng. (APEY Reg. No. 0916, APEGBC license 35364) KDG Exploration Services 1535 Westall Ave. Victoria, British Columbia V8T 2G6

## Item 21: Statement of Expenditures

## Report

Interpretation and Report (4.5 days @ \$600/day)

<u>2700</u> \$2700

## Item 22: Software used in the Program

Adobe Acrobat 9
Adobe Photoshop Elements 8.0
Adobe Reader 8.1.3
Google Earth
Internet Explorer
Microsoft Windows 7
Microsoft Office 2010