

**BC Geological Survey  
Assessment Report  
31495**

**BIG LEDGE PROPERTY  
Slocan Mining Division, BC**

**2010 GEOLOGICAL EXPLORATION REPORT**

**Mineral Claims**

599176

**NTS Sheets**

82L/08,

(approximate centre of claim: 50° 28' N / 118° 4'W)

Work completed between June 26-28, 2009

Work completed by: Barry Hanslit  
(Owner/Operator)  
Zinex Mining Corp.  
Nanaimo, BC

Report Prepared by:  
Barry Hanslit

## Summary

Barry Hanslit acquired claim 599176 which comprises 1,012 acres (409 ha) in February 2009. He continues to be the owner/operator on the claim. The claim is located within a portion of National Topographic System (NTS) 1:50,000-scale map sheet 82L/08 in the Slocan Mining District of British Columbia, approximately 58 km south of Revelstoke and 34 km northwest of Nakusp.

Exploration has been performed within the neighboring Big Ledge property area since 1892. During which time, numerous geological, geochemical and geophysical surveys were conducted. Additionally, exploration has resulted in four adits, trenching and over 10,000 m of drilling. The most recent work on the property was conducted by Teck Corp. between 1991 and 1993, including widely spaced soil and magnetometer surveys, trenching and diamond drilling. Regional mapping by the GSC reveals the Big Ledge to be primarily underlain by rocks of the Thor-Odin gneiss dome of the Proterozoic Monashee Complex and metamorphic rocks of the Proterozoic to Paleozoic Kootenay Assemblage. These rocks are schist and gneiss, calcareous quartzite, calc-silicate gneiss, marble and amphibolite. On the property, rocks are folded into a series of east-west trending, open to tight folds, inclined to the south, overturned to the north and plunging variably to the east and west. The Big Ledge horizon is 30m of a mineralized quartzite unit in the core of a fold which is likely a tight antiform, inclined to the south and overturned to the north.

Between June 26 and 28, 2009, geologic mapping was carried out on the property by Barry Hanslit. The area appears to be linked to the southern bound of the Ledge deposit and mostly comprises interlayered quartzite, biotite schist and biotite gneiss.

Further mapping to the north in the property area may unearth mineralization linked to the Big Ledge and further work including a compilation of existing data and modeling is recommended.

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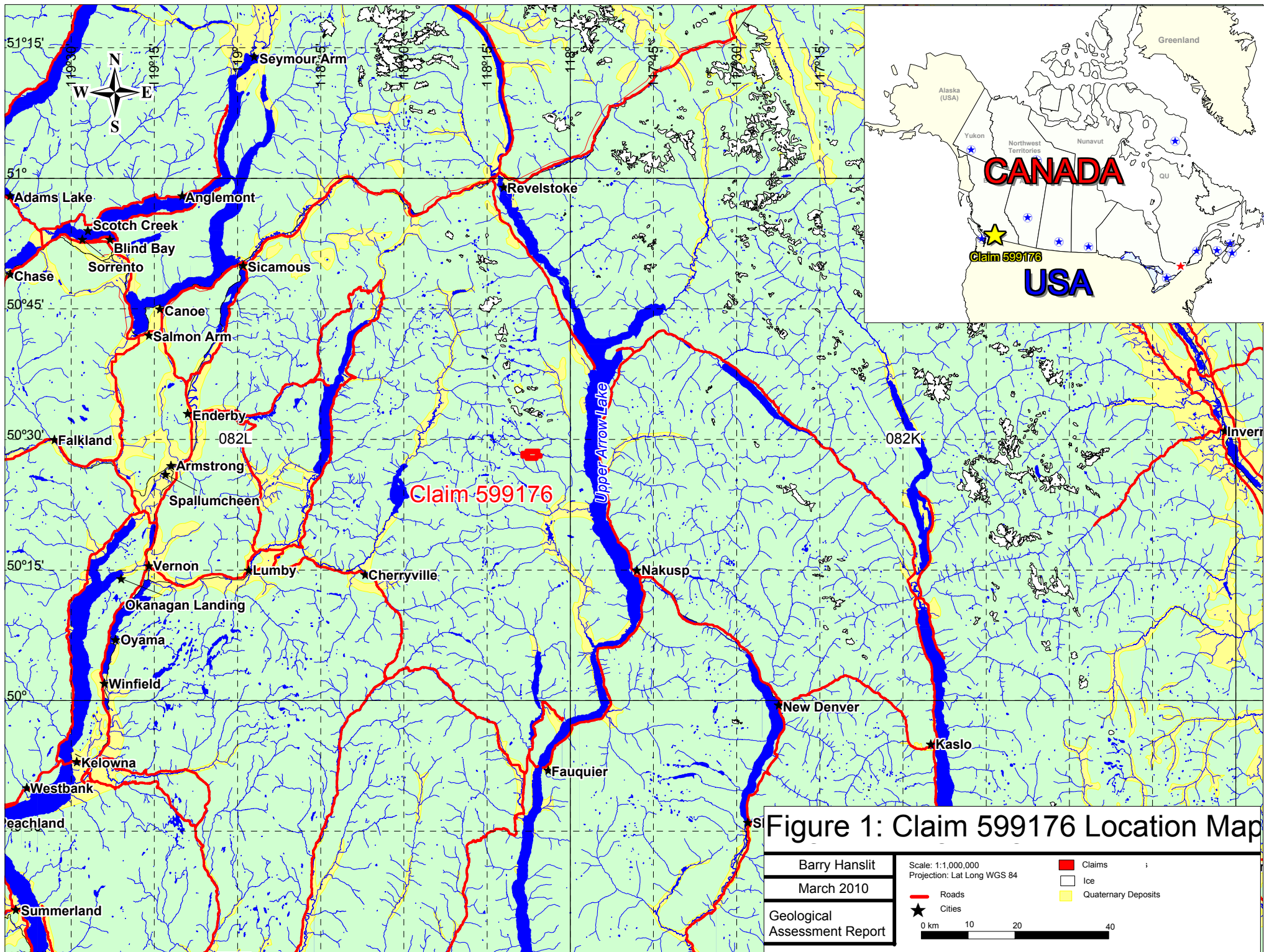
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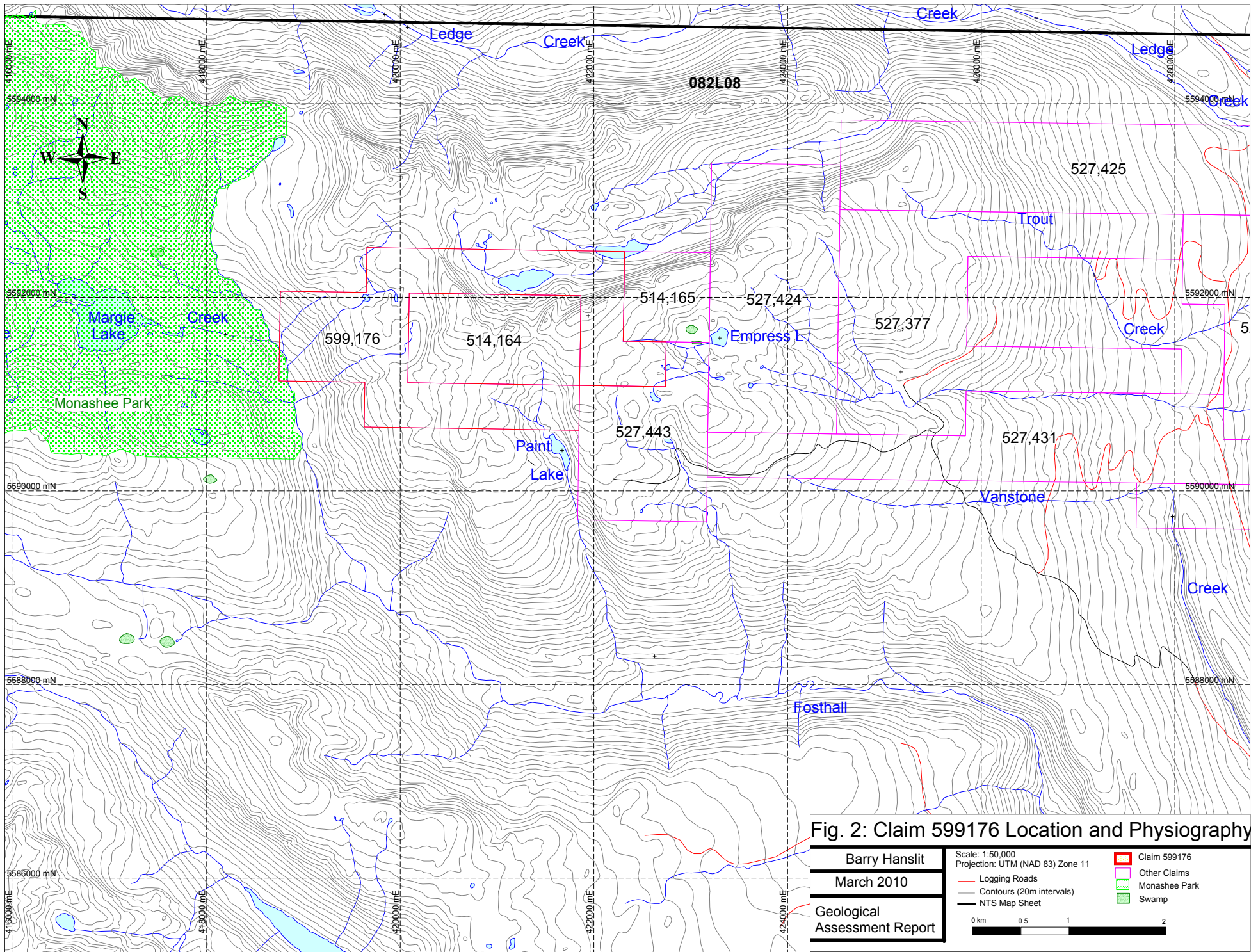
## 1.0 INTRODUCTION

Barry Hanslit acquired claim 599176 which comprises 1,012 acres (409 ha) in February 2009. He continues to be the owner/operator on the claim. The claim is located within a portion of National Topographic System (NTS) 1:50,000-scale map sheet 82L/08 in the Slocan Mining District of British Columbia, approximately 58 km south of Revelstoke and 34 km northwest of Nakusp. (Figure 1 and 2).

Exploration has been performed within the neighboring Big Ledge property area since 1892. During this time, numerous geological, geochemical and geophysical surveys were conducted. Additionally, exploration has resulted in four adits, trenching and over 10,000 m of drilling. The most recent work on the property was conducted by Teck Corp. between 1991 and 1993, including widely spaced soil and magnetometer surveys, trenching and diamond drilling. Regional mapping by the GSC reveals the Big Ledge to be primarily underlain by rocks of the Thor-Odin gneiss dome of the Proterozoic Monashee Complex and metamorphic rocks of the Proterozoic to Paleozoic Kootenay Assemblage. These rocks are schist and gneiss, calcareous quartzite, calc-silicate gneiss, marble and amphibolite. On the property, rocks are folded into a series of east-west trending, open to tight folds, inclined to the south, overturned to the north and plunging variably to the east and west. The Big Ledge horizon is 30m of a mineralized quartzite unit in the core of a fold which is likely a tight antiform, inclined to the south and overturned to the north (Figure 3).

In June of 2010, geologic mapping was conducted on the claim area by Barry Hanslit. This report documents that work, and also provides a description of claims, location, access, physiography and other relevant information. A discussion of the deposit mineralogy follows a description of regional and property scale geology.





**Fig. 2: Claim 599176 Location and Physiography**

## **2.0 DESCRIPTION OF LANDHOLDINGS**

### **2.1 Location and Mineral Claims**

The 1,011 acres (409.33ha) of claim 599176 completely envelopes the previously staked claim 514164. The claim lies 4km east-west and roughly 1.9km north-south situated to the north of Paint Lake and West of Upper Arrow Lake in British Columbia. The property is located 58 km south of Revelstoke and 34 km northwest of Nakusp within National Topographic System (NTS) 1:50,000-scale map sheet 82 L/08. The mineral claims were staked by Barry Hanslit in the February 2009. Work on the property was conducted by Barry Hanslit. Additional claim information is provided in Appendix I.

### **2.2 Access**

The Big Ledge property is located approximately 58 kilometers south of Revelstoke and 34 km northwest of Nakusp. The property can be accessed by logging roads in the summer months south of Revelstoke on Highway 23 to the Shelter Bay logging roads, then traveling 18km south to the Limekiln spur road, and finally an additional 3.1km to Odin road.

### **2.3 Physiography, Flora and Fauna**

The property lies west of Upper Arrow Lake. Elevations on the property vary dramatically generally from the centre enveloped property out to the property boundary. Elevations on the west of the property slope gently from 7,000 feet to 5,400 feet at the park boundary. The northern arm of the property slopes steeply from 7,700 feet to 6,700 feet at the lake drainage. The property is sparsely treed and outcrop is predominant. Ungulates such as elk, moose and deer winter along Upper Arrow Lake. Other wildlife in the region includes black and grizzly bears. In addition, trout occupy some of the lakes and rivers.

### **2.4 Property History**

The Big Ledge Property area has been the focus of exploration since 1892, when the deposit was originally staked as a lode. By 1925, 210 metres of underground work in 4 adits had been completed on the Bonanza, Sunshine, Skyline and Adventurer claims. In 1927, 16 holes were drilled on the property (BCGS, 2007). Consolidated Mining and Smelting Company of Canada Ltd. (Cominco) combined a large portion of the deposit in 1947 and by 1953 they drilled 6,100 metres on the property. In 1960, the ground was re-staked as the BL group. From 1964 to 1966, approximately 3,960 metres of drilling, geological mapping and geochemical and magnetometer surveys were carried out.

Since that time numerous other companies have explored within the area around the Big Ledge. In 1977, Metallgesellschaft and Cyprus Anvil Mining Corp. mapped the geology. Esperanza Explorations completed geotechnical, geophysical and geochemical surveys between 1980 and 1981. Geochemical



and geological surveys were carried out in the vicinity of the Big Ledge by Noranda in 1988 and 1989. Between 1991 and 1993, Teck Corp. mapped the property, conducted widely spaced soil and magnetometer surveys, trenched and performed diamond drilling (Evans, 1993). Since 2006, Barry Hanslit has drilled on the property without intersecting mineralized horizons (Hanslit, 2007; 2008).

### **3.0 GEOLOGY**

#### **3.1 Regional Geology**

This area has been mapped in 1977, 1979 and 1985 by the GSC and is primarily underlain by rocks of the Thor-Odin gneiss dome of the Proterozoic Monashee Complex and metamorphic rocks of the Proterozoic to Paleozoic Kootenay Assemblage. The Thor-Odin is one of a series of gneiss domes spaced approximately 80 kilometres apart on the eastern edge of the Shuswap Complex. The Shuswap metamorphic rocks are part of the Proterozoic-Mesozoic amphibolite grade complex intruded by Eocene granodiorites and pegmatites (Evans, 1993; BCGS, 2007).

A central core zone in the Thor-Odin dome consists of gneissic and migmatitic rocks. This zone is surrounded by a heterogeneous assemblage of metasedimentary rocks of the Mantling zone and Fringe zone, the latter containing abundant pegmatite and lineated quartz monzonite. The Supracrustal zone, consisting of quartzite, marble, phyllite, schist and metavolcanic rocks, forms a cover to the gneisses (BCGS, 2007).

The Big Ledge deposit is located south of the Core zone in an east-west trending succession of metasedimentary rocks of the Mantling zone. The rusty weathering succession consists of a heterogeneous mixture of schist and gneiss, calcareous quartzite, calcsilicate gneiss, marble and amphibolite. The structure is dominated by a series of east-west trending, open to tight folds. These are inclined to the south, overturned to the north and plunge variably to the east and west. The mineralized horizon is within the core of a tight antiform, inclined to the south and overturned to the north. (BCGS, 2007)

LEGEND

UPPER CRUSTAL ZONE

MIDDLE JURASSIC NELSON INTRUSIVE SUITE: predominantly granodiorite

PALEOZOIC - LOWER JURASSIC STRATIFIED ROCKS:

MIDDLE CRUSTAL ZONE

LATE PALEOCENE - EARLY EOCENE LADYBIRD GRANITE SUITE: biotite granite, quartz monzonite, leucocratic pegmatite (also includes areas with pegmatite with <50% metamorphic rocks)

LATE CRETACEOUS WHATSHAN BATHOLITH (includes Cariboo Creek stock): hornblende biotite bearing K-feldspar megacrystic quartz monzonite, mafic hornblende biotite diorite

LATE PROTEROZOIC - MESOZOIC AMPHIBOLITE FACIES METAMORPHIC ROCKS: FA = Fawn Lake assemblage; GA = Gold Range assemblage

BASEMENT ZONE

PROTEROZOIC CRYSTALLINE BASEMENT AND LATE PROTEROZOIC - (?) CAMBRIAN COVER GNEISSES

GEOLOGIC CONTACT; MAPPED, COMPILED FROM PUBLISHED MAPS, ASSUMED

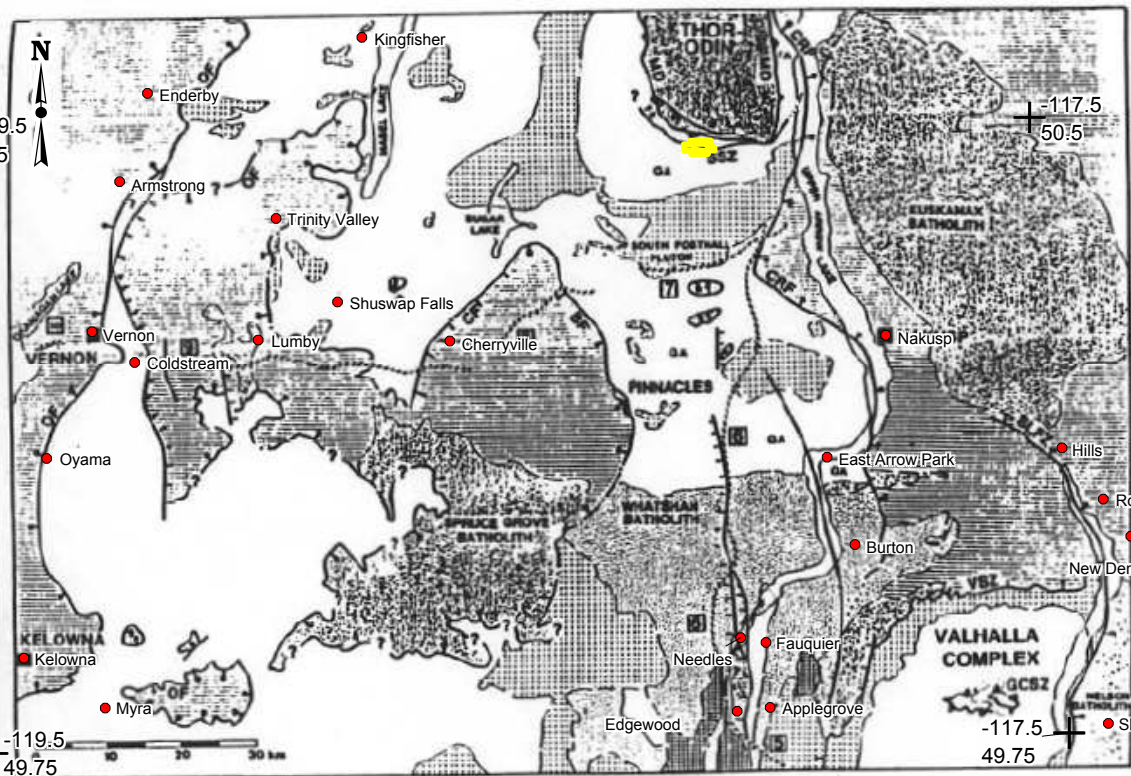
LOW - MODERATE ANGLE EOCENE NORMAL FAULT (PEGS ON HANGING WALL)

STEEP EOCENE NORMAL FAULT (PEGS ON HANGING WALL)

STEEP EOCENE NORMAL FAULT; SENSE OF DISPLACEMENT UNCERTAIN

LITHOPROBE LINE

- BF BEAVEN FAULT
- CF CHERRYVILLE FAULT
- CRF COLUMBIA RIVER FAULT
- GCSZ GWILLIM CREEK SHEAR ZONES
- MD MONASHEE DECOLLEMENT
- OF OKANAGAN VALLEY - EAGLE RIVER FAULT SYSTEM
- SLFZ SIOCAN LAKE FAULT ZONE
- SSZ SLATE MOUNTAIN SHEAR ZONE
- VSZ VALKYR SHEAR ZONE



From Carr, 1989

Figure 3: Regional Geology Claim 599176

Barry Hanslit
March 2010
Assessment Report

Scale: 1:1,000,000  
 Projection: Lat Long (WGS 84)

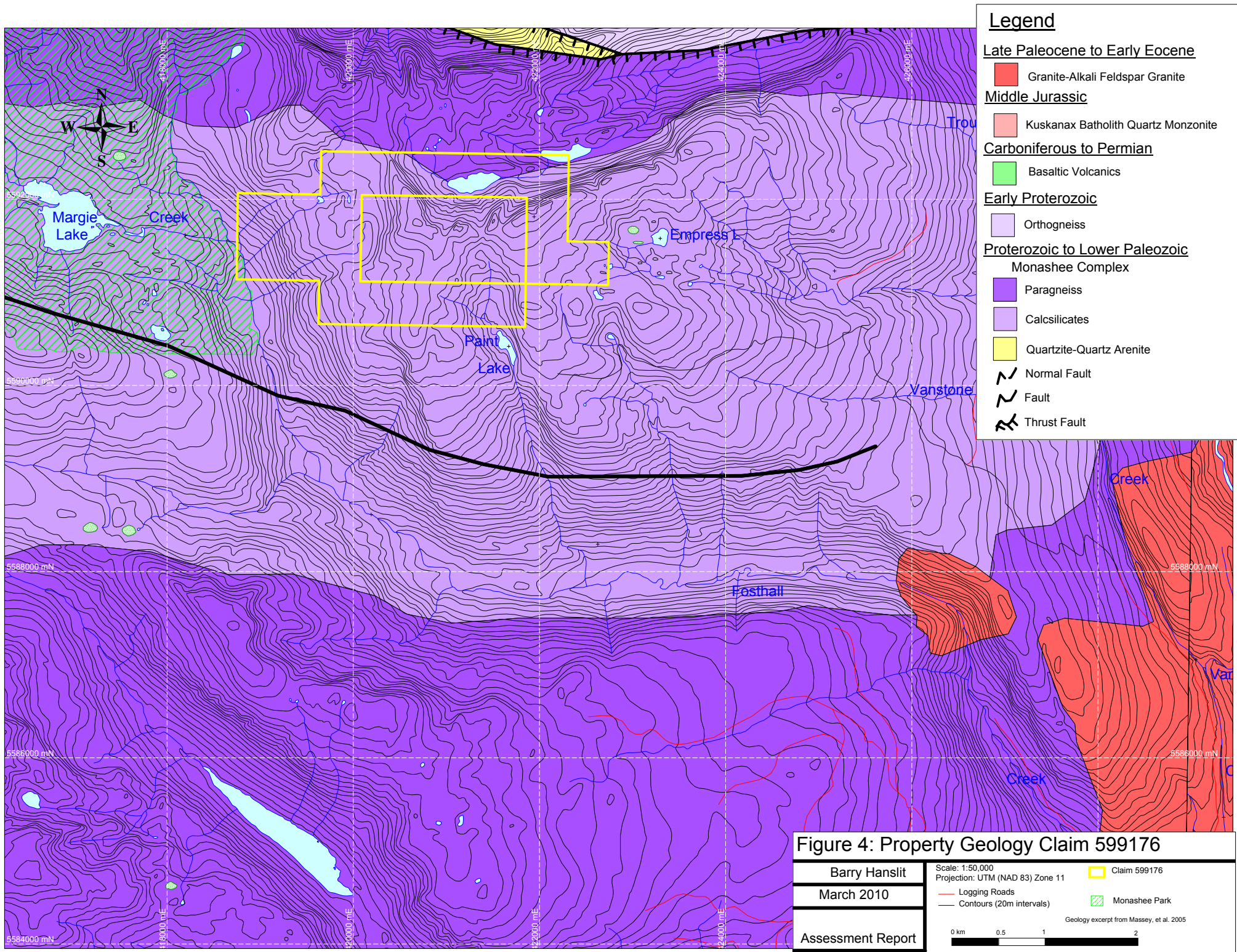
Claim 599176

### **3.2 Property Geology**

The property geology shown in Figure 4, based on the data from BCGS online geology map, shows that the majority of the property is underlain by Proterozoic to Lower Paleozoic Monashee Complex comprised of calc-silicates and paragneiss. Calc-silicate metamorphic rocks underlie the majority of the claim with paragneiss on the northern border congruent with the bottom of the lake valley.

Property-scale mapping by Teck Corp. on the neighboring Big Ledge revealed the property to consist of approximately 60% biotite-sillimanite schists interbedded with quartzites and amphibolites as well as the occasional marble unit. The Fawn Lake assemblage strikes east-west to north-south with generally moderate to shallow dip to the south or east. No evidence of “tops” was found. Large sill-like bodies of pegmatite and Ladybird intrusives, which have conformably flooded into the amphibolites and biotite schists are occasionally present. Ladybird intrusives comprise less than 10% of the property. Scattered throughout the claims are small Tertiary lamprophyre dykes exhibiting little to no metamorphism. Several styles of folding are evident on property and outcrop scale. Compositional layering is very close to being parallel to bedding with isoclinal folds common along the axial plane. Limited lineation measurements indicate a shallow westerly plunge. There may be several stages of folding along this orientation related to the peak of metamorphism. Later broad, one to fifty meter scale, folds can be seen along Upper Arrow Lake. Faulting along the foliation is common with no true sense of offset. Late stage faults are apparent along north-south trends such as Pingston Creek with a left lateral offset.

Detailed geologic mapping by Teck Corp. resulted in more detailed rocks descriptions of lithologies within the property area. These have been provided below, they are not listed in any stratigraphic order.



## SHUSWAP ROCKS (Proterozoic - Mesozoic)

- 1a) Massive Amphibolite - Amphibole dominated medium- to coarse-grained groundmass with lesser amounts of biotite and plagioclase. Commonly contains varying amounts of almandine garnet (<2 cm in size) in layered amphibolites.
- 1b) Amphibolite with Calc-silicate Laminations - The same amphibolite unit as 1a with alternating bands of quartzite and diopside-tremolite-actinolite. Laminations are generally on a one centimeter scale or less.
- 1c) Amphibolite with Biotite Schist - A mixture of medium-grained amphibolites containing an equal amount of micas (biotite and muscovite), commonly contains sillimanite aggregates.
- 2) Biotite Schist – Well-laminated biotite with lesser muscovite-bearing schists that may contain quartzite laminations and occasionally 0.5 cm almandine garnets. The surface is strongly gossanous due to high iron content and trace amounts of disseminated pyrite and pyrrhotite are present.
- 3) Biotite Gneiss – The matrix is dominated by finely laminated, medium-grained white-grey quartzite with 20 to 30% biotite schist laminations varying in thickness from 0.5-10 cm.
- 4a) Quartzite – Medium-grained quartzite in beds 10 to 20 cm in thickness with preferential weathering of certain beds due to change in grain size and carbonate content. Color varies from white to buff to grey. Minor rutile, biotite and muscovite grains are present.
- 4b) Quartzite with Flake Graphite - Dull grey colored fine-grained quartzite with trace to 20% disseminated flake graphite grains. Typically contains two to 10% disseminated pyrite and pyrrhotite with trace amounts of disseminated sphalerite.
- 4c) Quartzite with Calc-silicate Laminations – Medium-grained quartzite is light green color with diopside in the matrix. There are occasional laminations of calc-silicates consisting of diopside, tremolite and actinolite. Calc-silicates contain minor grains of rutile, muscovite and biotite.
- 5a) Marble - Marble units normally appear as grey massive weathered units grading to dark grey with increasing graphite component. Calcite grains are 1 to 3mm and bedding is usually apparent with graphitic beds or minor calc-silicate laminations. Occasionally flake graphite disseminations are present within the marble.
- 5b) Calc-silicates +/- Marble - These rocks are a pale green with beds and preferentially eroded pods of marble. The calc-silicates consist of impure quartzites containing diopside, amphibole and biotite with minor rutile and muscovite.

## JURASSIC ROCKS (above Columbia and Okanogan Faults)

- 6a) Argillite - Graphitic argillite and phyllite with strong slaty cleavage. Bedding is preserved with interbedded greywackes common.
- 6b) Mafic Volcanics - Pervasive chlorite alteration in various mafic volcanic units with a strong schistosity developed. Remnant textures include laminated tuffs, vesicular flow and lapilli tuff.

#### TERTIARY LADYBIRD LEUCOGRANITE SUITE

- 7a) Pegmatites – Coarse-grained dykes, sills and small plugs of pegmatites are common. Rock is dominated by 0.5-1 cm crystals of quartz, alkali feldspar and plagioclase with varying lesser amounts of biotite, muscovite and tourmaline.
- 7b) Ladybird Granites - Fine- to medium-grained stocks and plutons. Compositionally these rocks range from granite to quartz monzonite. Minerals consist of plagioclase, alkali feldspar and quartz with accessory muscovite, biotite and occasionally garnet.

#### EOCENE DYKES

- 8) Lamprophyre Dykes - Unaltered extremely mafic dykes with a dark brown fine-grained biotite, amphibole and mafic matrix with occasional vesicles and calcite filled amygdules.

### **3.3 Deposit Mineralogy**

The Big Ledge contains showings of pyrrhotite, pyrite, sphalerite, galena, chalcopyrite and marcasite occurring along a layer known as the Ledge for a distance of over 10 kilometres. Indicated ore reserves are 6.5 million tonnes grading less than 6 per cent combined lead and zinc (CIM Bulletin Vol. 75, No. 840, page 119).

The Big Ledge is hosted in a quartzite package consisting of fine grained, dark graphitic-sericitic schist, dark quartz-rich schist, calc-silicate gneiss and minor siliceous marble layers. Pyrite and pyrrhotite are disseminated throughout these units resulting in a characteristic rusty weathering. Drilling indicates that there are at least four massive sulphide layers within the Big Ledge. It is not known if these are individual layers or fold repetitions of one or more layers. The massive sulphide layers consist of medium- to coarse-grained pyrrhotite or pyrite with varying amounts of dark sphalerite. This massive sulphide layer can be 5 to 75% of the sequence (Evans, 1993). Quartz-eyes are common in the massive sulphide layers and sphalerite is typically aligned parallel to layering in the adjacent schists (BCGS, 2007).

The Big Ledge averages 30 metres in thickness and is conformable to bedding. Pyrrhotite is the most abundant sulphide and pyrite, usually in nodular masses, is locally abundant. Sphalerite is erratically distributed with the

pyrrhotite. Galena is occasionally present in minor amounts along with the other sulphides, but the only notable concentrations are small occurrences in calcareous beds adjacent to the main mineralized sections. In general, the sulphides are coarse-grained and a small amount of the ore minerals are intergrown with pyrrhotite. Iron sulphides are usually accompanied by scattered graphite flakes.

A zone of heavier mineralization occurs in the upper portion of the rock series. This zone ranges from 0.61 to 6 metres in thickness and is conformable with bedding, but the sulphides are erratically distributed in irregular massive and disseminated bodies. There is a large amount of granitic and pegmatitic material in this zone. Sphalerite appears to be most abundant in disseminated sulphide sections, but small irregular high-grade patches occur with both the massive and disseminated sulphides (BCGS, 2007).

While the thickness of this horizon is unusually large in many respects it could be considered a typical Shuswap style Zn-Pb-Ag system. Alteration is essentially absent supporting a possible syngenetic origin for this system such as in a sedimentary exhalative Zn-Pb system.

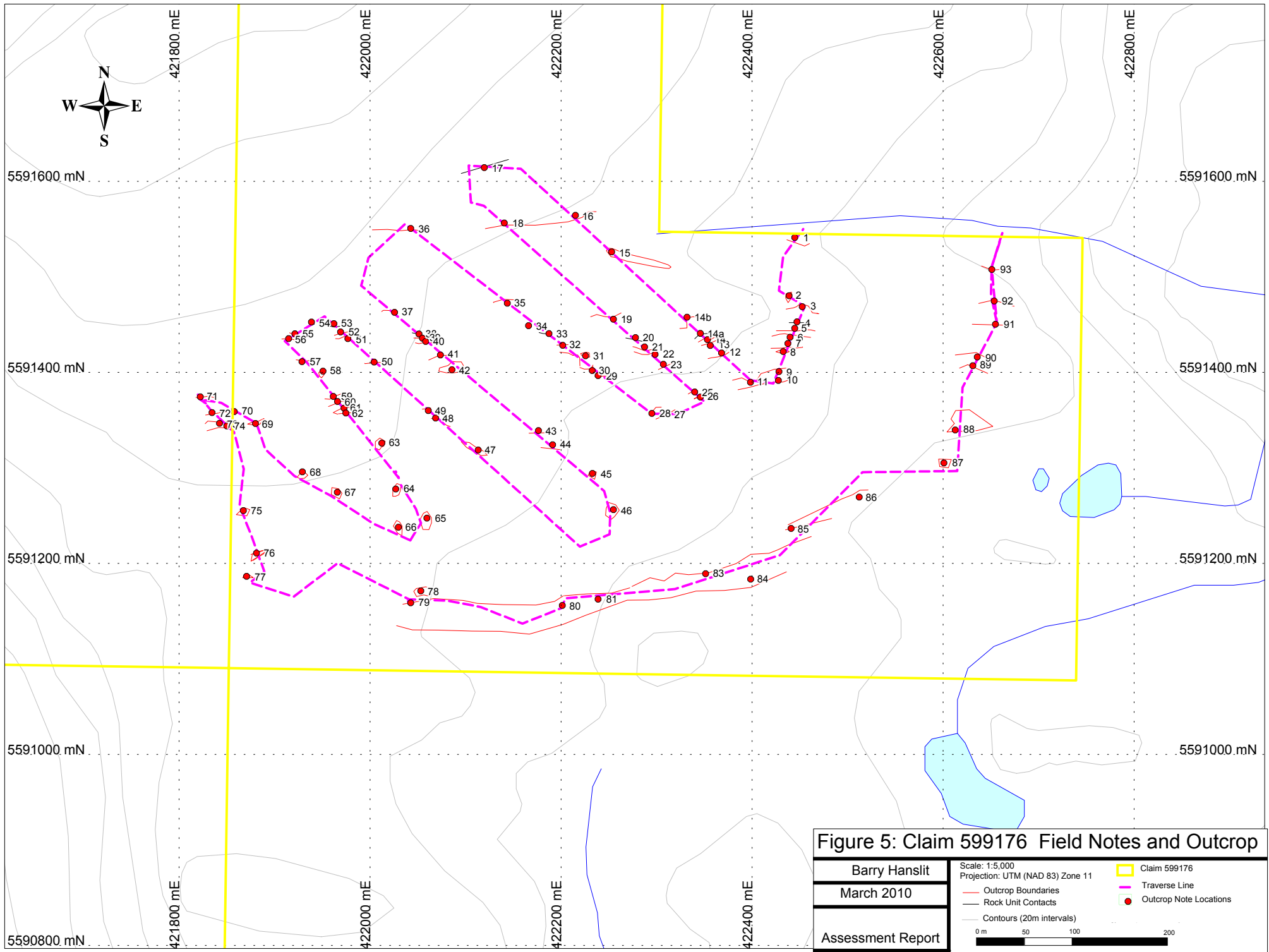
## **4.0 2010 EXPLORATION PROGRAM**

### **4.1 Introduction**

Geologic mapping combined with magnetic susceptibility readings were performed on the property by Barry Hanslit. Costs associated with the program and personnel are listed in Appendix I and II respectively. The details and results of the program will be discussed in the subsequent section, and outcrop notes have been transcribed in Appendix III.

### **4.2 2010 Geologic Mapping**

Three days were spent on a winding traverse on the eastern-most portion of the claim block (June 26-28, 2009). Magnetic susceptibility readings were taken on hand samples using a KT-10 handheld magnetometer. Figure 5 shows the raw findings from the mapping noting outcrop extents along the traverse as well as contacts when they were observable, also it provides a key of the locations for specific outcrop notes. These notes are provided in Appendix III and also contain the magnetic susceptibility readings at these locations. Outcrop is plentiful in this region and there are few vegetated areas.





### **4.3 2010 Geologic Mapping Results**

The purpose of this mapping project was to try to extend the on-surface Ledge deposit to the west where outcrop is more plentiful. The interpreted results of the geologic mapping are shown in Figure 6. The northern-most unit (outcrop note 17) of buff-coloured limestone likely correlating to the buff limestone identified in the original Big Ledge report (McEachern, 1959) bounding the mineralization on the south. The mapped area was composed of interlayered quartzite, schist and gneissic units with varied degrees of limestone content. Quartzite units are resistant to weather and are easily identifiable on the landscape. Areas of thicker overburden parallel the dominant strike of the resistant quartzite unit and isolated contacts have shown that it most likely represents a carbonate rich quartzite unit more susceptible to weathering. There were no magnetic anomalies in the mapped area. Biotite schist showed the highest readings up to 15nT, with one isolated location of gneiss with rusty weathering reading 16nT.

## **4.0 CONCLUSIONS AND RECOMMENDATIONS**

The mapping project on this claim appears to have mapped the area below the Ledge deposit. No significant mineralization was found. Future work on the claim should focus farther north on the property.

The Big Ledge is a highly prospective deposit that has a long history of exploration. As such, a compilation of existing data into digital format and modeling is recommended to generate appropriate drill targets. Further drilling at the extremes of the known mineralization, at depth is recommended to verify or expand the ore reserves on the property.

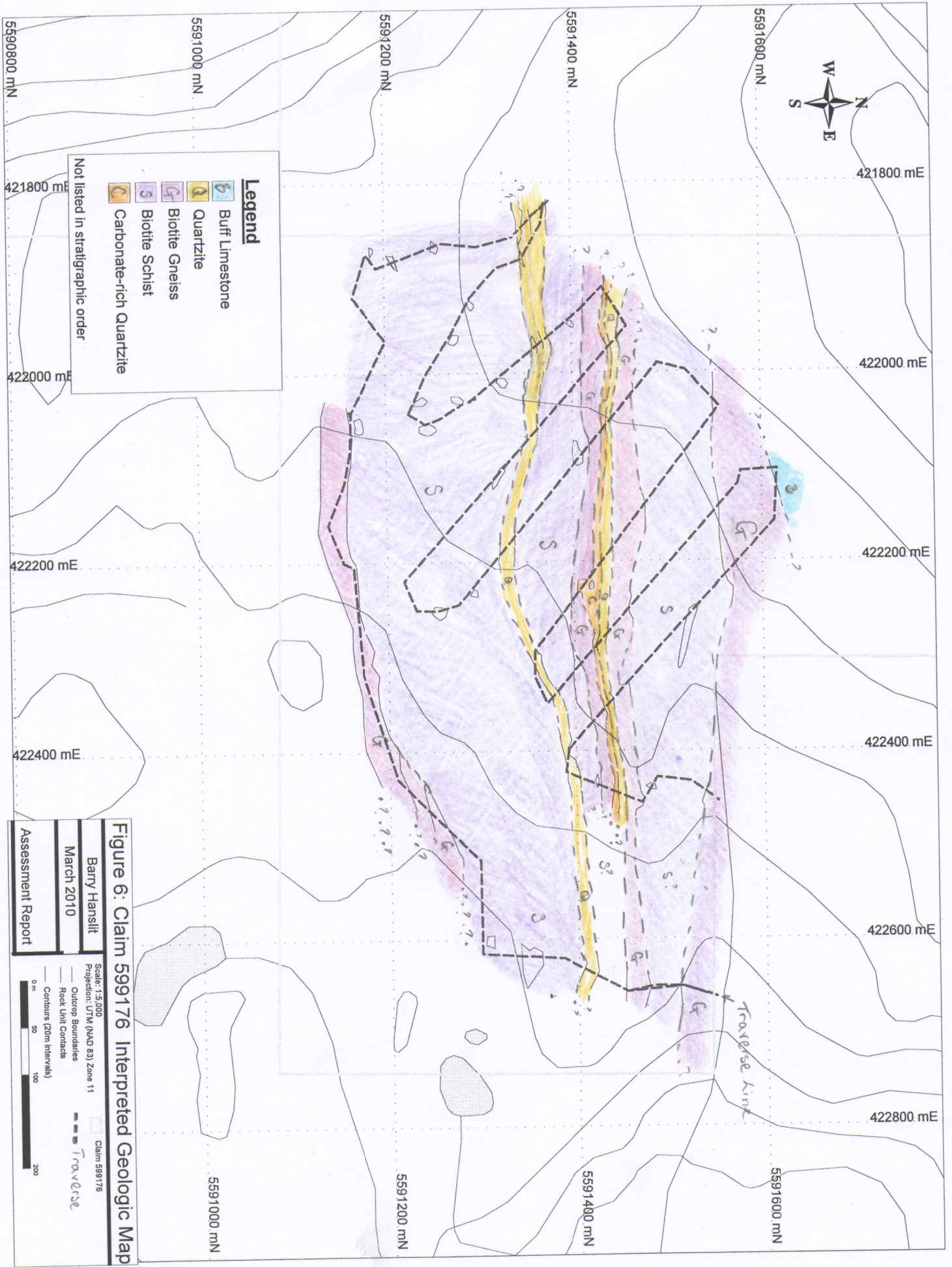


Figure 6: Claim 599176 Interpreted Geologic Map

## REFERENCES CITED

BCGS, 2007. MINFILE Number 082LSE012, BIG LEDGE, MONARCH, ADVENTURER (L.1067), BL, SUNSHINE (L.2477), SKYLINE, Developed Prospect. BC Geological Survey, website:  
<http://minfile.gov.bc.ca/Summary.aspx?minfilno=082LSE012>

Carr, S. Implications of Ladybird granite in the Thor-Odin-Pinnacles area, pp.79, GSC 89-1E, Current Research.

Evans, G., 1993. Diamond Drill Program Assessment Report on the Arrow Property, Prepared for Teck Corp. BC Assessment Report number 23120.

Hanslit, B., 2007. Big Ledge Property, Slocan Mining Division, BC, 2006 Diamond Drilling Exploration Report. Prepared for Barry Hanslit. BC Assessment Report filed in 2007.

Hanslit, B., 2008. Big Ledge Property, Slocan Mining Division, BC, 2007 Diamond Drilling Exploration Report. Prepared for Barry Hanslit. BC Assessment Report filed in 2008.

Massey, N.W.D., MacIntyre, D.G., Desjardins, P.J. and R.T. Cooney. 2005. Digital Geology Map of British Columbia: Tile NM11 Southeast B.C., B.C. Ministry of Energy and Mines, Geofile 2005-4

McEachern R.G. 1959. L50-118NE. Big Ledge. Prepared for Consolidate Mining and Smelting Co. BC Assessment Report number AR 0012.

## **Appendix I**

### **Mineral Claims and Expenditure Schedule and Project Cost Schedule**

Expenditure Allocations (1 page)

All costs (\$1200) have been applied to claim 599176.

Claim Information:

Tenure Number	Issue Date	Old Good To Date	New Good To Date	Area in Ha	Required Work	Submitted Work	PAC Used
599176	2009/Feb/11	2010/Feb/11	2011/Feb/11	409.33	1637.30	1200	437.30

Expenditure Information

All field costs have been summarized on a per day basis. This cost includes personnel cost, supplies(food, tent, fuel), and equipment rental ( ATV, trailer).

Barry Hanslit - three (3) days in field at \$300/day =	\$900
Barry Hanslit – half (0.5) day field preparation at \$200/day =	\$100
Janet Miller – GIS and Report writing one day at \$200/day =	<u>\$200</u>
<b>Total=</b>	<b><u>\$1200</u></b>

**Appendix II**  
**List of Project Personnel**

## List of Project Personnel

The following personnel were involved in the acquisition, processing, interpretation, and presentation of data relating to work performed on the Big Ledge, BC. Duties were performed at between June 1, 2009 and May 3, 2010. Contact addresses can be obtained through Barry Hanslit at:

Barry Hanslit  
8621 Forest Ridge Dr. Phone: (604) 698-7440  
Whistler, BC, V0N 1B8 Fax: (604) 905-2964

<b><u>Name</u></b>	<b><u>Position/duties</u></b>
Barry Hanslit	Driller/Program Manager
Janet Miller	Report Preparation/GIS

## **Appendix III**

### **2010 Outcrop Notes**



### Appendix III: Outcrop Notes for Traverses June 26-28, 2009

#### Projection for Outcrop Note Locations UTM NAD 83 Zone 11

Outcrop Notes	Northing	Easting	Description	Mag Susc Reading (nT)	Rock Type
1	5591541	422445	Nearing end of predominantly outcrop zone from claim boundary. Outcrop appears to be slightly rusty-coloured biotite bearing schist . Outcrop is ~20 x 10m in a zone of light overburden.	15	Biotite schist
2	5591480	422439	Outcrop of biotite schist near edge of scree area	11	Biotite schist
3	5591469	422452	Beginning of predominantly outcrop area, also beginning of light grey-brown gneiss with ~30% biotite lamination.	2	Gneiss
4	5591453	422447	Contact of gneiss on north with resistant light grey quartzite to the south. Contact runs approximately E-W.	0	Quartzite
5	5591446	422445	Edge of outcrop, running roughly east-west. Possible contact with less resistant unit. Increased carbonate? Near edge of outcrop.	0	Quartzite
6	5591437	422440	Gneiss outcrop zone	1	Gneiss
7	5591430	422437	Likely contact between biotite schist and gneiss. End of predominantly outcrop zone and increase of overburden.	0	Gneiss
8	5591422	422433	Small area of biotite schist outcrop	12	Biotite schist
9	5591401	422428	Northern edge of grey quartzite unit running at an azimuth of 075	2	Quartzite
10	5591391	422428	Southern edge of grey quartzite unit		
11	5591390	422398	Contact between quartzite and biotite schist, locally undulating contact	15	Biotite schist
12	5591420	422368	Contact zone from sporadic outcrop (possible outcrops <5m in size) of biotite schist to biotite gneiss	0	Gneiss
13	5591428	422356	Gneiss outcrop disappears in overburden unit		
14	5591439	422347	Light grey quartzite little carbonate. Outcrop undulating in an ~ENE direction.	0	Quartzite
14a	5591441	422346	Undulating contact running ~ENE see map for orientation. Light grey quartzite to the south and biotite bearing gneiss to the north.	0	Quartzite
14b	5591458	422332	Odd divot in predominantly outcrop area . Likely contact with next unit.		
15	5591526	422253	Biotite schist outcrop (75 x 50m oriented along hill slope ~ESE)	0	Biotite schist
16	5591564	422215	Measurement taken on outcrop just north of contact zone between biotite schist and biotite gneiss	0	Gneiss
17	5591614	422120	Contact zone between buff quartzite with high carbonate content and grey gneiss	0	Buff quartzite
18	5591556	422141	Continuation of contact in note 16, biotite gneiss to the north and biotite schist on the south.	10	Biotite schist
19	5591456	422255	Traverse between 18 and 19 is an area with small (<5m) outcrops in overburden area. Outcrops are biotite schist rusty brown in colour. Undulating contact of schist with grey biotite gneiss.	11	Biotite schist

### Appendix III: Outcrop Notes for Traverses June 26-28, 2009

#### Projection for Outcrop Note Locations UTM NAD 83 Zone 11

Outcrop Notes	Northing	Easting	Description	Mag Susc Reading (nT)	Rock Type
20	5591436	422278	ESE running contact of gneiss on north with resistant light grey quartzite to the south.	0	Quartzite
21	5591427	422287	Change in character of quartzite to more dominantly carbonate matrix		
22	5591419	422298	Beginning of biotite gneiss area. Gneiss shows isolated garnet augen.	3	Gneiss
23	5591408	422307	End of gneiss outcrops, start of treed slope		
25	5591379	422340	Grey quartzite outcrop, no contact visible		
26	5591374	422346	Southern edge of grey quartzite unit		
27	5591356	422310	Quartzite is shattered and blocky, but continuous between here and previous points 25/26 and points 27/28	0	Quartzite
28	5591357	422295	Northern extent of grey quartzite unit		
29	5591397	422239	This point is the start of gneiss outcrop at the edge of heavy overburden area on slope with scattered possible sub/outcrops of biotite schist	5	Biotite schist
30	5591402	422233	Semicircular depression filled with overburden in the gneissic unit		
31	5591417	422226	Small gneiss outcrop (10m x 10m).	0	Gneiss
32	5591428	422202	Start of resistant light grey quartzite outcrop	0	Quartzite
33	5591441	422187	Irregular contact between grey quartzite to the south and biotite gneiss on the north		
34	5591449	422166	Localized garnet augen in biotite gneiss (<1cm)	1	Gneiss
35	5591472	422144	Contact of gneiss with biotite schist. Traverse over gneiss from point 34 to 35 seems to show increased proportion of biotite laminations in gneiss.		
36	5591551	422043	Contact between biotite schist to the south and gneiss in the north		
37	5591463	422026	Continuation of contact in in 35.		
38	5591440	422051	Contact (~E-W) between grey quartzite and gneiss.		
39	5591436	422055	Contact of quartzite with carbonate rich quartzite. This band of grey quartzite is really narrow.	0	Carbonate quartzite
40	5591432	422058	First instance of gneiss outcrop		
41	5591418	422074	End of gneiss outcrop zone		
42	5591403	422086	Large biotite schist (~30m x 20m) outcrop on rolling vegetated slope	7	Biotite schist
43	5591339	422176	Grey quartzite outcrop	0	Quartzite
44	5591324	422191	Contact with rusty biotite schist to the south		
45	5591294	422233	Biotite schist outcrop (10m x 10m)	15	Biotite schist
46	5591256	422255	Outcrop in treed overburden (15m x 15m)	12	Biotite schist
47	5591319	422113	Traverse between 46 and 47 scattered small <5m sub/outcrops. Biotite schist outcrop is oriented NNW 30m x 10m. Possible quartzite outcrops in the distance to the east between this traverse and previous		
48	5591352	422069	Start of grey quartzite outcrop area		
49	5591360	422061	End of grey quartzite outcrop area appears to run roughly E-W.		

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Outcrop Notes	Northing	Easting	Description	Mag Susc Reading (nT)	Rock Type
50	5591411	422004	No outcrop between 49 and 50. Start of biotite gneiss outcrop area. Gneiss shows fewer thin(1-2cm) lamination of biotite (<20%) than previous	2	Gneiss
51	5591435	421977	End of gneiss area		
52	5591442	421969	Between 51 and 52 small overburden valley. 52 marks start of resistant grey quartzite unit		
53	5591451	421962	Contact between grey quartzite to the south and gneiss to the north		
54	5591453	421939	Continuation of contact in 53		
55	5591440	421921	End of quartzite outcrop area		
56	5591435	421915	Start of biotite gneiss outcrop, same character as in 50.	1	Gneiss
57	5591411	421929	Contact between biotite gneiss in the north and biotite schist in the south		
58	5591401	421951	More scattered outcrops between 57 and here. Locally larger outcrop (10m x 10m) of biotite schist.	8	Biotite schist
59	5591375	421961	Small broken grey quartzite outcrop area between here and 60		
60	5591369	421966	See 59		
61	5591362	421973	Broken nose of quartzite outcrop between here and 62, see map	0	Quartzite
62	5591357	421975	See 61		
63	5591326	422012	Outcrop of biotite schist (15m x 10m)	4	Biotite schist
64	5591278	422027	Biotite schist outcrop ( 15m x 15m)	2	Biotite schist
65	5591247	422060	Hill of outcrop with a valley of overburden with trees between 64 and 65. Biotite schist (10m x 20m)		
66	5591238	422030	Small biotite schist outcrop ( 15m x 10m)	2	Biotite schist
67	5591274	421966	Larger outcrop in zone of small scattered sub/outcrop of biotite schist ( 10m x 15m)		
68	5591296	421929	Biotite schist outcrop ( 10m x 15m)		
69	5591346	421880	Lens shaped grey quartzite outcrop ( 20m x 5m)	0	Quartzite
70	5591359	421858	Start of broken grey quartzite outcrop area	0	Quartzite
71	5591374	421822	Northern extent of grey quartzite unit		
72	5591358	421834	Continuation of southern edge of grey quartzite area from 70		
73	5591347	421842	Separate lens of grey quartzite unit, see map	0	Quartzite
74	5591344	421850	Southern edge of quartzite in 73		
75	5591255	421867	Biotite schist outcrop (15m x 10m)	14	Biotite schist
76	5591211	421881	Lens of biotite schist (15m x 5m)		
77	5591186	421871	Small (5x5m) biotite schist outcrop	10	Biotite schist
78	5591171	422053	Biotite schist outcrop ( 20m x 10m)		
79	5591159	422042	Biotite gneiss outcrop zone, will follow the strike of this		
80	5591156	422201	Gneiss outcrop	0	Gneiss
81	5591163	422239	Local thick lamination (2cm) in gneiss	6	Gneiss
83	5591189	422351	Broken area of less contiguous gneiss outcrop		
84	5591183	422398	Large continuous outcrop area, with rusty weathering on northern side	16	Rust on gneiss
85	5591237	422441	Start of a separated lens of gneiss?	2	Gneiss
86	5591269	422512	Gneiss outcrop disappears in scree area		
87	5591305	422601	Outcrop of biotite gneiss ( 10m x 10m)	6	Biotite schist

**Appendix III: Outcrop Notes for Traverses June 26-28, 2009**

**Projection for Outcrop Note Locations UTM NAD 83 Zone 11**

Outcrop Notes	Northing	Easting	Description	Mag Susc Reading (nT)	Rock Type
88	5591340	422613	Large outcrop of biotite schist ( 50m x 25m)		
89	5591407	422631	Small grey quartzite subcrop		
90	5591416	422636	<5m x5m grey quartzite outcrop	0	Quartzite
91	5591449	422655	Gneiss outcrop/subcrop area start	0	Gneiss
92	5591473	422655	End of visible gneiss outcrop in trees and overburden		
93	5591516	422652	Rusty biotite schist outcrop at the top of treed slope. (<5m x 5m)	11	Biotite schist

**Appendix IV**  
**Certificate of Authors**

## CERTIFICATE OF AUTHORS

I, Janet L. P. Miller, of Whistler, British Columbia, Canada do hereby certify that:

1. I was an employee of Strongbow Exploration Inc. formerly Navigator Exploration Corp., 800-625 Howe St., Vancouver, British Columbia, Canada from 2000 to 2005.
2. I graduated from the University of British Columbia (2004) with a BSc in Honours Geology with a minor in Biology.
3. I was employed continuously in geology during the summer terms of my education with a focus in diamond exploration.
4. I have been active in the field aspects of diamond and base metal exploration for four years (2002-2005) in the Northwest Territories and Nunavut, including project management, planning and implementation, as well as detailed mapping of surficial deposits, sampling, prospecting, and ground truthing geophysical anomalies on various properties.
5. I have been involved in data compilation, and analysis for diamond and base/precious metal exploration since 2000 under the supervision of a registered professional geologist, and have been involved in a number of aspects of projects in the Northwest Territories, British Columbia, and Nunavut.

Janet L.P. Miller

Whistler, BC, Canada  
May 5, 2010

I, Barry Hanslit, of Whistler, British Columbia do hereby declare the following:

1. I have completed a "Prospecting Course" in 1991 given by a representative of Manitoba Natural Resources at Falcon Lake, Manitoba.
2. I have been prospecting for the last 15 years in both Manitoba, and more recently British Columbia.
3. I have worked on several prospects and developed prospects in Manitoba during the years 1990 to 1994
4. Held the position of Project Operations Manager with Stornoway Diamonds from 2004 to 2005.
5. Currently president of Zinex Mining Corp.

Barry A. Hanslit

Whistler, BC, Canada  
May 5, 2010