

# **ASSESSMENT REPORT ON THE**

# LOST MINE PROPERTY (COPPER RIDGE)

# **NELSON MINING DISTRICT, BRITISH COLUMBIA**



INNOVATIVE ENERGY INC. 21664 MONAHAN COURT LANGLEY, B.C. V3A 8N1

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#### 1.0 INTRODUCTION AND SUMMARY

This report is a summary of investigations carried out on the Katie mineral claims located in the Shaw Creek area of southeastern British Columbia, 26 kilometers west northwest of the Town of Creston. An examination of the claims was carried out between June 15<sup>th</sup> to September 8th, 2005.

The exploration work constituted of a general examination of the claim blocks and sampling, both rock and geochemical sampling of the bedrock and stream sediments. The intent of the program was to locate previous workings in the area to verify the Copper Ridge showings as described in MINFILE Report number 082FSE048 and to conduct geological mapping of outcrops.

The Copper Ridge showing was described in MINFILE reports as 'extensive highgrade mineralization' exhibiting anomalous values of chalcopyrite and gold occurring within a quartz vein matter. The showing or vein matter is stated to have been traced for over 1 kilometer with widths obtaining up to 100m.

The Copper Ridge showing has been mapped to occur in host rocks of biotite calcic-granodiorite stock known as the Mine Stock of mid Jurassic age. The Mine Stock, which occurs immediately west of the contact of the mid-Cretaceous Bayonne Batholith, is considered to be part of the middle Jurassic Nelson Intrusives.

### 2.0 LOCATION, ACCESS AND PHYSIOGRAPHY

The Copper Ridge property is situated in the Nelson Mining Division in southeastern British Columbia, approximately 30 kilometers west northwest of the Town of Creston and approximately 20 kilometers north of the US international boundary (Figure 1: Location Map). The property is located within NTS map sheet 82F02W (NAD 83). The property occurs at the headwaters of northeast trending Shaw Creek which drains eastwards into Kootenay Lake.

Access to the property is via 40 kilometers of Forestry Trunk Road north of the Salmo-Creston Highway (#3). The Forestry Trunk Road originates at the Summit Creek bridge along Highway #3 approximately 7 kilometers west of Creston. Access to the property can be obtained by four-wheel drive truck.

The topography of the property is moderately to very rugged, with elevations ranging from 1700 metres to 2299 metres at the summit of Wood Peak. The claim block straddles a terrain comprised of steep ridge lines and cirque shaped by Woods Peak, Hulme Peak and Kootenay Peak. Shaw Creek originates within this cirque as three separate streams joining into one. The claim block is heavily



timbered where it has not been logged or on the ridge lines. Significant sized boulders from 1m to5 m in size occur at the base of these slopes as talus deposits.

### 3.0 MINERAL CLAIMS DESCRIPTION

The Katie Claims consist of 4 (four) separate tenures totaling 68 cells. The claims are owned 100% by Harold R. Oppelt and were registered on January 12<sup>th</sup>, 2005. The anniversary date for all claims is January 12<sup>th</sup>, 2006.

The Copper Ridge property consists of the following claims (See Figure 2):

#### Summary of Claim Data

Claim Name	Tenure No.	No. of Units	Anniversary Date
Katie	501319	24	Jan 12, 2006
Katie2	501469	25	Jan 12, 2006
	501561	17	Jan 12, 2006
Katie3	501599	2	Jan 12, 2006
Total o	of Units	68	

Please refer to Appendix A for a detailed list of cells forming each tenure.





#### 4.0 HISTORY OF EXPLORATION

The Copper Ridge Property was first reported in 1903 in the Minister of Mines Annual Report describing the property as 'The Lost Mine Group'. The group consisted of the Lost Mine, Copper Ridge and Copper Peak claims. The Ministers Report describes the property as 'vein matter is composed of calcite and quartz, with chalcopyrite, and can be plainly traced at different exposures over the length of the Copper Peak and the Lost Mine, and for several hundred feet on the Copper Ridge, a total length (measured on the horizontal) of 3,300 feet'. The widths of the vein material along surface exposures are stated to be varying from 30 metres to up to 100 metres.

This group of claims was being explored during the period from 1899 to 1902 by an undetermined group of owners. During this time, a tunnel totaling 250 feet in length was driven at the 1830 metre (6000 foot) elevation level by the owners along the strike of the mineralization. In 1899, an unknown number of crosscuts totaling 27 lineal feet were also driven. Mineral values returned from surface samples averaged 8.6 grams of gold per tonne and 4% copper. It is stated that work ceased in 1902 and the group of owners 'headed east ' to eastern Canada to look for financial help to develop this promising discovery, but never returned to resume work. It is not known if any shipments of ore were made or if the any mineral inventory was ever recovered.

In 1982, a Mr. Anthony Mould staked the Sherpa claim, which lies within Tenure Block 501319 of the Katie Claims, and optioned the claim to Brinco Mining Ltd. Brinco Mining conducted a preliminary geological and geochemical investigation consisting of 5 km<sup>2</sup> of outcrop mapping at 1:10,000 scale and 25 silt samples taken from streams at about 300m intervals. The geochem samples were analyzed for Cu, Mo, Ag and Au. Nothing of interest was returned in the analyses.

No mention was made by Brinco in the assessment report of any previous tunneling or workings on the property. No mineralization was discovered by Brinco during that report and no further work was recommended. The property is believed to have remained idle since the Brinco investigation in 1982.

#### 5.0 REGIONAL GEOLOGY

The Copper Ridge Property lies within the west half of the Nelson map area within NTS map sheet 82F02W. The regional geology of the Nelson map area 82F02 has been described in the past by Rice (1941), Leclair (1982, 1983), Reesor (1993), and Brown *et al* (1995). The Nelson map area has a variety of structural and stratigraphic units that record the transition from the Purcell anticlinorium to the Kootenay Arc and includes important structures such as the northern extension of the Purcell Trench fault (Figure 3), the gradation of low grade, broadly folded Purcell Supergroup strata of the anticlinorium into equivalent but higher grade metamorphic and polydeformed rocks. The Purcell Supergroup is a thick succession of clastic and carbonate rocks of Middle Proterozoic age which is unconformably overlain to the west by the Upper Proterozoic Windermere Supergroup. A suite of small mid-Jurassic granitic stocks, dykes, and sills and extensive mid-Cretaceous batholiths have been mapped which intrude into Proterozoic rocks in the Nelson map area.

Within the immediate area of the Copper Ridge Property, the mid Cretaceous Bayonne Batholith is present. The Bayonne Batholith is a large, elongate, granitic body which extends northeastwards for 60 kms across Kootenay Lake. The Bayonne Batholith varies in composition from granite to a calcic granodiorite and contains phases described as coarse grained to fine grained, porphyritic and non-porphyritic, pink and light grey to dark grey and is often gneissic in nature. Biotite is the most commonly associated mineral. Large inclusions of metamorphosed sediments, most likely Proterozoic in age, occur as zenoliths in the Bayonne Batholith. The zenoliths are said to occur most frequently in the porphyritic phases of the batholith.

Smaller mid-Jurassic stocks and dykes are also encountered in the Nelson map area. These vary in shape and size and differ in composition from the Cretaceous aged intrusives. The Mine Stock pluton (Figure 3) occurs in the immediate area of the Claim Block. The Mine Stock is centered southeast of the Copper Ridge Property on John Bull Mountain. Within the Copper Ridge Property, the eastern edge of mid-Jurassic aged 'Mine Stock' abuts to the southwest corner of the Bayonne Batholith. Some of the granodiorite stocks are known to carry appreciable pyrite, pyrrhotite and chalcopyrite and tend to be associated with anomalous gold (ie Summit Bell, McMurdo).

The Mine Stock has been mapped to consist of fine to medium grained, light grey granodiorite that is fairly uniform in texture and composition, non-porphyritic, and few zenoliths. Amphiboles and biotite occur equally abundant as associated minerals.

**Nelson Mining District** 



#### Legend

Kgd Cretaceous Shaw Creek Intrusives (Bayonne Batholith)

MJgr Mid Jurassic Intrusives (Wall Stock & Mine Stock) uPrWM upper Proterozoic Windermere Supergroup – Monk Fm uPrWI upper Proterozoic Windermere Supergroup – Irene Fm uPrWT upper Proterozoic Windermere Supergroup – Toby Fm uPrWTS upper Proterozoic Windermere Supergroup – Toby Fm uPrWTS Mid Proterozoic Windermere Supergroup – Three Sisters Fm mPrPM Mid Proterozoic Purcell Supergroup - Mount Netson Fm mPrPD Mid Proterozoic Purcell Supergroup - Dutch Crk Fm

mPrPC Mid Proterozoic Purcell Supergroup - Creston Fm

Katie Claims Outline with Tenure Number



### 6.0 2005 RECONNAISSANCE PROGRAM

The geological program for 2005 comprised of a reconnaissance mapping program to prospect for a batholth intrusion with biotite and hornblende as accessory minerals and geochemical stream silt sampling. The program also was conducted to locate the old mine workings as reported in the MINFILE Report number 082FSE048.

Geological mapping of the area was conducted on a reconnaissance level, using GPS as a locator, to confirm the host rocks of the property as described in previous publications. Approximately 6.5 kms of transverse was conducted on the Katie Claim to find the old mine workings as well as map outcrops at 1:10,000 scale.

Five stream silt samples were collected, dried, screened and visually identified from the headwaters of Shaw Creek, but only one (Sample #4) was analyzed for whole rock ICP analysis.

Previous owners of the Copper Ridge Group of claims were reported to have driven a tunnel 250 into the area around the headwaters of Shaw Creek at an elevation of approximately 1830m. Reconnaissance to find these workings using traverses and four wheel truck along all existing roads and trails was conducted.

### 7.0 PROPERTY GEOLOGY AND MINERALIZATION

Due to soil and forest cover, outcrops are generally sparse within the cirque portion of the Copper Ridge Property, but at higher elevations along the ridgelines outcropping can be continuous.

The Copper Ridge Property is underlain by predominantly granodiorites apparently originating from the mid-Jurassic Mine Stock. The granodiorites observed in the mapping were generally a white to light grey colored mixture of fine-grained plagioclase, quartz, biotite and hornblende. The granodiorites, though, generally have a salt and pepper appearance. Quartz grains can be seen as smooth light gray grains scattered among the white feldspars. Orthoclase was present in only small amounts. Evidence of any bedding or any structural grain is faint and unreliable in the granodiorite stock. The composition of the granodiorite does vary over the property possibly due to the assimilation of Proterozoic country rocks.

Several inclusions of country rock were noted in the predominate granodiorite. The inclusions consisted of gneisses and quartz mica schists. These are assumed to belong to the Proterozoic Windermere or Purcell Supergroups. There is an obvious change in lithology on the eastern boundary of the claim area where light grey granodiorites containing few zenoliths described above gradationally changes to granites and granodiorites with abundant zenoliths. The contact of the two plutons was nowhere seen in this field work.

Mineralization occurs as quartz filled fissure veins generally striking northeast N80° and northwest dipping vertically. The veinlets encountered in the mapping were small fractures filled with quartz and calcite with minor pyrite showings. Some thin quartz veins are pitted or vuggy and strongly limonitic, probably due to oxidized pyrite. All veins encountered were deemed to be barren.

It is assumed that the vein material can be classified as described by Hart *et al* (2000) as a 'proximal to distal member vein deposit' related to the emplacement in and around the intrusive Bayonne magmatic suites. It is considered that fracture lines are known to occur for significant distances which were infilled with quartz and calcite mineral solutions often bearing sulphides and precious metals.

Sample Number	Comments	Observations of Coarse fraction
Copper Ridge 1	Brown clay rich sand	Mica rich, minor quartz, organics; no mineralization.
Copper Ridge 2	Yellow clay, sandy gravel	Brown mica flakes with feldspars, organics; no mineralization.
Copper Ridge 3	Golden brown clay sandy gravel	Mica, quartz, fine granidiorite; no mineraliztion.
Copper Ridge 4**	Dark Brown organic clays and minor sand	Brown mica flakes with feldspars, organics; no mineralization
Copper Ridge 5	Brown fine sand Gravel with white grains	White quartz rich, feldspars & mica flakes; no mineralization

#### **Description of Till Samples Collected**

\*\* Analyzed for whole rock; Blank standards inserted by Acme Analytical Labs are considered adequate for this early stage of exploration.

#### 8.0 CONCLUSIONS AND RECOMMENDATIONS

Traverses to locate the old mine working even interpretation of satellite photography have failed to locate the old mine workings reported. No sign of any mine tailings, which for a 250 foot adit should be apparent, were not found.

Reconnaissance geologic mapping confirmed the presence of granodiorite as described in Section 7.0 Property Geology and Mineralization. The granodiorites are extensive in distribution covering the majority of the claim block. Presumably these granodiorites belong to the mid-Jurassic Mine Stock.

Geochemical analysis of the one stream silt sample failed to turn up any significant economic metal values. No economic mineral showings were observed in the remaining silt samples. Silt samples although were noted to contain abundant 'gold colored' mica grains.

Although the program failed to locate old mine workings or the original vein matter as reported in Minfile reports and the 1902 Annual Report of the Minister of Mines for BC, the potential to discover new mineralization described is significant. The geology of the host rocks is conducive to proximal Au-Ag-Cu fracture filled vein deposits related to the emplacement of the Cretaceous Bayonne Batholith.

Continued exploration of the block is warranted as previous reports have documented the existence of the mine workings and the potential of an economic deposit of precious metals and high grade copper showing. A program to continue to explore for the Copper Ridge vein (Lost Mine) will be undertaken in the summer of 2006 when access to the property can be permitted by weather. Simple prospecting of both bedrock and till on trend of the previous anomalies and more widespread structures along with continued soil sampling is recommended at the very least. The introduction of a defined grid for the purpose of conducting magnetometer and VLF-EM surveys (which have been shown to be highly effective in base metal exploration) is also recommended. Trenching of anomalous structures followed by diamond drilling could quickly follow the location of anomalies.

#### 9.0 REFERENCES

Annual Report of the Minister of Mines, British Columbia (1899-1902)

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Hart, C. J.R., Baker, T. and Burke, M. (2000): New exploration concepts for country-rock-hosted, intrusion-related gold systems: Tintina Gold Belt in Yukon; *in* The Tintina Gold Belt Concepts, Exploration and Discoveries, ed., J.L. Jambour, British Columbia and Yukon Chamber of Mines, Cordilleran Exploration Roundup 2000, Extended abstracts

Logan J.M. (2002) Intrusion-Related Gold Mineral Occurrences of the Bayonne Magmatic Belt, Geological Fieldwork 2001, paper 2002-1 pp.237-247.





Cu % ND % SAMPLEF Zn Ag X gn/nt Pb \*\* Co Fe AI As ŝr Cd Sb Na X Ha Aut PIA PIA Ng X \* % \* z 2 % x X 2 x X 2 \* X 2 % gavat govat gavat <2<.001<.001 .02 .54 <.01 .001<.001 .001 <.01 .12 .036 <.001 .15 .47 .09 .27 <.001 <.001
156 .370 .043 .20 22.27 .22 .171 .029 .131 <.01 2.20 .051 .667 1.52 1.29 .21 .48 .066 .173</pre> .001<.001 <.01 <.01 COPPER RIDGE .01 <.01 .01 STANDARD R-2a/FA-10R .047 .553 1.39 4.28 .51 .46 .48 GEOCHEMICAL ASSAY CERTIFICATE GRCLP 7AR - 1.000 EN SAMPLE, AQUA - REGIA (HCL-HNO3-N20) DIGESTION TO 100 HL, ANALYSED BY ICP-ES. AL #\* PT\*\* & PD\*\* BY FIRE ASSAY FROM 1 A.T. SAMPLE. - SAMPLE TYPE: Rock R150 Data TA DATE RECEIVED: AUG 29 2005 DATE REPORT MAILED All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of the analysis only.

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APPENDIX B

#### APPENDIX A

### MINERAL TITLE DESCRIPTION

# Tenure Numbers - Claim Data

4 Tenures in total (Numbers 501319, 501469, 501561 and 501599) Total number of cells = 68 cells Anniversary for all Tenures = January 12, 2006

#### Tenure No: 501319

Claim Name: Katie - 24 cells in total

	082F02K027C	082F02K027D	082F02K028C	082F02K028D
	082F02K037A	082F02K037B	082F02K037C	082F02K037D
Calls ID.	082F02K038A	082F02K038B	082F02K038C	082F02K038D
Cells ID:	082F02K039A	082F02K039B	082F02K039C	082F02K039D
	082F02K047A	082F02K047B	082F02K048A	082F02K048B
	082F02K049A	082F02K049B	082F02K049C	082F02K049D

#### Tenure No: 501469

#### Claim Name: Katie2 - 25 cells in total

	082F02K006A	082F02K006B	082F02K006C	082F02K006D
	082F02K007D	082F02K016A	082F02K016B	082F02K016C
	082F02K016D	082F02K026A	082F02K026B	082F02K026C
Cells ID:	082F02K026D	082F02K036A	082F02K036B	082F02K036C
	082F02K036D	082F02K046A	082F02K046B	082F02K046C
	082F02K046D	082F02K047C	082F02K047D	082F02K048C
	082F02K048D			

Tenure No: 501561

Claim Name:	-	17	cells	in	total
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	082F02K007A	082F02K007B	082F02K007C	082F02K008A
	082F02K008B	082F02K008C	082F02K008D	082F02K017A
Cells ID:	082F02K017B	082F02K017C	082F02K017D	082F02K018A
	082F02K018B	082F02K018C	082F02K018D	082F02K028A
	082F02K028B			

Tenure No: 501599

Claim Name: Katie3 - 2 cells in total

Cells ID: 082F02K027A 082F02K027B

#### APPENDIX C

#### EXPLORATION COST STATEMENT (2005)

1. Maps, Reports, Air Photos, Field supplies \$175.00 2. Salaries H.P. Oppelt 2 days @ \$475,00 per day \$950.00 Harold R, Oppelt 2 days @ 475.00 per day \$950.00 2 men 2 days @ \$200.00 per day \$800.00 3. Transportation 4x4 Truck (including Fuel) \$450.00 ATV 4 days rental \$350.00 4. Accomodation & meals (Motor Home) Rental 4 men @ 40..00 meals per man \$160.00 4 day rental of motor home @ \$125.00 per day \$535.00 5, Sample preparation & Assay Cost \$ 96.00 6. Report Preparation & Drafting \$2700.00

Grand total \$7166.00

# APPENDIX D

# STATEMENT OF QUALIFICATION

I, Harold Richard Oppelt of 21664 Monahan Court, Langley, B.C. do hereby declare the following:

1. I have worked as a prospector in Mineral Exploration for the past 38 years.

2. I have worked on several prospects and developed prospects in Alberta and in British Columbia during the years 1967 to 2005.

3. I am responsible for the preparation of this report and I am the sole owner of the claims.

4. I visited the Katie claim group on July 27-28th, 2005

Red line indicates the route taken on the Second, Third and Forth trip to the Copper Ridge Mine

Blue line indicates the route taken on the first trip to Mine

© 2005 TeleAtlas Image © 2005 EarthSat Image © 2005 DigitalGlobe

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