



## CAPSULE GEOLOGY

until 1964. In 1964, Lytton Minerals Ltd. optioned the June and Stikine groups and staked additional claims. In 1965, Lytton completed geological mapping, geophysical and geochemical surveys and 1380 metres of diamond drilling. Mitsui Mining and Smelting Company Limited was given the option to acquire an interest in the property and under the terms of agreement Deas Lake Mines Ltd. was incorporated in January 1967. Work during the 1966 to 1968 period included IP, magnetic and geochemical surveys and 92 diamond drillholes. In 1986 the Troy 1-8 claims were staked by Integrated Resources to cover the two zones. During 1989 a further 8 diamond-drill holes (totalling 935.7 metres) were completed. No further work is reported after 1989.

The area is predominantly covered by overburden and largely devoid of outcrop. Regional mapping indicates that the area is underlain by rocks of the Upper Triassic Stuhini Group consisting of andesite and basalt flows, tuffs and breccias with some sediments intruded by small stocks and sills of porphyritic andesite and basalt. The property is adjacent to the contact of the Upper Triassic Cake Hill pluton part of the Jurassic-Triassic Hotailuh batholith. The pluton consists mainly of hornblende quartz monzonite, granodiorite and rare hornblende diorite.

Locally the rocks consist of dark green hornblende porphyritic andesite, fine-grained andesitic greenstone, volcanic breccia and tuff. Basaltic rocks and basaltic lithic tuffs are evident in drill core. These volcanic rocks are intruded by an irregular mass of fine-grained, broken, feldspar porphyry rock that is highly variable in texture. Much of this rock is a leucocratic reddish-stained, fine-grained felsite or alaskite that could be in part highly altered versions of the volcanic rocks. Quartz monzonite is reported south of the main areas of mineralization.

In the vicinity of the two main mineralized areas known as the Hill zone and Creek zone, all the rocks exhibit considerable alteration. Carbonate is widespread throughout and also occurs as veinlets. Sericite is distributed as patches. Both the volcanic rocks and feldspar porphyry have been bleached, locally silicified and have widespread iron oxide staining and hematite on many irregular fractures. Chlorite and dense black tourmaline veins occur on fractures in the volcanic rocks. In places fine-grained potassium feldspar occurs in the volcanic rocks. All of the rocks locally exhibit cataclastic breccia textures with evidence of deformation.

Structurally, greywacke and mafic volcanic beds exposed to the east of the property dip between 35 and 40 degrees northeast. The rock exposures at the Hill zone are strongly fractured and broken by joints and small faults. In the Creek zone, the rocks are fractured, and in places irregularly schistose in a northwest direction. Drill core information and regional lineaments suggests that major north striking faults pass through the area.

Mineralization in the Hill and Creek zones is comprised of disseminated chalcopryrite with minor bornite. The sulphides occur in altered andesitic greenstone and in dark green porphyritic andesites as blebs, wisps and along fracture planes. There are occasional pods of high-grade mineralization. Pyrite occurs in minor to negligible amounts. Magnetite is noticeable in all the volcanic rocks, and in places there appears to be strong concentrations of magnetite with chalcopryrite.

Indicated reserves are 30,387,850 tonnes grading 0.389 per cent copper, including 20 per cent dilution with wallrock grading 0.15 per cent copper (CSE Listing Statement November 7, 1972 - Lytton Minerals Ltd., D.W. Ashbury, October 24, 1972).

## BIBLIOGRAPHY

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- EMPR ASS RPT 660, 20408
- EMPR FIELDWORK 1988, pp. 429-434
- EMPR MAP 65 (1989)
- EMPR OF 1992-1
- EMR MIN BULL MR 223 B.C. 337
- EMR MP CORPFILE (Lytton Minerals Limited; Dease Lake Mines Ltd.; The Patino Mining Corporation)
- GSC MAP 29-1962; 9-1957; 381A; 1418A
- GSC MEM 194, pp. 7,16
- GSC OF 56; 610; 2262; 2779
- GSC P 78-1A, pp. 25-27; 80-1A, pp. 37-40
- GCNL #192(Oct.5), 1989
- Falconbridge File
- Placer Dome File

MINFILE NUMBER: **1041 002**

NATIONAL MINERAL INVENTORY: 10415 Au1

NAME(S): **GOLDPAN CREEK**, GOLD PAN CREEK, TNA

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104105E

BC MAP:

LATITUDE: 58 27 13 N

LONGITUDE: 129 43 17 W

ELEVATION: 1200 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Just east of the mouth of Goldpan Creek in Little Eagle River (Bulletin 28).

UTM ZONE: 09 (NAD 83)

NORTHING: 6479440

EASTING: 457900

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Lower Jurassic

Upper Triassic

Recent

**GROUP**

Laberge

Stuhini

**FORMATION**

Inklin

Sinwa

**IGNEOUS/METAMORPHIC/OTHER**

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

Unconsolidated Sediment/Sedimentary

Slate

Shale

Greywacke

Conglomerate

Argillaceous Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Goldpan Creek is located about 19 kilometres west of the south end of Dease Lake. Placer gold was discovered on the creek in 1924 about 600 metres from the mouth. Recorded gold production to 1940 totalled 84,467 grams (2,716 ounces).

Regional mapping by the Geological Survey of Canada (Open File 2779) shows the area to be underlain by the Lower Jurassic Inklin Formation, mainly slate, greywacke and conglomerate. Upper Triassic Sinwa Formation limestone, commonly argillaceous, is exposed locally.

The area is underlain by slate, shale and rusty carbonate rock. The deposits overlying the bedrock consists of boulder clay, sands, gravel and to a lesser extent, Recent alluvium. The paystreaks below the present stream gravels are post-glacial and have been formed by concentration from the glacial drift.

The gold occurs most abundantly where the surface gravels extend down to bedrock in the bed of the stream. The best concentrations were found in the lower 400 metres of the creek where the valley is narrow. In the upper parts of the creek and tributaries where clay occurs beneath the surface gravels there are many small concentrations of gold on or in the upper parts of the clay but none beneath the clay. The depth of the bedrock is variable.

The gold is coarse and flat and nuggets up to about 62 grams (2 ounces) have been found (Bulletin 28).

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EMPR BULL 1, p. 27; 12, p. 7; \*28, p. 59

EMPR AR 1924-76-77; 1925-111; 1926-102; 1927-108; 1928-121; 1929-117;

1930-130; 1932-64; \*1933-65-69; 1935-B27

GSC SUM RPT 1925A, pp. 49-54

GSC MAP 29-1962; 9-1957; 1418A

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 4  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/04/24

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 003**

NATIONAL MINERAL INVENTORY: 10414 Cu1

NAME(S): **DALVENIE** BIG CHIEF, MAC,  
NEW DEAL, PASS

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104104W  
BC MAP:  
LATITUDE: 58 11 15 N  
LONGITUDE: 129 52 40 W  
ELEVATION: 1550 Metres

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6449921  
EASTING: 448388

LOCATION ACCURACY: Within 500M  
COMMENTS: The coordinates are for the centre of the mineralized zone, which trends north and south (Assessment Report 19885, Figure 2.2.1).

COMMODITIES: Copper                      Gold                      Zinc

**MINERALS**

SIGNIFICANT: Pyrite              Chalcopyrite              Arsenopyrite              Bornite              Pyrrhotite  
Sphalerite  
ASSOCIATED: Quartz              Barite              Siderite              Magnetite  
ALTERATION: Silica              Hematite  
ALTERATION TYPE: Silicific'n              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated              Shear              Vein  
CLASSIFICATION: Porphyry              Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins      Ag-Pb-Zn±Au  
DIMENSION: 1146 x 9              Metres              STRIKE/DIP:              TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Stuhini	Unnamed/Unknown Formation	
Upper Triassic			Gnat Lakes Ultramafite
Jurassic			Three Sisters Pluton

LITHOLOGY: Hornblende Clinopyroxenite  
Hornblendite  
Hornblende Gabbro  
Augite Porphyry  
Plagioclase Porphyry  
Andesite  
Argillite  
Quartzite  
Chert  
Basaltic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Tanzilla Plateau  
TERRANE: Stikine

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1968  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE  
Gold                      4.8000              Grams per tonne  
Copper                      3.7300              Per cent  
COMMENTS: From a 1.5-metre drill interval.  
REFERENCE: Assessment Report 19885.

**CAPSULE GEOLOGY**

The Dalvenie prospect is located on the east flank of Thenatlodi Mountain, about 32 kilometres southeast of the south end of Dease Lake. The property was first staked in 1899. In 1935, the Dalvenie Syndicate acquired the property and the Dalvenie 2-9, Mac and New Deal 1-4 claims were subsequently Crown granted. Work in 1935 traced the mineralization for 360 metres by means of 13 shallow opencuts. In 1966, Copper Pass Mines Ltd. acquired the Crown grants and staked additional claims. Work completed in 1966 included geological

## CAPSULE GEOLOGY

mapping, induced polarization and soil geochemical surveys, trenching and some short X-Ray diamond-drill holes.

The area of the Dalvenie prospect is underlain by the Lower to Upper Triassic Stuhini Group. At the occurrence, the rocks are described as augite and plagioclase porphyry, andesite, basalt, tuff, breccia, argillite, quartzite, shale and minor thin beds of chert. The strata are intruded by an alaskan-type ultramafic body, the Late Triassic Gnat Lake Ultramafite, consisting of hornblendite, hornblende clinopyroxenite and hornblende gabbro. Monzonitic to syenitic rocks of the Early to Middle Jurassic Three Sisters Pluton outcrop to the immediate south. The Gnat Lake Ultramafite and the Three Sisters Pluton are part of the Hotailuh Batholith.

Two parallel basalt dikes occur trending 016 degrees and dipping 75 degrees west. The dikes are about 1 metre thick and separated by 60 to 180 centimetres of sheared material. The dikes occur along a highly sheared fault zone which forms the main mineralized zone. The dikes and the mineralized zone have been traced along surface for 1146 metres. The maximum width of the zone is at least 9.75 metres wide.

The fault zone contains smoky grey quartz with abundant sulphide mineralization observed at three showings. Sulphides present include massive pyrite with blebs of chalcopyrite and arsenopyrite, and smears of bornite and hematite along fractures. Siderite, barite, magnetite, pyrrhotite and sphalerite have also been reported.

The wallrock of the mineralized zone is mainly the ultramafite but in the extreme southern part the wallrock is sedimentary. The wallrock is generally unmineralized but may contain sulphides locally. The basalt dikes are locally mineralized.

A weighted average of six chip samples yielded 1.19 per cent copper over 7.3 metres (Assessment Report 898). Another composite sample taken over 12.5 metres yielded 1.03 per cent copper (Assessment Report 897). A 1.22-metre chip yielded 1.37 grams per tonne gold (Assessment Report 898). A 1968 drillhole reportedly yielded 3.73 per cent copper and 4.80 grams per tonne gold over 1.5 metres (as reported in Assessment Report 19885).

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EMPR FIELDWORK 1988, PP. 429-434  
GSC MEM 194, pp. 7,16  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/27

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 004**

NATIONAL MINERAL INVENTORY: 104I7,6 Au3

NAME(S): **WHEATON (BOULDER) CREEK**, BOULDER CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104I07W 104I06E

BC MAP:

LATITUDE: 58 23 58 N

LONGITUDE: 129 00 06 W

ELEVATION: 1100 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the the lower reaches of Wheaton Creek.

UTM ZONE: 09 (NAD 83)

NORTHING: 6473183

EASTING: 499903

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated Disseminated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic

Recent

Upper Paleozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Glacial/Fluvial Gravels

Cache Creek Complex

**LITHOLOGY:**

Gravel

Clay

Serpentinite

Peridotite

Dunite

Pyroxenite

Slate

Argillite

Limestone

Andesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Wheaton (Boulder) Creek deposit is located about 64 kilometres east of the south end of Dease Lake. Wheaton Creek is a north flowing tributary to the Turnagain River.

In 1874, coarse gold was found in creeks tributary to the headwaters of the Turnagain River. In 1932, coarse gold was found on Wheaton Creek just above the falls. Jade boulders were found in Wheaton Creek (104I 082) in 1938 and about 1000 pounds of jade was flown out in 1957. Placer operations ceased in the early 1940s and resumed in 1970 when Demsey Mines Ltd. acquired 8 placer leases on the creek.

The area is underlain by a 5-kilometre wide belt of Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

A fault-bound section of Mississippian to Triassic Kedahda Formation rock sits within the ultramafic belt south of Alice Shea Creek. This portion is reported to consist of slate, argillite, limestone and andesitic volcanics. There are many quartz veins and stringers in the slate and schist. Some are mineralized with pyrite but none are known to be gold bearing. Underlying the southern reaches of Wheaton Creek are Cache Creek mafic volcanics and a large area of Lower Jurassic sediments and metasediments of the Inklin Formation.

Gold-bearing gravel occurred at the lower end of Wheaton Creek and on Alice Shea Creek (104I 005), a tributary of Wheaton Creek. Almost all the gold from these creeks is coarse and nuggetty and most of the large nuggets have quartz adhering to them. Numerous nuggets found on Wheaton Creek weighed about 62 grams (2 ounces). The largest nugget found on Alice Shea Creek weighed 1612 grams (52

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**CAPSULE GEOLOGY**

ounces) (the Turnagain Nugget); numerous others have been found, weighing up to 496 grams (16 ounces). The gold was recovered from clayey gravel and bedded clay.

Recorded gold production between 1931 and 1945 totalled 241,212 grams (7,755 ounces).

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GSC P 72, pp. 53-32  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
EMR CORPFILE (Demsey Mines Ltd.)

DATE CODED: 1985/07/24  
DATE REVISED: 1995/04/25

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104I 005**

NATIONAL MINERAL INVENTORY: 104I7,6 Au3

NAME(S): **ALICE SHEA CREEK**, ALICE CREEK

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104I07W  
BC MAP:

Open Pit

MINING DIVISION: Liard

LATITUDE: 58 21 24 N  
LONGITUDE: 128 58 46 W  
ELEVATION: 1400 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6468420  
EASTING: 501203

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the lower reaches of Alice Shea Creek (Bulletin 28).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Recent  
Upper Paleozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Glacial/Fluvial Gravels  
Cache Creek Complex

LITHOLOGY: Gravel  
Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Slate  
Argillite  
Limestone  
Andesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Alice Creek deposit is located about 64 kilometres east of the south end of Dease Lake. Alice Creek is a tributary of Wheaton (Boulder) Creek.

In 1874, coarse gold was found in creeks tributary to the headwaters of the Turnagain River. In 1932, coarse gold was found on Wheaton Creek (104I 004) just above the falls. The Wheaton Creek area was worked from 1972 until operations ceased in 1940. In 1970, Demsey Mines Ltd. acquired 8 placer leases on the creek.

The area is underlain by a 5-kilometre wide belt of Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentized. A fault-bound assemblage of Mississippian to Triassic Kedahda Formation rock sits within the ultramafic belt and underlies the central portion of Alice Shea Creek. This portion is reported to consist of slate, argillite, limestone and andesitic volcanics. There are many quartz veins and stringers in the slate and schist. Some are mineralized with pyrite but none are known to be gold bearing.

The placer gold was recovered from the shallow gravel deposits overlying bedrock in the bottom of the creek, from the top of the bedrock or from cracks within the bedrock. Almost all the gold from these creeks is coarse and nuggetty and most of the large nuggets have quartz adhering to them. The largest nugget found on Alice Shea Creek weighed 1612 grams (52 ounces) (the Turnagain Nugget). Numerous other nuggets were found, weighing up to 496 grams (16 ounces). The Turnagain Nugget was purchased by the B.C. Government and is periodically put on display.

Recorded production between 1936 and 1940 totalled 10,294 grams (331 ounces).

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EMPR PF (in 104I 085 file - Sevensma, P.H. (1970): Report on the  
Wheaton (Boulder) Creek jade deposits and other Turnagain placer  
leases for Demsey Mines Ltd.)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/04/15

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 006**

NATIONAL MINERAL INVENTORY: 10417 Asb1

NAME(S): **LETAIN**, LETAIN ASBESTOS, KUTCHO CREEK (LETAIN),  
A, BOB, RIB,  
RIDGE, REX, TENT,  
TON

MINING DIVISION: Liard

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104107E 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 19 58 N  
LONGITUDE: 128 44 09 W  
ELEVATION: 1720 Metres

NORTHING: 6465791  
EASTING: 515470

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Main zone, 250 metres north of a small lake on an unnamed  
ridge 4 kilometres northeast of Letain Lake, 76.5 kilometres east of  
Dease Lake (Assessment Report 7028).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile      Asbestos  
ASSOCIATED: Serpentine      Picrolite      Antigorite      Magnetite  
ALTERATION: Serpentine      Magnetite      Carbonate  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein      Stockwork  
CLASSIFICATION: Metamorphic      Hydrothermal      Epigenetic      Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos  
SHAPE: Irregular  
MODIFIER: Fractured  
DIMENSION: 1500 x 300 x 200 Metres      STRIKE/DIP:      TREND/PLUNGE:  
COMMENTS: Combined dimensions of the Main, West and East zones.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic Upper Paleozoic	Cache Creek	Unnamed/Unknown Formation	Cache Creek Complex

LITHOLOGY: Serpentinite  
Serpentinized Peridotite  
Serpentinized Dunite  
Argillite  
Chert Arenite  
Limestone  
Greenstone  
Diorite

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic in age. The host  
ultramafic Cache Creek rocks are Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional      RELATIONSHIP:      GRADE: Greenschist

**INVENTORY**

ORE ZONE: LETAIN      REPORT ON: Y  
CATEGORY: Inferred      YEAR: 1985  
QUANTITY: 15700000 Tonnes  
COMMODITY: Asbestos      GRADE: 4.7000 Per cent  
COMMENTS: Possible geological at a 3 per cent asbestos fibre cutoff to the 1600  
metre level.  
REFERENCE: Prospectus, Cassiar Mining Corp., December 5, 1985.

**CAPSULE GEOLOGY**

The Letain deposit is located about 4 kilometres northeast of  
Letain Lake and about 80 kilometres east of the south end of Dease  
Lake.

The claims were originally staked in 1955 by Conwest Exploration  
Co. Ltd. Conwest completed some open cuts in 1956 and later

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conducted diamond drilling and bulk sampling. In 1957-1958, the property was purchased by Cassiar Asbestos Corp. In 1960, 28 claims were Crown granted (A, Bob, Rib, Ridge, Rex, Tent, Ton). In 1966, geological mapping, magnetometer surveys, bulldozer trenching and 6 diamond drillholes were completed on the Main zone. In 1970, trenching and site preparation was completed. In 1977-1978, 19 diamond-drill holes were completed.

The area of the Letain deposit is underlain by argillites, chert arenites, limestones and greenstones of the Carboniferous to Jurassic Cache Creek Complex. Tectonic emplacements of serpentinitized peridotite and dunite, and diorite of upper Mississippian to Permian age occur within the Cache Creek Complex and are themselves considered part of the complex.

The sedimentary and volcanic rocks form a conformable assemblage striking northwest and dipping moderately northeast. An irregular body of serpentinite, 11 kilometres long by 3 kilometres wide, occurs within the volcano-sedimentary rocks approximately along the contact between sediments and volcanics. This body strikes northwest and dips 45 degrees northeast. Irregular ultramafic bodies extend to the southwest and southeast from the main body. Associated small bodies of fine-grained diorite cut the serpentinite or are marginal to it. Isolated rafts of country rock have been converted to gneisses, schists or marbles within the serpentinite.

The serpentinite is well-jointed in regular patterns. Compositional differences and varying magnetite content within the serpentinite result in differential weathering patterns, the colour changing from light yellow through to brown. Some of the banding is transverse to the trend of the serpentinite.

Mineralization consists of cross-fibre chrysotile asbestos occurring in fracture-related veinlets concentrated in an area near the centre of the serpentinite body. The fractures occur in two prominent sets: one striking 050 to 060 degrees and dipping steeply northwest, and the other striking 320 to 330 degrees and dipping nearly vertical. The serpentinite containing the fibre is generally medium to light green and weathers to a greyish pitted surface, the pits having been formed by the weathering out of bastite crystals. A thin section of this rock consists mainly of granular and mesh antigorite, pyroxene "ghosts" and abundant magnetite and chrysotile veinlets. The serpentinite without fibre is generally darker green, tends to weather brownish, and is harder and more brittle than the other type. It is commonly highly sheared with abundant slickensides. Vein fractures are not abundant, and most of those present contain picrolite or a massive apple-green material. A thin section of this rock consists essentially of feathery sheaves of antigorite with considerable carbonate, some actinolite and very minor magnetite.

The chrysotile veins range from microscopic to 3.1 centimetres wide, and most have one or more central partings. The partings are sometimes thin irregular films of magnetite or serpentine, but often they are 0.6 to 1.2 centimetre thick seams and brecciated masses of the light green massive chrysotile mentioned previously. Where the massive material is brecciated, it is frequently striped and striated parallel to the vein walls, but tiny multidirectional fractures within it contain asbestos fibres oriented perpendicular to the walls of the main vein. In some places the massive material grades laterally into good cross-fibre asbestos. Because of the partings, the fibre length is normally much less than vein widths. Most of the fibre is in the 0.3 to 0.6 centimetre range.

Diamond-drilling has indicated three chrysotile asbestos fibre zones: the Main, West and East zones. The West zone is 183 metres northwest and the East zone is 183 metres southeast of the Main zone, respectively. The zones have a combined length of approximately 1500 metres with a maximum width of 200 metres, and extends to at least 300 metres downdip.

Possible geological reserves are 15,700,000 tonnes grading 4.7 per cent asbestos at a 3 per cent asbestos fibre cutoff to the 1600 metre level (Prospectus, Cassiar Mining Corporation, December 5, 1985).

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- EMPR EXPL 1977-E248; 1978-E282,E283
- EMPR GEM 1970-486; 1977-E248; 1978-E282
- EMPR MAP 65 (1989)
- EMPR OF 1992-1; 1992-9; 1995-25
- EMPR PF (Metallurgical report; Storey, A.E. (1956): Report on Letain Asbestos Prospect, Cry Lake Area)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 13  
REPORT: RGEN0100

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EMR MIN BULL MR 223 B.C. 339  
EMR MP CORPFILE (Conwest Exploration Company Limited; Cassiar  
Asbestos Corporation Limited)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/20

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 007**

NATIONAL MINERAL INVENTORY: 10417 Au4

NAME(S): **FAULKNER (PALMER) CREEK**, PALMER CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104107E

BC MAP:

LATITUDE: 58 26 54 N

LONGITUDE: 128 42 16 W

ELEVATION: 1240 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6478664

EASTING: 517251

LOCATION ACCURACY: Within 1 KM

COMMENTS: The location is for placer mining leases that existed on Faulkner Creek in 1970 (Sevensma, 1970 (Property File)).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated Disseminated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Lower Cambrian

Paleozoic

Recent

**GROUP**

Atan

Road River

**FORMATION**

Boya

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Sediment/Sedimentary  
Meta Sediment/Sedimentary

HOSTROCK COMMENTS: Also underlain by Cambro-Ordovician Kechika Group sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Faulkner (Palmer) Creek deposit is located about 80 kilometres east of Dease Lake. Faulkner (Palmer) Creek is a tributary of the Turnagain River.

In 1874, coarse gold was found in creeks tributary to the headwaters of the Turnagain River. Gold was found on Palmer Creek "several" years before 1925. The best values were found about halfway up the creek with gold distributed throughout the gravel.

The area drained by Faulkner Creek is mainly underlain by rocks of the Ancestral North America. These include metasediments of the Lower Cambrian Boya Formation (Atan Group) possibly containing rocks of the Upper Proterozoic Stelkuz Formation (Ingenika Group); sediments of the Upper Cambrian to Lower Ordovician Kechika Group and; sediments of the Ordovician to Devono-Mississippian and (?) younger Road River Group. The surface is covered by deep glacial drift and a hummocky morainal topography. It is not considered favorable for placer gold concentrations.

Recorded production between 1926 and 1930 totalled 249 grams (8 ounces).

**BIBLIOGRAPHY**

EMPR AR \*1925-11; \*1933-72

EMPR PF (In 1041 085 - \*Sevensma, P.H. (1970): Report on the Wheaton (Boulder) Creek jade deposits and other Turnagain placer leases for Demsey Mines Ltd.)

EMPR BULL 28, pp. 57,59

GSC MAP 29-1962; 9-1957; 1418A

GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/23

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 008**

NATIONAL MINERAL INVENTORY: 10416 Cu1

NAME(S): **EAGLEHEAD, EAGLE, JOY,  
 BORNITE, PASS, CAMP,  
 EAST, WEST, FAR EAST**

STATUS: Developed Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104106E 104111E  
 BC MAP:  
 LATITUDE: 58 29 02 N  
 LONGITUDE: 129 06 26 W  
 ELEVATION: 1480 Metres  
 LOCATION ACCURACY: Within 500M

MINING DIVISION: Liard  
 UTM ZONE: 09 (NAD 83)  
 NORTHING: 6482590  
 EASTING: 493748

COMMENTS: Centre of Bornite zone along a major tributary of Hard Creek, 10.5 kilometres southeast of Eaglehead Lake, 50 kilometres east of Dease Lake (Assessment Report 9645).

COMMODITIES: Copper Gold Molybdenum Silver

**MINERALS**

SIGNIFICANT:	Pyrite	Chalcopyrite	Bornite	Tetrahedrite	Molybdenite
	Chalococite	Copper	Cuprite	Chrysocolla	Malachite
ASSOCIATED:	Chlorite	Quartz	Sericite	Carbonate	Epidote
	K-Feldspar	Hematite	Specularite		
ALTERATION:	Quartz	Chlorite	Sericite	Carbonate	Epidote
	K-Feldspar	Hematite	Albite		
ALTERATION TYPE:	Propylitic		Sericitic	Potassic	Oxidation
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Stockwork	Disseminated	Vein	Shear
CLASSIFICATION:	Porphyry	Hydrothermal		
TYPE:	L04 Porphyry Cu ± Mo ± Au	Metres	STRIKE/DIP:	TREND/PLUNGE:
DIMENSION:	8600 x 800			
COMMENTS:	A linear zone containing six mineralized areas.			

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Laberge	Inklin	
Permian-Triassic	Undefined Group	Kutcho	
Lower Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Biotite Hornblende Granodiorite  
 Hornblende Biotite Granodiorite  
 Greywacke  
 Conglomerate  
 Siltstone  
 Porphyry Dike  
 Feldspar Porphyry Dike  
 Mafic Volcanic  
 Limestone

HOSTROCK COMMENTS: Also Upper Triassic Sinwa Formation limestone.

**GEOLOGICAL SETTING**

TECTONIC BELT:	Intermontane	PHYSIOGRAPHIC AREA:	Cassiar Mountains
TERRANE:	Plutonic Rocks	Overlap Assemblage	

**INVENTORY**

ORE ZONE:	EAGLEHEAD	REPORT ON:	Y
CATEGORY:	Inferred	YEAR:	1983
QUANTITY:	30000000 Tonnes		
COMMODITY		GRADE	
Silver		2.7100	Grams per tonne
Gold		0.2000	Grams per tonne
Copper		0.4100	Per cent
Molybdenum		0.0100	Per cent

COMMENTS: Approximate. Grade given was 0.0216 per cent MoS<sub>2</sub>; conversion to Mo using the factor 1.6681.

REFERENCE: CIM Special Volume 37, page 182.

**CAPSULE GEOLOGY**

The Eaglehead deposit is located about 50 kilometres east of Dease Lake.

## CAPSULE GEOLOGY

In 1963, Kennco Explorations Ltd. staked the Joy claims on the showing. From 1963 to 1965, Kennco conducted geochemical surveys, trenching, IP surveys and 4 diamond-drill holes. In 1970, the claims were re-staked as the Eagle 1-22 claims by Spartan Exploration Ltd. In 1971, Esso Resources Canada (Imperial Oil Enterprises) optioned the property and staked additional claims. From 1971 to 1974, Esso completed geological mapping, geochemical soil and silt surveys, IP and magnetometer surveys and 25 diamond-drill holes. In 1975-1976, Imperial completed geochemical soil surveys, IP surveys and 5 diamond-drill holes. Between 1979 and 1982, Nuspar Resources Ltd. (formerly Spartan) completed airborne magnetometer and electromagnetic surveys, IP surveys, geochemical surveys and 5,847 metres of diamond drilling. Esso re-assumed control of the property in 1982 and completed a compilation of all exploration data from 1971 to 1982. Homestake Canada Ltd. acquired Esso's interest in the property in 1989 and completed small geochemical surveys in 1991 and 1992.

The area is underlain by Early Jurassic biotite-hornblende granodiorite and hornblende-biotite granodiorite in sheared contact with Lower Jurassic Inklin Formation sedimentary rocks. The granitic rocks also intrudes a sequence of rocks comprising Upper Triassic Sinwa Formation limestone and Permian to Lower Triassic Kutcho Formation mafic volcanics and sediments. Inklin Formation rocks comprise well-bedded greywacke, conglomerate and siltstone. The thinly bedded limestone of the Sinwa Formation is interbedded with the clastic rocks and can be traced along a considerable strike length. The sediments dip steeply and are folded about northwest axes. There is some evidence for overturned strata and the folds may be inclined and locally recumbent.

The Sinwa Formation has recently been assigned to the Stuhini Group (Stikine Terrane) and the Inklin Formation to the Laberge Group (overlap assemblage). Also see Kutcho Creek (104I 060) for details on the new age date for the Kutcho Formation.

The intrusive rocks are foliated in restricted zones within a hundred metres of the contact with the sedimentary rocks. The sediments are only weakly foliated and display a phyllic parting that roughly parallels the bedding and the trend of the contact. Foliation in the intrusive rocks shows considerable variation in intensity and width across which it is developed. Schistose zones are commonly 0.3 to 1.5 metres wide but may be up to 10 metres in width and are interspersed between bands of less intensely foliated rock and screens of weakly fractured or jointed rock. Cataclastic textures are obvious in thin sections; the schistose rocks are regarded as mylonites.

Mineralization is mainly hosted in altered biotite-hornblende granodiorite and hornblende-biotite granodiorite which are cut by numerous porphyry and feldspar porphyry dikes. The most widespread alteration is retrograde metamorphism in cataclastic zones forming a propylitic or greenschist facies assemblage consisting of quartz, chlorite, sericite, albitized plagioclase and lesser carbonate, epidote and hematite. Elsewhere the less sheared rocks are bleached to a cream or buff colour. In these leucocratic zones the least altered rocks have fine-grained sericite clouding the feldspars and contain scattered grains of chlorite, epidote, and rhombs of ankeritic carbonate. The more strongly altered zones are phyllic assemblages of coarse-grained sericite (determined by X-Ray to be muscovite), quartz, and ankeritic carbonate as veins and fracture-fillings. Quartz veins are generally small, widely spaced, and often are barren, milky white quartz.

Six mineralized areas (West, Camp, Pass, Bornite, East and Far East zones), occur along a linear zone over 8600 metres long and 800 metres wide. Mineralization appears to be concentrated in steeply dipping shear zones, especially those containing chlorite, and consists of chalcopyrite, bornite, molybdenite and pyrite. Malachite is widespread and chalcopyrite and pyrite are ubiquitous. Pyrite content in places approaches 3 to 4 per cent but there is generally 1 per cent or less. Chalcopyrite occurs as disseminated grains but also occurs in coarse patches in gash veins, stringers and irregular fractures. In many mineralized fractures chalcopyrite is accompanied by potassium feldspar flooding in otherwise propylitic-altered rocks. Pyrite or hematite and specularite sheared along slip faces is common; some chalcopyrite-bearing fractures transect foliation. Molybdenite is evident in quartz veinlets. Small amounts of chalcocite as rims on chalcopyrite, chrysocolla and tetrahedrite occur locally. Minor cuprite and native copper were also observed in drill core.

Approximate reserves are 30 million tonnes grading 0.41 per cent copper, 0.01 per cent molybdenum, 2.71 grams per tonne silver and 0.2 grams per tonne gold (CIM Special Volume 37, page 182).



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\*9645, 10816, 20856  
EMPR FIELDWORK 1976, p. 68  
EMPR AR 1963-6,7; 1964-11,174; 1965-16  
EMPR GEM 1971-45,46; \*1972-540-543; 1973-511,512; 1974-349  
EMPR EXPL 1975-E190,E191; 1976-E192; 1979-288; 1980-486; 1981-80;  
1982-389  
EMPR GEOLOGY 1976, p. 136  
EMPR OF 1992-1  
EMPR MAP 65 (1989)  
GSC OF 56; 610; 2779  
GSC MAP 29-1962; 381A  
EMR MP CORPFILE (Nuspar Resources Ltd.; Esso Minerals Canada)  
EMR MIN BULL MR 223 B.C. 338  
GCNL #164, 1976; #216,#199,#226, 1979; #196,#187,#155,#169,  
#115, 1980; #1,#119,#191, 1981; #182,#242, 1982  
N MINER Oct.15, Oct.29, 1981  
\*CIM Special Volume 37, pp. 182  
EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/18

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 009**

NATIONAL MINERAL INVENTORY: 104I2 Cu1,Cu3

NAME(S): **ANT**, TNA

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I02W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 09 49 N  
LONGITUDE: 128 52 21 W  
ELEVATION: 1540 Metres

NORTHING: 6446933  
EASTING: 507502

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Ant 1-4 mineralized showings (Assessment Report 437, Map 1).

COMMODITIES: Copper Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Sphalerite Pyrrhotite  
ASSOCIATED: Quartz Calcite  
ALTERATION: Chlorite Serpentine  
ALTERATION TYPE: Chloritic Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins  
DIMENSION: 24 x 3 Metres

STRIKE/DIP: I05 Polymetallic veins Ag-Pb-Zn±Au  
TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Sinwa	
Permian-Triassic	Undefined Group	Kutcho	

LITHOLOGY: Limestone  
Schist  
Andesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Ant showing is located about 75 kilometres east-southeast of Dease Lake and about 2.5 kilometres south of Wade Lake.

The Ant area is underlain by banded limestone of the Upper Triassic Sinwa Formation which strikes 037 degrees and dips 50 degrees southeast. Volcanic rocks in the area are a mixture of flows and ejecta mainly of andesitic composition. Some of the rocks are altered to chloritized and serpentinized schists. These rocks may belong to the Permian to Lower Triassic Kutcho Formation.

The Sinwa Formation has recently been reassigned to the Stuhini Group (Stikine Terrane). See Kutcho Creek (104I 060) for details on the new age date for the Kutcho Formation.

Trenches expose veins of quartz and calcite with chalcopyrite and minor amounts of pyrite. The mineralized zone is conformable with bedding and the "horizontal exposure" is reported to be 3 metres at one locality but narrowing along strike (Assessment Report 437). It is traceable through three trenches for a length of 24 metres. The veins are reported to be associated with schist but limestone appears to be the main host lithology. Minor amounts of sphalerite and pyrrhotite are also found in limestone nearby.

Julian Mining Co. Ltd. explored the Ant group (Ant and TNA claims) in 1962 and 1965. Geological mapping was carried out in both years and a geochemical survey was made in 1965. The 1965 work was not published.

**BIBLIOGRAPHY**

EMPR AR 1962-134; \*1965-16  
EMPR ASS RPT \*437  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/04

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 009**

MINFILE NUMBER: **1041 010**

NATIONAL MINERAL INVENTORY: 10412 Cu3

NAME(S): **BEE**, TNA, Q3

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104102W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 08 52 N  
LONGITUDE: 128 47 09 W  
ELEVATION: 1600 Metres

NORTHING: 6445183  
EASTING: 512607

LOCATION ACCURACY: Within 500M

COMMENTS: One showing is reported at the above coordinates; a second occurs about 600 metres to the northeast (Assessment Report 438, Map 1).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Quartz Epidote  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Triassic-Jurassic  
Upper Triassic

**GROUP**

Unnamed/Unknown Group  
Stuhini

**FORMATION**

Unnamed/Unknown Formation  
Sinwa

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Andesite  
Flow  
Tuff  
Breccia  
Agglomerate  
Limestone  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Bee showing lies about 85 kilometres east-southeast of Dease Lake and about 8 kilometres southeast of Wade Lake.

Chalcopyrite in quartz stringers and as fracture fillings are reported to occur in volcanic rocks. Epidote is also common as fracture fillings in the volcanic rocks. Large (up to 60 centimetres wide) irregular barren quartz veins are found about 1 kilometre to the northeast.

The property is underlain by andesitic volcanic rock (flows, tuffs and breccias), shale and banded limestone. The limestone, which overlies the shale, strikes southeast and dips northeast, is likely part of the Upper Triassic Sinwa Formation and the shale may be as well. The Sinwa Formation has recently been assigned to the Stuhini Group (Stikine Terrane). These limestones occur north of the King Salmon fault which runs through the Bee area. The volcanic rocks occur south of the fault and are an unnamed Triassic and Jurassic unit of the Stikine terrane.

Julian Mining Co. Ltd. explored the Bee group (Bee and TNA claims) in 1962 and apparently in 1963. A magnetometer survey was conducted over 6 kilometres of line; 500 soil samples were taken and 24.4 metres of light diamond-drilling was done.

In 1980, Du Pont of Canada Exploration Limited prospected the Q3 claim which covered the same area. Malachite near the contact of agglomerate and a carbonate zone was found at that time. The location of the mineralization matches with the location of the mineralization found earlier by Julian Mining.

**BIBLIOGRAPHY**

EMPR AR 1962-135; 1963-7

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 20  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR EXPL 1980-482  
EMPR ASS RPT \*438, 439, \*9339  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/04

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 011**

NATIONAL MINERAL INVENTORY: 10417 Au1,Au2

NAME(S): **BULLION CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 22 19 N  
LONGITUDE: 128 37 23 W  
ELEVATION: 1280 Metres

NORTHING: 6470183  
EASTING: 522049

LOCATION ACCURACY: Within 500M

COMMENTS: Area of placer workings just above the canyon area which itself is just above the mouth of Bullion Creek (Minister of Mines Annual Report 1933, page 71).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Road River	Unnamed/Unknown Formation	
Paleozoic	Kechika	Unnamed/Unknown Formation	
Recent			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Mica Schist  
Slate  
Limestone  
Shale  
Siltstone  
Micaceous Quartzite  
Volcanic Rock  
Phyllite  
Conglomerate

HOSTROCK COMMENTS: An unnamed Upper Paleozoic (?) and/or Triassic unit forms the lowest part of Bullion Creek.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Ancestral North America

Quesnel

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Bullion Creek occurrence is located about 85 kilometres east of Dease Lake, just northwest of Wolverine Lake.

Much of Bullion Creek flows over rocks of Ancestral North America, separated from the Cache Creek Terrane to the south by the northwest trending Kutcho fault which occurs just south of the creeks outlet into Blick Creek. These Ancestral North American rocks include the following: limestone and shales of the Upper Cambrian to Lower Ordovician Kechika Group; shales, slate, limestone, siltstone and conglomerate of the Lower Ordovician to Lower Silurian Road River Group; and micaceous quartzite, mica schist and limestone of the Lower Cambrian Boya Formation, Atan Group. The lowest part of Bullion Creek is underlain by an Upper Paleozoic (?) and/or Triassic unit consisting of mafic to felsic volcanics, tuff, chert, phyllite, argillite, schist and limestone. This unit may be part of the Quesnel Terrane but this assignment is uncertain (Geological Survey of Canada Open File 2779).

Placer gold was first discovered in Bullion Creek in 1932 on the Beaver lease just above a deep rock canyon that occurs on the lower part of the creek just above its outlet. Preliminary prospecting at this time reported the recovery of coarse gold. Recoveries of up to 1.35 grams per cubic metre are reported (Minister of Mines Annual Report 1933, page 71). The Fox lease covered the canyon just below the Beaver lease and encouraging prospects are reported to have been found there also. Above the Beaver lease the valley flattens and the depth to bedrock is thought to increase.

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**CAPSULE GEOLOGY**

Government records indicate that between 1926 and 1940, 2830 grams of gold were recovered from Bullion Creek. Over 75 per cent of the gold was produced between 1936 and 1940. In 1965, work carried out by Bullion Creek Mines included trenching, mapping and prospecting.

Bedrock in the creek (probably in the canyon area) is reported to consist of schist, slate, and rusty carbonate rock with quartz stringers. An appreciable width of quartz stringers with some pyrite is reported to occur at the canyon head. No sampling of this material was reported.

**BIBLIOGRAPHY**

EMPR AR \*1933-71  
EMPR BULL \*28, p. 58  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/17

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 012**

NATIONAL MINERAL INVENTORY:

NAME(S): **U**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 24 34 N  
LONGITUDE: 128 41 37 W  
ELEVATION: 1720 Metres

NORTHING: 6474337  
EASTING: 517903

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the banded iron formation outcrop (Assessment Report 9338).

COMMODITIES: Iron Magnetite

**MINERALS**

SIGNIFICANT: Magnetite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform Massive  
CLASSIFICATION: Sedimentary Exhalative Volcanogenic Syngenetic  
TYPE: G01 Algoma-type iron-formation

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Paleozoic	Road River	Unnamed/Unknown Formation	

LITHOLOGY: Greenstone  
Rhyolite  
Chert  
Basalt  
Quartzite  
Phyllitic Slate  
Phyllite  
Tuff  
Limestone  
Shale

HOSTROCK COMMENTS: The host formation is uncertain.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Cassiar Mountains  
Ancestral North America

**CAPSULE GEOLOGY**

The U showing is located about 80 kilometres east of Dease Lake and about 13 kilometre west of the Rainbow Lakes.

The showing occurs near the faulted contact of the Ordovician to Devonian-Mississippian and (?) younger rocks of the Road River Group, on the north, and an Upper Paleozoic (?) and/or Triassic unit, on the south. The Road River Group, part of Ancestral North America, consists in this region of undivided black, calcareous shale, slate, phyllitic shale, minor limestone, siltstone, and pebble conglomerate. The Upper Paleozoic/Triassic unit consists of mafic to felsic volcanics, tuff, chert, phyllite, argillite, schist and limestone. This unit is thought to be part of the Quesnel Terrane but this assignment is uncertain (Geological Survey of Canada Open File 2779).

In 1980, DuPont of Canada Exploration spent several days on their U claims conducting prospecting and soil and stream sediment sampling. During this time a banded iron formation was discovered just south of the contact in an area of mainly greenstone. This unit also contains areas of rhyolite, basalt, quartzite and graphitic and pyritic banded chert. Rocks north of the fault contact (Road River rocks) are described as black phyllitic slate.

The banded iron formation is a small lenticular body with a maximum width of 1 metre and a traceable length of about 50 metres. Magnetite and quartz occur as interbedded laminations. Several small lenses of rhyolite occur nearby.

Float near the contact was found to contain galena in association with quartz-carbonate veining in highly sericitized rock.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 24  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR ASS RPT \*9338  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/11/21  
DATE REVISED: 1995/11/21

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 013**

NATIONAL MINERAL INVENTORY:

NAME(S): **CANYON**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I09E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 40 43 N  
LONGITUDE: 128 00 36 W  
ELEVATION: 1300 Metres

NORTHING: 6504690  
EASTING: 557406

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrop located about 5 kilometres northeast of the confluence of the Turnagain and Cassiar rivers (Assessment Report 7682).

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Scheelite Pyrrhotite  
ALTERATION: Garnet Diopside  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn  
TYPE: K05 W skarn

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Ingenika	Swannell	
Upper Proterozoic	Ingenika	Tsaydiz	
Lower Cretaceous			Cassiar Batholith

LITHOLOGY: Quartz Biotite Schist  
Quartzite  
Carbonate  
Phyllite  
Limestone  
Siltstone  
Conglomerate  
Granite  
Granodiorite  
Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Canyon occurrence is located about 120 kilometres east-northeast of Dease Lake, a few kilometres east of the Turnagain River.

The area of the Canyon showings is mapped as Ingenika Group undivided sediments and metasediments consisting of the Upper Proterozoic Swannell and Tsaydiz formations. These rocks include phyllite, schist, phyllitic limestone, siltstone, quartzite and conglomerate (Geological Survey of Canada Open File 2779). The northeastern contact of the Early Cretaceous Cassiar Batholith (of the Cassiar Plutonic Suite) occurs to the west. The batholith varies in composition from granite to quartz monzonite to granodiorite.

The Canyon area consists of quartz-biotite schist and quartzite containing a 200 metre section of impure carbonates interbedded with schist. Two skarn horizons have been located that contain scheelite mineralization. The skarn contains a considerable amount of pyrrhotite in a fine-grained garnet-diopside assemblage. Inspection of the outcrops indicated that grades were much less than 1 per cent W03.

**BIBLIOGRAPHY**

EMPR ASS RPT 6953, \*7682  
EMPR EXPL 1979-289  
EMPR OF 1991-17  
GSC OF 610, 2262, 2779

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 26  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MAP 29-1962; 1418A

DATE CODED: 1995/05/28  
DATE REVISED: 1995/12/21

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 014**

NATIONAL MINERAL INVENTORY: 10417 Cu1

NAME(S): **TURNAGAIN**, TURN (DISCOVERY), DISCOVERY,  
COBALT, PYRRHOTITE, CUB,  
AGAIN, TURNAGAIN NICKEL, HORSETRAIL

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:  
LATITUDE: 58 28 34 N  
LONGITUDE: 128 49 40 W  
ELEVATION: 1015 Metres  
LOCATION ACCURACY: Within 500M

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6481732  
EASTING: 510044

COMMENTS: Mineralized outcrops located on the banks of the Turnagain River about 4 kilometres northeast of the outlet of Hard Creek (Clark, 1975 (Figure 31)). See also Agnes, Northwest, Davis 2, Cliff, Horsetrail and Fishing Rock (1041 038, 051, 117, 118, 119 and 120, respectively).

COMMODITIES: Nickel	Cobalt	Platinum	Palladium	Copper
Chromium	Tungsten	Molybdenum	Iron	Silver
Gold				

**MINERALS**

SIGNIFICANT: Pyrrhotite	Chalcopyrite	Pentlandite	Bornite	Chromite
Ilmenite	Magnetite	Molybdenite	Pyrite	Marcasite
Violarite	Valleriite	Mackinawite	Scheelite	
ASSOCIATED: Magnetite	Ilmenite			
MINERALIZATION AGE: Unknown				

**DEPOSIT**

CHARACTER: Disseminated                      Massive  
CLASSIFICATION: Magmatic                      Syngenetic  
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir  
DIMENSION: 3700 x 2000 x 300 Metres  
COMMENTS: Area of sulphide mineralization.

STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic  
Paleozoic-Mesozoic  
Upper Triassic

GROUP

Road River  
Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation  
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions

LITHOLOGY: Pyroxenite  
Olivine Pyroxenite  
Peridotite  
Dunite  
Gabbro  
Serpentinite  
Slate  
Phyllite  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Quesnel

Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1996

COMMODITY

Nickel  
Cobalt

GRADE

0.2800	Per cent
0.1400	Per cent

COMMENTS: Over a 142-metre intersection.  
REFERENCE: GCNL #199(Oct.16), 1997.

**CAPSULE GEOLOGY**

The Turn (Discovery) occurrence is located about 70 kilometres east of Dease Lake.  
The prospect is hosted in an Alaskan-type ultramafic intrusive complex. This zoned complex consists of a dunite core and surrounding peripheral peridotites, pyroxene-rich peridotite, and

## CAPSULE GEOLOGY

olivine pyroxenite. The complex has maximum dimensions of 3 by 8.2 kilometres. It was intruded in the Late Triassic into Upper Paleozoic (?) and/or Triassic (?) metavolcanic and metasedimentary rocks of the Quesnel Terrane. It is in faulted contact on the east and north with slate and phyllite of the Paleozoic Road River Group (Ancestral North America).

Concentrations of iron-nickel-copper sulphides occur in several places in the ultramafic rocks flanking the central dunite. The dunite is conspicuously barren of primary sulphides. Primary sulphide occurs as disseminated blebs, interconnecting blebs (net-texture) and massive bands up to a few centimetres thick.

Falconbridge Nickel Mines optioned the Cobalt and Pyrrhotite claims in 1966 and then acquired the Turn 1-76 claims. Work from 1966 to 1973 included geological surveys, airborne and ground magnetometer and electromagnetic surveys, and 2742 metres of diamond-drilling in 28 holes and 123 metres of packsack-drilling in 11 holes. Maps from 1972 Assessment Report 3735 show that these diamond-drill holes were put down mainly on or in the vicinity of the Northwest (104I 051), Horsetrail (104I 119) and Fishing Rock (104I 120) occurrences. The Turn (Discovery) has one nearby packsack hole and the Cliff (104I 118), which occurs at the east end of the complex, was examined by 4 packsack drillholes. The Agnes (Davis) showings (104I 038 and 117) occur a few kilometres north of the Northwest showings within the complex and were apparently worked initially by Union Miniere Explorations and Mining in 1971. In 1986, some of the Falconbridge core was resampled by Supreme Resources Limited for gold and platinum and this work provides most of the available description for the Falconbridge drillholes (see Assessment Report 16458). Also in 1986, Equinox Resources Limited held claims that covered the Agnes (Davis), Discovery, Cliff, Northwest and possibly the Fishing Rock showings. Equinox conducted a program to evaluate platinum and palladium potential throughout the complex but primarily in the Cliff and Northwest occurrence areas. Bren-Mar Resources conducted drilling and metallurgical work in 1997 and 1998.

Specifically at the Discovery showing, net textured pyrrhotite with minor amounts of chalcopyrite and pentlandite are hosted in serpentinite and associated with magnetite and clinopyroxenite. The showing occurs in an area along the Turnagain River that is about 1 by 5 metres in size. The rocks are highly sheared in this area due to a shear zone inferred to be paralleling the river (Clark, 1975 and Assessment Report 15994).

Detailed reports often describe mineralization encountered in drillholes and elsewhere as pertaining to the Turn property in general, and fail to report with which particular showing it may be associated. The following is such information and is included with this occurrence description, although it may properly belong to one or all of those showings listed above.

Primary sulphides occurring in the ultramafic complex include pyrrhotite, pentlandite, chalcopyrite and bornite. Oxides intimately associated with these sulphides are chromite, ilmenite and magnetite. Non-primary sulphides in the complex include violarite, valleriite, molybdenite, pyrite, marcasite and possibly mackinawite (Clark, 1975).

Clark reports that high concentrations of nickel-rich sulphides, assaying about 1 per cent nickel, are normally only a few centimetres thick. Moderately high concentrations, assaying more than 0.4 per cent nickel, attain thicknesses of at most 20 metres (Clark, 1975).

Chromite is the most widespread oxide mineral but is not considered to occur in economic quantities. It normally occurs as fine-grained disseminations, but locally occurs as wispy, schlieren-like concentrations in dunite and as massive to near massive layers. Chromite concentrations are found only in dunite. Massive layers have a length of up to 10 metres and a maximum thickness of about 2 centimetres (Canadian Journal of Earth Sciences, Volume 15, No.12, 1978).

Molybdenite associated with pentlandite-rich pyrrhotite was found over less than a metre of drill core and low grade intersections of tungsten (scheelite) were also encountered (Assessment Report 3735).

Values for gold, platinum and palladium were typically low (Assessment Reports 15994 and 16458).

During 1996 and 1997, Bren-Mar Resources Ltd. completed a 14-hole, 2467-metre diamond-drilling program; all holes intersected nickel-bearing sulphide mineralization. Mineralization is associated with the olivine pyroxenite and pyroxenite rocks within an ultramafic complex of Late Triassic age, approximately 8 kilometres long and up to 3 kilometres wide. Sulphides have been intersected over a strike length of 3.7 kilometres, a width of 2 kilometres and up to 300 metres in depth. Three of 14 holes drilled

## CAPSULE GEOLOGY

in the past two years returned broad intercepts of nickel and cobalt, from 90 to 260 metres averaging 0.24 to 0.31 per cent nickel and 0.016 per cobalt. Metallurgical testing, including flotation and leaching studies, has been initiated. The company's geologic model and exploration target is a bulk tonnage (>225 million tonnes) nickel-cobalt deposit.

Bren-Mar Resources will proceed with detailed metallurgical studies, including mineralogical analyses, magnetic separation, flotation and pressure leach studies.

Canadian Metals Exploration Ltd., carried out an induced polarization study during 2002 covering much of the complex and drilled three diamond drill holes. Drilling in 2002 occurred in the vicinity of the Horsetrail occurrence (104I 119).

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GSC OF 610; 2262; 2779  
CJES \*Vol.15, No.12, 1978, pp. 1893-1903; \*Vol.17, No.6, 1980, pp. 744-757  
GCNL #141(July 23), #199(Oct.16), #208(Oct.29), 1997; #163(Aug.25), 1998  
N MINER May 4, 1998  
PR REL Canadian Metals Exploration Ltd., Sept.17, Oct.24, Nov.14, Dec.13, 2002; Feb.20, 2003  
WWW <http://www.canadianmetalsexploration.com/>  
<http://www.infomine.com/>  
\*Clark, T. (1975): Geology of an ultramafic complex on the Turnagain River, northwestern British Columbia. Ph.D. thesis, Queen's University, Kingston, Ontario  
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Nixon, G.T. (1998): Ni-Cu Sulfide Mineralization in the Turnagain Alaskan-Type Complex: A Unique Magmatic Environment, article in Bren-Mar Resources Ltd. Website, March 2000, 14 pages (copy in Property File 104I 014)

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/27

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 015**

NATIONAL MINERAL INVENTORY: 10413 Cu1

NAME(S): **HC, BOLD, MCBRIDE RIVER,  
NO. 1, WEST, B4**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104103E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 58 00 31 N  
LONGITUDE: 129 02 39 W  
ELEVATION: 1780 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6429670  
EASTING: 497390

LOCATION ACCURACY: Within 1 KM

COMMENTS: Showing area as plotted on geology map by Gifford (Gifford, 1969 - Property File).

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Chalcocite Bornite Malachite Chrysocolla  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Shear Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: 106 Cu±Ag quartz veins  
DIMENSION: 213 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: The vein strikes north, dips vertically and is reported to be up to 213 metres long.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Lower Jurassic  
GROUP: Undefined Group  
FORMATION: Undefined Formation  
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesite  
Tuff  
Agglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1971  
SAMPLE TYPE: Grab  
COMMODITY: Silver GRADE: 20.5700 Grams per tonne  
Copper 3.2600 Per cent  
REFERENCE: Chisholm, 1971 - Property File.

**CAPSULE GEOLOGY**

The HC showing is located about 77 kilometres southeast of Dease Lake.

In 1969, Pelly Copper conducted a geological survey and first described this showing as the No. 1 zone. In 1971, Empire Metals covered this ground with the Bold 3 claim and prospected this showing as the West zone. They conducted an airborne magnetic survey over greater than 10,000 hectares and drilled one hole.

The area is underlain by Lower Jurassic coarse bedded tuffs and agglomerates. The HC showing consists of a narrow shear vein ranging in width from 0.6 to 1.5 metres. It strikes north, dips vertically and its length has been reported at up to 213 metres. A 1971 drillhole intersected coarse-grained fragmental lava containing 6 millimetre wide stringers of fine chalcocite with assays yielding 0.2 per cent copper and a trace of silver over 30 centimetres (Assessment Report 3237). A grab sample of chalcocite-rich vein material taken in 1971 yielded 3.26 per cent copper and 20.57 grams per tonne silver (Chisholm, 1971 - Property File).

In 1983, Orsina Resource examined a showing in the same vicinity as the HC (West showing) consisting of bornite, chalcocite, malachite and chrysocolla hosted by vesicles and fractures in andesite flow

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
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PAGE: 31  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

tops (Assessment Report 12292, page 6). It is not clear whether the Orsina showing is the same as the HC.

**BIBLIOGRAPHY**

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EMPR GEM 1969-47; 1971-43  
EMPR ASS RPT 1963, \*3237, 3203, \*12292  
GSC MAP 1957-9  
GSC OF 610; 2262; 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/18

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 016**

NATIONAL MINERAL INVENTORY: 10413 Cu4

NAME(S): **CM, NORTH, BONUS,  
BOLDEX, RIDE, NO. 2,  
EASTERN, MCBRIDE RIVER, B5**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104103E

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 58 01 18 N  
LONGITUDE: 129 00 44 W

NORTHING: 6431122  
EASTING: 499278

ELEVATION: 1600 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Main area of exploration activity in west-flowing creek that drains into a tributary of the McBride River (Assessment Report 3237)

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT:	Chalcocite	Bornite	Chrysocolla		
ASSOCIATED:	Quartz	Chalcedony			
ALTERATION:	Malachite	Azurite	Kaolin	K-Feldspar	Silica
ALTERATION TYPE:	Carbonate				
MINERALIZATION AGE:	Oxidation	Argillic		Silicific'n	Potassic
	Unknown				Carbonate

**DEPOSIT**

CHARACTER:	Shear	Disseminated	Breccia	
CLASSIFICATION:	Hydrothermal	Epigenetic		
TYPE:	106 Cu±Ag quartz veins			
DIMENSION:	300 x 6	Metres	STRIKE/DIP:	TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Undefined Group	Undefined Formation	

LITHOLOGY: Tuff  
Pyroclastic  
Andesite  
Dacite Porphyry  
Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1971

COMMODITY	<u>GRADE</u>	
Silver	8.5700	Grams per tonne
Copper	0.3900	Per cent

COMMENTS: From a 6.1-metre drill interval.  
REFERENCE: Assessment Report 3237.

**CAPSULE GEOLOGY**

The CM prospect is located about 77 kilometres southeast of Dease Lake.

In 1969, Pelly Copper conducted a geological survey and first described this showing as the No. 2 zone. In 1971, Empire Metals covered this ground with the Joy, Bow, Bonus, Boldex, Pay, Sec and Sue claims. They conducted an airborne magnetic survey over greater than 10,000 hectares and completed a drilling program.

The area is underlain by flat-lying Lower Jurassic volcanic rocks consisting of thin red aphanitic flows, andesitic flows (possibly tuffaceous in part), conglomerate, dacite porphyry and pyroclastic beds.

The CM prospect, commonly known as the North zone, consists of chalcocite, bornite, malachite, azurite, chrysocolla and other copper oxides hosted within a shear zone that cuts a banded tuff or fine pyroclastic. The shear zone strikes 032 degrees and dips close to vertically.



## CAPSULE GEOLOGY

One report (Assessment Report 3237 (1971)) states that the mineralized zone has been traced for about 150 metres with a width varying from 1 to 7.6 metres. Another report (Chisholm, 1971 - Property File) reports a total mineralized length of more than 304 metres (open at both ends) and a mineralized width of between 6 and 12 metres. In the shear zone, altered and broken coarse brecciated fragments are surrounded by chalcocite and copper oxides.

Prior to 1972, bulldozer trenching, mapping and drilling were used to determine the extent and grade of the deposit. The average of four 3-metre samples taken across the zone totalled 41.14 grams per tonne silver and 2.175 per cent copper (Chisholm, 1971 - Property File). Four diamond-drill holes were put down in 1971 and finely disseminated chalcocite and bornite were encountered in the sheared volcanic rocks accompanied by pervasive kaolinization and potassium feldspar alteration. One 6.1-metre drill interval assayed 0.39 per cent copper and 8.57 grams per tonne silver (Assessment 3237).

Additional work in 1983 by Orsina Resources also reported carbonate and silica alteration (Assessment Report 12292). Fractures and microveinlets of silica form a quartz stockwork locally and in one location a pod of chalcedony was found. Rock samples analysed at this time, although high in copper and silver, did not contain gold.

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EMPR GEM 1969-47; 1971-43  
EMPR PF (\*Chisholm, E.O. (1971): Qualifying Report on The McBride River Project (in 104H 007 file); Gifford, R.G. (1969): Report on the McBride River Project (in 104H 007) file)  
GSC MAP 1957-9; 29-1962; 1418A  
GSC OF 610; 2262; 2779  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/18

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 017**

NATIONAL MINERAL INVENTORY: 104112 Asb1

NAME(S): **EYE 41**, EMILE 16, J

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10412W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 41 30 N  
LONGITUDE: 129 51 11 W  
ELEVATION: 1230 Metres

NORTHING: 6506034  
EASTING: 450553

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of mineralized area on Eye 41 and 43 (Assessment Report 315).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Metamorphic Hydrothermal Epigenetic Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Chert  
Argillite  
Argillaceous Quartzite  
Phyllite  
Greenstone

HOSTROCK COMMENTS: The Cache Creek Complex ranges from Mississippian to Jurassic in age.  
The peridotite host is Cache Creek but is Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Eye 41 showing is located about 30 kilometres northeast of Dease Lake.

The showing occurs in a fault emplaced body of upper Mississippian to Permian serpentinized peridotite of the Mississippian to Jurassic Cache Creek Complex. This body occurs within a sequence of chert, argillite, argillaceous quartzite, phyllite and greenstone of the Mississippian to Triassic Kedahda Formation (Cache Creek Complex).

Chrysotile asbestos, in fibres up to about 1.3 centimetres long, are reported in serpentine. An estimate of 2 to 3 per cent fibres was made from inspection of the mineralized outcrops.

Totem Minerals Ltd. conducted an airborne geophysical survey (magnetics and electromagnetics) over the area in 1959. In 1967, the Emile claims covered the area of interest and ground magnetic and geological surveys were conducted. Tournigan Mining and Exploration Ltd. with American Smelting and Refining Co. conducted further geological and ground magnetic surveys in 1971.

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EMPR AR 1960-119  
EMPR GEM 1971-450  
EMPR OF 1995-25  
EMPR ASS RPT \*315, 1649, 3082, 3363  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/10

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 018**

NATIONAL MINERAL INVENTORY: 104112 Asb1

NAME(S): **JAY, EYE, EMILE,  
RANDY**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104112W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 41 58 N  
LONGITUDE: 129 52 45 W  
ELEVATION: 1180 Metres

NORTHING: 6506920  
EASTING: 449051

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of mineralized area on Jay 12 claim (Assessment Report 3082).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Metamorphic Hydrothermal Epigenetic Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Chert  
Argillite  
Argillaceous Quartzite  
Phyllite  
Greenstone

HOSTROCK COMMENTS: The Cache Creek Complex is Mississippian to Jurassic in age. The host peridotite of the Cache Creek Complex is Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cache Creek  
PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Jay showing is located about 30 kilometres northeast of Dease Lake.

The showing occurs in a fault emplaced body of Upper Mississippian to Permian serpentinitized peridotite of the Mississippian to Jurassic Cache Creek Complex. This body occurs within a sequence of chert, argillite, argillaceous quartzite, phyllite and greenstone of the Mississippian to Triassic Kedahda Formation (Cache Creek Complex).

The "main showing" is reported to consist of four outcrops of chrysotile cross-fibre in serpentinitized peridotite. The cross-fibre ranges from about 1 to 2 millimetres in width. It is reported that the better grade material (2-5 per cent estimated) is confined to a narrow (15 to 30 metre wide) shear zone striking about 029 degrees. Another showing occurs about 600 metres to the east.

It is assumed that the "main showing" as reported in Assessment Report 3363 is the same as the unnamed showing reported by the same company in Assessment Report 3082 as being on the Jay 12 claim.

Totem Minerals Ltd. conducted an airborne geophysical survey (magnetics and electromagnetics) over the area in 1959. In 1967, the Emile claims covered the area of interest and ground magnetic and geological surveys were conducted. Tournigan Mining and Exploration Ltd. with American Smelting and Refining Co. conducted further geological and ground magnetic surveys in 1971.

**BIBLIOGRAPHY**

EMPR AR 1960-119  
EMPR GEM 1971-450  
EMPR ASS RPT 315, 1649, \*3082, \*3363

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 36  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR OF 1995-25  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/10

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 019**

NATIONAL MINERAL INVENTORY: 104116 Cu1

NAME(S): **WINCO**, GO-MO, GOMO

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104116E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 46 48 N  
LONGITUDE: 128 07 20 W  
ELEVATION: 1730 Metres

NORTHING: 6515888  
EASTING: 550751

LOCATION ACCURACY: Within 500M

COMMENTS: Showing location, about 10 kilometres east of Blue Sheep Lake (Assessment Report 22063).

COMMODITIES: Silver                      Copper                      Lead                      Gold                      Zinc

**MINERALS**

SIGNIFICANT: Tetrahedrite      Chalcopyrite      Pyrite              Galena  
ASSOCIATED: Quartz  
ALTERATION: Silica              Goethite              Malachite              Azurite  
ALTERATION TYPE: Silicific'n              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork                      Stratabound  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I06      Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Lower Cambrian      Atan                      Rosella

LITHOLOGY: Limestone  
Dolomite  
Chert  
Shale  
Quartzite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip  
COMMODITY

YEAR: 1991

Silver  
Copper

GRADE  
486.8600      Grams per tonne  
9.8500              Per cent

COMMENTS: From a 1-metre chip sample.  
REFERENCE: Assessment Report 22063.

**CAPSULE GEOLOGY**

The Winco prospect is located about 117 kilometres northeast of Dease Lake.

Most of the Winco area is underlain by the Lower Cambrian Rosella Formation, Atan Group, consisting of a lower quartzite member and an upper limestone member. Hadrynian Ingenika Group sediments are in contact with Atan rocks south and north of the mineralized area.

Four principal lithologies occur in the prospect area. These include limestone, dolomite, chert and brown shale.

Vein, stockwork and replacement style copper-silver mineralization is hosted within Atan Group limestone, chert and dolomite. The principal showings comprising this occurrence are found along a 600 metre strike length and are associated with a strong northwest trending linear. Talus cover prevents linkage of the exposures known from west to east as the Blue Sheep, White Dog, Mac and Ewe showings. The occurrences are reported to be crudely stratabound and at one location appear to exhibit stratiform characteristics.

Trench 1 on the Blue Sheep showing exposed varying amounts of tetrahedrite, malachite, azurite, goethite and very minor

## CAPSULE GEOLOGY

chalcopyrite. Trench 2 on the White Dog showing, about 120 metres southeast of the Blue Sheep, exposed a 5-metre thickness of silicified limestone/chert in contact with dolomite. Spectacular azurite, malachite, tetrahedrite and minor chalcopyrite and pyrite were reported. The Mac showing occurs about 100 metres southeast of the White Dog and is similar in character to that showing. The Ewe showing is about 150 metres southeast of the Mac. Samples from all showings are high in silver and copper.

Results of sampling in 1991 are as follows (Assessment Report 22063): the best copper-silver results are associated with semi-massive tetrahedrite in grab samples and include values up to 24.7 per cent copper and 2691.45 grams per tonne silver; chip sample results include maximum values over 1 metre of 9.85 per cent copper and 486.86 grams per tonne silver; gold values are generally low except for three results greater than 0.1 gram per tonne including one result of 1.9 grams per tonne gold; zinc values up to 0.3 per cent were obtained and two samples with galena taken outside the main showing areas yielded greater than 1 per cent lead.

Several other showings, mainly of narrow quartz veins with locally semi-massive tetrahedrite, galena, azurite and malachite, were found widely scattered in the far northwest grid area.

Winco Mining and Exploration conducted geological and airborne magnetometer surveys in 1969. Island Arc Minerals mapped the property and excavated 30 metres of trenches in 1991.

## BIBLIOGRAPHY

EMPR GEM 1969-49  
EMPR ASS RPT 2342, \*22063  
GSC OF 610  
GSC MAP 29-1962; 1418A  
GCNL #23, 1970

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/05

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 020**

NATIONAL MINERAL INVENTORY: 104112 Cu1

NAME(S): **MAC, EAGLE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104112E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 33 58 N  
LONGITUDE: 129 41 09 W  
ELEVATION: 1460 Metres

NORTHING: 6491944  
EASTING: 460103

LOCATION ACCURACY: Within 500M

COMMENTS: The geology and topography of the showing area, as indicated by Assessment Report 1105, Figure 1, match closely the geology and topography at the above coordinates as shown on GSC Open File 2779. However, old claim maps would put the Mac claims (1968) and Eagle claim (1976) about 2 to 3 kilometres due north.

COMMODITIES: Copper Tungsten

**MINERALS**

SIGNIFICANT: Pyrrhotite Chalcopyrite Scheelite Pyrite  
ASSOCIATED: Quartz Barite  
ALTERATION: Limonite Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Skarn  
TYPE: K01 Cu skarn

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedadha	Cache Creek Complex
Paleozoic			Little Eagle Pluton
Upper Cretaceous			

LITHOLOGY: Marble  
Limestone  
Granodiorite  
Quartz Monzonite  
Anorthosite  
Meta Quartzite  
Gneiss

HOSTROCK COMMENTS: The limestone may be an upper Mississippian to Permian unit of the Cache Creek Complex.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
PHYSIOGRAPHIC AREA: Tanzilla Plateau

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1967  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Copper 0.7300 Per cent  
COMMENTS: Average of sample taken across 9.8 metres.  
REFERENCE: Assessment Report 1105.

**CAPSULE GEOLOGY**

The Mac showing is located about 25 kilometres northeast of Dease Lake.

Massive sulphide occurs between the contacts of granodiorite/quartz monzonite to the north, steeply dipping limestone/marble to the east and anorthosite to the west(?) and south. The intrusive rock is probably related to the Late Cretaceous Little Eagle Pluton. The limestone/marble, metaquartzite and gneiss mapped at the Mac showing are probably part of the Mississippian to Triassic Kedadha Formation of the Mississippian to Jurassic Cache Creek Complex (Assessment Report 1105, Figure 1; Geological Survey of Canada Open File 2779).

The Mac showing is about 9 metres in diameter and consists of a

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### CAPSULE GEOLOGY

small dome composed mainly of pyrrhotite, chalcopyrite, pyrite and minor quartz and barite. The contact zone is characterized by a talcose mineral and malachite staining. The surface of the showing is highly gossanized. Several years later when the Eagle claims covered some of the same ground, scheelite was added to the list of minerals observed (Exploration in B.C. 1976, page 193).

A sample across 9.8 metres ranged from 0.03 to 1.33 per cent copper (averaging 0.73 per cent), 0.02 to 0.04 per cent nickel (averaging 0.03 per cent) and 13.6 to 50.2 iron (averaging 40.2 per cent) (Assessment Report 1105).

An unknown amount of mapping and sampling on the Mac claims was done in 1967 by K. Willison. This was followed by electromagnetic and soil surveys in 1969 by Jupiter Explorations Ltd. Noranda held some of the same ground in 1976 as the Eagle claim, conducting geological, magnetic and soil surveys.

### BIBLIOGRAPHY

EMPR AR 1967-28, 1968-38  
EMPR GEM 1969-43, 1976-E193  
EMPR ASS RPT \*1105, 2546  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/11

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 021**

NATIONAL MINERAL INVENTORY: 10413 Cu3

NAME(S): **JOY 94**, CIRQUE 1, BOW,  
MCBRIDE RIVER

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104103E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 00 25 N  
LONGITUDE: 129 08 30 W  
ELEVATION: 1800 Metres

NORTHING: 6429492  
EASTING: 491628

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of numerous showings (Geology map by Gifford, 1969 - Property File).

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ALTERATION: Epidote  
ALTERATION TYPE: Epidote  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Triassic-Jurassic  
Lower Jurassic

**GROUP**

Unnamed/Unknown Group  
Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation  
Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Andesite  
Tuff  
Chert  
Pyroclastic Rock

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1969

**COMMODITY**

Silver  
Copper

**GRADE**

17.1400  
5.7000

Grams per tonne  
Per cent

REFERENCE: Gifford, 1969 - Property File.

**CAPSULE GEOLOGY**

The Joy 94 showing is located about 70 kilometres southeast of Dease Lake.

Numerous copper showings occur in massive green andesite, part of a Jurassic and Triassic sequence (Geological Survey of Canada Open File 2779), and a few showings occur in a Lower Jurassic pyroclastic sequence.

One showing is described as minor chalcopyrite occurring in hairline fractures associated with a white-coloured cherty rock. A severely fractured and epidotized tuff hosting fifteen centimetres of oxidized material containing chalcopyrite yielded trace gold, 17.14 grams per tonne silver and 5.70 per cent copper (Gifford, 1969 - Property File).

Bowser Resources conducted geological mapping airborne magnetic surveys and rock sampling in 1969 and 1971.

**BIBLIOGRAPHY**

EMPR GEM 1969-47; 1971-43

EMPR ASS RPT 3203

EMPR PF (Chisholm, E.O. (1971): Qualifying Report on The McBride River Project (in 104H 007 file); \*Gifford, R.G. (1969): Report on the McBride River Project (in 104H 007) file)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 42  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC OF 610; 2262; 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/13

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 022**

NATIONAL MINERAL INVENTORY:

NAME(S): **TANZILLA 1, GL, SCREE,  
THORN, LOTUS, HORN,  
THORN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105E

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 58 18 27 N  
LONGITUDE: 129 44 09 W

NORTHING: 6463182  
EASTING: 456879

ELEVATION: 1800 Metres  
LOCATION ACCURACY: Within 500M

COMMENTS: Two zones occur on the Tanzilla 1 claim, south and southeast of a small unnamed lake (Assessment Report 22458). The coordinates are for the westernmost zone.

COMMODITIES: Zinc                      Copper                      Lead                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Sphalerite      Chalcopyrite      Galena      Bornite      Malachite

Pyrite  
ASSOCIATED: Quartz      Carbonate

ALTERATION: Malachite

ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia  
CLASSIFICATION: Hydrothermal      Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic Jurassic	Unnamed/Unknown Group	Unnamed/Unknown Formation	Snowdrift Creek Pluton

LITHOLOGY: Rhyolite  
Basalt  
Plagioclase Porphyry  
Andesite  
Volcanic Conglomerate  
Tuffaceous Mudstone  
Breccia  
Siltstone  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1991

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	12.5000	Grams per tonne
Gold	0.2700	Grams per tonne
Copper	0.6300	Per cent
Lead	4.7000	Per cent
Zinc	17.0000	Per cent

REFERENCE: Assessment Report 22458.

**CAPSULE GEOLOGY**

The Tanzilla 1 showing is located about 25 kilometres southeast of Dease Lake.

The area of the showings are underlain by an assemblage of Triassic to Lower Jurassic volcanic and volcanoclastic rocks consisting of grey and maroon plagioclase porphyry, andesite, volcanic conglomerate, tuffaceous mudstone, breccia, rhyolite, minor siltstone and shale. The Middle to Late Jurassic Snowdrift Creek Pluton occurs several kilometres to the northeast.

Two nearby zones, the GL and Scree, make up the Tanzilla 1

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## CAPSULE GEOLOGY

showing. Both zones are quartz-carbonate infilled breccia zones cut by coarse, crystalline quartz veining. Quartz veins are commonly 1 to 3 centimetres wide with random orientations and often exhibit vuggy and cockscomb textures. The zones are near the contact between felsic volcanic rocks and a hematitic mafic flows. Sulphides occur only with the veining and consists of 5 to 30 per cent honey-coloured sphalerite with 5 to 10 per cent chalcopryrite, galena, bornite and malachite. Pyrite is disseminated in the mafic rocks. One sample yielded 17 per cent zinc, 4.7 per cent lead, 0.63 per cent copper, 12.5 gram per tonne silver and 0.27 gram per tonne gold (Assessment Report 22458).

The ground was held as the Lotus claims in 1971 by Nittetsu Mining Co. Ltd. Equity Silver Mines conducted substantial geophysical and geological work on their Thorn claims, part of which covered the showing area. However, no mention of this particular showing is recorded until the 1991 prospecting of Akiko-Lori Gold.

## BIBLIOGRAPHY

EMPR ASS RPT 3538, 19269, \*22458  
EMPR GEM 1972-539  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
GCNL #160, #187, 1991  
WWW <http://www.infomine.com/>  
Placer Dome File

DATE CODED: 1995/10/04  
DATE REVISED: 1995/10/04

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 023**

NATIONAL MINERAL INVENTORY: 10415 Mo2

NAME(S): **TANZILLA 3, S, LOTUS,  
HORN, THORN, A-L,  
OWL**

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6463494  
EASTING: 459536

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105E  
BC MAP:  
LATITUDE: 58 18 38 N  
LONGITUDE: 129 41 26 W  
ELEVATION: 1850 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: The location is for the S zone on the Tanzilla 3 claim (Assessment Report 22458).

COMMODITIES: Copper Silver Gold Lead Zinc

**MINERALS**

SIGNIFICANT: Bornite Galena Chalcopyrite Sphalerite Malachite  
Tetrahedrite  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Carbonate Malachite  
ALTERATION TYPE: Carbonate Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein Stockwork  
CLASSIFICATION: Porphyry Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Triassic-Jurassic  
Jurassic

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Snowdrift Creek Pluton

LITHOLOGY: Rhyolite  
Basalt  
Plagioclase Porphyry  
Andesite  
Volcanic Conglomerate  
Tuffaceous Mudstone  
Breccia  
Siltstone  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1991

SAMPLE TYPE: Channel

COMMODITY

GRADE

Silver

21.2600

Grams per tonne

Copper

0.7500

Per cent

COMMENTS: From a 9-metre composite channel sample.

REFERENCE: Assessment Report 22458.

**CAPSULE GEOLOGY**

The Tanzilla 3 showing is located about 27 kilometres southeast of Dease Lake.

The area of the showings is underlain by an assemblage of Triassic to Lower Jurassic volcanic and volcanoclastic rocks consisting of grey and maroon plagioclase porphyry, andesite, volcanic conglomerate, tuffaceous mudstone, breccia, rhyolite, minor siltstone and shale. The Middle to Late Jurassic Snowdrift Creek Pluton occurs several kilometres to the northeast.

The S zone of the Tanzilla 3 occurrence is located at the southern end of a prominent north trending ridge. The showing consists of trace to 1 per cent disseminated bornite and malachite within highly altered, carbonatized felsic volcanic rock. The zone

## CAPSULE GEOLOGY

is cut by narrow quartz carbonate veinlets which contain up to 30 per cent bornite. A grab sample yielded 23.23 per cent copper, 493 grams per tonne silver and 3.02 grams per tonne gold (Assessment Report 22458). Trenching and channel sampling of the zone across 9 metres yielded an average grade of 0.75 per cent copper and 21.26 grams per tonne silver (Assessment Report 22458).

Occurring about 500 metres east of the S zone on a ridge are quartz veins carrying galena, tetrahedrite, chalcopyrite and sphalerite (Assessment Report 19269).

A number of mining companies conducted regional programs in the area in the 1960s and early 1970s but no mention of these showings are recorded until 1989 and 1991. It appears that Cultus Exploration initially held title to the land as the A to L claims in 1965, performing over 2400 metres of bulldozer trenching in the vicinity (National Mineral Inventory 104I/5 MO2). The Owl claims of 1970 to 1971 lie to the immediate north (according to claim maps) but may in fact have covered the same ground. Considerable work was done on the Owl claims including 5 diamond-drill holes, however, exploration results were never documented. The ground was held as the Lotus claims in 1971 by Nittetsu Mining Co. Ltd. and some soil sampling was reported. In 1989, Equity Silver Mines conducted substantial geophysical and geological work on their Thorn claims, part of which covered the showing area. In 1991, Akiko-Lori Gold prospected the Tanzilla claims and reported the S zone.

## BIBLIOGRAPHY

EMPR ASS RPT 3292, 3538, \*19269, \*22458  
EMPR GEM 1970-38,39; 1971-45; 1972-539  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
GCNL #160,#187, 1991  
Placer Dome File

DATE CODED: 1995/10/04  
DATE REVISED: 1995/10/04

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 024**

NATIONAL MINERAL INVENTORY: 10419 W2

NAME(S): **WOLF (CUB)**, CUB, KID,  
WINKLE, EK, TOP

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104109E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 58 37 31 N  
LONGITUDE: 128 13 21 W  
ELEVATION: 1400 Metres

UTM ZONE: 09 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 6498589  
EASTING: 545153

COMMENTS: Area of trenches on the south side of "Show Creek" (Assessment Report 2643). The later Cub 1 claim apparently covered the same showings as the earlier Wolf claims.

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Scheelite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork Vein  
CLASSIFICATION: Skarn Hydrothermal  
TYPE: K05 W skarn

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Ingenika	Swannell	
Upper Proterozoic	Ingenika	Tsaydiz	
Lower Cretaceous			Cassiar Batholith

LITHOLOGY: Schist  
Quartzite  
Phyllite  
Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Wolf showing are located about 107 kilometres east-northeast of Dease Lake and about 5 kilometres south of the Turnagain River.

The area of the showings is mapped as Ingenika Group undivided sediments and metasediments consisting of the Upper Proterozoic Swannell and Tsaydiz formations. These rocks include phyllite, schist, phyllitic limestone, siltstone, quartzite and conglomerate. The western contact of the Early Cretaceous Cassiar Batholith (of the Cassiar Plutonic Suite) occurs in the vicinity and consists of quartz monzonite.

Widespread but erratic scheelite mineralization occurs in the steep bank of a creek. Schists and quartzite are cut by an extensive system of quartz veins and joint planes, some of which are mineralized with scheelite. Thin bands of calc-silicate are intercalated with the schists and carry minor amounts of scheelite.

The Wolf property was trenched in 1969 by Rip Van Mining Ltd. El Paso Mining and Milling conducted geological and soil geochemical surveys and excavated 33 pits in 1970; and followed up with 33.5 metres of trenching in 1972. In 1978 and 1979, Union Carbide Canada Limited held the property as the Cub, Ek and Top claims and conducted electromagnetic, geological and geochemical surveys (rock and soil).

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EMPR GEM \*1969-48; \*1970-41; \*1972-544  
EMPR ASS RPT \*2643, \*6455, 6952, 7680, 7786  
EMPR EXPL 1978-E264, 1979-288  
EMPR OF 1991-17  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/25

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 024**

MINFILE NUMBER: **1041 025**

NATIONAL MINERAL INVENTORY: 10419 W1

NAME(S): **EWE**, RAM, SHEEP

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104109E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 40 46 N  
LONGITUDE: 128 08 22 W  
ELEVATION: 1800 Metres

NORTHING: 6504679  
EASTING: 549899

LOCATION ACCURACY: Within 500M

COMMENTS: Ewe 3 and 5 area (Geology and Exploration in B.C. 1970, page 41).

COMMODITIES: Tungsten

Molybdenum

**MINERALS**

SIGNIFICANT: Scheelite Molybdenite  
ALTERATION: Garnet Diopside Vesuvianite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn  
TYPE: K05 W skarn

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Ingenika	Espee	
Lower Cambrian	Atan	Boya	
Upper Cretaceous			Cassiar Batholith
Lower Cretaceous			Turnagain Pluton

LITHOLOGY: Limestone  
Dolomite  
Granite  
Quartz Monzonite  
Granodiorite  
Conglomerate  
Phyllite  
Schist  
Quartzite  
Siltstone

HOSTROCK COMMENTS: Ingenika Group host rocks may include the Swannell and Tsaydiz formations.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Ewe occurrence is located about 112 kilometres east of Dease Lake.

The area of the showing is underlain mainly by rocks of the Upper Proterozoic Ingenika Group including the Espee, Swannell and Tsaydiz formations. The Espee Formation consists of crystalline limestone, sandy limestone and dolostone. The Swannell and Tsaydiz formations (undivided) consist of phyllite, schist, phyllitic limestone, siltstone, quartzite and conglomerate. Other undivided sediments and metasediments of the Upper Proterozoic Stelkuz Formation (Ingenika Group) and Lower Cambrian Boya Formation (Atan Group) also occur.

Intruding the country rocks nearby are rocks of the Early Cretaceous Cassiar Plutonic Suite. The Cassiar Batholith (part of the suite) consists of granite, quartz monzonite and granodiorite; its northern limits intrude the strata in the area of the showings. The Early Cretaceous Turnagain pluton, also part of the Cassiar Plutonic Suite, consists of biotite granite and intrudes to the west of the showing area.

Discovered in 1969, the tungsten showings in the Ewe 3 and 5 claim area received extensive work including 14 diamond-drill holes (1969 and 1970). The scheelite is disseminated in skarn associated with granite intrusive (Geology and Exploration in B.C. 1969, page 48). Part of the carbonate sequence has been altered to pyroxene hornfels and garnet-vesuvianite skarn which contains disseminated



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**CAPSULE GEOLOGY**

scheelite and "molybdoscheelite" (Assessment Report 7672).  
Rip Van Mining Ltd. worked the property from 1967 to 1969; El  
Paso Mining and Milling in 1969 and 1970; and Union Carbide Canada in  
1980. See also related occurrences May (104I 070) and Eliza (104I  
099).

**BIBLIOGRAPHY**

EMPR AR 1967-28; 1968-38  
EMPR GEM 1969-48; \*1970-41  
EMPR EXPL 1979-290  
EMPR ASS RPT 5473, 5781, 6507, 6755, 7510, \*7672, 8409, 10081  
EMPR OF 1991-17  
B.C. and Yukon Chamber of Mines, Mining Dev. Review 1970-12  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/15

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 026**

NATIONAL MINERAL INVENTORY: 10415 Cu1

NAME(S): **KAY 49**, KIM, KING

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 24 N  
LONGITUDE: 129 57 53 W  
ELEVATION: 1500 Metres

NORTHING: 6457692  
EASTING: 443386

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Kay 49 claim (Assessment Report 2152).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite  
ASSOCIATED: Magnetite  
ALTERATION: Epidote  
ALTERATION TYPE: Epidote  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Triassic  
Jurassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Three Sisters Pluton

LITHOLOGY: Volcanic Breccia  
Porphyritic Andesite  
Granodiorite  
Hornblende Quartz Monzonite  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1970

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

0.0400

Per cent

COMMENTS: This sample also yielded 1.37 grams per tonne silver and trace gold.

REFERENCE: Assessment Report 2766.

**CAPSULE GEOLOGY**

The Kay 49 showing is located about 21 kilometres south-southeast of Dease Lake.

The showing occurs in an area underlain by Lower to Upper Triassic rocks of the Stuhini Group. Volcanic rock observed on the property consists of greenish red breccias, green massive volcanics with some magnetite and pyrrhotite and porphyritic andesites. These rocks are intruded by granodiorite to hornblende quartz monzonite of the Early to Middle Jurassic Three Sisters Pluton, part of the Late Triassic to Middle Jurassic Hotailuh Batholith.

The showing occurs in a metavolcanic/sedimentary sequence about 30 metres wide and dipping vertically. The sequence is epidotized, bleached and mineralized with pyrrhotite, minor pyrite and occasional specks of chalcopyrite. The most intense mineralization comprises about 5 to 7 per cent sulphides over 2.4 to 3 metres. A selected sample assayed trace gold, 1.37 grams per tonne silver and 0.04 per cent copper (Assessment Report 2766).

The Kay claims were worked by Tanzilla Explorations Ltd. from 1969 to 1972. Geological, geochemical and geophysical (including magnetometer and IP) surveys were completed. Refer also to the Kay 19 occurrence (1041 037).

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**BIBLIOGRAPHY**

EMPR ASS RPT \*2152, \*2622, \*2766, 2767, 3204, 3205, 3372, 3973  
EMPR FIELDWORK 1988, PP. 429-434  
EMPR GEM 1969-45; 1970-38; 1971-45; 1972-538  
EMPR PF (Aikens, C.E.T. (1974) Report on Work on Forfeited  
Claims, Tanzilla Explorations Ltd, Ko, Kay, King Fr. and Box  
Claims)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC MEM 194, pp. 7,16  
GSC OF 610; 2262; 2779  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/01

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 027**

NATIONAL MINERAL INVENTORY: 10413 Cu2

NAME(S): **STAR**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104103E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 03 00 N  
LONGITUDE: 129 02 33 W  
ELEVATION: 1650 Metres

NORTHING: 6434278  
EASTING: 497491

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching (Assessment Report 2154, Map 2).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcocite  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Lower Jurassic  
Lower Jurassic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

McBride River Pluton

LITHOLOGY: Dacite  
Andesite  
Andesite Dike  
Syenite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY

YEAR: 1960

Copper

**GRADE**

4.5000

Per cent

REFERENCE: Assessment Report 2154.

**CAPSULE GEOLOGY**

The Star showing is located about 72 kilometres southeast of Dease Lake.

The area of the showing is underlain by dacitic and andesitic Lower Jurassic volcanics which are intruded from the west by a small tongue of fine-grained pink syenite, probably related to the Early Jurassic McBride River Pluton.

Chalcocite and malachite occur along probable shear zones and in nearby andesite dikes. The shear zones vary in strike from north to 030 degrees and dip steeply to the west. Samples are reported to assay up to 4.5 per cent copper (Assessment Report 2154). Showing No. 1, which is the largest, is about 60 metres long by 7.6 metres wide.

The Star claim was worked by Great Plains Development Company of Canada in 1969. They conducted a geological survey and an unspecified amount of trenching. No other work is documented.

**BIBLIOGRAPHY**

EM FIELDWORK 2001, pp. 41-58  
EMPR ASS RPT \*2154  
EMPR GEM 1969-46  
GSC MAP 9-1957; 29-1962; 1418A

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/19

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 028**

NATIONAL MINERAL INVENTORY: 10417 Cu2

NAME(S): **WT, SUL, LETAIN,  
LET, CREEK, MEG**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)

LATITUDE: 58 17 49 N  
LONGITUDE: 128 36 06 W  
ELEVATION: 1600 Metres

NORTHING: 6461840  
EASTING: 523350

LOCATION ACCURACY: Within 500M

COMMENTS: Area of Sul claims as reported in Assessment Report 7603. Claim maps show that the Sul claims are further north but all descriptions indicate that they are at the higher, southern location.

COMMODITIES: Copper Silver Iron Magnetite

**MINERALS**

SIGNIFICANT: Chalcocite Magnetite  
ALTERATION: Serpentine Malachite  
ALTERATION TYPE: Serpentin'zn Rodingitiz'n Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Shear Vein Podiform  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Unnamed/Unknown Formation	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite  
Meta Sediment/Sedimentary  
Meta Volcanic  
Gabbro Dike

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic. The ultramafics are part of the Cache Creek Complex and are Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1971  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Copper 14.0000 Per cent

COMMENTS: An average of a 2-metre composite sample.  
REFERENCE: Prospectus, Katanga Mines Ltd., 1971 (in Property File).

**CAPSULE GEOLOGY**

The WT showing is located about 88 kilometres east-southeast of Dease Lake, about 6 kilometres south of Wolverine Lake.

The region is underlain by northwest trending Carboniferous to Jurassic Cache Creek Complex rocks including metavolcanics, metasediments and tectonically emplaced ultramafic rocks of upper Mississippian to Permian age. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

The WT area is underlain by serpentinitized peridotite. Two mineral showings are reported.

The first showing consists of minor chalcocite and malachite occurring on a shear plane in peridotite. Related to this mineralization is a diabase or gabbro dike with a "whiterock" zone interpreted as rodingite. A 60-centimetre sample across the centre

## CAPSULE GEOLOGY

of this showing assayed 5.4 per cent copper (Prospectus, Katanga Mines Limited, 1971 (in Property File)).

The second showing is 50 metres north-northeast of the first. A massive pod of chalcocite and magnetite is exposed by an open cut. The pod measures 0.7 by 3 metres and is surrounded by an envelope of "whiterock" cut by stringers of chalcocite and magnetite. The zone is thought to be an open space filling in shear zone. A composite sample yielded an average of 14 per cent copper across 2 metres (see previous reference).

Silver values in the gabbro dike range from 2.4 to 40.8 grams per tonne (see previous reference).

The Sul (worked in 1975 and 1977) is probably the same showing as the WT showing (worked in 1970). The location, setting and deposit description give strong evidence for this conclusion. Also, drilling was done on the WT in 1970 and Cry Lake Jade, owner of the Sul claims, reported old drillholes on the Sul in 1977. Westfrob Mines held the adjacent Letain Creek property in 1977 and prospected the Sul showings as well. A location plot and brief description is provided in Assessment Report 7603.

## BIBLIOGRAPHY

EMPR ASS RPT 2131, \*5656, 6406, \*6459, \*7603  
EMPR EXPL 1975-E190; 1977-E233  
EMPR GEM 1969-49, 1970-40, 1971-46  
EMPR PF (\*Prospectus, Katanga Mines Ltd., 1971)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/14

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 029**

NATIONAL MINERAL INVENTORY: 10415 Cu3

NAME(S): **MOSS**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 35 N  
LONGITUDE: 129 51 55 W  
ELEVATION: 1320 Metres

NORTHING: 6457952  
EASTING: 449226

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the Moss 58 claim (Assessment Report 1106).

COMMODITIES: Copper Iron

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Magnetite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Triassic-Jurassic	Stuhini	Unnamed/Unknown Formation	Hotailuh Batholith

LITHOLOGY: Basalt  
Mafic Flow  
Mafic Sill  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Moss showing is located about 24 kilometres southeast of Dease Lake.

The area of the showing is regionally mapped as Upper Triassic, mainly volcanic rocks of the Lower to Upper Triassic Stuhini Group (Geological Survey of Canada Open File 2779). The rocks are, in part, altered and cut by granodiorite of the Late Triassic to Middle Jurassic Hotailuh Batholith.

A coarse-grained mafic flow or sill contains magnetite, intermittently developed at the contacts. Chalcopyrite and locally finely disseminated pyrite occur in basalt.

Lytton Minerals Ltd. conducted geological, geochemical and geophysical surveys; trenching; and drilling from 1966 to 1971. No results from the considerable amount of work reportedly done in 1969, 1970 and 1971, including a few thousand metres of trenching and 47 percussion drill holes, were ever published.

**BIBLIOGRAPHY**

EMPR AR 1966-19; 1967-27  
EMPR GEM 1969-44; 1970-38; 1971-44  
EMPR ASS RPT 845, \*1106, 19345  
EMPR FIELDWORK 1988, pp. 429-434  
EMR MP CORPFILE (Lytton Minerals Ltd.; Patino Mining Corp.;  
Dease Lake Mines Ltd.)  
GSC MEM 194, pp. 7,16  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/01

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 030**

NATIONAL MINERAL INVENTORY: 104115 Cu1

NAME(S): **GB**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104115W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 54 28 N  
LONGITUDE: 128 53 04 W  
ELEVATION: 1575 Metres

NORTHING: 6529789  
EASTING: 506657

LOCATION ACCURACY: Within 500M

COMMENTS: Located 9 kilometres north-northwest of Cry Lake (Assessment Report 2797, Map 5).

COMMODITIES: Copper Silver Nickel Gold Asbestos

**MINERALS**

SIGNIFICANT: Pyrite Pyrrhotite Pentlandite Chalcopyrite Bornite

ASSOCIATED: Chrysotile

ALTERATION: Quartz  
ALTERATION: Limonite Serpentine

ALTERATION TYPE: Oxidation Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein Stockwork

CLASSIFICATION: Hydrothermal Industrial Min. Epigenetic

TYPE: \* Unknown

DIMENSION: Metres STRIKE/DIP: TREND/PLUNGE: /

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic-Mesozoic Sylvester Allochthon

LITHOLOGY: Serpentinized Peridotite  
Amphibolitic Gneiss  
Hornblende Schist  
Sericitic Schist  
Porphyritic Diorite Dike

HOSTROCK COMMENTS: The Sylvester Allochthon and Complex contain rocks ranging into the Upper Triassic. In this area they range only into the Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1970

SAMPLE TYPE: Chip

COMMODITY GRADE  
Silver 27.4300 Grams per tonne  
Nickel 0.1100 Per cent

COMMENTS: From a 1.6-metre chip sample. Trace gold also reported.

REFERENCE: Assessment Report 2797.

**CAPSULE GEOLOGY**

The GB showing is located about 85 kilometres northeast of Dease Lake.

Pyrite, pyrrhotite, pentlandite, chalcopyrite and minor bornite occur within an Upper Devonian to Permian body of serpentinized peridotite of the Sylvester Complex. The peridotite body strikes roughly northwest within amphibolitic gneisses, hornblende and sericitic schists. Mineralization is disseminated but occasionally pyrrhotite occurs as hairline stringers. Gossan development is evident in the area of the sulphides. Adjacent to this sulphide area, a quartz vein occurs containing similar sulphides.

Away from the mineralization, porphyritic diorite dikes carrying minor pyrite cut the ultramafic body. The dikes host a fractured quartz vein hosting minor pyrite, chalcopyrite and malachite. Occasional chrysotile veinlets are present in the peridotite.

A 1.6-metre chip sample yielded 27.43 grams per tonne silver, 0.11 per cent nickel and trace gold (Assessment Report 2797, Geology

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**CAPSULE GEOLOGY**

and Sampling Plan map).

In 1972, Minex Development Ltd. conducted magnetometer and soil geochemical surveys and a small amount of trenching was done. No other work is reported.

**BIBLIOGRAPHY**

EMPR PF (Preliminary Magnetometer and Geochemical Survey map, Minex Development, 1970)  
EMPR GEM 1970-39  
EMPR ASS RPT 2580, \*2797  
EMPR OF 1995-25  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/08

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 031**

NATIONAL MINERAL INVENTORY: 10419 Pb1

NAME(S): **HERB**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104109E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 41 18 N  
LONGITUDE: 128 08 27 W  
ELEVATION: 1600 Metres

NORTHING: 6505668  
EASTING: 549806

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Herb claims (3-12) which extended about 2 kilometres north-south and 1 kilometre east-west (Geology and Exploration in B.C. 1972, page 544).

COMMODITIES: Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Galena              Sphalerite  
ALTERATION: Kaolin              Limonite  
ALTERATION TYPE: Argillic              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Ingenika	Stelkuz	
Lower Cambrian	Atan	Boya	
Upper Cretaceous			Turnagain Pluton

LITHOLOGY: Biotite Granite  
Quartz Monzonite  
Granodiorite  
Sandstone  
Shale  
Slate  
Limestone  
Phyllite  
Quartzite  
Schist

HOSTROCK COMMENTS: The Turnagain Pluton is part of the Cassiar Plutonic Suite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Herb showing is located about 112 kilometres east-northeast of Dease Lake and a few kilometres north of the Turnagain River.

The area of the showing is mapped as undivided sediments and metasediments of the Upper Proterozoic Stelkuz Formation (Ingenika Group) and Lower Cambrian Boya Formation (Atan Group) (Geological Survey of Canada Open File 2779). Rocks may include sandstone, siltstone, shale, slate, limestone, phyllite, quartzite and schist. The Turnagain pluton, of the Late Cretaceous Cassiar Plutonic Suite, consists of biotite granite and intrudes this package in the showing area.

Nearby, rocks of the Upper Proterozoic Ingenika Group including the Espee, Swannell and Tsaydiz formations occur. The Espee Formation consists of crystalline limestone, sandy limestone and dolostone. Undivided strata of the Swannell and Tsaydiz formation consisting of phyllite, schist, phyllitic limestone, siltstone, quartzite and conglomerate covers significant areas. A few kilometres to the south of the showing area, the Late Cretaceous Cassiar Batholith (of the Cassiar Plutonic Suite) intrudes the country rock. The batholith consists of granite, quartz monzonite and granodiorite.

Galena and sphalerite occur as veins in highly kaolinized granite. Silver is also reported (Geology and Exploration in B.C. 1972, page 544). Limonite and manganese staining is widespread.

El Paso Mining and Milling drilled over 4000 metres in 20 holes

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**CAPSULE GEOLOGY**

between 1970 and 1972; results are not available. In 1980, further work was completed by W. Kuhn on the claim group which includes the Herb 3-12.

**BIBLIOGRAPHY**

EMPR GEM 1970-40, 1972-544  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/15

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 032**

NATIONAL MINERAL INVENTORY: 104114,15 Zn1

NAME(S): **NIZI, NIZI 1-6, NIZ,  
DISCOVERY, GRIZZLY RIDGE, SURPRISE,  
H, HILL, ZINC LAKE**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104114E 104115W  
BC MAP:  
LATITUDE: 58 58 27 N  
LONGITUDE: 129 00 37 W  
ELEVATION: 1800 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Located on the ridge east of Nizi Creek, about 10 kilometres  
northeast of Beale Lake (Assessment Report 22840).

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6537176  
EASTING: 499409

COMMODITIES: Gold Silver Zinc Lead Copper  
Barite

**MINERALS**

SIGNIFICANT: Pyrite Sphalerite Galena Chalcopyrite Stibnite  
Tetrahedrite Barite  
COMMENTS: Stibnite was reported to occur at the Zinc Lake zone in an early  
report. Tetrahedrite is possibly present also.  
ASSOCIATED: Quartz Carbonate Barite Tourmaline Sericite  
Graphite Acanthite  
COMMENTS: Unidentified black mineral, possibly tourmaline.  
ALTERATION: Silica Tourmaline Sericite  
ALTERATION TYPE: Silicific'n Tourmalin'z'n Sericitic  
MINERALIZATION AGE: Eocene

**DEPOSIT**

CHARACTER: Shear Vein Disseminated Massive  
CLASSIFICATION: Hydrothermal Epigenetic Epithermal Industrial Min.  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Irregular  
MODIFIER: Fractured Sheared  
DIMENSION: 2000 x 200 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Area containing numerous mineralized zones.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Unnamed/Unknown Group	Unnamed/Unknown Formation	Sylvester Allochthon
Paleozoic-Mesozoic			

LITHOLOGY: Andesitic Flow  
Rhyolitic Flow  
Andesite  
Rhyolite  
Tuff  
Gabbro  
Diorite  
Granodiorite  
Quartz Monzonite  
Ultramafic

HOSTROCK COMMENTS: Host rocks belong to the Rapid River tectonite of the Sylvester  
Allochthon. Eocene volcanics are involved as well.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Kootenay

**INVENTORY**

ORE ZONE: ZONE V REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 2002  
SAMPLE TYPE: Grab  
COMMODITY  
Gold 11.3800 Grams per tonne  
Silver 22.4000 Grams per tonne  
COMMENTS: Best grab.  
REFERENCE: EM Fieldwork 2002, p. 54.

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1992  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE  
Gold                      5.7300                      Grams per tonne  
COMMENTS: An average grade over a 13.77 metre interval.  
REFERENCE: Assessment Report 22840, page 38.

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 2001  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Gold                      2.2600                      Grams per tonne  
Silver                      278.1000                      Grams per tonne  
COMMENTS: 1.8 metre chip sample from sphalerite-galena-pyrite-carbonate-rhyolite breccia.  
REFERENCE: EM Fieldwork 2002, p. 54.

ORE ZONE: TRENCH                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1992  
SAMPLE TYPE: Channel  
COMMODITY                      GRADE  
Silver                      841.7200                      Grams per tonne  
Gold                      94.0100                      Grams per tonne  
COMMENTS: Over a true width of 2.3 metres.  
REFERENCE: George Cross Newsletter June 26, 1992.

ORE ZONE: DISCOVERY                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 2001  
SAMPLE TYPE: Channel  
COMMODITY                      GRADE  
Gold                      30.0000                      Grams per tonne  
Silver                      1200.0000                      Grams per tonne  
COMMENTS: "Typical" channel over 1-2 metres from quartz-carbon-sulphide-barite stockwork with pyrite, galena, sphalerite, chalcopyrite, tetrahedrite and acanthite.  
REFERENCE: EM Fieldwork 2002, p. 54.

**CAPSULE GEOLOGY**

The Nizi property is located 10 kilometres northeast of Beale Lake and 80 kilometres northeast of Dease Lake. The area was originally mapped as being underlain by sedimentary rocks of the Sylvester Group (Geological Survey of Canada Open File 610) but recent work by Gabrielse shows the area to be part of a Devonian and Mississippian tectonite assemblage (the Rapid River tectonite) probably with Kootenay Terrane affinities (Geological Survey of Canada Open File 2779). A large body of hornblende diorite, part of the Upper Devonian(?) to Upper Triassic Sylvester Complex, is shown to intrude the tectonite in the area of the prospect.

The main mineralized area of the Nizi prospect is reported to occur within a wedge of volcanics that is flanked on either side by a metasedimentary sequence (Assessment Report 22840). The volcanics are intruded by gabbro/diorite bodies and a granodiorite to quartz monzonite intrusion. Two minor ultramafic stocks also intrude the metasediments. The key volcanic formation is comprised of mafic, intermediate and more felsic units. Most of the known gold mineralization is associated with shear/fault structures within the intermediate and felsic units. There is no evidence of major faulting although numerous minor shear/fault structures occur throughout the property.

All mineralization is associated with shears, faults and fractures on the property. Numerous zones are documented in an area of at least 2 kilometres in length by several hundred metres in width. Significant mineralization occurs in the following associations:

- 1) gold-bearing quartz (+/- carbonate) veins/breccia which carry significant silver and varying amounts of pyrite, sphalerite, galena and chalcopyrite and have associated accessory sericite and barite. A fine-grained black mineral, possibly tourmaline, is an important alteration mineral occurring as a pervasive and fracture controlled mineral in the silicified rocks.
- 2) disseminated to semi-massive bands of sphalerite, galena, and

## CAPSULE GEOLOGY

chalcopryrite with silver and gold, subdivided into:

- a) quartz-poor with nil to low gold values
  - b) quartz-bearing with low to moderate gold values.
- 3) silicified zones in the felsic volcanics.  
Chip/channel samples (of type 1 association) assayed up to 27.09 grams per tonne gold and 1220.58 grams per tonne silver over 2 metres (Assessment Report 22840). These veins are continuous over several hundred metres but are fairly narrow (1 to 2 metres). The highest values have come from the Discovery Vein and the Surprise Vein.  
Grab samples from the H zone (mineral association type 2a) assayed up to 2.33 grams per tonne gold and 627.43 grams per tonne silver, 18.3 per cent zinc and 7.5 per cent lead (Assessment Report 22840). In the Gully Zones A and B (mineral association type 2b) samples assayed up to 12.0 grams per tonne gold and up to 3428 grams per tonne silver. These base metal zones are generally very narrow (less than 20 centimetres) and traceable for tens of metres.  
A few zones of silicified volcanics (mineral association type 3) usually near quartz veins locally contain anomalous to low grade gold values (less than 3.4 grams per tonne).  
Drilling in 1992 indicated continuity of the gold-bearing structures at depth but the gold values themselves were lower than surface assays. One drillhole, testing the Sericite zone, averaged 5.73 grams per tonne gold over 13.77 metres (Assessment Report 22840, page 38).

A channel sample across 2.3 metres assayed 94.01 grams per tonne gold and 841.72 grams per tonne silver (George Cross News Letter, June 26, 1992).

The Nizi property was worked intermittently by several different concerns between 1970 and 1992. Sumac Mines Ltd. conducted geological and geochemical (about 1000 soils and silts) surveys in 1972. Cordilleran Engineering ran a similar program (592 soils, 63 rock and 93 silts) in 1979. In 1982, Regional Resources conducted a minor soil and rock sampling program. Izumi Exploration, in 1987, conducted a large program consisting of geophysical and geochemical (202 rocks and 1440 soils) surveys. In 1992, Gold Fields Canada Minerals drilled 5 diamond-drill holes, collected 625 soil and 650 rock samples and conducted ground geophysical surveys.

In 1996, Madrona Mining Limited drilled 6 holes, totalling 914 metres. A 4.5 metre intercept graded 1.16 grams per tonne gold, 733.4 grams per tonne silver and 7.8 per cent zinc (Exploration in BC 1996, page B13).

Madrona Mining Limited drilled four holes in 1997 to further evaluate the stockwork mineralization in the Discovery vein area and a fifth hole to test a rhyolite flow-dome complex. To date, a zone measuring 100 by 225 metres, extending to a depth of 125 metres has been identified as having bulk mining potential in the Discovery area. Gold and silver mineralization occurs in a subvertical to vertical, multi-stage, quartz vein-stockwork system and associated hydrothermal breccia, hosted by altered andesitic to rhyolitic flows, tuffs and subvolcanic intrusions of probable Tertiary age.

In Fieldwork 1997, pages 17-1 to 17-13 the case that this polymetallic mineralization is epithermal in nature and Eocene in age is based in part on an interpretation of some lead isotope data. The containing volcanics and rhyolite are also thought to be Eocene in age. In Fieldwork 2002, page 54, the Nizi veins and enclosing rocks are assigned to the Zinc Lake volcanic/intrusive sequence which is correlated with the Major Hart pluton, and which is Eocene in age.

Recent work has focussed on the veins set in an area 2 kilometres by 1 kilometre elongate in a Northwesterly direction. Two mineralization styles can be described. One set is a sulphide-poor gold, silver, quartz veins and stockworks associated with pervasive silicification, the other is sulphide-rich iron-carbonate sphalerite galena veins associated with extensive carbonate alteration. Six mineralized zones are outlined, Zinc Lake, Discovery/surprise vein, Grizzly Ridge, H, Gully A, and Gully B. Currently the Discovery/surprise vein is the best target. As can be seen above, grades vary.

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EMPR EXPL 1979-290; 1996-B13; 1997-16  
EMPR FIELDWORK 1997, paper 17-1,17-13; 2001, pp. 41-58  
EMPR GEM 1971-47; 1972-545  
EMPR INF CIRC 1998-1, p. 27  
EMPR PF (Report on the Nizi Project by Gold Giant Minerals Inc., author and date unknown, c. 1992; \*Gold Giant Minerals Inc., Prospectus March 4, 1992)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 64  
REPORT: RGEN0100

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GSC MAP 29-1962; 1418A  
GSC OF 610, 2262, 2779  
GCNL \*#124,#166,#187, 1992  
N MINER May 4, 1998  
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/07

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 033**

NATIONAL MINERAL INVENTORY: 10414 Cu2

NAME(S): **BELL**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104104W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 04 N  
LONGITUDE: 129 54 16 W  
ELEVATION: 1600 Metres

NORTHING: 6455168  
EASTING: 446890

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of Bell claims, west of the Gnat Lakes (Assessment Report 2889).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Magnetite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Triassic	Stuhini	Unnamed/Unknown Formation	Three Sisters Pluton
Jurassic			

LITHOLOGY: Augite Porphyry  
Meta Andesite  
Meta Basalt  
Volcanic Breccia  
Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Bell showing is located about 26 kilometres southeast of Dease Lake.

The showing occurs in an area mapped as Middle Triassic rocks of the Lower to Upper Triassic Stuhini Group. These include augite porphyry, meta-andesite, metabasalt, volcanic breccia and possibly some sedimentary rock. The southern portion of the property is adjacent to quartz monzonite of the Early to Middle Jurassic Three Sisters Pluton, part of the Late Triassic to Middle Jurassic Hotailuh Batholith. Several major north-trending faults are evident in the area.

Magnetite is reported in all the volcanics and in places is accompanied by strong concentrations of disseminated chalcopyrite.

In 1971, Chapparal Mines Ltd. conducted magnetometer and IP surveys, collected soil samples and drilled 160 metres in 2 diamond-drill holes. No other work is reported.

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EMPR ASS RPT \*2889  
EMPR FIELDWORK 1988, PP. 429-434  
GSC MEM 194, pp. 7,16  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 034**

NATIONAL MINERAL INVENTORY: 10414 Cu4

NAME(S): **MAT**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104104E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 00 41 N  
LONGITUDE: 129 40 44 W  
ELEVATION: 1300 Metres

NORTHING: 6430180  
EASTING: 459885

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the central area of Mat 1-32 claims.  
Mineralization occurs in central claim region and to the northwest and southeast (Assessment Report 3028 (Map 4) Figure 1).

COMMODITIES: Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite    Bornite    Chalcocite    Sphalerite    Galena  
ASSOCIATED: Epidote  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated              Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: \*              Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic	Stuhini	Unnamed/Unknown Formation	
Upper Triassic			Beggerlay Creek Pluton

LITHOLOGY: Gneiss  
Serpentinized Pyroxenite  
Gabbro  
Quartz Monzonite  
Meta Sediment/Sedimentary  
Dike

HOSTROCK COMMENTS: The Beggerlay Creek Pluton is part of the Hotailuh Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Mat showing is located about 55 kilometres southeast of Dease Lake.

The region of the showing is mainly underlain by the Late Triassic Beggerlay Creek Pluton which has intruded a sedimentary sequence of the Lower and Middle Triassic Stuhini Group. The pluton is comprised of biotite-hornblende diorite, gabbro, monzodiorite and pyroxenite. The sedimentary package contains argillite, greywacke, phyllite, chert, limestone and quartzite.

Low grade, finely disseminated chalcopyrite has been found across 91 metres in gneiss. Both disseminated bornite and narrow stringers of massive bornite and chalcocite associated with dikes were found in serpentinized pyroxenite and gabbro. Sheared sediments are reported to host chalcopyrite, galena and sphalerite and some bornite was found in epidote stringers in quartz monzonite. Massive sulphide float assayed 0.1 per cent copper and 0.08 per cent nickel (Assessment Report 3028).

Silver Standard Mines Ltd. conducted a magnetometer survey and collected 558 soil samples in 1971. No other work is recorded.

**BIBLIOGRAPHY**

EMPR GEM 1971-43  
EMPR ASS RPT \*3028  
GSC OF 610; 2262; 2779  
GSC MAP 9-1957; 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/13

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 035**

NATIONAL MINERAL INVENTORY: 10419 W3

NAME(S): **RYE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104109E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 34 14 N  
LONGITUDE: 128 11 59 W  
ELEVATION: 1800 Metres

NORTHING: 6492512  
EASTING: 546548

LOCATION ACCURACY: Within 1 KM

COMMENTS: The index map for the Rye Group in Assessment Report 3213 places the mineralized zone (on Rye 81 and 90) near the above coordinates. This is substantiated by contour patterns on accompanying geology and geochemical maps. However, old claim maps put Rye 81 and 90, between 2 and 3 kilometres to the north-northwest.

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Scheelite  
ALTERATION: Silica Chlorite Tremolite  
ALTERATION TYPE: Silicific'n Chloritic Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn  
TYPE: K05 W skarn

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Ingenika	Swannell	
Upper Proterozoic	Ingenika	Tsaydiz	
Lower Cretaceous			Cassiar Batholith

LITHOLOGY: Sandstone  
Gneiss  
Quartzite  
Shale  
Siltstone  
Conglomerate  
Limestone  
Dolomite  
Granite  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1971

SAMPLE TYPE: Channel

COMMODITY GRADE  
Tungsten 1.2500 Per cent

COMMENTS: Best assay for WO<sub>3</sub>. Sample taken over 1 metre.  
REFERENCE: Assessment Report 3213.

**CAPSULE GEOLOGY**

The Rye showing is located approximately 107 kilometres east of Dease Lake and about 11 kilometres south of the Turnagain River.

The area of the showing is mapped as Ingenika Group undivided sediments and metasediments consisting of the Upper Proterozoic Swannell and Tsaydiz formations. In the Rye area, these comprise quartzite, shale, siltstone and pebble conglomerate with minor overlying limestone and dolomites. The northeastern contact of the Early Cretaceous Cassiar Batholith (of the Cassiar Plutonic Suite) occurs a few kilometres to the east. The batholith varies in composition from granite to quartz monzonite to granodiorite.

Scheelite occurs as disseminations which are distributed fairly uniformly throughout a 90 to 100 centimetre thick altered bed. The

**CAPSULE GEOLOGY**

original rock, possibly a sandstone, has been silicified and is often banded with chlorite; it exhibits gneissic texture in some samples. Part of the bed carries a bladed mineral, possibly tremolite. The bed is exposed for about 30 metres in 3 outcrops. Three channel samples yielded, 1.25 per cent WO<sub>3</sub> over 1 metre; 0.54 per cent over 0.9 metre; and 0.40 per cent over 1 metre (Assessment Report 3213).

Conwest Exploration conducted geological and geochemical surveys in 1971. They collected 214 soil and 9 channel samples.

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EMPR GEM 1971-47  
EMPR ASS RPT \*3213  
EMPR OF 1991-17  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 036**

NATIONAL MINERAL INVENTORY: 10411 Cu1

NAME(S): **RIN**, RIN 88

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104101E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 09 21 N  
LONGITUDE: 128 04 48 W  
ELEVATION: 1800 Metres

NORTHING: 6446429  
EASTING: 554143

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized veins on the Rin 88 claim, about 7 kilometres east of the Tucho River (Assessment Report 3215).

COMMODITIES: Copper Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite Molybdenite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic Porphyry

TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic			Unnamed/Unknown Informal

LITHOLOGY: Biotite Hornblende Monzonite  
Granodiorite  
Quartz Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1971

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

1.4200

Per cent

Molybdenum

0.2000

Per cent

COMMENTS: The molybdenum value is for molybdenite.

REFERENCE: Assessment Report 3215.

**CAPSULE GEOLOGY**

The Rin showing is located about 120 kilometres southeast of Dease Lake.

Quesnel Terrane rocks were intruded by a large pluton in the Early Jurassic, consisting of biotite-hornblende quartz monzonite, granodiorite and quartz diorite. These plutonic rocks are reported to host clusters of coarse molybdenite and chalcopyrite in two parallel quartz veins about 1.5 metres apart.

The veins strike northerly and dip 50 to 60 degrees to the west. They outcrop along a steep north-northeast facing slope and the surface trace of the veins trends to the southeast. The upper zone attains a maximum thickness of 0.6 metre but pinches to zero thickness at a couple of points along a 23 metre length. The lower vein maintains a width of 0.37 to 0.76 metre for approximately 15 metres and then splits into several narrow (less than 7.6 centimetres) veins. These veins pinch out after about 21 metres.

The veins were sampled along the best mineralized sections over an average width of 0.52 metre and a combined length of 8.8 metres. The weighted average was 1.42 per cent copper and 0.20 per cent molybdenite (Assessment Report 3215).

Conwest Exploration Ltd. prospected and sampled the Rin claims in 1971. No other work is reported.

**BIBLIOGRAPHY**

EMPR ASS RPT \*3215

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 70  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 037**

NATIONAL MINERAL INVENTORY: 10415 Cu1

NAME(S): **KAY 19**, KIM, KING

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 16 35 N  
LONGITUDE: 129 56 53 W  
ELEVATION: 1500 Metres

NORTHING: 6459873  
EASTING: 444395

LOCATION ACCURACY: Within 500M

COMMENTS: Area of drill holes at Kay 19-Kay 20 claim boundary (Assessment Report 3372).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite      Bornite      Pyrrhotite  
ASSOCIATED: Magnetite  
ALTERATION: Biotite      Silica  
ALTERATION TYPE: Biotite      Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated      Vein  
CLASSIFICATION: Hydrothermal      Epigenetic  
TYPE: I06      Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Triassic  
Jurassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Three Sisters Pluton

LITHOLOGY: Volcaniclastic Sediment/Sedimentary  
Volcanic Breccia  
Porphyritic Andesite  
Granodiorite  
Hornblende Quartz Monzonite  
Basalt  
Pyroclastic Rock  
Clastic Rock

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1971

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

0.0900

Per cent

COMMENTS: This sample also yielded 3.43 grams per tonne silver and trace gold.  
A 1.07-metre drill interval.

REFERENCE: Assessment Report 3372.

**CAPSULE GEOLOGY**

The Kay 19 showing is located about 20 kilometres south-southeast of Dease Lake.

The showing occurs in an area underlain by Lower to Upper Triassic rocks of the Stuhini Group. Rocks observed on the property consists of andesitic and basaltic flows, pyroclastics, clastics, greenish red breccias and porphyritic andesites. These rocks are intruded by granodiorite to hornblende quartz monzonite of the Early to Middle Jurassic Three Sisters Pluton, part of the Late Triassic to Middle Jurassic Hotailuh Batholith.

Biotitized and silicified volcaniclastic sediments contain chalcopyrite as fine disseminations and fracture fillings. Hand trenching exposed an area about 1.8 by 6.7 metres in size. The mineralized area is bounded by a dike on the north and open to the south. A large monzonite outcrop occurs a short distance to the southwest. Traces of bornite, pyrrhotite and magnetite are associated with the chalcopyrite. Three diamond-drill holes were

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**CAPSULE GEOLOGY**

completed in 1971. A 1.07-metre interval assayed 0.09 per copper, 3.43 grams per tonne silver and trace gold (Assessment Report 3372).

The Kay claims were worked by Tanzilla Explorations Ltd. from 1969 to 1972. Aside from the drilling reported previously, geological, geochemical and geophysical (including magnetometer and IP) surveys were completed. Refer also to the Kay 49 occurrence (104I 026).

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EMPR PF (Aikens, C.E.T. (1974) Report on Work on Forfeited Claims, Tanzilla Explorations Ltd, Ko, Kay, King Fr. and Box Claims)  
EMPR GEM 1969-45; 1970-38; 1971-45; 1972-538  
EMPR ASS RPT 2152, 2622, 2766, 2767, 3204, 3205, \*3372, 3973  
EMPR FIELDWORK 1988, PP. 429-434  
GSC MEM 194, pp. 7,16  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/01

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 038**

NATIONAL MINERAL INVENTORY: 10417 Cu3

NAME(S): **AGNES**, DAVIS 1, TURN,  
CUB, TURNAGAIN

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 29 53 N  
LONGITUDE: 128 52 35 W  
ELEVATION: 1700 Metres

NORTHING: 6484169  
EASTING: 507205

LOCATION ACCURACY: Within 500M

COMMENTS: The mineralization is located about 5 kilometres north of the outlet of Flat Creek in the Turnagain River (Clark, 1975, Figure 31).

COMMODITIES: Copper Nickel

**MINERALS**

SIGNIFICANT: Pyrrhotite Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Podiform  
CLASSIFICATION: Magmatic Syngenetic  
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Road River	Unnamed/Unknown Formation	
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Upper Triassic			Ultramafic Intrusions

LITHOLOGY: Pyroxenite  
Peridotite  
Dunite  
Serpentinite  
Slate  
Phyllite  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Quesnel

Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Agnes (Davis 1) occurrence is located about 70 kilometres east of Dease Lake, just west of the Turnagain River.

The showing is hosted in an Alaskan-type ultramafic intrusive complex. This zoned complex consists of a dunite core and surrounding peripheral peridotites, pyroxene-rich peridotite, and olivine pyroxenite with maximum dimensions of 3 by 8.2 kilometres. This complex was intruded in the Late Triassic into Upper Paleozoic (?) and/or Triassic (?) metavolcanic and metasedimentary rocks of the Quesnel Terrane. It is in faulted contact on the east and north with slate and phyllite of the Paleozoic Road River Group (Ancestral North America).

Sulphide concentrations occur in a medium-grained, equigranular pyroxenite. Pyrrhotite and chalcopyrite occur as intercumulus blebs and pods, partially surrounding round to oval-shaped silicate grains less than 1 to 2 millimetres in diameter.

See the Turnagain prospect (104I 014) for further details and history of this and other nearby showings.

**BIBLIOGRAPHY**

EMPR AR 1966-221; 1967-28  
EMPR ASS RPT 2056, \*3206, 3735, 4097, 8055, \*15994, 16458, 24911, 25475  
EMPR EXPL 1979-484; 1987-384,385  
EMPR GEM 1969-49; 1970-40; 1971-46; 1972-545; 1973-512  
EMPR PF (Kilburn, L.C. (1967): Report on Turnagain Copper-Nickel Prospect to December 1967 (in 104I 014 file))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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REPORT: RGEN0100

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**BIBLIOGRAPHY**

CJES \*Vol.15, No.12, 1978, pp. 1893-1903; \*Vol.17, No.6, 1980, pp.  
744-757

WWW <http://www.canadianmetalsexploration.com>

\*Clark, T. (1975): Geology of an ultramafic complex on the Turnagain  
River, northwestern British Columbia. Ph.D. thesis, Queen's  
University, Kingston, Ontario  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/27

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 039**

NATIONAL MINERAL INVENTORY: 10416 Cr1

NAME(S): **JJR**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104106E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 20 44 N  
LONGITUDE: 129 04 12 W  
ELEVATION: 1650 Metres

NORTHING: 6467185  
EASTING: 495902

LOCATION ACCURACY: Within 1 KM

COMMENTS: Central area of JJR claims (Assessment Report 3530).

COMMODITIES: Chromium Asbestos

**MINERALS**

SIGNIFICANT: Chromite Asbestos  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Magmatic Metamorphic Hydrothermal Industrial Min.  
TYPE: M03 Podiform chromite M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Dunite  
Pyroxenite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The JJR showing is located about 57 kilometres east of Dease Lake, between the Turnagain River and Two Mile Creek. The area of the JJR occurrence is underlain by Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentized. Reports of high-grade chromite in the vicinity led to the staking of the JJR claims in 1971 over a belt of serpentinite between the Turnagain River and Wheaton Creek. It is reported that although substantial very low-grade nickel-bearing and chrome-bearing serpentinite was sampled, nothing approaching ore grade was found. A sample of chromite from a large boulder on Wheaton Creek, several kilometres to the east, assayed 47.5 per cent chromic oxide (Bulletin 2, pages 24-25). This indicates the potential for higher grade in situ chromite deposits in the area. A small occurrence of poor-quality asbestos was also found on the south side of the top of "Black Mountain" (Assessment Report 3530). Jorex Ltd. mapped and took 213 soil samples on the JJR claims in 1972.

**BIBLIOGRAPHY**

EMPR GEM 1972-540  
EMPR ASS RPT \*3530, 9286  
EMPR BULL \*2, pp. 24,25  
EMPR OF 1995-25  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/23

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 040**

NATIONAL MINERAL INVENTORY: 104116 Ag3

NAME(S): **JOHNNY**, SKY, BLUE SHEEP LAKE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104116W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 45 57 N  
LONGITUDE: 128 18 37 W  
ELEVATION: 1600 Metres

NORTHING: 6514183  
EASTING: 539894

LOCATION ACCURACY: Within 500M

COMMENTS: Location given for the Main showing of the Sky claims which covered the area previously held as the Johnny claims (Assessment Report 9661).

COMMODITIES: Tungsten                      Molybdenum                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Scheelite                      Powellite                      Molybdenite                      Pyrite                      Pyrrhotite  
Galena                      Sphalerite                      Chalcopyrite                      Rhodochrosite                      Magnetite  
Arsenopyrite

ASSOCIATED: Magnetite                      Quartz  
ALTERATION: Garnet                      Diopside                      Magnetite

ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Vein                      Stockwork                      Podiform  
CLASSIFICATION: Skarn                      Hydrothermal                      Epigenetic  
TYPE: K05                      W skarn                      I05                      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Undefined Formation	
Cambrian-Ordovician	Kechika	Undefined Formation	

LITHOLOGY: Garnet Diopside Skarn  
Hornfels  
Dolomite  
Limestone  
Phyllite  
Quartz Feldspar Porphyry

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Johnny showing is located about 108 kilometres northeast of Dease Lake.

The area is underlain by south-dipping carbonate of the Lower Cambrian Atan Group which are overlain by phyllites of the Upper Cambrian to Lower Ordovician Kechika Group. The strata is intruded by a small Cretaceous(?) quartz-feldspar porphyry stock and associate dikes and sills. Intrusion of the stock has produced a doming of the sediments and an extensive zone of hornfels within the phyllites. Low sulphide garnet-diopside skarn and overlying cherty, light green to brown hornfels are exposed at the dolomite-phyllite contact immediately west of the stock.

Mineralization present includes scheelite, molybdenite, pyrite, pyrrhotite, galena and sphalerite, chalcopyrite, powellite, arsenopyrite and rhodochrosite.

Scheelite and powellite occur within light green skarn, garnet skarn and magnetite skarns. Scheelite occurs as blue and yellow fluorescing, coarse crystals up to 2 centimetres long in the magnetite skarn and fine-grained to powdery disseminations in the light green and garnet skarns. Scheelite and powellite in the skarns are concentrated in a zone 200 metres long by up to 35 metres wide.

Molybdenite occurs as disseminations and streaks within the light green and brown cherty hornfels and flakes along narrow fractures in the hornfels. Traces of disseminated molybdenite are also present in the light green skarn and garnet skarn.

Galena-sphalerite and pyrrhotite occur in diopside-quartz veins within dolomite and in discontinuous pods with pyrite and chalcopyrite along the phyllite-dolomite contact. Pyrrhotite is

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**CAPSULE GEOLOGY**

common throughout all the rock units but is most abundant within the phyllitic and cherty hornfels as disseminations, veinlets and massive pods. Chalcopyrite blebs and veinlets are commonly associated with the massive pyrrhotite pods and are locally present within the dolomite and cherty hornfels. Massive arsenopyrite was observed in float with pyrite, galena-sphalerite and quartz. Rhodochrosite occurs in vertical, black weathering carbonate veins with minor disseminated sphalerite, chalcopyrite, arsenopyrite and galena.

The Caltor Syndicate held the Johnny claims in 1971 and performed geological, magnetometer and electromagnetic surveys. Amax of Canada held the ground in 1981 as the Sky claims collecting 380 soil, 21 silt and 31 rock samples.

**BIBLIOGRAPHY**

EMPR GEM 1972-546  
EMPR ASS RPT \*3539, \*9661  
GSC OF 610  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/03

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 041**

NATIONAL MINERAL INVENTORY:

NAME(S): **RN**, GUNSIGHT

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104114E 104115W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 56 57 N  
LONGITUDE: 129 03 48 W  
ELEVATION: 1630 Metres

NORTHING: 6534393  
EASTING: 496356

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 6 kilometres north-northeast of Beale Lake.

COMMODITIES: Lead                      Zinc                      Copper                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Galena              Pyrite              Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian			Unnamed/Unknown Informal

LITHOLOGY: Hornblende Diorite

HOSTROCK COMMENTS: The host diorite is of the Nizi Creek Pluton.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain              Plutonic Rocks

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1992
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	110.0000      Grams per tonne
Gold	0.1000      Grams per tonne
Copper	0.3100      Per cent
Lead	8.3600      Per cent
Zinc	3.0900      Per cent

COMMENTS: From a 20-centimetre chip.  
REFERENCE: Assessment Report 22946.

**CAPSULE GEOLOGY**

The RN showing is located about 80 kilometres northeast of Dease Lake.

Mineralization consists of a quartz vein, varying from 20 to 100 centimetres in width, carrying galena, minor pyrite and sphalerite. The vein is hosted in a brecciated hornblende diorite of the Early Permian Nizi Creek Pluton of the Sylvester Complex (Slide Mountain Terrane) (Geological Survey of Canada Open File 2779). The best sample taken yielded 0.10 gram per tonne gold, 110 grams per tonne silver, 0.31 per cent copper, 8.36 per cent lead and 3.09 per cent zinc over 20 centimetres (Assessment Report 22946).

An area of chalcopyrite-rich float boulders was located about 400 metres upslope to the south. Samples yielded 27 grams per tonne silver and 2.79 per cent copper (Assessment Report 22946).

The RN claims were owned by Golden Marlin Resources in 1992. Toklat Resources operated the property in that year, conducting geological mapping and taking 44 rock and 65 silt samples.

**BIBLIOGRAPHY**

EM FIELDWORK 2001, pp. 41-58  
EM OF 2002-6  
EMPR ASS RPT \*22946  
GSC MAP 29-1962; 1418A  
GSC OF 610, 2262, 2779

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

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**BIBLIOGRAPHY**

Chevron File

DATE CODED: 1995/05/08  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: 1041 042

NATIONAL MINERAL INVENTORY: 10417,2 Asb2

NAME(S): J, WIND

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104102W 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 54 N  
LONGITUDE: 128 48 27 W  
ELEVATION: 1680 Metres

NORTHING: 6456375  
EASTING: 511300

LOCATION ACCURACY: Within 500M

COMMENTS: Location of serpentinized ultramafic band (Prospectus, Tournigan Mining Explorations Ltd. (Property File)).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ALTERATION: Serpentinite  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Metamorphic Hydrothermal Epigenetic Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos  
DIMENSION: 760 x 150 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Dimensions of serpentinite body.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Lower Jurassic	Laberge	Inklin	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Serpentinite  
Sediment/Sedimentary Rock  
Sediment/Sedimentary Meta Rock

HOSTROCK COMMENTS: The ultramafic band is upper Mississippian to Permian. Inklin Fm. has recently been reassigned to the Laberge Group (overlap assemblage).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The J occurrence is located about 5 kilometres south of Letain Lake.

A band of serpentinized peridotite occurs at the thrust fault contact of Lower Jurassic Inklin Group (Laberge Group) sediments and metasediments, on the south, and Mississippian to Triassic sediments of the Kedahda Formation (Cache Creek Complex) on the north. The peridotite is an alpine-type upper Mississippian to Permian body of the Mississippian to Jurassic Cache Creek Complex.

The serpentinized peridotite is at least 760 metres long (possibly up to 1 kilometre) and averages 150 metres in width. Chrysotile cross fibres occur over the length of the band within a network of fractures. The fiber length is short, varying from a hair up to 1 centimetre. Hand specimens can contain up to 10 per cent fibers by volume. A sample of the fibre was reportedly analyzed, giving indications of high quality asbestos.

Prospecting and magnetic surveys were conducted in 1971 and 1972 by Tournigan Mining Exploration Ltd. No other work has been reported.

**BIBLIOGRAPHY**

EMPR PF (\*Prospectus, Tournigan Mining Explorations Ltd., 1971; Report to Shareholders, Tournigan Mining Explorations Ltd., 1974)  
EMPR GEM 1971-450; 1972-573  
EMPR ASS RPT \*3628  
EMPR OF 1995-25  
GSC MAP 29-1962; 9-1957; 1418A



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
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REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/02

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 043**

NATIONAL MINERAL INVENTORY: 10413 Cu5

NAME(S): **PAT**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104103W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 31 N  
LONGITUDE: 129 29 43 W  
ELEVATION: 1700 Metres

NORTHING: 6450187  
EASTING: 470882

LOCATION ACCURACY: Within 1 KM

COMMENTS: Mineralization occurs near the above coordinates and to the south and southwest (Assessment Reports 3963 and 6323).

COMMODITIES: Copper Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite Molybdenite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein Stockwork  
CLASSIFICATION: Porphyry Hydrothermal  
TYPE: L04 Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic			Cake Hill Pluton

LITHOLOGY: Hornblende Quartz Monzodiorite  
Monzodiorite  
Granodiorite  
Hornblende Diorite  
Metamorphic Rock

HOSTROCK COMMENTS: The Cake Hill Pluton is part of the Hotailuh Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Pat occurrence is located about 44 kilometres southeast of Dease Lake.

Chalcopyrite and molybdenite have been reported at several locations. The showings occur in an area intruded by the Late Triassic Cake Hill Pluton which consists of hornblende quartz monzodiorite, granodiorite, weakly to moderately foliated monzodiorite (and metamorphosed equivalents) and rare hornblende diorite.

Mineralization occurs within intrusive rocks as disseminations in scattered altered zones and as massive siliceous veins. Roof pendants of metamorphic rock occurring on the ridges also have associated veins and disseminations. A few small pockets of disseminated molybdenite have been observed. Massive to nearly massive chalcopyrite and pyrite occur with quartz in angular float.

The Pat claims were prospected by owner Lorne Elliot in 1972 and 113 soil samples were collected. Tormex Resources Limited held title to the land in 1977 (MAC, MKS, RMK, Brad, Horn and Jim claims) conducting over 7 kilometres of IP, 6.6 kilometres of magnetometer and an unspecified amount of seismic work. They also collected 235 soil samples.

**BIBLIOGRAPHY**

EMPR GEM 1972-537; 1977-E232  
EMPR ASS RPT \*3963, \*6323  
GSC OF 610; 2262; 2779  
GSC MAP 9-1957; 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/25

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 044**

NATIONAL MINERAL INVENTORY: 10416 Asb1

NAME(S): **ASB**, DHA, BYN

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104106W 104106E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 29 43 N  
LONGITUDE: 129 15 32 W  
ELEVATION: 1300 Metres

NORTHING: 6483882  
EASTING: 484909

LOCATION ACCURACY: Within 500M

COMMENTS: The given location is for the copper showing in the creek (Assessment Report 3992)

COMMODITIES: Asbestos Copper

**MINERALS**

SIGNIFICANT: Chrysotile Picrolite Chalcopyrite Pyrite  
ALTERATION: Malachite Serpentine  
ALTERATION TYPE: Oxidation Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated Stockwork  
CLASSIFICATION: Hydrothermal Epigenetic Metamorphic Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos M02 Tholeiitic intrusion-hosted Ni-Cu

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Serpentinite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cache Creek

**CAPSULE GEOLOGY**

The ASB showing is located approximately 45 kilometres east of Dease Lake.  
The ASB area is underlain by Mississippian to Permian peridotite of the Mississippian to Jurassic Cache Creek Complex. The peridotite is frequently serpentinized.  
Asbestos mineralization on the property consists of chrysotile in veinlets up to a few centimetres thick and picrolite veinlets. Scattered asbestos was observed over a distance of 5.6 kilometres along a northwest trending zone.  
An outcrop of peridotite in a creek is stained with malachite and contains fine-grained disseminated chalcopyrite and some pyrite. Little work is reported except for a magnetometer survey done in 1972.

**BIBLIOGRAPHY**

EMPR GEM 1972-540  
EMPR ASS RPT \*3992  
EMPR OF 1995-25  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/19

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 045**

NATIONAL MINERAL INVENTORY:

NAME(S): **GREENROCK**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104106E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 26 59 N  
LONGITUDE: 129 10 01 W  
ELEVATION: 1620 Metres

NORTHING: 6478793  
EASTING: 490256

LOCATION ACCURACY: Within 500M

COMMENTS: The given location is for one of two jade pods shown on Geological Survey of Canada Open File map 2779. The second occurs 1 kilometre to the northwest.

COMMODITIES: Jade/Nephrite

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Replacement                      Metamorphic                      Epigenetic                      Industrial Min.  
TYPE: Q01    Jade

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Peridotite  
Pyroxenite  
Dunite  
Serpentinite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Greenrock occurrence is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

These rocks locally include pods of nephrite jade, two of which are plotted on Geological Survey of Canada Open File map 2779 near the headwaters of Greenrock Creek, about 50 kilometres east of Dease Lake.

**BIBLIOGRAPHY**

GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779

DATE CODED: 1995/10/19  
DATE REVISED: 1995/10/19

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 046**

NATIONAL MINERAL INVENTORY: 10414 Cu8

NAME(S): **CROWN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104104W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 13 30 N  
LONGITUDE: 129 59 31 W  
ELEVATION: 1500 Metres

NORTHING: 6454189  
EASTING: 441736

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Centre of claims (Assessment Report 3422).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Orthoclase  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Skarn  
TYPE: K01 Cu skarn

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Middle Triassic  
Triassic-Jurassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Hotailuh Batholith

LITHOLOGY: Andesite  
Basalt  
Tuff  
Monzonite  
Breccia  
Volcanic Sandstone  
Conglomerate  
Quartz Monzonite  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT:  
TERRANE:

**CAPSULE GEOLOGY**

The Crown showing is located about 25 kilometres south of Dease Lake.

The area is mainly underlain by Middle Triassic rocks of the Lower to Upper Triassic Stuhini Group. Rocks on the property are described as andesite, basalt, tuff, breccia, volcanic sandstones and conglomerate. The country rocks are intruded by small granodiorite and quartz monzonite bodies related to the Late Triassic to Middle Jurassic Hotailuh Batholith.

Disseminated and vein chalcopyrite with orthoclase and skarn alteration occur in volcanic rocks adjacent to a monzonite intrusion. A pyritic gossan is reported.

Several geophysical surveys (IP, Resistivity and magnetics) and two diamond-drill holes were completed in 1971 and 1972 by Union Miniere Explorations and Mining Corp. Ltd.

**BIBLIOGRAPHY**

EMPR GEM \*1971-44; \*1972-538  
EMPR ASS RPT \*3422  
EMPR FIELDWORK 1988, pp. 429-434  
GSC MEM 194, pp. 7,16  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/03

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 047**

NATIONAL MINERAL INVENTORY: 10416 Ni1

NAME(S): **LUX**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104106E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 21 00 N  
LONGITUDE: 129 02 34 W  
ELEVATION: 1540 Metres

NORTHING: 6467679  
EASTING: 497496

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the mapped area of the Lux claims (Assessment Report 2808).

COMMODITIES: Copper Silver Nickel Iron Magnetite

**MINERALS**

SIGNIFICANT: Magnetite Millerite Chalcopyrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein Podiform  
CLASSIFICATION: Magmatic Hydrothermal  
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic  
Upper Paleozoic

GROUP

Cache Creek

FORMATION

Kedahda

IGNEOUS/METAMORPHIC/OTHER

Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Limy Chert  
Argillaceous Quartzite  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1970

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

20.5700

Grams per tonne

Copper

1.8500

Per cent

REFERENCE: Assessment Report 2808.

**CAPSULE GEOLOGY**

The Lux showing is located approximately 60 kilometres east of Dease Lake.

The area is underlain mainly by upper Mississippian to Permian serpentinitized peridotite of the Mississippian to Jurassic Cache Creek Complex. Thinly-bedded limy cherts and argillaceous quartzite are reported and are probably part of the Mississippian to Triassic Kedahda Formation (Cache Creek Complex).

Minor amounts of nickel, as millerite, occurs disseminated in serpentinitized peridotite. Magnetite locally forms segregations of up to 15 per cent in the serpentinite but averages about 5 per cent. Chalcopyrite occurs in a 2.5-centimetre wide calcite veinlet in limestone near the serpentinite contact.

One rock sample assayed 20.57 grams per tonne silver and 1.85 per cent copper (Assessment Report 2808). Although millerite was detected in polished section only background amounts of nickel were reported from rock samples (values ranging from 0.19 to 0.25 per cent).

The Lux claims were mapped and sampled in 1970 by Scurry-Rainbow Oil Limited. No subsequent work is documented.

**BIBLIOGRAPHY**

EMPR GEM 1970-39

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 87  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR ASS RPT \*2808  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/23

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 048**

NATIONAL MINERAL INVENTORY: 10412 Asb1

NAME(S): **KEHLECHOA R**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104102W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 10 57 N  
LONGITUDE: 128 51 20 W  
ELEVATION: 1740 Metres

NORTHING: 6449038  
EASTING: 508495

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the jade occurrence that appears on Geological Survey of Canada Open File map 2779. The asbestos occurrence reported in the notes of Geological Survey of Canada Map 9-1957 should be in this vicinity.

COMMODITIES: Jade/Nephrite                      Asbestos

**MINERALS**

SIGNIFICANT: Jade                      Chrysotile  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform                      Vein  
CLASSIFICATION: Hydrothermal              Replacement                      Metamorphic                      Industrial Min.  
TYPE: Q01      Jade                      M06                      Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Kehlechoa R occurrence is located about 75 kilometres east-southeast of Dease Lake.

The showing is underlain by Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

These rocks locally include pods or lenses of nephrite jade. One such pod is plotted on Geological Survey of Canada Open File map 2779 between the Kehlechoa River and Wade Lake.

Asbestos mineralization, probable chrysotile in veinlets, was reported to occur west of the Kehlechoa River (Geological Survey of Canada Map 9-1957). The exact location of the asbestos is not reported but the only ultramafic rocks west of the Kehlechoa River in which the asbestos would occur are restricted to the area east of Wade Lake.

**BIBLIOGRAPHY**

EMPR AR \*1960-131; 1961-119-126  
EMPR OF 1995-25  
GSC P 72-53, p. 490; 74-1A, p. 375; 78-19, p. 32  
GSC MAP 29-1962; \*9-1957; 1418A  
GSC OF 610; 2262; \*2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 049**

NATIONAL MINERAL INVENTORY: 10415 Mo1

NAME(S): **JOYCE**, HORN MOUNTAIN

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 42 N  
LONGITUDE: 129 33 21 W  
ELEVATION: 1675 Metres

NORTHING: 6457977  
EASTING: 467385

LOCATION ACCURACY: Within 1 KM

COMMENTS: The above coordinates are for the Joyce 1 claim, taken from a 1967 claim map. However, written descriptions put the occurrence at 1675 metres elevation on the northeast side of Horn Mountain, about 4 kilometres east of the above coordinates.

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite              Chalcopyrite              Pyrite  
ALTERATION: Biotite  
ALTERATION TYPE: Biotite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Vein  
CLASSIFICATION: Porphyry  
TYPE: L04      Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Triassic-Jurassic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Jurassic			Snowdrift Creek Pluton

LITHOLOGY: Biotite Hornblende Granodiorite  
Basalt  
Plagioclase Porphyry  
Andesite  
Conglomerate  
Tuffaceous Mudstone  
Rhyolite  
Breccia  
Siltstone  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Joyce showing is located about 35 kilometres southeast of Dease Lake.

The Joyce area is underlain by Upper Triassic Stuhini Group rocks, mainly basalt, and an assemblage of Triassic to Lower Jurassic volcanic and volcanoclastic rocks. This assemblage consists of grey and maroon plagioclase porphyry, andesite, volcanic conglomerate, tuffaceous mudstone, breccia, rhyolite, minor siltstone and shale. These rocks are intruded to the north by the Middle to Late Jurassic Snowdrift Creek Pluton consisting of biotite-hornblende granodiorite.

Pyrite, molybdenite and chalcopyrite are both disseminated and found along fractures in biotitized granodiorite.

Work was done on the showing in 1967 and 1968 by United States Smelting, Refining and Mining Company. Work consisted of various geophysical surveys including IP, followed by about 1890 metres of bulldozer trenching in 17 trenches, and 823 metres of diamond-drilling in 10 holes.

**BIBLIOGRAPHY**

EMPR AR 1967-28; \*1968-37  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 90  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/16

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 050**

NATIONAL MINERAL INVENTORY:

NAME(S): **T-4, CAMP, T-HORN,  
TANZILLA, LOTUS, HORN,  
THORN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105E

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 58 18 13 N  
LONGITUDE: 129 38 30 W  
ELEVATION: 1600 Metres

NORTHING: 6462692  
EASTING: 462394

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the Camp zone on the T-4 claim (Assessment Report 22458).

COMMODITIES: Zinc                      Copper                      Lead                      Gold

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Chalcopyrite      Pyrite  
ASSOCIATED: Quartz      Carbonate  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia                      Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Triassic-Jurassic  
Jurassic

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Snowdrift Creek Pluton

LITHOLOGY: Basalt  
Rhyolite  
Plagioclase Porphyry  
Andesite  
Volcanic Conglomerate  
Tuffaceous Mudstone  
Breccia  
Siltstone  
Shale  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1991

SAMPLE TYPE: Grab

COMMODITY

GRADE

Zinc

7.8600

Per cent

REFERENCE: Assessment Report 22458.

**CAPSULE GEOLOGY**

The T-4 occurrence is located approximately 30 kilometres southeast of Dease Lake.

The area of the occurrence is underlain by an assemblage of Triassic to Lower Jurassic volcanic and volcanoclastic rocks consisting of grey and maroon plagioclase porphyry, andesite, volcanic conglomerate, tuffaceous mudstone, breccia, rhyolite, minor siltstone and shale. The Middle to Late Jurassic Snowdrift Creek Pluton occurs several kilometres to the northeast.

The Camp zone consists of a quartz-carbonate-infilled breccia cut by coarse, crystalline quartz veining. The zone is about 4 metres wide and occurs in silicified mafic volcanic rock. Coarse-grained dioritic rock is also reported. Grab samples of well-mineralized quartz-carbonate breccia were taken across the zone (Assessment Report 22458). Sulphide mineralization consists of 2 to

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## CAPSULE GEOLOGY

5 per cent sphalerite with variable amounts of galena, chalcopyrite and pyrite. One grab sample assayed 7.86 per cent zinc (Assessment Report 22458). Copper and gold values from grab samples were in the 0.5 to 1 per cent and the 0.1 to 0.4 gram per tonne range, respectively.

A number of mining companies have conducted regional programs in the area in the late 1960s and early 1970s but no mention of these showings are recorded until 1991 when the property was held by Akiko-Lori Gold. The ground was held as the Lotus claims in 1971 by Nittetsu Mining Co. Ltd. and some soil sampling was reported. Utah Mines held the ground as the Ken and Tom claims in 1975 and the Tanzilla claims of Canadian Superior Ltd. covered the showing area in 1978. In 1989, Equity Silver Mines conducted substantial geophysical and geological work on their Thorn claims, part of which covered the showing area. In 1991, Akiko-Lori Gold prospected the Tanzilla claims and reported the Camp zone.

## BIBLIOGRAPHY

EMPR ASS RPT 3538, 5769, 19269, \*22458  
EMPR GEM 1972-539; 1975-190; 1979-287  
EMPR PF (Three 1:50000 sketches showing 1) Geology, 2) ppm Molybdenite in Silts, and 3) ppb Gold in Silts - Canadian Superior Explorations Limited, Tanzilla claims, 1978; Rock and Soil Geochemistry map - Molybdenum, 1:10000 scale, Canadian Superior Explorations Limited, Tanzilla claims, 1979)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
Placer Dome File

DATE CODED: 1995/10/06  
DATE REVISED: 1995/10/06

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 051**

NATIONAL MINERAL INVENTORY: 10417 Cu1

NAME(S): **NORTHWEST**, TURN, COBALT,  
PYRRHOTITE, CUB, TURNAGAIN

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 28 29 N  
LONGITUDE: 128 51 55 W  
ELEVATION: 1240 Metres

NORTHING: 6481572  
EASTING: 507858

LOCATION ACCURACY: Within 500M

COMMENTS: The showing is located about 2.5 kilometres north of the outlet of Flat Creek in the Turnagain River (Assessment Report 15994).

COMMODITIES: Copper                      Nickel                      Molybdenum

**MINERALS**

SIGNIFICANT: Pyrrhotite              Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated              Podiform  
CLASSIFICATION: Magmatic              Syngenetic  
TYPE: M05      Alaskan-type Pt±Os±Rh±Ir

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Road River	Unnamed/Unknown Formation	
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Upper Triassic			Ultramafic Intrusions

LITHOLOGY: Peridotite  
Dunite  
Pyroxenite  
Serpentinite  
Slate  
Phyllite  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Quesnel                      Ancestral North America                      PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1986  
SAMPLE TYPE: Drill Core

<u>COMMODITY</u>	<u>GRADE</u>	
Copper	0.2000	Per cent
Molybdenum	1.7200	Per cent
Nickel	1.1200	Per cent

COMMENTS: From a 1.83-metre drill interval. The molybdenum value is for molybdenite.

REFERENCE: Assessment Report 16458.

**CAPSULE GEOLOGY**

The Northwest (Turn) occurrence is located about 68 kilometres east of Dease Lake.

The occurrence is hosted in an Alaskan-type ultramafic intrusive complex. This zoned complex consists of a dunite core and surrounding peripheral peridotites, pyroxene-rich peridotite, and olivine pyroxenite with maximum dimensions of 3 by 8.2 kilometres. It was intruded in the Late Triassic into Upper Paleozoic (?) and/or Triassic (?) metavolcanic and metasedimentary rocks of the Quesnel Terrane. It is in faulted contact on the east and north with slate and phyllite of the Paleozoic Road River Group (Ancestral North America).

The Northwest showing occurs in rusty weathering peridotites with minor concentrations of interstitial pyrrhotite and chalcopyrite to about 10 per cent, and as small massive pods. The rocks appear to form an alternating sequence of dunites, peridotites and olivine

## CAPSULE GEOLOGY

pyroxenites.

A number of diamond-drill and pack-sack holes were put down in and around the Northwest area by Falconbridge Nickel Mines, probably in 1970 (Assessment Report 3735, Map 4). Results from these holes are not published. However, Supreme Resources resampled the core of a number of these drillholes and published some of the assays. A 1.83-metre section of diamond-drill hole 28 assayed (at 68.88 metres depth) 1.12 per cent nickel, 1.72 per cent molybdenite and 0.2 per cent copper (Assessment Report 16458 (drill logs)).

See the Turnagain prospect (104I 014) for further details and history of area deposits.

## BIBLIOGRAPHY

- EMPR AR 1966-221; 1967-28  
EMPR ASS RPT 2056, \*3735, \*4097, 8055, \*15994, \*16458, 24911, 25475  
EMPR EXPL 1979-484; 1987-384,385  
EMPR GEM 1969-49; 1970-40; 1971-46; 1972-545; 1973-512  
EMPR PF (Kilburn, L.C. (1967): Report on Turnagain Copper-Nickel Prospect to December 1967 (in 104I 014 file))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
CJES \*Vol.15, No.12, 1978, pp. 1893-1903; \*Vol.17, No.6, 1980, pp. 744-757  
WWW <http://www.canadianmetalsexploration.com>  
\*Clark, T. (1975): Geology of an ultramafic complex on the Turnagain River, northwestern British Columbia. Ph.D. thesis, Queen's University, Kingston, Ontario  
Falconbridge File

DATE CODED: 1995/11/27  
DATE REVISED: 1995/11/27

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 052**

NATIONAL MINERAL INVENTORY: 104I2 Cu2

NAME(S): **RIDGECREST**, KUTCHO CREEK, KUTCHO 6

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I02E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 29 N  
LONGITUDE: 128 35 06 W  
ELEVATION: 1900 Metres

NORTHING: 6450093  
EASTING: 524399

LOCATION ACCURACY: Within 500M

COMMENTS: The vein occurs on the crest of the ridge west of Kutcho Creek; the location coordinates were given in the original report (GSC Paper 68-1A, page 27).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcocite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Laberge	Inklin	

LITHOLOGY: Phyllitic Slate  
Greywacke  
Conglomerate

HOSTROCK COMMENTS: The actual hostrocks were not reported. The Inklin Formation has recently been reassigned to the Laberge Group (overlap assemblage).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Ridgecrest occurrence is located about 77 kilometres east-southeast of Dease Lake.

Chalcocite is associated with vein-quartz in a strong fracture zone on the crest of a ridge west of Kutcho Creek (Geological Survey of Canada Paper 68-1A, page 27). The area of the occurrence is mapped as Lower Jurassic Inklin Formation which includes phyllitic slate, greywacke and conglomerate (Geological Survey of Canada Open File 2779). The Inklin Formation has recently been assigned to the Laberge Group (overlap assemblage).

This showing was originally discovered during a regional mapping program by the Geological Survey of Canada in 1967. A large group of claims (the Kutcho 1-6) were staked in the area by Noranda in 1976. The showing occurs within this claim group near the western boundary. Noranda worked these claims until 1985, although the portion covering this showing was dropped in 1983. Numerous geophysical surveys were done including airborne and ground magnetic surveys, electromagnetic surveys and IP. The property was mapped and at least three drillholes were put down a few kilometres northeast of the Ridgecrest showing. See Kutcho (104I 072) for related details.

**BIBLIOGRAPHY**

GSC P \*68-1A, p. 27  
ASS RPT 6210, 6686, 9170, 12961, 13746, 14897, 16132  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/06

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 053**

NATIONAL MINERAL INVENTORY: 10417 Asb1

NAME(S): **B, B13**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 19 25 N  
LONGITUDE: 128 42 41 W  
ELEVATION: 1900 Metres

NORTHING: 6464776  
EASTING: 516905

LOCATION ACCURACY: Within 500M

COMMENTS: The coordinates are for the northwest corner of the B13 claim where asbestos is reported (Assessment Report 1075, Map 1). One jade lense occurs 400 metres north and another 400 metres to the west (GSC Open File 2779).

COMMODITIES: Asbestos                      Jade/Nephrite                      Gemstones

**MINERALS**

SIGNIFICANT: Chrysotile              Asbestos              Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork                      Podiform                      Massive  
CLASSIFICATION: Metamorphic              Replacement                      Epigenetic                      Industrial Min.  
TYPE: M06      Ultramafic-hosted asbestos                      Q01      Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                                                Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The B showing is located approximately 80 kilometres east of Dease Lake.

The area is underlain by northwest trending Carboniferous to Jurassic Cache Creek Complex rocks including metavolcanics, metasediments and tectonically emplaced ultramafic rocks of upper Mississippian to Permian age. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

These rocks also contain pods of nephrite jade, two of which are plotted on Geological Survey of Canada Open File map 2779 in the immediate vicinity of the B13 asbestos showing. The characteristics of these pods are not documented.

In 1966, small amounts of medium length chrysotile asbestos (5 to 8 millimetres) were reported to occur on the B13 claim (Assessment Report 825). Although apparently initially independent of Cassiar Asbestos Corporation's Letain Asbestos deposit (104I 006) to the immediate west, by 1966 the claims were part of those holdings.

**BIBLIOGRAPHY**

EMPR ASS RPT \*825, \*1075, 1076  
EMPR OF 1995-25  
GSC MEM 194-14  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/20

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 054**

NATIONAL MINERAL INVENTORY: 10414 Cu6

NAME(S): **LOUISE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104104W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 05 30 N  
LONGITUDE: 129 45 55 W  
ELEVATION: 1350 Metres

NORTHING: 6439172  
EASTING: 454881

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of claims (Assessment Report 3964).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

**STRATIGRAPHIC AGE**

Middle Jurassic  
Jurassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Three Sisters Pluton

LITHOLOGY: Migmatite  
Andesite  
Basalt  
Granitic Dike

HOSTROCK COMMENTS: The Three Sisters Pluton is part of the Hotailuh Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Louis showing is located about 45 kilometres south-southeast of Dease Lake.

The area is underlain by the contact of volcanic rock, probably of the Middle Jurassic Stuhini Group, and intrusive rock, probably of the Early to Middle Jurassic Three Sisters Pluton. The mainly andesitic and basaltic volcanic rocks are cut by granitic dikes and are locally altered and migmatized. Chalcopyrite was found disseminated in a zone of migmatite between intrusive and volcanic rocks.

The owner of the Louise claims, Lorne Elliot, took 300 soil samples in 1972. No other work is documented.

**BIBLIOGRAPHY**

EMPR GEM 1972-537  
EMPR ASS RPT \*3964  
GSC OF 610; 2262; 2779  
GSC MAP 9-1957; 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/25

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 055**

NATIONAL MINERAL INVENTORY: 104112 Cu2

NAME(S): **COP**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10412W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 39 59 N  
LONGITUDE: 129 47 41 W  
ELEVATION: 1100 Metres

NORTHING: 6503178  
EASTING: 453901

LOCATION ACCURACY: Within 500M  
COMMENTS: Centre of claims (Assessment Report 4093).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Kedahda	

LITHOLOGY: Shale  
Meta Sediment/Sedimentary  
Greenstone  
Meta Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Cop showing is located about 27 kilometres north-northeast of Dease Lake.

Minor chalcopyrite in quartz veins occurs in an area mainly underlain by metavolcanic and metasedimentary rocks of the Mississippian to Triassic Kedahda Formation (Cache Creek Complex). Some of the rocks are reported to be graphitic shales and greenstones.

In 1972, Union Miniere Mining and Exploration Corp. Ltd. conducted geological mapping and geophysical and geochemical surveys.

**BIBLIOGRAPHY**

EMPR GEM 1972-545  
EMPR ASS RPT \*4093  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/10

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 056**

NATIONAL MINERAL INVENTORY: 10416 Cu2

NAME(S): **WOLF**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104106W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 10 N  
LONGITUDE: 129 26 05 W  
ELEVATION: 1800 Metres

NORTHING: 6456936  
EASTING: 474485

LOCATION ACCURACY: Within 500M

COMMENTS: Main copper showing of Wolf claim (Assessment Report 4498).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite    Pyrite    Bornite    Chalcocite  
ASSOCIATED: Quartz  
ALTERATION: Malachite    Azurite    Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Shear    Vein  
CLASSIFICATION: Porphyry    Hydrothermal  
TYPE: L04    Porphyry Cu ± Mo ± Au  
DIMENSION: 46 x 46    Metres  
COMMENTS: Mineralized area.

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Basaltic Tuff  
Andesitic Tuff  
Basalt  
Andesite  
Breccia  
Diorite Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Wolf showing is located about 42 kilometres southeast of Dease Lake.

The showing occurs in an area mapped as part of a Triassic to Lower Jurassic unit which includes grey and maroon plagioclase porphyry, andesite, volcanic conglomerate, tuffaceous mudstone, breccia, rhyolite, minor siltstone and shale.

On the property, the rocks are described as finely bedded basalt and andesite tuffs, breccias and flows. At least three porphyritic diorite dikes, the largest being 12 metres wide, cut the strata.

The main copper occurrence consists of chalcopyrite, pyrite and minor bornite, along with malachite, azurite and limonite, generally with quartz in a series of stringers in fractured basalt. These stringers are associated with a strong shear zone located 150 metres southwest of a small lake. The shear zone strikes 030 and dips steeply, as do the stringers. The mineralized area is at least 46 by 46 metres in size. A parallel shear zone about 300 metres to the east shows less copper mineralization and is only 6 metres wide. Chip sampling across the main zone showed the copper content to be much less than 0.5 per cent across 38 metres (Assessment Report 4498).

The diorite dikes show similar copper mineralization along fracture faces near contacts. Numerous small quartz veins are scattered throughout the area and may show a little bornite and chalcocite. These veins are typically several centimetres in width and strike northwest.

El Paso Mining and Milling conducted geological mapping and a geochemical survey (297 soil collected) in 1972.

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**BIBLIOGRAPHY**

EMPR GEM 1972-537  
EMPR ASS RPT \*4498  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/16

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 057**

NATIONAL MINERAL INVENTORY: 104116 Ag1

NAME(S): **ERNA**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10416W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 52 59 N  
LONGITUDE: 128 26 24 W  
ELEVATION: 1000 Metres

NORTHING: 6527165  
EASTING: 532282

LOCATION ACCURACY: Within 500M

COMMENTS: Location for the common boundary of the Erna 1 and 2 claims, located just north of the Major Hart River (Property File, Inventory Card).

COMMODITIES: Silver                      Copper

**MINERALS**

SIGNIFICANT: Tetrahedrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I06                      Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Silurian-Devonian	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Dolomite  
Sandstone  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1973
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	2897.1700      Grams per tonne
Copper	4.8000          Per cent

COMMENTS: From a 90-centimetre sample across vein.  
REFERENCE: Hennel, N., letter and assay certificate, Aug. 15, 1973.

**CAPSULE GEOLOGY**

The Erna showing is located about 105 kilometres northeast of Dease Lake.  
At the Erna showing, a tetrahedrite-bearing quartz vein is reported to occur in dolomite. The area is underlain by Upper Silurian to Middle Devonian (Givetian) sedimentary rock consisting of sandstone, dolomite and limestone. A sample across about 90 centimetres of vein on the Erna 1 yielded 0.17 grams per tonne gold, 2897.17 grams per tonne silver and 4.80 per cent copper (Hennel, N., 1973 (Property File)).

**BIBLIOGRAPHY**

EMPR PF (\*Hennel, N., letter and assay certificate, Aug 15, 1973 (Missing. Information recorded on inventory card))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/03

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 058**

NATIONAL MINERAL INVENTORY: 104116 Ag2

NAME(S): **NORMA, JIM**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104116W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 52 17 N  
LONGITUDE: 128 24 42 W  
ELEVATION: 1200 Metres

NORTHING: 6525880  
EASTING: 533927

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the common boundary of the Norma 3 and Jim 1 claims which were located just southeast of the Major Hart River (Property File, Inventory Card).

COMMODITIES: Silver Copper

**MINERALS**

SIGNIFICANT: Tetrahedrite Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Silurian-Devonian

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Dolomite  
Sandstone  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1973

**COMMODITY**

Silver  
Copper

**GRADE**

Grade	Unit
2880.0200	Grams per tonne
7.6500	Per cent

COMMENTS: From a 90-centimetre chip sample.  
REFERENCE: Hennel, 1973 - Property File.

**CAPSULE GEOLOGY**

The Norma showing is located about 105 kilometres northeast of Dease Lake.

A tetrahedrite-bearing quartz vein is reported to occur in dolomite. The area is underlain by Upper Silurian to Middle Devonian (Givetian) sedimentary rock consisting of sandstone, dolomite and limestone. A sample across about 90 centimetres of vein on the Norma 3 claim yielded a trace of gold, 2880.02 grams per tonne silver and 7.65 per cent copper (Property File - Hennel, 1973). A "pyrite showing" of undescribed character assayed trace gold, 17.14 grams per tonne silver and 0.05 per cent copper (Property File - Hennel, 1973).

**BIBLIOGRAPHY**

EMPR PF (\*Hennel, N., letter and assay certificate, Aug 15, 1973 (Missing. Information recorded on inventory card))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/02

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 059**

NATIONAL MINERAL INVENTORY: 10415 Mo3

NAME(S): **NUP**, SNOWDRIFT, DRIFT

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 18 57 N  
LONGITUDE: 129 35 26 W  
ELEVATION: 1560 Metres

NORTHING: 6464025  
EASTING: 465401

LOCATION ACCURACY: Within 500M

COMMENTS: Area of mineralized samples S39623-S39625 (Assessment Report 4661).

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite      Chalcopyrite      Pyrite  
ASSOCIATED: Quartz              K-Feldspar  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Stockwork                      Vein  
CLASSIFICATION: Porphyry                      Hydrothermal                      Epigenetic  
TYPE: L04      Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Triassic-Jurassic  
Jurassic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Snowdrift Creek Pluton

LITHOLOGY: Hornblende Biotite Granodiorite  
Volcanic Rock  
Volcaniclastic Rock

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Nup showing is located about 30 kilometres southeast of Dease Lake.

The showing occurs within the Middle to Late Jurassic Snowdrift Creek Pluton which has intruded an assemblage of Triassic to Lower Jurassic volcanic and volcaniclastic rocks. This assemblage occurs about 1 kilometre to the southwest and consists of grey and maroon plagioclase porphyry, andesite, volcanic conglomerate, tuffaceous mudstone, breccia, rhyolite, minor siltstone and shale.

In 1973, Kennco reported a large zone of disseminated pyrite and minor chalcopyrite within granodiorite. The zone also contains narrow quartz veinlets with pyrite and molybdenite. Three diamond-drill holes were completed the Nup 69 and 71 claim about 1.5 kilometres south of where mineralized molybdenite samples were plotted. Drillhole results were not documented.

Apparently the same showings were further examined and described by Serrana Resources in 1981. Serrana reported quartz veinlets in hornblende biotite granodiorite with molybdenite as fine specks disseminated near the vein margins. The quartz is milky white and the veinlets range from 10 to 25 millimetres in thickness. Potassium feldspar envelopes occur along the margins of the quartz veins and rarely carry fine molybdenite and sometimes pyrite. Very fine chalcopyrite also occurs.

Utah Mines probably held the showings in 1976 but little is known of the work done at that time (Exploration in B.C 1976, page 192).

**BIBLIOGRAPHY**

EMPR GEM \*1973-511  
EMPR EXPL 1975-E190; 1976-E191; 1978-E262  
EMPR ASS RPT 4644, 4645, 4659, 4660, \*4661, 4662, \*10356, 10923  
EMPR FIELDWORK 1976-P69  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/15

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 060**

NATIONAL MINERAL INVENTORY: 10411 Cu2

NAME(S): **KUTCHO CREEK, SMRB, JEFF,  
KUTCHO, SUMAC, ESSO WEST**

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104101W  
BC MAP:  
LATITUDE: 58 12 19 N  
LONGITUDE: 128 21 36 W  
ELEVATION: 1500 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Main portal site, near Sumac Creek, 7 kilometres east of Kutcho Creek and 100 kilometres southeast of Dease Lake.

Underground

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6451743  
EASTING: 537613

COMMODITIES: Copper                      Zinc                      Silver                      Gold                      Lead

**MINERALS**

SIGNIFICANT: Pyrite              Sphalerite              Chalcopyrite              Bornite              Chalcocite  
                  Tennantite              Galena              Digenite              Djurleite              Idaite  
ASSOCIATED: Dolomite              Quartz              Sericite  
ALTERATION: Quartz              Muscovite              Chlorite              Epidote              Pyrite  
                  Sericite  
ALTERATION TYPE: Sericitic                      Pyrite  
MINERALIZATION AGE: Permian-Triassic

**DEPOSIT**

CHARACTER: Stratabound                      Massive  
CLASSIFICATION: Volcanogenic                      Syngenetic  
                  TYPE: G06      Noranda/Kuroko massive sulphide Cu-Pb-Zn  
                  DIMENSION: 3500      Metres                      STRIKE/DIP: 280/43                      TREND/PLUNGE:  
COMMENTS: Mineralization occurs in three lenses, with above strike and dip, over a length of 3.5 kilometres.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Permian-Triassic      Undefined Group                      Kutcho

LITHOLOGY: Quartz Feldspar Crystal Tuff  
Lapilli Crystal Tuff  
Lapilli Tuff  
Mafic Plagioclase Porphyry  
Tholeiitic Rhyolite  
Altered Sericite Schist  
Tholeiitic Basalt  
Trondhjemite  
Argillite  
Dacite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional                      RELATIONSHIP:                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: ESSO WEST                      REPORT ON: Y  
CATEGORY: Unclassified                      YEAR: 1986  
QUANTITY: 1000000 Tonnes  
COMMODITY                      GRADE  
Silver                      58.0000                      Grams per tonne  
Gold                      0.7800                      Grams per tonne  
Copper                      3.2400                      Per cent  
Zinc                      4.6400                      Per cent  
COMMENTS: The Esso West zone reserves are reported to be between 1 and 1.5 million tonnes with a grade approximately double that of the Kutcho zone.  
REFERENCE: CIM Special Volume 37, page 122.

**INVENTORY**

ORE ZONE: SUMAC REPORT ON: Y  
CATEGORY: Unclassified YEAR: 1986  
QUANTITY: 10000000 Tonnes  
COMMODITY GRADE  
Copper 1.0000 Per cent  
Zinc 1.2000 Per cent  
COMMENTS: Approximate.  
REFERENCE: CIM Special Volume 37, page 122.

ORE ZONE: KUTCHO REPORT ON: Y  
CATEGORY: Unclassified YEAR: 1986  
QUANTITY: 17000000 Tonnes  
COMMODITY GRADE  
Silver 29.2000 Grams per tonne  
Gold 0.3900 Grams per tonne  
Copper 1.6200 Per cent  
Zinc 2.3200 Per cent  
COMMENTS: Approximate.  
REFERENCE: CIM Special Volume 37, page 122.

**CAPSULE GEOLOGY**

In 1972 and 1973 respectively, Sumac Mines Ltd., controlled by Sumitomo Metal Mining Co., Ltd., and Imperial Oil Ltd. (Esso Minerals of Canada) independently located and staked the ground covering the Kutcho Creek polymetallic volcanogenic massive sulphide deposits. The Kutcho Creek deposit is located around Sumac Creek, 7 kilometres east of Kutcho Creek and 100 kilometres southeast of Dease Lake.

Development work, carried out independently but cooperatively by the two companies, occurred mainly between 1973 and 1984 and defined 3 massive sulphide zones. Greater than 50,000 metres of drilling was completed and a 218-metre crosscut producing greater than 3000 tonnes of ore for bulk sampling was excavated. This work resulted in Esso owning the east end of the outcropping Kutcho deposit (lens) and the deep Esso West deposit (lens). Sumac ground covered the downplunge western portion of the Kutcho deposit and the Sumac deposit (lens). Further work was done between 1985 and 1987, apparently concentrating on exploration outside the main deposit area. In early 1989, Esso Minerals sold its portion of the property to Homestake Mining (Canada) Limited who subsequently sold a minority interest to American Reserve Mining Corp. A joint equal ownership agreement between Homestake (with American Reserve) and Sumac is still in force (Ron Britten, personal communication, 1995).

The deposits are in the Kutcho Formation (Thorstad and Gabrielse (Geological Survey of Canada Paper 86-16)) which underlies carbonates and sedimentary rocks interpreted to correlate with the Upper Triassic Sinwa Formation limestone and the Lower Jurassic Inklin Formation respectively. The Kutcho deposits occur within the upper felsic, largely fragmental volcanic cycle of the Kutcho Formation. New dating by the Mineral Deposits Research Unit (MDRU) at the University of British Columbia yielded ages of 242 to 245 Ma for the hostrocks (F. Child, personal communication, 1995). The Kutcho Formation was previously thought to be Upper Triassic (Geological Survey of Canada Open File 2779) but this new dating places the age at the Permian-Triassic boundary. The Sinwa Formation has recently been reassigned to the Stuhini Group (Stikine Terrane), and the Inklin Formation to the Laberge Group (overlap assemblage) (M. Mihalynuk, personal communication, 1996).

The area of the deposit is interpreted to have been isoclinally folded during formation of the King Salmon allochthon in Early to Middle Jurassic time.

The interpreted stratigraphic sequence consists of a, 2000 metres or more, lower unit dominated by mafic flows and tuffs with local dacite to rhyolite flows and tuffs and argillite layers. This sequence is cut by an elongated body of trondhjemite that is quartz rich and perhaps the source of the quartz crystals in the fragmental volcanic rocks that occur higher in the section. Above is the footwall unit, some 300 metres of largely lapilli tuff. The massive sulphide lenses occur where this unit gives way to lapilli crystal tuff and laterally correlative quartz feldspar crystal tuff that are interlayered with or cut by mafic plagioclase porphyry (locally called gabbro). Above the hangingwall unit is a series of tuffs and argillites that are cut by mafic sills, then a volcanic conglomerate unit that underlies the apparent Sinwa carbonates and Inklin sediments.

The Kutcho assemblage consists of bimodal, calcalkaline basaltic

## CAPSULE GEOLOGY

andesite or basalt and rhyodacite or rhyolite. It is generally in fault contact with rocks of the Carboniferous-Jurassic Cache Creek Complex, but may have a Cache Creek basement. The assemblage occurs within the fault-bounded King Salmon allochthon. Movement on the faults was probably Early to Middle Jurassic, but uplift continued into the Late Jurassic. Rocks within the allochthon were regionally metamorphosed to greenschist facies, and deformed at that time. The sequence is interpreted to be folded, and small-scale reverse faults are common in the underground workings.

In the hangingwall of the mineralized zone, shoshonitic mafic plagioclase porphyry cuts the country rock. The porphyry locally exhibits peperite structures with sedimentary units in the Kutcho assemblage (J. Thompson, personal communication, 1995), so is apparently very close in age (syn-mineral?). The porphyry is extensively altered to chlorite and epidote. Bridge et. al. concluded that the massive sulphide deposits occur at a facies change from quartz feldspar crystal tuff to lapilli crystal tuff (CIM Special Volume 37 (1986)).

Schistose quartz-eye feldspar-grain rock with scattered pyrite cubes is the dominant hangingwall lithology. The unit contains scattered clasts on the ridge above the exploration adit but is clearly fragmental with small to large lapilli to blocks of quartz feldspar porphyry, fine-grained to quartz porphyritic partially flattened pumice fragments and some more exotic, calcareous, mafic-looking clasts. Geochemistry by MDRU shows this unit to be a primitive, tholeiitic rhyolite with SiO<sub>2</sub> near 70 per cent. It is Na<sub>2</sub>O-rich and has relatively low values in zirconium, yttrium and uranium (like rhyolites in Iceland).

In the footwall sequence, on Imperial Ridge, above the adit, a foliated quartz feldspar-bearing zone underlies the massive sulphide zone. Quartz tends to be finer grained than in the hangingwall. Deeper in the footwall, variably altered feldspar phyrlic rocks dominate but zones with coarse quartz eyes occur locally. Below the footwall alteration is a monotonous assemblage of these rocks, then a zone with occasional thin layers of pale green to white, very fine dust to fine crystal tuffs with sericite partings. A small lens of impure marble had minor associated pyrite and chalcopyrite mineralization. The sequence is interpreted to consist largely of crystal to lapilli tuffs, and the correlative, less altered rocks on Sumac Ridge to the west are clearly fragmental volcanic rocks. On Sumac Ridge, the footwall sequence has many more coarse quartz-rich zones. The quartz and feldspar-dominated sequences are gradational over hundreds of metres of section. The feldspar-dominated section on Sumac Ridge is underlain by chlorite schists, interpreted to be derived from basalt, with local fine grained sedimentary layers. Geochemistry by MDRU indicates that the basalts are tholeiitic.

The trondhjemite is locally brecciated and foliated at its margins. In the west it consists of medium-grained quartz, plagioclase and chloritized mafics. In the southeast it is coarse grained and porphyritic with quartz grains to 1 centimetre in size. The coarser variety is more calcic, akin to tonalite rather than the more sodic trondhjemite (Fieldwork, 1977).

In the mineralized interval on surface, the hostrock is strongly altered sericite schist with pyrite cubes and dolomite grains but no obvious mineralization. Locally, quartz eyes are still visible and fragments are seen locally in drill core. The mineralized zone has an altered footwall sequence some 300 metres thick, and a less intense, thinner zone above. Geochemically, sodium is depleted and potassium is enriched near the mineral lenses. In the footwall, this alteration extends for about 500 metres laterally and nearly 300 metres below the lenses; in the hangingwall it extends 100 metres laterally and about 180 metres above the mineralized lenses. In the alteration halo, calcium and magnesium are also enriched and silica values are relatively elevated. The footwall zone is pyritic, both as stringers and disseminations, and has abundant disseminated dolomite. Individual deposits are stratabound and lenticular; they pinch out to the south updip but interdigitate with the country rock downdip to the north. All are at the same relative stratigraphic position but individual lenses are en echelon and separated by about 300 metres. They strike about 280 degrees and dip north at 40 to 45 degrees (CIM Special Volume 37 (1986)).

Mineralization occurs in three areas along 3.5 kilometres (CIM Special Volume 37, 1986) of a zone that extends for about 15 kilometres (Fieldwork, 1975). Intense footwall alteration and a footwall pyrite zone are developed throughout the zone. Metallic minerals occur in a series of massive sulphide layers and include pyrite, sphalerite, chalcopyrite, bornite, minor chalcocite, trace tennantite, galena, digenite, djurleite and idaite. Schistose partings occur locally in the massive sulphide zone exposed in the

## CAPSULE GEOLOGY

adit. Whether this represents pulses of mineralization or structural repetition is not clear. Metal zoning occurs laterally in the ore lenses with copper-rich cores and zinc-rich peripheries but is not evident vertically within the lenses. Non-sulphide gangue includes dolomite, quartz and sericite.

Reserves for the three zones are: Kutcho - 17 million tonnes grading 1.62 per cent copper, 2.32 per cent zinc, 29.2 grams per tonne silver and 0.39 gram per tonne gold; Sumac - approximately 10 million tonnes grading 1.0 per cent copper and 1.2 per cent zinc; and Esso West - about 1 to 1.5 million tonnes of approximately double Kutcho grades (CIM Special Volume 37 (1986), page 122).

An "underground mineable reserve" was reported in 1991 for the Kutcho lens as 11.6 million tonnes grading 1.67 per cent copper, 2.30 per cent zinc, 32.7 grams per tonne silver and 0.36 gram per tonne gold; and for the Esso West lens as 2.7 million tonnes grading 2.14 per cent copper, 3.61 per cent zinc, 44.9 grams per tonne silver and 0.40 gram per tonne gold (George Cross News Letter No.54 (March 18) 1991).

Mineable reserves of the Kutcho lens is also reported as containing 14.3 million tonnes grading 1.76 per cent copper, 2.54 per cent zinc, 35 grams per tonne silver and 0.37 grams per tonne gold (Exploration in BC 1996, page B12).

## BIBLIOGRAPHY

- EMPR ASS RPT 4863, 5120, 5138, 5147, 5253, 5294, 5475, 5591, 5599, 5641, 5778, 5986, 5987, 6025, 6026, 6038, 6039, 6210, 6273, 6343, 6373, 6374, 6375, 6686, 7024, 7433, 7437, 7537, 7599, 7914 8273, 8381, 8395, 9170, 9657, 10770, 11187, 11323, 12961, 13132, 13746, 14030, 14897, 17009, 18639, 19875, 20636, 21647  
EMPR EXPL 1975-E188-189; 1976-E189-190; 1977-E230-231; 1978-E261; 1979-286; 1980-480; 1981-84; 1982-387; 1983-532; 1984-391; 1996-B12  
EMPR FIELDWORK 1975, p. 86; 1976, p. 75; 1977, p. 43; 1982, p. 179  
EMPR GEM 1973-510; 1974-343-348  
EMPR GEOL 1976, p. 128  
EMPR MAP 65 (1989)  
EMPR MER 1984, p. 8; 1985, p. 9  
EMPR OF 1992-1; 1992-3; 1999-2  
EMPR PF (Smithers; Notes from Andres talk, Dec. 1977)  
EMR MP CORPFILE (Sumac Mine Ltd.; Sumitomo Metal Mines Canada Ltd.; Imperial Oil Ltd.)  
GSC P \*86-16, pp. 29-31  
CIM \*Special Volume 37 (1986), pp. 115-128  
GCNL #42(Feb.28),#198(Oct.12), 1990; \*#54(Mar.18),#130(Jul.8), 1991; #9(Jan.14),#135(July 14), 1992  
N MINER Sept.24, 1990; July 15, 1991; Jan.27, 1992; Aug.4, 1997  
WWW <http://www.infomine.com/>  
Chevron File  
EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1996/01/07

CODED BY: GSB  
REVISED BY: WJM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104I 061**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUBYSIH**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I02E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 10 59 N  
LONGITUDE: 128 35 06 W  
ELEVATION: 1900 Metres

NORTHING: 6449166  
EASTING: 524405

LOCATION ACCURACY: Within 5 KM

COMMENTS: The occurrence is located west of Kutcho Creek (Property File).

COMMODITIES: Lead Silver Copper Gold

**MINERALS**

SIGNIFICANT: Tetrahedrite Galena  
ASSOCIATED: Quartz Siderite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Laberge	Inklin	
Permian-Triassic	Undefined Group	Kutcho	

LITHOLOGY: Sediment/Sedimentary Rock  
Meta Sediment/Sedimentary Rock  
Volcanic Rock  
Meta Volcanic Rock  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
YEAR: 1961  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 922.0000 Grams per tonne  
Gold 0.2000 Grams per tonne  
Lead 30.3000 Per cent

REFERENCE: Property File - Archer Cathro report.

**CAPSULE GEOLOGY**

The Rubysih occurrence is located about 92 kilometres east-southeast of Dease Lake.

In the area of the showing, Permian to Lower Triassic Kutcho Formation mafic to felsic metavolcanic rocks and sediments underlie Upper Triassic Sinwa Formation limestone and Lower Jurassic Inklin Formation metasedimentary and sedimentary rocks. The area is interpreted to have been isoclinally folded during formation of the King Salmon allochthon in Early to Middle Jurassic time. The Inklin Formation has recently been reassigned to the Laberge Group (overlap assemblage), and the Sinwa Formation to the Stuhini Group (Stikine Terrane). See the Kutcho Creek occurrence (104I 060) for details of the new age dates for rocks of the Kutcho Formation.

Sedimentary rocks of the Inklin Formation are reported to host veins of quartz and siderite containing tetrahedrite and galena. One sample of the material assayed 30.3 per cent lead, 922 grams per tonne silver and 0.2 gram per tonne gold; another sample with 10 per cent tetrahedrite yielded 0.49 per cent copper, 0.7 gram per tonne silver and trace gold (Property File - Archer Cathro). The showing was examined in 1961 by the Cave syndicate.

**BIBLIOGRAPHY**

EMPR PF (\*Archer Cathro file)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
GSC P 86-16

DATE CODED: 1995/12/10  
DATE REVISED: 1996/01/07

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 062**

NATIONAL MINERAL INVENTORY: 10417 Gem2,Gem3

NAME(S): **CWA**, CWL 12, CWE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 19 N  
LONGITUDE: 128 38 38 W  
ELEVATION: 1900 Metres

NORTHING: 6457187  
EASTING: 520899

LOCATION ACCURACY: Within 500M

COMMENTS: The main CWA and CWE (formerly 1041 063) jade lenses are within a few hundred metres of each other and are therefore combined (Assessment Report 5100, geology map). Showings on the eastern CWE claims are included with Baggins (1041 073).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite Talc  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Massive  
CLASSIFICATION: Replacement Epigenetic Metamorphic Industrial Min.  
TYPE: Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Greenstone  
Schist  
Meta Sediment/Sedimentary  
Meta Volcanic  
Limestone

HOSTROCK COMMENTS: The ultramafic unit, part of Cache Creek Complex, is Mississippian to Permian. The Cache Creek Complex is Mississippian to Jurassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The CWA occurrence is located about 90 kilometres east-southeast of Dease Lake and just east of Provencher Lake.

The area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including volcanic, metavolcanics (greenstone), metasediments, gabbro and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

Several serpentinite bands and associated jade lenses are shown on the geology map included with Assessment Report 5100. These bands occur over a distance of at least 1.6 kilometres and were once covered by the CWL and CWA claims.

The main serpentinite showings is described as a band, about 60 metres wide, trending east and sandwiched between two steeply dipping zones of greenstone, schist and metasedimentary rocks. The central portion of the serpentinite is bright green antigorite but the margins are dense and dark green. A thin limestone band occurs on the north side between the two types of serpentinite. At the northern contact of serpentinite and metasediments, a narrow (30 to 60 centimetres) band of poor quality black jade is present. At the southern contact, a 90-centimetre thick lens of jade was observed. Farther north on the same ridge a serpentinite band of about the same width is strongly sheared and altered to talc. A poor quality lens of jade occurs at its northern contact with greenstone.

The property was mapped by Frobex Ltd. in 1972 and by Nephro-Jade Canada in 1973.

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR GEM 1974-381  
EMPR ASS RPT 4801, 4802, \*5100  
EMPR AR 1961-119-126  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 34  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/07

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 063**

NATIONAL MINERAL INVENTORY:

NAME(S): **BS**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 25 N  
LONGITUDE: 128 40 10 W  
ELEVATION: 1700 Metres

NORTHING: 6457365  
EASTING: 519399

LOCATION ACCURACY: Within 500M

COMMENTS: Central area of the BS claims (Assessment Report 7582).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Massive  
CLASSIFICATION: Replacement Epigenetic Metamorphic Industrial Min.  
TYPE: Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Greenstone  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian. The Cache Creek Complex ranges from Mississippian to Jurassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The BS occurrence is located about 90 kilometres east-southeast of Dease Lake and a few kilometres southeast of Provencher Lake.

The area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

Several lens of nephrite and numerous nephrite boulders are reported to occur on the BS claims. Drilling in 1979 described the major occurrence as about 24.7 tonnes of "B-" nephrite in the "D" lense. In 1979, it was estimated that there was over 60 tonnes of jade ranging from C to B+ grade. It was reported (Assessment Report 15940) that mining of the boulders occurred in 1982-1983 by Mohawk Oil, yielding B quality jade. Further exploration occurred in 1986.

**BIBLIOGRAPHY**

EMPR GEM 1974-381  
EMPR ASS RPT 5100, \*7582, \*15940  
EMPR AR 1961-119-126  
EMPR EXPL 1979-335; 1987-C384  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 33  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/11/08  
DATE REVISED: 1995/11/08

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 064**

NATIONAL MINERAL INVENTORY: 10417 Gem2

NAME(S): **NCW**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 16 26 N  
LONGITUDE: 128 37 36 W  
ELEVATION: 1550 Metres

NORTHING: 6459264  
EASTING: 521899

LOCATION ACCURACY: Within 500M

COMMENTS: Jade lens 3.2 kilometres east of Provencher Lake (Assessment Report 5100).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine Diopside  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Massive  
CLASSIFICATION: Replacement Epigenetic Metamorphic Industrial Min.  
TYPE: Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Meta Sediment/Sedimentary  
Meta Volcanic  
Greenstone

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian. The Cache Creek Complex ranges from Mississippian to Jurassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The NCW occurrence is located about 90 kilometres east-southeast of Dease Lake and a few kilometres east of Provencher Lake.

The area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinized.

The NCW nephrite jade showing occurs halfway between the ridge top and the valley floor, on a steep east-facing slope. The jade occurs at the margin of metamorphosed sedimentary rock and serpentinite. The lens trends 125 degrees and dips steeply southwest. Alteration at the contact is intense with much diopside present.

The jade outcrop is reported to cover a relatively large area on the slope. Quality of the material was reported to be difficult to discern due to partial oxidation of surface samples. The jade is reported to be hard and dense with an attractive bluish green colour.

Frobex Ltd. mapped the property in 1972 and Delphi Resources and Nephro-Jade Canada did the same in 1973.

**BIBLIOGRAPHY**

EMPR GEM 1974-381  
EMPR ASS RPT 4801, 4802, \*5100  
EMPR AR 1961-119-126  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 34  
GSC MAP 29-1962; 9-1957; 1418A

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/07

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 065**

NATIONAL MINERAL INVENTORY: 10417 Gem3

NAME(S): **JADE 6, M**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 16 56 N  
LONGITUDE: 128 41 04 W  
ELEVATION: 1360 Metres

NORTHING: 6460175  
EASTING: 518505

LOCATION ACCURACY: Within 500M

COMMENTS: Jade lens located less than 500 metres west of the north end of Provencher Lake (Assessment Report 5100).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Massive  
CLASSIFICATION: Replacement Epigenetic Metamorphic Industrial Min.  
TYPE: Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic	Cache Creek	Unnamed/Unknown Formation	Cache Creek Complex
Upper Paleozoic			

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Greenstone  
Schist  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian. The Cache Creek Complex ranges from Mississippian to Jurassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Jade 6 occurrence is located about 90 kilometres east-southeast of Dease Lake.

The area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

A narrow band of altered greenstone, sediments and jade occur on a small creek draining northeasterly into the west side of Provencher Lake. A narrow band of schistose jade up to 30 centimetres occurs at the contact of tremolite veined serpentinite and altered metasediments. To the northwest, about 150 metres, are two more jade bands up to 1 metre wide located at serpentinite-chlorite schist contacts. These showings were first reported in 1973 by Nephro-Jade Canada Limited. Two short drillholes totalling 1.3 metres were drilled into one of the jade bands in 1975. Both holes reportedly intersected poor quality jade.

**BIBLIOGRAPHY**

EMPR GEM 1974-381  
EMPR ASS RPT \*5100, \*5815  
EMPR AR 1961-119-126  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 34  
GSC MAP 29-1962; 9-1957; 1418A

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**BIBLIOGRAPHY**

GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/09

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 066**

NATIONAL MINERAL INVENTORY: 104I Gem3

NAME(S): **JW**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104I02E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 05 N  
LONGITUDE: 128 43 45 W  
ELEVATION: 1800 Metres

NORTHING: 6454875  
EASTING: 515904

LOCATION ACCURACY: Within 500M

COMMENTS: Central area of several in situ jade deposits (Assessment Report 5100).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER:	Podiform	Massive	Unconsolidated	
CLASSIFICATION:	Replacement	Epigenetic	Metamorphic	Industrial Min.
TYPE:	Q01 Jade			

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

**STRATIGRAPHIC AGE**

Upper Paleozoic  
Upper Paleozoic

**GROUP**

Cache Creek

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian. The Cache Creek Complex ranges from Mississippian to Jurassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The JW occurrence is located about 80 kilometres east-southeast of Dease Lake.

The JW area is underlain mainly by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

The JW property was originally staked in 1973 to cover several small in situ nephrite jade deposits in an area of ultramafic rock and several localities where jade occurs as boulders (float) and/or talus. In 1976, 25 jade talus blocks on a south-facing slope were tested by packsack drilling. All the core was reported to be poor quality, greyish green talcy jade.

**BIBLIOGRAPHY**

EMPR ASS RPT \*5100, \*6008  
EMPR GEM 1974-381;  
EMPR AR 1961-119-126  
EMPR EXPL 1976-204  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 33  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/14

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 067**

NATIONAL MINERAL INVENTORY: 10417 Gem3

NAME(S): **KING KONG**, SPRING

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 18 21 N  
LONGITUDE: 128 51 02 W  
ELEVATION: 1700 Metres

NORTHING: 6462770  
EASTING: 508758

LOCATION ACCURACY: Within 500M

COMMENTS: Location for the main nephrite lens (Assessment Report 7542). At least two other lenses occur within one kilometre to the southwest and another occurs about 0.7 kilometres to the northeast.

COMMODITIES: Jade/Nephrite      Gemstones      Copper      Silver

**MINERALS**

SIGNIFICANT: Nephrite	Malachite	Tetrahedrite	
ASSOCIATED: Magnetite	Quartz	Diopside	Vesuvianite
ALTERATION: Serpentine	Talc	Malachite	
ALTERATION TYPE: Serpentin'zn		Oxidation	
MINERALIZATION AGE: Unknown			

**DEPOSIT**

CHARACTER: Podiform	Disseminated		
CLASSIFICATION: Replacement	Metamorphic	Hydrothermal	Industrial Min.
TYPE: Q01 Jade		106	Cu±Ag quartz veins
DIMENSION: 100 x 1	Metres	STRIKE/DIP:	TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedahda	Cache Creek Complex
Upper Paleozoic			

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Argillite  
Shale  
Slate  
Meta Volcanic  
Limestone

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	13.8000 Grams per tonne
Copper	1.5600 Per cent
REFERENCE: Assessment Report 13262.	

**CAPSULE GEOLOGY**

The King Kong occurrence is located about 70 kilometres east-southeast of Dease Lake. The prospect lies within a belt of upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex consisting of serpentized peridotite, dunite and pyroxenite. Sediments in the area include shale, argillite, slate, siltstone, probably of the Mississippian to Triassic Kedahda Formation (Cache Creek Complex). Cache Creek metavolcanics and limestone also occur. Several nephrite bodies occur along a linear trend of just over 1.5 kilometres. The main nephrite jade occurrence consists of a lens 100 metres long, averaging about 1 to 1.5 metres in width and estimated to contain about 300 tonnes. A 25-kilogram sample was sawed in half and

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## CAPSULE GEOLOGY

although highly schistose it showed very few fractures. The general appearance was clear (not mottled) with little white tremolite. Nephrite is also associated with a large mass of white quartz which contains diopside and vesuvianite. Talc is also reported to occur in the ultramafic rocks.

In the vicinity of the nephrite occurrences, malachite, tetrahedrite and magnetite occur at or near the contact of serpentinite and argillite. A sample of this material assayed 1.56 per cent copper, 13.8 grams per tonne silver and 0.08 gram per tonne gold (Assessment Report 13262).

The King Kong showings have been prospected intermittently between 1973 to 1985. Nephro-Jade Canada first examined the property in 1973 as the King Kong claims. Cry Lake Jade Mines Ltd. owned the property as the Spring claims and conducted a geological survey in 1979 and a magnetic survey in 1980. Mohawk Oil worked the Spring claims from 1981 to 1985, conducting geochemical, geological and geophysical surveys (IP).

## BIBLIOGRAPHY

EMPR ASS RPT \*5100, \*7542, 8659, 10672, 10714, \*13262, 14578  
EMPR AR 1961-119-126  
EMPR GEM 1974-381  
EMPR EXPL 1979-334; 1980-542; 1981-324; 1984-393; 1985-C391  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 33

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/31

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 068**

NATIONAL MINERAL INVENTORY: 10414 Cu7

NAME(S): **BCR, SS**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104104W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 05 29 N  
LONGITUDE: 129 49 59 W  
ELEVATION: 1180 Metres

NORTHING: 6439188  
EASTING: 450885

LOCATION ACCURACY: Within 500M

COMMENTS: Area of percussion drilling just east of Tees Creek (Assessment Report 5298, Map 2).

COMMODITIES: Copper                      Zinc                      Lead                      Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Galena      Molybdenite      Pyrite  
ASSOCIATED: Magnetite  
ALTERATION: Clay      Quartz      Sericite  
ALTERATION TYPE: Argillic      Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork  
CLASSIFICATION: Porphyry              Hydrothermal  
TYPE: L04      Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Middle Triassic  
Jurassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Three Sisters Pluton

LITHOLOGY: Quartz Monzonite  
Volcanic

HOSTROCK COMMENTS: The volcanics in question are Middle Triassic, the Stuhini Group spans the Triassic. Three Sisters Pluton is part of the Hotailuh Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The BCR occurrence is located about 40 kilometres southeast of Dease Lake.

The showing occurs near the contact of the Early to Middle Jurassic Three Sisters Pluton with Middle Triassic volcanic rocks of the Stuhini Group. Chalcopyrite with minor sphalerite, galena, and molybdenite are developed in north trending sets of fractures. Locally the fractures have argillic and quartz-sericite alteration envelopes. Drill logs indicate the presence of pyrite, magnetite and chalcopyrite in quartz monzonite.

Stikine Minerals Corp. owned the BCR property in 1974 and Quintana Mineral Corp. was the operator. Fifteen percussion holes were drilled at that time for a total of 437 metres.

**BIBLIOGRAPHY**

EMPR ASS RPT \*5298  
EMPR GEM 1974-348  
GSC OF 610; 2262; 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/26

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 069**

NATIONAL MINERAL INVENTORY: 104114 Mo1

NAME(S): **BARTLE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104114E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 46 44 N  
LONGITUDE: 129 05 17 W  
ELEVATION: 1800 Metres

NORTHING: 6515435  
EASTING: 494909

LOCATION ACCURACY: Within 500M

COMMENTS: The above location is for the centre of the Bartle claim, 4 kilometres north of Cry Lake (1967 claim map). The claims are about 3 kilometres from east to west and 800 metres from north to south.

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Porphyry  
TYPE: L05 Porphyry Mo (Low F- type)

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	Cassiar Batholith
Lower Cretaceous			

LITHOLOGY: Granodiorite  
Sediment/Sedimentary  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Plutonic Rocks

Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Bartle showing is located about 67 kilometres northeast of Dease Lake.  
Disseminated molybdenum mineralization occurs in granodiorite of the Early Cretaceous Cassiar Batholith of the Cassiar Plutonic Suite. A pendant of Cambrian to Mississippian(?) sediments and metasediments cover the central portion of the old Bartle claims.  
Bartle Exploration Ltd. held the property in 1966 and some rock trenching was done.

**BIBLIOGRAPHY**

EMPR AR \*1966-22  
GSC OF 610, 2262, \*2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/09

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 070**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAY**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I09E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 41 17 N  
LONGITUDE: 128 05 24 W  
ELEVATION: 1600 Metres

NORTHING: 6505676  
EASTING: 552753

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of May 1 to 10 claims (Assessment Report 5473).

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Scheelite Pyrrhotite  
ALTERATION: Garnet Pyroxene  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein  
CLASSIFICATION: Skarn  
TYPE: K05 W skarn

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Ingenika	Espee	
Lower Cambrian	Atan	Boya	
Lower Cretaceous			Cassiar Batholith
Lower Cretaceous			Turnagain Pluton

LITHOLOGY: Limestone  
Dolomite  
Garnet Pyroxene Skarn  
Calc-silicate Hornfels  
Phyllite  
Schist  
Quartzite  
Granite  
Quartz Monzonite  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The May showing is located about 112 kilometres east-northeast of Dease Lake and a few kilometres north of the Turnagain River. This occurrence covers the easterly extension of the widespread scheelite (tungsten) mineralization on the north side of the Turnagain River discussed in other MINFILE occurrences. See related occurrences Ewe (104I 025) and Eliza (104I 099).

The area is underlain mainly by rocks of the Upper Proterozoic Ingenika Group including the Espee, Swannell and Tsaydiz formations. The Espee Formation consists of crystalline limestone, sandy limestone and dolostone. The Swannell and Tsaydiz formations (undivided) consist of phyllite, schist, phyllitic limestone, siltstone, quartzite and conglomerate. Other undivided sediments and metasediments of the Upper Proterozoic Stelkuz Formation (Ingenika Group) and Lower Cambrian Boya Formation (Atan Group) also occur.

Intruding the country rocks nearby are rocks of the Early Cretaceous Cassiar Plutonic Suite. The Cassiar Batholith consists of granite, quartz monzonite and granodiorite; its northern limits intrude the strata in the area of the showings. The Turnagain pluton, also part of the Cassiar Plutonic Suite, consists of biotite granite and intrudes to the west of the showing area.

Skarns in the area are described as occurring at the contacts of carbonate units, consisting of dense garnet-pyroxene skarn interbedded with aphanitic calc-silicate hornfels and garnet-bearing marble. Pyrrhotite lenses are often found in the dense skarns.

Scheelite mineralization is distributed mainly as disseminations in the skarns and dolomites and to some extent in intrusives dikes

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RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

and veins (Assessment Report 5473).  
The May claims received work in 6 years between 1974 and 1981,  
with the main work being done by Union Carbide Canada in 1977 and  
1979. In 1979, 898 metres were drilled in 4 diamond-drill holes.

**BIBLIOGRAPHY**

EMPR ASS RPT \*5473, 5781, 6507, 6755, 7510, 7672, 8409, 10081  
EMPR EXPL 1975-E190; 1977-E233; 1979-289  
EMPR OF 1991-17  
GSC OF 610; 2262; 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/05/15

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 071**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOW**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I02E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 10 27 N  
LONGITUDE: 128 34 18 W  
ELEVATION: 1650 Metres

NORTHING: 6448181  
EASTING: 525195

LOCATION ACCURACY: Within 1 KM

COMMENTS: The above coordinates are for diamond-drill hole 33 on Bow 34 as plotted on the location map for the drillhole (Assessment Report 5911, Map (scale 1:12000)). This location map puts the Bow 34 claim about 1.5 kilometres northwest of where claim maps have it.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite      Bornite      Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal      Epigenetic  
TYPE: I06      Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Permian-Triassic  
Upper Triassic

**GROUP**

Undefined Group  
Stuhini

**FORMATION**

Kutcho  
Sinwa

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Quartzite  
Graphitic Shale  
Phyllite  
Calcareous Sandstone  
Calcareous Siltstone  
Volcanic Meta Rock  
Limestone

HOSTROCK COMMENTS: Also, Lower Jurassic Inklin Formation phyllites.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Bow showing is located about 92 kilometres southeast of Dease Lake.

In the area of the occurrence, Permian to Lower Triassic Kutcho Formation mafic to felsic metavolcanic rocks and sediments underlie Upper Triassic Sinwa Formation limestone and Lower Jurassic Inklin Formation phyllites. The area is interpreted to have been isoclinally folded during formation of the King Salmon allochthon in Early to Middle Jurassic time.

The Sinwa Formation has recently been assigned to the Stuhini Group (Stikine Terrane) and the Inklin Formation to the Laberge Group (overlap assemblage). See the Kutcho Creek occurrence (104I 060) for details of the new age date for the Kutcho Formation.

Imperial Oil drilled one hole each in 1975 and 1976 on the Bow 5 and Bow 34 claims, respectively. The 1975 hole encountered pyrrhotite-rich strata. In 1976, diamond-drill hole 33 on the Bow 34 claim intersected (at 95 to 99 metres) a quartz vein in quartzite hosting minor bornite and chalcopyrite. The drillhole initially passed through graphitic shale, calcareous siltstone, calcareous sandstone and phyllite before entering the quartzite. The hole ended in phyllite at 104 metres.

**BIBLIOGRAPHY**

EMPR GEM 1975-E189; 1976-E190  
EMPR ASS RPT 5508, \*5911  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
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REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC P 86-16

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/06

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 072**

NATIONAL MINERAL INVENTORY:

NAME(S): **KUTCHO**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104102E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 55 N  
LONGITUDE: 128 31 25 W  
ELEVATION: 1700 Metres

NORTHING: 6450921  
EASTING: 528003

LOCATION ACCURACY: Within 500M

COMMENTS: The coordinates are for copper mineralization plotted on Kutcho claim geology map (Assessment Report 9170, Drawing 1). The mineralized drillhole quoted is over 1.5 kilometres to the southeast.

COMMODITIES: Copper                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite    Pyrrhotite    Pyrite    Sphalerite

COMMENTS: Zinc mineralization assumed to be sphalerite.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I05    Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Permian-Triassic  
Upper Triassic

GROUP

Undefined Group  
Stuhini

FORMATION

Kutcho  
Sinwa

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Sericitic Schist  
Chlorite Schist  
Rhyolite  
Limestone  
Phyllite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1977

COMMODITY

Silver  
Copper  
Zinc

GRADE

3.0900	Grams per tonne
0.1100	Per cent
0.0600	Per cent

COMMENTS: From a 3-metre drill interval.  
REFERENCE: Assessment Report 6686.

**CAPSULE GEOLOGY**

The Kutcho showing is located about 92 kilometres southeast of Dease Lake and a few kilometres west of Kutcho Creek.

In the area of the Kutcho occurrence, Permian to Lower Triassic Kutcho Formation mafic to felsic volcanic rocks underlie Upper Triassic Sinwa Formation limestone and Lower Jurassic Inklin Formation phyllites. The area is interpreted to have been isoclinally folded during formation of the King Salmon allochthon in Early to Middle Jurassic time.

The Sinwa Formation has recently been reassigned to the Stuhini Group (Stikine Terrane), and the Inklin Formation to the Laberge Group (overlap assemblage). See the Kutcho Creek occurrence (104I 060) for details of the new age date for the Kutcho Formation.

A large group of claims (Kutcho 1-10) were staked, mainly west of Kutcho Creek, by Noranda in 1976 and were explored until 1987. During this time, numerous geophysical programs were done including airborne and ground magnetic and electromagnetic surveys, and induced polarization (IP) surveys. Other work included over 2000 soil samples taken, geological mapping and three diamond drillholes.

The main type of rocks observed by Noranda on the Kutcho claims

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**CAPSULE GEOLOGY**

were sericite schists, chlorite schists and rhyolite. Up to 5 per cent pyrite and minor chalcopyrite are reported to be commonly associated with these rocks; minor zinc mineralization has also been observed (Assessment Report 6686). Minor chalcopyrite-pyrrhotite-pyrite stringer zone-type mineralization is reported to occur (Assessment Report 9170). A 3-metre drill intersection assayed 3.09 grams per tonne silver and 0.11 per cent copper, 0.06 per cent zinc and less than 0.01 per cent lead (Assessment Report 6686).

**BIBLIOGRAPHY**

EMPR ASS RPT 6210, \*6686, \*9170, 12961, 13746, 14897, 16132  
EMPR EXPL 1976-E191; 1977-E232; 1978-E262; 1980-481; 1985-C385;  
1986-446; 1987-382  
EMPR FIELDWORK 1975, p. 76; 1976, p. 75; 1977, p. 43; 1982, p. 179  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
GSC P 1986-16

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/06

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 073**

NATIONAL MINERAL INVENTORY: 10417 Gem3

NAME(S): **BAGGINS**, CWL 3,4,6,8

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 16 03 N  
LONGITUDE: 128 40 19 W  
ELEVATION: 1400 Metres

NORTHING: 6458539  
EASTING: 519246

LOCATION ACCURACY: Within 1 KM

COMMENTS: Coordinates are for the centre of the Baggins claim; the exact location of the jade lense is not reported (Assessment Report 8108). Assessment Report 4802 shows jade outcroppings in this vicinity.

COMMODITIES: Jade/Nephrite                      Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform                      Massive  
CLASSIFICATION: Metamorphic              Replacement              Epigenetic              Industrial Min.  
TYPE: Q01    Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian. The Cache Creek Complex ranges from Mississippian to Jurassic in age

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cache Creek

**CAPSULE GEOLOGY**

The Baggins showing is located about 90 kilometres east-southeast of Dease Lake and a few kilometres southeast of Provencher Lake.

The showing area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentized. In this area nephrite jade is commonly found in association with ultramafic rock.

A drilling program conducted in 1979 by Primex Explorations Ltd. showed that while a large portion of an exposed nephrite lens consisted of gem-quality jade, the quality decreased as the lens dipped beneath the surface. Numerous boulders broken off the lens are scattered nearby and a large number (153) of these were reportedly drilled.

**BIBLIOGRAPHY**

EMPR ASS RPT \*4802, \*8108  
EMPR AR 1961-119-126  
EMPR EXPL 1980-542  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 33  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/11/08  
DATE REVISED: 1995/11/08

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 074**

NATIONAL MINERAL INVENTORY:

NAME(S): **LET, LURK, LETAIN,  
TAK, TAIN, CREEK,  
MEG**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 58 17 21 N  
LONGITUDE: 128 36 34 W

NORTHING: 6460971  
EASTING: 522899

ELEVATION: 1740 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Mineralized ridge (Assessment Report 7603, Figure 4C).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Sericite Schist  
Meta Rhyolite  
Meta Volcanic  
Meta Sediment/Sedimentary  
Greenstone  
Serpentinite  
Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite

HOSTROCK COMMENTS: The Cache Creek Complex ranges from Carboniferous to Jurassic in age.  
The metavolcanics and ultramafics are Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**CAPSULE GEOLOGY**

The Let showing is located about 85 kilometres east-southeast of Dease Lake.

The area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

Scattered grains of chalcopyrite and pyrite occur over a small area in a gossanous ridge zone. The zone is hosted in a sericite schist/metarhyolite unit.

Two holes were drilled by Westfrob Mines (Falconbridge Nickel Mines Ltd.) in 1977 within 1 kilometre to the northwest of the above zone. Traces of chalcopyrite were reported in one of the holes drilled. Geochemical, IP, electromagnetic and magnetometer surveys were also conducted over a large area.

**BIBLIOGRAPHY**

EMPR ASS RPT 6406, \*7603  
EMPR EXPL 1977-E233  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/16

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 074**

MINFILE NUMBER: **104I 075**

NATIONAL MINERAL INVENTORY:

NAME(S): **CK**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I01W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 09 52 N  
LONGITUDE: 128 22 22 W  
ELEVATION: 1500 Metres

NORTHING: 6447190  
EASTING: 536904

LOCATION ACCURACY: Within 500M

COMMENTS: The coordinates are for the centre of the CK claims (Assessment Report 6630).

COMMODITIES: Copper

Zinc

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated

CLASSIFICATION: Volcanogenic Syngenetic

TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

**STRATIGRAPHIC AGE**

Permian-Triassic  
Upper Triassic

**GROUP**

Undefined Group  
Stuhini

**FORMATION**

Kutcho  
Sinwa

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Sericitic Schist  
Meta Volcanic  
Meta Sediment/Sedimentary  
Limestone

HOSTROCK COMMENTS: Also Inklin Formation.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The CK showing is located about 100 kilometres east-southeast of Dease Lake and few kilometres south of the Kutcho Creek volcanogenic massive sulphide deposit (104I 060).

In the showing area, Permian to Lower Triassic Kutcho Formation mafic to felsic metavolcanic and metasedimentary rocks underlie Upper Triassic Sinwa Formation limestone and Lower Jurassic Inklin Formation sediments and metasediments. The area is interpreted to have been isoclinally folded during formation of the King Salmon allochthon in Early to Middle Jurassic time.

The Sinwa Formation has recently been reassigned to the Stuhini Group (Stikine Terrane), and the Inklin Formation to the Laberge Group (overlap assemblage). See the Kutcho Creek occurrence (104I 060) for details of the new age date for the Kutcho Formation.

Within some of the volcanic units, disseminated pyrite, up to 20 per cent by volume, with traces of chalcopyrite and sphalerite occur as tabular to lenticular-shaped zones. These zones occur in quartz-eye sericite schist.

This showing was first described and explored in 1977 by Conwest Exploration Company Limited. The company conducted geological mapping and an electromagnetic survey in that year. No further work is documented.

**BIBLIOGRAPHY**

EMPR ASS RPT \*6630  
EMPR EXPL 1977-E230  
EMPR FIELDWORK 1975, p. 76; 1976, p. 75; 1977, p. 43; 1982, p. 179  
EMPR OF 1999-2  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
GSC P 1986-16

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/07

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 075**

MINFILE NUMBER: **1041 076**

NATIONAL MINERAL INVENTORY:

NAME(S): **EYE** LETAIN, LET,  
TAK, TAIN, CREEK,  
MEG

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 58 18 12 N  
LONGITUDE: 128 39 53 W

NORTHING: 6462531  
EASTING: 519650

ELEVATION: 1320 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Mineralization on the north side of Letain Creek, within about 15 metres of road (Assessment Report 7603, Figure 4A).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Pyrrhotite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Epidote Schist  
Crystal Lapilli Tuff  
Meta Volcanic  
Meta Sediment/Sedimentary  
Serpentinite  
Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite  
Greenstone

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic. The ultramafics and metavolcanics (both Cache Creek) are Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1977

COMMODITY

GRADE

Copper

0.0300

Per cent

REFERENCE: Assessment Report 7603.

**CAPSULE GEOLOGY**

The Eye showing is located approximately 88 kilometres east of Dease Lake.

The area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

Scattered grains of chalcopyrite and pyrite occur over a small area within a porphyroblastic epidote schist unit. Porphyroblasts appear to be lapilli and therefore the protolith is probably a lapilli or crystal tuff.

Drilling by Westfrob Mines (Falconbridge Nickel Mines Ltd.) occurred in 1977 about 750 metres to the southeast of the above showing. The mainly chloritic metavolcanic rock encountered contained disseminated pyrite, pyrrhotite (some blebs) and occasional chalcopyrite. Mineralization at the time was not considered

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**CAPSULE GEOLOGY**

significant. Copper values from analyses were less than 0.03 per cent and averaged 0.01 per cent; assays for precious metal are not indicated (Assessment Report 7603).

Geochemical, IP, electromagnetic and magnetometer surveys were also conducted by Westfrob in 1977.

**BIBLIOGRAPHY**

EMPR ASS RPT 6406, \*7603  
EMPR EXPL 1977-E233  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779  
Falconbridge File

DATE CODED: 1995/11/14  
DATE REVISED: 1995/11/14

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 077**

NATIONAL MINERAL INVENTORY:

NAME(S): **CASTLE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 25 56 N  
LONGITUDE: 129 44 17 W  
ELEVATION: 1200 Metres

NORTHING: 6477069  
EASTING: 456902

LOCATION ACCURACY: Within 500M

COMMENTS: Main zone on the west bank of Little Eagle River, directly opposite Squaw Creek (Assessment Report 6979).

COMMODITIES: Copper Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Sphalerite Chalcocite Pyrite  
ASSOCIATED: Carbonate Epidote Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Vein Disseminated  
CLASSIFICATION: Volcanogenic Syngenetic  
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Permian-Triassic	Undefined Group	Kutcho	
Lower Jurassic	Laberge	Inklin	

LITHOLOGY: Chlorite Schist  
Rhyolite  
Conglomerate  
Slate  
Greywacke

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

Overlap Assemblage

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Castle showing is located approximately 20 kilometres east of Dease Lake.

Regional mapping by the Geological Survey of Canada (Open File 2779) shows the Castle area to be mainly underlain by the Lower Jurassic Inklin Formation (Laberge Group) consisting of slate, greywacke and conglomerate. Rocks of the Permian to Lower Triassic Kutcho Formation may form part of the strata and these include basaltic to rhyolitic schist (flows, breccia and crystal tuffs) and fine-grained volcanic sediments. Limestone of the Upper Triassic Sinwa Formation (reassigned to the Stuhini Group) is commonly argillaceous, and is exposed locally.

Three types of mineralization have been identified as follows:

- 1) Finely banded chalcopyrite and sphalerite occur in small carbonate-epidote lenses and bands within a chlorite schist unit. Mineralization is apparently restricted to a zone 3 to 5 metres thick and less than 100 metres along strike. This zone is located on the west bank of Little Eagle River, directly opposite the mouth of Squaw Creek.
- 2) Small blebs of chalcopyrite and chalcocite occur associated with pockets of remobilized quartz in the area of the rhyolite unit.
- 3) Disseminated pyrite occurs in both rhyolite and conglomerate.

The first recorded work was in 1975 when the showings were first described. At that time Noranda completed soil geochemistry and electromagnetic surveys. Noranda restaked the property in 1985 and did more prospecting and geophysical work. In 1991, the property was restaked and prospected as the Acme claims by M. Archambault.

**BIBLIOGRAPHY**

EMPR ASS RPT \*6979, 15656, 21408  
EMPR EXPL 1978-E263; 1987-C383  
EMPR OF 1999-2  
GSC MAP 29-1962; 9-1957; 1418A

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**BIBLIOGRAPHY**

GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/17

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 078**

NATIONAL MINERAL INVENTORY:

NAME(S): **KUTCHO CREEK JADE**, JADEX, BARB,  
CRY LAKE (JADEX), CRY LAKE, KUTCHO CREEK (JADEX),  
JADE WEST

STATUS: Producer  
REGIONS: British Columbia  
NTS MAP: 104107E 104102E  
BC MAP:  
LATITUDE: 58 15 13 N  
LONGITUDE: 128 35 05 W  
ELEVATION: 1700 Metres  
LOCATION ACCURACY: Within 500M

Open Pit

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6457021  
EASTING: 524373

COMMENTS: Trenches, 6 kilometres southeast of Provencher Lake, near a small northern tributary of a major west tributary to Kutcho Creek, 86 kilometres east of Dease Lake (Assessment Report 15940).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite Jade  
ALTERATION: Nephrite Jade Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive  
CLASSIFICATION: Metamorphic Replacement Epigenetic Industrial Min.  
TYPE: Q01 Jade C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE     GROUP     FORMATION     IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                 Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite  
Slate  
Argillite  
Chert  
Limestone  
Mafic Volcanic  
Nephrite Jade

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic. The ultramafics are part of the Cache Creek Complex and are Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional     Quesnel     PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP:     GRADE: Greenschist

**INVENTORY**

ORE ZONE: CRY LAKE     REPORT ON: Y  
CATEGORY: Inferred     YEAR: 1991  
QUANTITY: 2500 Tonnes  
COMMODITY: Jade/Nephrite     GRADE: 99.0000 Per cent  
COMMENTS: Grade not given.  
REFERENCE: Open File 1992-1.

**CAPSULE GEOLOGY**

The Kutcho Creek Jade (Jadex) area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (greenstone), metasediments and tectonically emplaced ultramafic rocks.

Locally, the area is underlain by serpentinized peridotite, dunite and pyroxenite bodies, in faulted contact with Cache Creek Complex chert, slate, argillite, limestone and mafic volcanic rocks. The metasediments exhibit a well-developed northwest striking foliation that dips moderately to steeply southwest. Thrust faulting is the dominant fault style; a secondary direction of faulting, striking southeast, is also important locally. Minor skarnification is observed where serpentine is in contact with limestone. The



## CAPSULE GEOLOGY

ultramafic-country rock contact locally hosts nephrite jade lenses (Barb Lens).

The property is mainly known for its nephrite jade boulders which are partially or completely buried in overburden. In 1986, ten nephrite jade boulders were drilled to determine quality prior to excavation. Exploration and drilling yielded several boulders of which 16.52 tonnes were mined and shipped to the Kutcho Airstrip for processing (Assessment Report 15940). Some boulders graded C+ in quality which is appropriate for carvings and jewelry, and varied to B grade. Boulders grading C- to D grade are not salable.

Inferred reserves are 2500 tonnes of nephrite jade of unspecified grade (Open File 1992-1). Operators of the property are Jade West Resources Ltd. of Vancouver.

## BIBLIOGRAPHY

EM EXPL 2000-1-8; 2001-1-9  
EM FIELDWORK 2001, pp. 365-376  
EM INF CIRC 2000-1, p. 11  
EMPR AR 1961-119-126  
EMPR ASS RPT 5784, 7582, 8659, 10714, \*15940  
EMPR EXPL 1978-E292 1979-335; 1980-541; 1981-325; 1987-C384  
EMPR MAP 65 (1989)  
EMPR MINING Vol.1 1975-1980; 1986-1987; 1988  
EMPR OF 1992-1; 1992-9; 1994-1  
EMPR PF (Jade West Website (Nov. 1999): The Jade Mine, 4 p.)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 34  
WWW <http://www.jademine.com>  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1990/07/06

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 079**

NATIONAL MINERAL INVENTORY:

NAME(S): **LETAIN CREEK JADE**, P.M.L. 1711, PROVENCHER LAKE,  
WOLVERINE LAKE, BLICK CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104I07E

UTM ZONE: 09 (NAD 83)

BC MAP:

LATITUDE: 58 18 36 N

LONGITUDE: 128 37 50 W

ELEVATION: 1300 Metres

NORTHING: 6463284

EASTING: 521648

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for placer mining lease 1711. Jade boulders also occur over adjacent stretches of Letain Creek (Assessment Report 7104).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated

CLASSIFICATION: Placer Industrial Min.

TYPE: C01 Surficial placers Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Recent  
Upper Paleozoic

Glacial/Fluvial Gravels  
Cache Creek Complex

LITHOLOGY: Gravel  
Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Letain Creek Jade occurrence is located about 85 kilometres east of Dease Lake.

The Letain Creek Jade area is underlain by northwest trending Carboniferous to Jurassic Cache Creek Complex rocks including metavolcanics, metasediments and tectonically emplaced ultramafic rocks of upper Mississippian to Permian age. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

Between 1975 and 1978, Nephro-Jade Canada Limited drilled numerous nephrite-jade placer boulders along Letain Creek, south of Wolverine Lake and upstream toward the confluence of the Provencher Lake stream tributary. Nephro-Jade also worked leases to the immediate northwest of Wolverine Lake along Blick Creek. Assessment Reports 6959 and 7258 identify a number of placer mining leases along these stretches and also around Provencher Lake which were worked at the same time. Subsequent mining of the marketable jade boulders occurred in 1977 and 1978, apparently mainly in the Provencher Lake area but probably also along Letain Creek. Please refer to the Provencher Lake jade occurrence (104I 092) for further details.

**BIBLIOGRAPHY**

EMPR EXPL 1976-204  
EMPR ASS RPT 5815, 6182, \*6959, 7104 \*7258  
EMPR AR 1961-119-126  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 33  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/07

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 080**

NATIONAL MINERAL INVENTORY:

NAME(S): **P.M.L. 1710**, BULLION CREEK

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 22 19 N  
LONGITUDE: 128 37 23 W  
ELEVATION: 1280 Metres

NORTHING: 6470183  
EASTING: 522049

LOCATION ACCURACY: Within 500M

COMMENTS: Jade boulder location on placer mining lease 1710 on Bullion Creek,  
just above the Blick Creek confluence (Assessment Report 7096).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer Industrial Min.  
TYPE: C01 Surficial placers Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Recent			Glacial/Fluvial Gravels
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Gravel  
Serpentinite  
Ultramafic Rock  
Meta Sediment/Sedimentary  
Meta Volcanic  
Schist  
Tuff  
Chert  
Phyllite  
Argillite

HOSTROCK COMMENTS: The ultramafic unit of the Cache Creek Complex is upper Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel Cache Creek  
PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The P.M.L. 1710 occurrence is located about 83 kilometres east of Dease Lake. Jade boulders occur on the lower reaches of Bullion Creek. Much of Bullion Creek flows over Paleozoic metasediments of Ancestral North America, being divided from the Cache Creek Terrane to the south by the northwest trending Kutcho fault which occurs just south of the creeks outlet in Blick Creek. The lowest part of Bullion Creek (where the jade boulders are found) is underlain by an Upper Paleozoic (?) and/or Triassic unit consisting of mafic to felsic volcanics, tuff, chert, phyllite, argillite, schist and limestone. This unit is thought to be part of the Quesnel Terrane but this assignment is uncertain (Geological Survey of Canada Open File 2779). The source of the jade boulders however is certainly the ultramafic rocks (serpentinites) of upper Mississippian to Permian age which occur as tectonic emplacements within the Mississippian to Jurassic Cache Creek Complex. A number of nephrite-jade boulders were drilled in 1976 and 1978 on Bullion Creek. Of these, four boulders were considered to consist of marketable jade. However, no indication of whether or not they were mined is recorded.

**BIBLIOGRAPHY**

EMPR ASS RPT 7104  
EMPR AR 1961-119-126  
GSC MEM 194-14

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**BIBLIOGRAPHY**

GSC P 72-53; 74-1A, p. 375; 78-19, p. 33  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/17

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 081**

NATIONAL MINERAL INVENTORY:

NAME(S): **FALCON**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104106E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 18 02 N  
LONGITUDE: 129 00 52 W  
ELEVATION: 1350 Metres

NORTHING: 6462173  
EASTING: 499153

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the upper reaches of Wheaton Creek (Assessment Report 14954).

COMMODITIES: Silver                      Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Tetrahedrite      Galena      Sphalerite      Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Azurite      Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork  
CLASSIFICATION: Hydrothermal      Replacement  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Sinwa	
Lower Jurassic	Laberge	Inklin	

LITHOLOGY: Limestone  
Greywacke

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Stikine  
COMMENTS: Sinwa Formation recently assigned to Stuhini Gp. of Stikine Terrane.

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1985
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	218.0000      Grams per tonne
Copper	0.6500      Per cent
Lead	0.0550      Per cent
Zinc	0.0400      Per cent

COMMENTS: From a 50-centimetre chip sample.  
REFERENCE: Assessment Report 14954.

**CAPSULE GEOLOGY**

The Falcon showing is located about 62 kilometres east-southeast of Dease Lake.

Limestones of the Upper Triassic Sinwa Formation (recently assigned to the Stuhini Group) and greywackes of the Lower Jurassic Inklin Formation (recently assigned to the Laberge Group) are folded along a northwest axis parallel to the King Salmon thrust fault, south of the property.

Mineralization consisting of tetrahedrite, minor galena, sphalerite and pyrite occur in quartz veins, stockworks and siliceous replacement zones within the limestone subparallel and adjacent to the contact with the overlying greywacke. Azurite, limonite and a white crusty mineral associated with galena is evident on weathered fractures within the limestone.

A 50-centimetre chip sample assayed 218 grams per tonne silver, 0.65 per cent copper, 0.055 per cent lead, 0.04 per cent zinc and less than 0.1 gram per tonne gold (Assessment Report 14954).

In 1986, Miramar Energy conducted geological, geophysical and geochemical surveys on the Falcon claim. In 1988, Spur Ventures Inc. analyzed 125 soil samples that had been taken on the Falcon claims in

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**CAPSULE GEOLOGY**

1986 .

**BIBLIOGRAPHY**

EMPR ASS RPT \*14954, 17490  
EMPR EXPL 1986-C447  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1986/12/01  
DATE REVISED: 1995/10/23

CODED BY: AFW  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 082**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHEATON CK ASBESTOS**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 21 58 N  
LONGITUDE: 128 57 01 W  
ELEVATION: 1700 Metres

NORTHING: 6469473  
EASTING: 502909

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location of serpentized ultramafic belt.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ALTERATION: Serpentinite  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Metamorphic Hydrothermal Epigenetic Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Dunite  
Pyroxenite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Wheaton Creek asbestos occurrence is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

These rocks are reported to contain veins of asbestos fibre. No work is reported.

**BIBLIOGRAPHY**

EMR MRB MRF \*216, 1968  
EMPR OF 1995-25  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/26

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104I 083**

NATIONAL MINERAL INVENTORY:

NAME(S): **POLAR JADE**, SERPENTINE LAKE, POLAR GEMSTONES,  
JADE WEST

STATUS: Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104I06W 104I06E

UTM ZONE: 09 (NAD 83)

BC MAP:

LATITUDE: 58 26 43 N

LONGITUDE: 129 15 16 W

ELEVATION: 1300 Metres

NORTHING: 6478314

EASTING: 485147

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the jade occurrence that appears on Geological Survey of Canada Open File map 2779. Another jade occurrence is plotted on the same map 1.5 kilometres to southwest. The exact location of the asbestos showing is unknown.

COMMODITIES: Jade/Nephrite Asbestos Gemstones

**MINERALS**

SIGNIFICANT: Jade Chrysotile Nephrite

ALTERATION: Serpentine

ALTERATION TYPE: Serpentin'zn

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform

Vein

CLASSIFICATION: Hydrothermal

Replacement

Metamorphic

Industrial Min.

TYPE: Q01 Jade

M06

Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Paleozoic

Cache Creek Complex

LITHOLOGY: Peridotite  
Pyroxenite  
Dunite  
Nephrite Jade

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Serpentine Lake occurrence is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Lower Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

These rocks locally include pods of nephrite jade, two of which are plotted on Geological Survey of Canada Open File map 2779 within a few kilometres to the east of Serpentine Lake.

Asbestos mineralization, probable chrysotile in veinlets, has been documented in this vicinity as well.

Polar Gemstones Ltd. produces jade from this property. Jade West is the supplier of jade from this property. Production data is included with Kutcho Creek Jade (104I 078).

**BIBLIOGRAPHY**

EM EXPL 1996-A14; 2000-1-8; 2001-1-9  
EM INF CIRC 1997-1, p. 13; 1998-1, p. 15; 2000-1, p. 11  
EMPR OF 1995-25  
EMR MRB MRF 216, 1968 (asbestos)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779  
WWW <http://www.jademine.com>  
Lapidary Journal, Nov. 1998, p. 22

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/19

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 084**

NATIONAL MINERAL INVENTORY:

NAME(S): **SERPENTINE CREEK**, DEASE LAKE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I12W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 32 54 N  
LONGITUDE: 129 59 35 W  
ELEVATION: 900 Metres

NORTHING: 6490188  
EASTING: 442203

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location of ultramafic rocks in Serpentine Creek (Geological Survey of Canada Open File 2779)

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
COMMENTS: Asbestos mineral assumed to be chrysotile.

ALTERATION: Serpentinite  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Metamorphic                      Hydrothermal                      Epigenetic                      Industrial Min.  
TYPE: M06    Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Dunite  
Pyroxenite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Serpentine Creek showing is located about 12 kilometres north-northeast of Dease Lake. The area is underlain by rocks of the Mississippian to Jurassic Cache Creek Complex. This asbestos occurrence is documented in an old federal government mineral resource file and virtually nothing is known of it. It can be certain that the asbestos mineral occurs in upper Mississippian to Permian ultramafic rocks of the Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are often altered to serpentinite.

**BIBLIOGRAPHY**

EMPR OF 1995-25  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
EMR MRB MRF \*216, 1968

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/26

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 085**

NATIONAL MINERAL INVENTORY: 10417 Gem1

NAME(S): **WHEATON CREEK JADE**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104107W 104106E  
BC MAP:

Open Pit

MINING DIVISION: Liard

LATITUDE: 58 24 21 N  
LONGITUDE: 129 00 06 W  
ELEVATION: 1100 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6473894  
EASTING: 499903

LOCATION ACCURACY: Within 500M

COMMENTS: General location given for the mouth area of Wheaton Creek.

COMMODITIES: Jade/Nephrite

**MINERALS**

SIGNIFICANT: Nephrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer Industrial Min.  
TYPE: C01 Surficial placers Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Recent  
Upper Paleozoic

Glacial/Fluvial Gravels  
Cache Creek Complex

LITHOLOGY: Gravel  
Serpentinite  
Peridotite  
Dunite  
Pyroxenite

HOSTROCK COMMENTS: The ultramafic rocks are upper Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Wheaton Creek Jade occurrence is located about 60 kilometres east of Dease Lake.

The lower areas of Wheaton Creek are underlain by a 5-kilometre wide belt of upper Mississippian to Permian ultramafic rock of the Mississippian to Jurassic Cache Creek Complex. These rocks, which are the source of the nephrite jade, consist of peridotite, dunite and pyroxenite and are typically altered to serpentinite.

Large nephrite jade boulders are found in abundance from the mouth of Wheaton Creek upstream to the area just south of the junction with Alice Shea Creek. It has been estimated that up to 3000 tonnes of jade in boulder form occurs along this section of the creek alone.

Jade was first reported on Wheaton Creek in 1938 but it was not until 1957 that any was taken out. Intermittent production has occurred from 1965 to at least 1971. In 1965, 11.3 tonnes was flown out.

**BIBLIOGRAPHY**

EMPR AR \*1961-119-126; 1965-250; 1966-254; 1967-295; 1969-389  
EMPR GEM 1970-498; 1971-463  
EMPR PF (\*Sevensma, P.H. (1970): Report on the Wheaton (Boulder) Creek jade deposits and other Turnagain placer leases for Demsey Mines Ltd.; Fraser, Marilyn (Summer/Fall 2000): Vol. 4, No. 2, 5 pages)  
GSC MEM 194-14  
GSC P \*72-53, p. 32; \*78-19, p. 32  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
EMR CORPFILE (Demsey Mines Ltd.)  
WWW <http://www.canadianrockhound.com>

DATE CODED: 1995/10/25  
DATE REVISED: 1995/10/25

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 085**

MINFILE NUMBER: **104I 086**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOW 25**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 27 03 N  
LONGITUDE: 128 42 37 W  
ELEVATION: 1250 Metres

NORTHING: 6478941  
EASTING: 516909

LOCATION ACCURACY: Within 500M

COMMENTS: Location of sample VR84 in the Faulkner Creek valley just west of Faulkner Creek (Assessment Report 10877, Figure 30).

COMMODITIES: Zinc Lead

**MINERALS**

SIGNIFICANT: Sphalerite Galena  
MINERALIZATION AGE: Paleozoic

**DEPOSIT**

CHARACTER: Stratiform Stratabound Disseminated Massive  
CLASSIFICATION: Sedimentary Exhalative Syngenetic  
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Paleozoic GROUP: Road River FORMATION: Unnamed/Unknown Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Mudstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1982  
SAMPLE TYPE: Grab  
COMMODITY: Zinc GRADE: 10.3000 Per cent  
REFERENCE: Assessment Report 10877.

**CAPSULE GEOLOGY**

The Bow 25 occurrence, according to a recent geological compilation of the area by H. Gabrielse, is underlain by sediments of the Lower Ordovician to Devono-Mississippian and (?) younger Road River Group (Geological Survey of Canada Open File 2779).

An exposure of siliceous mudstone contains laminated galena and sphalerite. A sample (VR84) of the material assayed 10.3 per cent zinc; another sample (VR85) yielded 0.11 per cent lead (Assessment Report 10877).

Eldorado Minerals and Petroleum discovered this showing in 1982 while prospecting along strike from their Dinah stratiform lead-zinc deposit (104I 096) located about 6 kilometres to the southeast.

**BIBLIOGRAPHY**

EMPR ASS RPT \*10877, 13946  
EMPR EXPL 1982-390; 1985-390  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
EMPR OF 2000-22

DATE CODED: 1995/11/23  
DATE REVISED: 1995/11/23

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 087**

NATIONAL MINERAL INVENTORY:

NAME(S): **SETTEA CREEK**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I02W 104I07W 104I06E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 51 N  
LONGITUDE: 128 58 52 W  
ELEVATION: 1380 Metres

NORTHING: 6456266  
EASTING: 501109

LOCATION ACCURACY: Within 500M

COMMENTS: The above coordinates are for the Settea Creek placer gold showing plotted on Geological Survey of Canada Open File map 2779.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Sinwa	
Jurassic	Laberge	Inklin	
Recent			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Limestone  
Phyllitic Slate  
Greywacke  
Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Placer gold activity is reported to have occurred on Settea Creek although no gold production has been recorded (Bulletin 28, page 56). A placer gold locality on Settea Creek is plotted on GSC Open File map 2779, just over a kilometre downstream from Settea Lake.

The area drained by Settea Creek is mainly underlain by Lower Jurassic Inklin Formation rocks (recently assigned to the Laberge Group) and Upper Triassic Sinwa Formation limestone (tentatively reassigned to the Stuhini Group). Inklin rocks comprise phyllitic slate, greywacke and conglomerate.

**BIBLIOGRAPHY**

EMPR BULL \*28, p. 56  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779  
Placer Dome File

DATE CODED: 1995/11/30  
DATE REVISED: 1995/11/30

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 088**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE RIVER**

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104I12W 104I12E 104I13E 104I11W

UTM ZONE: 09 (NAD 83)

BC MAP:

LATITUDE: 58 41 05 N

NORTHING: 6505191

LONGITUDE: 129 45 07 W

EASTING: 456405

ELEVATION: 940 Metres

LOCATION ACCURACY: Within 5 KM

COMMENTS: The location is from Bulletin 28, Figure 2 (Eagle River placer locality 53).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER  
Glacial/Fluvial Gravels

Recent

LITHOLOGY: Gravel

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Eagle River occurrence is located about 32 kilometres northeast of Dease Lake.

The Eagle River drains a large area underlain by Paleozoic rocks of Ancestral North America, Mississippian to Jurassic rocks of the Cache Creek Terrane, Early Jurassic plutonic rocks of the Quesnel Terrane and Cretaceous intrusions of the Cassiar Batholith.

Bulletin 28 records gold production on Eagle River of 124.4 grams between 1941 and 1945. The same publication gives a location plot (Figure 2, location number 53) for the occurrence but this may be only a random location point along the river.

**BIBLIOGRAPHY**

EMPR AR 1897-505; 1928-120  
EMPR BULL 2; \*28, pp. 57,58  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
Placer Dome File

DATE CODED: 1995/12/01  
DATE REVISED: 1995/12/01

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 089**

NATIONAL MINERAL INVENTORY:

NAME(S): **TANZILLA BUTTE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I05E 104I05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 24 32 N  
LONGITUDE: 129 44 07 W  
ELEVATION: 1189 Metres

NORTHING: 6474469  
EASTING: 457035

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centered on southern most limestone outcrop on Little Eagle River (Geological Survey of Canada Open File 610).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Upper Triassic

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Industrial Min.  
TYPE: R09 Limestone

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Sinwa	
DATING METHOD: Fossil			

LITHOLOGY: Limestone  
Argillaceous Limestone

HOSTROCK COMMENTS: Recently reassigned to the Stuhini Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Various limestone beds of the Upper Triassic Sinwa Formation (Stuhini Group) outcrop discontinuously over a 6 by 19 kilometre area across the north slope of Tanzilla Butte. They generally trend west-northwest and dip moderately northeast. The limestone is commonly argillaceous and fetid.

**BIBLIOGRAPHY**

EMPR IND MIN FILE (Limestone Occurrences in British Columbia by McCammon, J.W. 1973, p. 34 (in Ministry Library))  
GSC MAP 9-1957; 29-1962; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/10/16

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 090**

NATIONAL MINERAL INVENTORY:

NAME(S): **TURNAGAIN RIVER**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104109W 104110E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 35 45 N  
LONGITUDE: 128 26 18 W  
ELEVATION: 1524 Metres

NORTHING: 6495186  
EASTING: 532646

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centered on surface trace of limestone band on south side of the Turnagain River (Geological Survey of Canada Open File 610).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Dolomite  
MINERALIZATION AGE: Hadrynian

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Industrial Min.  
TYPE: R09 Limestone  
DIMENSION:                      Metres                      STRIKE/DIP: 141/14W  
COMMENTS: Attitude of bedding near north end of limestone band. The band has dimensions of 17500 by 4000 metres.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Hadrynian	Ingenika	Espee	

LITHOLOGY: Limestone  
Sandy Limestone  
Dolomite  
Sandstone  
Phyllite  
Shale  
Schist  
Siltstone  
Quartzite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

A band of limestone of the Hadrynian Espee Formation (Ingenika Group) trends south-southeast from the Turnagain River for 17.5 kilometres, with widths of up to 4 kilometres. The band is comprised of recrystallized limestone with minor sandy limestone and dolomite. The limestone is overlain by sandstone, shale and phyllite of the Stelkuz Formation and underlain by phyllite, schist, siltstone and quartzite of the Swannell and Tsaydiz formations (Ingenika Group). Bedding strikes 138 to 143 degrees and dips 14 to 70 degrees southwest.

**BIBLIOGRAPHY**

EMPR IND MIN FILE (Limestone Occurrences in British Columbia by McCammon, J.W. 1973, p. 34 (in Ministry Library))  
GSC MAP 9-1957; 29-1962, 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1989/08/29

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 091**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOOSE LAKES**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10412W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 37 27 N  
LONGITUDE: 129 58 13 W  
ELEVATION: 1067 Metres

NORTHING: 6498611  
EASTING: 443650

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centered on limestone outcrop just west of Moose Lakes  
(Geological Survey of Canada Open File 610).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Permian  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Foraminifera

**DEPOSIT**

CHARACTER: Stratiform  
CLASSIFICATION: Sedimentary  
TYPE: R09 Limestone  
DIMENSION: 5000 x 3800

Massive  
Industrial Min.

Metres

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Permian

GROUP

Cache Creek

FORMATION

Teslin

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil  
MATERIAL DATED: Foraminifera

LITHOLOGY: Limestone  
Chert  
Slate  
Argillite

HOSTROCK COMMENTS: Cache Creek Complex ranges from Mississippian to Jurassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

A mass of Permian limestone of the Teslin Formation (Cache Creek Complex) outcrops over a 3.8 by 5 kilometre area between Moose Lakes and Dease Lake. The limestone is underlain by a sequence of chert, argillite and slate.

The rock is comprised of well-bedded to massive, crystalline, foraminiferal limestone.

**BIBLIOGRAPHY**

EMPR IND MIN FILE (Limestone Occurrences in British Columbia by  
McCammon, J.W. 1973, p. 35 (in Ministry Library))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1989/08/29

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 092**

NATIONAL MINERAL INVENTORY:

NAME(S): **PROVENCHER LAKE**, EILEEN

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

Open Pit

MINING DIVISION: Liard

LATITUDE: 58 15 52 N  
LONGITUDE: 128 41 26 W  
ELEVATION: 1300 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6458194  
EASTING: 518156

LOCATION ACCURACY: Within 500M

COMMENTS: Placer mining leases cover large area surrounding Provencher Lake (Assessment Report 7258).

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer Industrial Min.  
TYPE: C01 Surficial placers

Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Recent			Glacial/Fluvial Gravels
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Gravel  
Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Provencher Lake area is underlain by northwest trending Mississippian to Jurassic Cache Creek Complex rocks including metavolcanics, metasediments and tectonically emplaced ultramafic rocks of upper Mississippian to Permian age. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinized.

Hundreds of nephrite jade boulders occur in the valley area surrounding Provencher Lake. Considerable drilling of these boulders by Nephro-Jade Canada occurred on numerous placer mining leases between 1976 and 1978. A total of 458 tonnes of jade was produced in the last two years (Assessment Reports 6959 and 7258). These boulders weigh up to 16 tonnes.

Some of this production may have come from stretches along Letain Creek to the north. Please refer to Letain Creek Jade (1041 079) for further details.

**BIBLIOGRAPHY**

EMPR EXPL 1976-204  
EMPR ASS RPT \*5815, \*6182, \*6959, \*7258  
EMPR AR 1961-119-126  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 33  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/07

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 093**

NATIONAL MINERAL INVENTORY:

NAME(S): **D1, D, DISCOVERY,**  
**B, MCBRIDE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I03E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 23 N  
LONGITUDE: 129 08 01 W  
ELEVATION: 1480 Metres

NORTHING: 6449841  
EASTING: 492144

LOCATION ACCURACY: Within 500M

COMMENTS: Vein located east of McBride River (Assessment Report 11279, Figure 10).

COMMODITIES: Gold

Silver

Lead

Zinc

Copper

**MINERALS**

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite Bornite  
Gold Electrum Freibergite Hessite Arsenopyrite

COMMENTS: Native gold, electrum, freibergite and hessite were recognized under microscope.

ASSOCIATED: Quartz Calcite  
ALTERATION: Limonite Malachite

ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Andesite  
Andesitic Tuff  
Andesitic Volcaniclastic  
Sandstone  
Argillite  
Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1981
SAMPLE TYPE: Channel	
COMMODITY	<u>GRADE</u>
Silver	1110.8700 Grams per tonne
Gold	161.3200 Grams per tonne

COMMENTS: Channel sample taken across 10 centimetres).  
REFERENCE: Assessment Report 14004.

**CAPSULE GEOLOGY**

The D1 showing is located about 64 kilometres southeast of Dease Lake.

The area is underlain by Triassic to Jurassic green and purplish red volcanic and volcaniclastic rock of andesitic composition. These are interstratified with lithic sandstone and conglomerate and overlain by a black argillite unit. The strata dips gently to the east (5 - 30 degrees).

The Discovery showing was found in 1981 and consists of a mineralized quartz-calcite vein, up to 30 centimetres wide, containing sulphides and precious metals. The vein is mineralized with semi-massive galena and sphalerite along with disseminated blebby pyrite, chalcopyrite, bornite, malachite and arsenopyrite. Native gold, electrum, freibergite and hessite were recognized under a reflecting optical microscope. Weak limonitic alteration occurs in and adjacent to the vein.

## CAPSULE GEOLOGY

The vein strikes 030 degrees with a vertical dip and is hosted by andesitic tuffs. The vein has been traced, through prospecting and trenching, for 30 metres. The overburden covered lineament in which the vein occurs can be traced for 300 metres.

Channel samples assayed 1110.87 grams per tonne silver and 161.32 grams per tonne gold across 10 centimetres and 589.72 grams per tonne silver and 115.89 grams per tonne across 25 centimetres (Assessment Report 14004).

Between 1981 and 1987, the D claims were worked by Pamicon Resources in conjunction with Orsina Resources and/or Balance Resources. Work included geochemical programs, geological surveys and trenching. Northair Mines held the property as the McBride claim in 1990 and collected 34 rock samples.

See related occurrences 104I 100 (D4) and 104I 101 (D8).

## BIBLIOGRAPHY

EMPR PF (Prospectus, Balance Resources Ltd., Aug. 28, 1987)  
EMPR EXPL 1983-325; 1982-388; 1983-534; 1984-391; 1985-C386;  
1987-C382,C383; 1988-C227  
EMPR ASS RPT \*10699, \*10966, \*11279, \*13276, \*14004, \*15773,  
\*16683, \*16900, \*20986  
GSC MAP 1957-9  
GSC OF 610; 2262; 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1995/09/20

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 094**

NATIONAL MINERAL INVENTORY:

NAME(S): **TURN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104106E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 18 02 N  
LONGITUDE: 129 10 14 W  
ELEVATION: 1100 Metres

NORTHING: 6462185  
EASTING: 490003

LOCATION ACCURACY: Within 1 KM

COMMENTS: Reported to be on the west side of Turnagain Lake (Assessment Report 13195).

COMMODITIES: Lead

**MINERALS**

SIGNIFICANT: Galena  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Sinwa	
Permian-Triassic	Undefined Group	Kutcho	

LITHOLOGY: Limestone  
Dolomite  
Chloritic Schist  
Felsic Schist  
Phyllite  
Meta Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Turn showing area is located west of Turnagain Lake in an area shown on Geological Survey of Canada Open File map 2779 as being covered by Quaternary sediments. West of the Turn showing however, rocks consisting of Kutcho Formation metavolcanics and Sinwa Formation limestone are mapped. Recent dating places the Kutcho Formation at the Permian-Triassic boundary. The Sinwa Formation has tentatively been reassigned to the Stuhini Group.

Work by Noranda in 1984 and 1985 reported the exposure of chloritic schist, felsic schist, phyllite, limestone and dolomite just west of Turnagain Lake. Minor galena was found in siliceous limestone in 1984.

**BIBLIOGRAPHY**

EMPR ASS RPT \*13195, 13753  
EMPR EXPL 1984-392; 1985-C387  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1985/08/29  
DATE REVISED: 1995/10/22

CODED BY: AFW  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 095**

NATIONAL MINERAL INVENTORY:

NAME(S): **KASS**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I01W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 09 04 N  
LONGITUDE: 128 25 42 W  
ELEVATION: 1900 Metres

NORTHING: 6445677  
EASTING: 533648

LOCATION ACCURACY: Within 500M

COMMENTS: Area of high assays on the north face of prominent mountain  
(Assessment Report 11314).

COMMODITIES: Copper                      Zinc                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Pyrrhotite      Chalcopyrite      Sphalerite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Stratabound                      Massive  
CLASSIFICATION: Volcanogenic                      Syngenetic  
TYPE: G06      Noranda/Kuroko massive sulphide Cu-Pb-Zn

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic	Undefined Group	Kutcho	
Upper Triassic	Stuhini	Sinwa	

LITHOLOGY: Chlorite Schist  
Sericitic Schist  
Phyllite  
Quartzite  
Meta Volcanic  
Meta Sediment/Sedimentary  
Limestone  
Hornblende Diorite  
Porphyritic Dike  
Quartz Diorite

HOSTROCK COMMENTS: Also Inklin Formation sediments and metasediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	6.1700	Grams per tonne	
Gold	0.1200	Grams per tonne	
Copper	0.1100	Per cent	
Zinc	0.1700	Per cent	

COMMENTS: High values from two samples.  
REFERENCE: Assessment Report 11314.

**CAPSULE GEOLOGY**

The Kass showing is located about 98 kilometres east-southeast of Dease Lake.  
In the area of the occurrence, Permian to Lower Triassic Kutcho Formation mafic to felsic metavolcanic and metasedimentary rocks underlie Upper Triassic Sinwa Formation limestone and Lower Jurassic Inklin Formation sediments and metasediments. The area is interpreted to have been isoclinally folded during formation of the King Salmon allochthon in Early to Middle Jurassic time.  
The Sinwa Formation has recently been assigned to the Stuhini Group (Stikine Terrane), and the Inklin Formation to the Laberge Group (overlap assemblage). For details on the new Kutcho Formation age date see Kutcho (104I 060).  
The exposed rocks are mainly foliated chloritic and sericitic schists, phyllites and quartzites which are thought to be

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## CAPSULE GEOLOGY

metamorphosed mafic and felsic volcanic rocks. These rocks are overlain by fine-grained argillaceous sediments and massive bedded limestone. Hornblende diorite and subvolcanic porphyritic dikes intrude the strata. Diabase dikes and quartz diorite also intrude the sediments. The strata strikes northwest and dips steeply northeast.

The showing is located in the north face of a prominent peak and consists of 0.5 to 1-metre beds of pyrrhotite with minor disseminated chalcopyrite and sphalerite. The sulphides display fine 0.5-millimetre laminations and beds of chaotic breccia suggesting a sedimentary origin. Samples yielded up to 0.11 per cent copper, 0.17 per cent zinc, 6.17 grams per tonne silver and 0.12 gram per tonne gold (Assessment Report 11314).

This showing was first described and explored in 1982 and 1983 by Canamax Resources Inc. The company performed mapping, collected 989 soil samples and performed a magnetometer survey. No further work is documented.

## BIBLIOGRAPHY

EMPR ASS RPT \*11314  
EMPR EXPL 1983-533  
EMPR FIELDWORK 1975, p. 76; 1976, p. 75; 1977, p. 43; 1982, p. 179  
EMPR OF 1999-2  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
GSC P 1986-16

DATE CODED: 1985/07/24  
DATE REVISED: 1995/12/07

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 096**

NATIONAL MINERAL INVENTORY: 10417 Pb1

NAME(S): **DINAH**, BOW, BULLION CREEK

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 24 28 N  
LONGITUDE: 128 38 08 W  
ELEVATION: 1500 Metres

NORTHING: 6474168  
EASTING: 521297

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the area of stratiform mineralization encountered in the 1982 drillhole program (Assessment Report 10877), within a kilometre to the east of Bullion Creek.

COMMODITIES: Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Galena              Sphalerite  
MINERALIZATION AGE: Paleozoic

**DEPOSIT**

CHARACTER: Stratiform              Stratabound              Disseminated              Massive  
CLASSIFICATION: Sedimentary              Exhalative              Syngenetic  
TYPE: E14      Sedimentary exhalative Zn-Pb-Ag

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Road River	Unnamed/Unknown Formation	

LITHOLOGY: Mudstone  
Limestone  
Schist  
Shale  
Turbidite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1982

COMMODITY	GRADE	
Silver	16.8000	Grams per tonne
Lead	4.5600	Per cent
Zinc	5.6600	Per cent

COMMENTS: From a 0.5-metre drill intersection.  
REFERENCE: Assessment Report 10877.

**CAPSULE GEOLOGY**

The Dinah occurrence is located approximately 88 kilometres east of Dease Lake.

The prospect is a stratiform deposit consisting of disseminated galena and sphalerite in limestone and laminated galena and sphalerite in silty to siliceous mudstones. The rock units described on the property from youngest to oldest are:

- Unit 11 - Chlorite schist with up to 3 per cent magnetite.
- Unit 10 - Mudstone with interbeds of black shale. The mudstone contains laminated galena and sphalerite.
- Unit 09 - Shale with interbeds of black mudstone and subunits of schist and limestone (the limestone subunit contains minor sphalerite).
- Unit 04 - Graphitic black shale.
- Unit 05 - Porous siliceous mudstone with limestone and schist subunits.
- Unit 06 - Mudstone unit with coarse-grained galena in discontinuous pods. It contains two subunits made up of grey to buff weathering limestone, the lower one of which contains pods of sphalerite and galena and bedded sphalerite-galena up to 4 centimetres thick. A mudstone subunit with thin lamina-



## CAPSULE GEOLOGY

tions of fine-grained galena also makes up this unit.  
Unit 05 - Schist with minor limestone subunit.  
Unit 04 - Shale with black laminated mudstone.  
Unit 03 - Mudstone with turbidite lenses.  
Unit 02 - Shale with minor interbeds of mudstone.  
Unit 01 - Limestone and schist.

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According to a recent geological compilation of the area by H. Gabrielse, the area of the Dinah is underlain by rocks of the Lower Ordovician to Devono-Mississippian and (?) younger Road River Group (Geological Survey of Canada Open File 2779).

The Dinah was originally discovered by John Kubiak and prospected by him for about 10 years before selling his interest in the property to Queenstake Resources in 1980. Queenstake conducted some geochemical surveys in 1981 and then optioned the property to Eldorado Minerals and Petroleum in 1982. In the same year, Eldorado conducted a program of extensive exploration which included 570 metres of trenching and 1378 metres of diamond-drilling in 10 holes. The original lead-zinc showings on the property are about 2 kilometres southeast of where the 1982 drill activity encountered more definitive stratiform lead-zinc mineralization. Favourable units were followed along strike to the northeast where siliceous mudstone in Faulkner Creek canyon was found to contain laminated galena and sphalerite (see Bow 25, 104I 086). This location, about 6 kilometres northwest of the 1982 drill area, indicates that stratiform lead-zinc mineralization occurs along a strike length of 8 kilometres. Eldorado conducted a small exploration program in 1985 consisting of 100 metres of trenching.

A 0.5-metre section of drillcore taken at 57.4 metres in diamond-drill hole 82-7 assayed 4.56 per cent lead, 5.66 per cent zinc and 16.80 grams per tonne silver (Assessment Report 10877).

## BIBLIOGRAPHY

EMPR ASS RPT \*9803, \*10877, \*13946  
EMPR EXPL 1981-123; 1982-390; 1985-390  
EMPR OF 2000-22  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
GCNL #117,#130,#131,#154,#169,#187, 1982

DATE CODED: 1986/02/18  
DATE REVISED: 1995/11/23

CODED BY: AFW  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 097**

NATIONAL MINERAL INVENTORY:

NAME(S): **JED**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W 104106E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 23 42 N  
LONGITUDE: 128 59 54 W  
ELEVATION: 1130 Metres

NORTHING: 6472688  
EASTING: 500097

LOCATION ACCURACY: Within 500M

COMMENTS: Diamond-drill hole 1984-2 location near the east side of Wheaton Creek (Assessment Report 13627).

COMMODITIES: Gold Talc Copper

**MINERALS**

SIGNIFICANT: Talc Pyrite Pyrrhotite Chalcopyrite  
ASSOCIATED: Magnetite Pyroxene Mariposite Quartz Calcite  
ALTERATION: Serpentine Silica  
ALTERATION TYPE: Serpentin'zn Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive Vein Breccia Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.  
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu M07 Ultramafic-hosted talc-magnesite

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Upper Paleozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Cache Creek Complex

LITHOLOGY: Serpentinite  
Talc Schist  
Graphitic Schist  
Peridotite  
Dunite  
Pyroxenite  
Chert  
Slate  
Argillite  
Granodiorite

HOSTROCK COMMENTS: Mississippian to Permian ultramafics. Limestone also present.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Gold

5.3800

Grams per tonne

COMMENTS: From a 3-metres drill interval.

REFERENCE: Assessment Report 16332.

**CAPSULE GEOLOGY**

The Jed claim is in the valley of Wheaton Creek, just south of the Turnagain River, about 60 kilometres east of Dease Lake. Access is by a bulldozer road which leads off the Cassiar-Stewart road in the Tanzilla River valley. Substantial quantities of gold are reported to have been recovered from placer mining on Wheaton Creek (104I 004).

The area is underlain by a 5-kilometre wide belt of Upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex consisting of peridotite, dunite and pyroxenite. Small areas consisting of sediments (chert, slate, argillite, graphitic schist, and limestone) occur and are probably part of the Mississippian to Triassic Kedahda Formation (Cache Creek Complex). These are believed to be in fault contact with the ultramafics. North of the Turnagain River, Lower Jurassic (Toarcian)

## CAPSULE GEOLOGY

granodiorite intrudes the ultramafics.

The ultramafics are completely altered to dark green to black serpentinite with small grains of magnetite and minor partially altered pyroxene. Apparently "considerable amounts" of talc occur with these rocks.

Drilling in 1984, on the Jed claim (for sulphides in quartz veins), revealed numerous talc zones. Drillhole 2 cut graphitic schist with narrow serpentine and talc zones from 53 to 87 metres. In drillhole 3, talc schist occurs from 5 to 38 metres, which is locally silicified and brecciated and has small concentrations and disseminations of amorphous mariposite. From 38 to 46 metres, narrow talc zones occur in graphitic schists. Drillhole 4 intersected 19 metres of talc schist with zones of serpentine from 39 to 57 metres (Assessment Report 13627). Pyrite occurs in veinlets and fracture fillings while pyrrhotite and chalcopyrite are more disseminated within graphitic schist in drillhole 2, 3 and 4.

In 1986, drilling was done to explore the down dip extension of surface exposures of quartz zones with gold values. A quartz-calcite breccia zone was encountered in drillhole 86-1 at between 14.6 to 32.3 metres. The rock is described as a graphitic schist, locally intensely silicified and containing pyrite, pyrrhotite and chalcopyrite. The interval from 29 to 32 metres assayed 5.38 grams per tonne gold (Assessment Report 16332). However, samples below and above (both 3-metres samples) yielded only traces of gold.

## BIBLIOGRAPHY

EMPR ASS RPT \*13627, \*16332  
EMPR EXPL 1985-C388; 1987-C384  
EMPR OF 1988-19, pp. 48-49  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1988/01/21  
DATE REVISED: 1995/10/29

CODED BY: MM  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 098**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEEL**, BEALE LAKE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104114E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 58 54 34 N  
LONGITUDE: 129 05 34 W  
ELEVATION: 1650 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6529972  
EASTING: 494656

LOCATION ACCURACY: Within 1 KM

COMMENTS: The location is for the area of sampling as indicated by Canamax Resources Geochemical Map (Assessment Report 12181).

COMMODITIES: Lead                      Zinc                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Arsenopyrite      Pyrite      Galena      Sphalerite      Scheelite

ASSOCIATED: Quartz

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Sylvester Allochthon

LITHOLOGY: Argillaceous Sediment/Sedimentary  
Argillite  
Chert  
Limestone  
Sericitic Tuff  
Mafic Volcanic

HOSTROCK COMMENTS: Hostrocks (of Kootenay Terrane) are part of Sylvester Allochthon but not of Sylvester Complex (Slide Mountain Terrane) (Open File 2779).

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Keel showing is located about 75 kilometres northeast of Dease Lake, just north of Beale Lake.

The area of the Keel showing is underlain by argillaceous sediments, chert, limestone, sericitic tuff and mafic volcanics recently assigned to a Devonian to Mississippian tectonite assemblage with Kootenay Terrane affinity (Geological Survey of Canada Open File 2779). A small diorite stock intrudes the strata to the west of the showing area. Small northwest striking quartz veins carrying arsenopyrite, pyrite, galena and sphalerite occur.

Canamax Resources took 577 soil, 30 rock and 5 silt samples in 1983. No other work is recorded. D.B. Fleming and R.M. Durfeld acquired the property in early 2000 and conducted a field survey in September 2000.

Later work (Fieldwork 2001, pages 54-55) has reassigned the rocks to the metamorphosed sedimentary and volcanoclastic rocks of the Upper Dorsey assemblage.

Westmin Resources 1996 restaked and did contour soil sampling program aimed mainly at finding a volcanogenic massive sulphide.

They have reinterpreted and collected new data that suggests a set of veins over 1 by 2 kilometres featuring two distinct types of gold mineralization. To the west, quartz-arsenopyrite-pyrite-scheelite veins are associated with gold-arsenic-tungsten-bismuth anomalies. To the east quartz base metal veins are associated with anomalous values of gold, arsenic, lead and local silver, zinc, antimony, copper and bismuth. They suggest a good exploration model might be a zoned intrusion-related gold system.

The best results reported by owners from a trench are 27 and 41 grams per tonne gold in grab samples from a silicified vein breccia, and 2.5 grams per tonne gold and 5.5 grams per tonne silver from a quartz arsenopyrite galena vein. Ministry samples from same veins returned 2.716 ppm gold (fire assay) and 954 ppm silver from a

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 165  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

quartz vein, and 0.548 ppm gold (INAA), and 95513 ppm silver (INAA)  
from a quartz vein with galena, sphalerite and pyrite.

**BIBLIOGRAPHY**

EM FIELDWORK 2001, pp. 41-58; 2002-6  
EM OF 2002-6  
EMPR ASS RPT \*12181  
EMPR 1983-535  
EMPR PF (Pamphlet on Beale Lake Project, 2000)  
GSC MAP 29-1962; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/05/09  
DATE REVISED: 2001/11/07

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 099**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELIZA**, MAY

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104109E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 41 37 N  
LONGITUDE: 128 06 54 W  
ELEVATION: 2000 Metres

NORTHING: 6506275  
EASTING: 551295

LOCATION ACCURACY: Within 500M

COMMENTS: Area of quartz vein-hosted scheelite (Assessment Report 5781 (Map M2) and 6755 (Sheets 2 and 3)).

COMMODITIES: Tungsten                      Molybdenum                      Lead                      Silver

**MINERALS**

SIGNIFICANT: Scheelite                      Galena                      Molybdenite  
ASSOCIATED: Quartz                      Pyrolusite  
ALTERATION: Garnet                      Diopside  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Skarn  
TYPE: K05      W skarn                      L05      Porphyry Mo (Low F- type)  
          I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Ingenika	Unnamed/Unknown Formation	
Lower Cambrian	Atan	Boya	
Upper Cretaceous			Cassiar Batholith

LITHOLOGY: Limestone  
Dolomite  
Marble  
Phyllite  
Schist  
Quartzite  
Granite  
Quartz Monzonite  
Granodiorite  
Conglomerate

HOSTROCK COMMENTS: Ingenika Group rocks include Espee, Swannell, Tsaydiz and Stelkuz formations.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Ancestral North America

**CAPSULE GEOLOGY**

The Eliza showing is located about 114 kilometres east-northeast of Dease Lake, just north of the Turnagain River.

The area of the occurrence is underlain mainly by rocks of the Upper Proterozoic Ingenika Group including the Espee, Swannell and Tsaydiz formations. The Espee Formation consists of crystalline limestone, sandy limestone and dolostone. The Swannell and Tsaydiz formations, mapped by Gabrielse (Geological Survey of Canada Open File 2779) as an undivided unit, consists of phyllite, schist, phyllitic limestone, siltstone, quartzite and conglomerate. Sediments and metasediments of the Upper Proterozoic Stelkuz Formation (Ingenika Group) and Lower Cambrian Boya Formation (Atan Group) also occur (also mapped as an undivided unit).

Intruding the country rocks are the Cassiar Batholith and the Turnagain Pluton of the Early Cretaceous Cassiar Plutonic Suite. The Cassiar Batholith consists of granite, quartz monzonite and granodiorite; its northern limits intrude the strata in the area of the showings. The Turnagain pluton, consisting of biotite granite, intrudes to the immediate west of the showings.

Scheelite occurs with skarn at the base of a limestone-dolomite unit. Skarn minerals vary from garnet-bearing marble to garnet-diopside skarn with local sulphide concentrations.

Joint-filling quartz carries the highest grade material as

## CAPSULE GEOLOGY

coarse scheelite crystals. Values of between 0.1 and 0.2 per cent W<sub>3</sub>O over 1 to 5 metres were typical of samples taken (Assessment Report 6755). Some scheelite was also noted as disseminations in unaltered dolomite about 500 metres southeast of the quartz vein-hosted scheelite. About 350 metres further to the southeast, silver-bearing galena mineralization occurs in a 0.5-metre wide pyrolusite vein. Southwest of the quartz vein-hosted scheelite are quartz veins hosted in schist near a quartz monzonite contact. These veins carry up to 10 per cent W<sub>3</sub>O (estimated) in veins up to 0.5 metres wide.

In 1981, prospecting turned up an area of molybdenite mineralization in the Cassiar Batholith, about 500 to 600 metres south-southwest of the quartz vein-hosted scheelite. Fine-grained flakes of molybdenite were found in an area of about 150 by 300 metres.

The claims received work in 6 years between 1974 and 1981, with the main work being done by Union Carbide Canada in 1977 and 1979. In 1979, 898 metres were drilled in 4 diamond-drill holes. See also related occurrences 104I 025 (Ewe) and 104I 070 (May).

## BIBLIOGRAPHY

EMPR AR 1967-28; 1968-38  
EMPR GEM 1967-48; 1970-41  
EMPR EXPL 1975-E190; 1977-E233; 1979-290  
EMPR ASS RPT 5473, \*5781, 6507, \*6755, 7510, 7672, 8409, \*10081  
EMPR OF 1991-17  
GSC OF 610, 2262, 2779  
GSC MAP 29-1962; 1418A

DATE CODED: 1995/05/15  
DATE REVISED: 1995/05/15

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 100**

NATIONAL MINERAL INVENTORY:

NAME(S): **D4, C, MCBRIDE 1**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I03E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 57 N  
LONGITUDE: 129 06 32 W  
ELEVATION: 1560 Metres

NORTHING: 6450890  
EASTING: 493599

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz veins on D4 claim, located east of McBride River (Assessment Report 11279, Figure 10).

COMMODITIES: Gold Silver Lead Zinc

**MINERALS**

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Andesite  
Andesitic Tuff  
Andesitic Volcaniclastic  
Sandstone  
Argillite  
Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1983
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Gold	0.5500 Grams per tonne

COMMENTS: Chip sample taken over 6 metres.  
REFERENCE: Assessment Report 11279.

**CAPSULE GEOLOGY**

The D4 (C showing) is located about 64 kilometres southeast of Dease Lake.

The area is underlain by Triassic to Jurassic green and purplish red volcanic and volcaniclastic rock of andesitic composition. These are interstratified with lithic sandstone and conglomerate and overlain by a black argillite unit. The strata dips gently to the east (5-30 degrees).

A quartz vein on the D4 claim was discovered in 1982 and upon analysis yielded 0.82 gram per tonne gold and 6.51 grams per tonne silver (Assessment Report 10699). Three more quartz veins, from 1 to 5 centimetre thick, were later exposed by trenching. The shear zones in which they occur are up to 0.5 metres wide. The veins contain galena and sphalerite. Gold values range from 0.82 to 0.89 gram per tonne. A 6-metre chip sample of tuffs and black shale hostrock yielded 0.55 gram per tonne gold (Assessment Report 11279).

From 1981 to 1987, the D claims were worked by Pamicon Developments in conjunction with Orsina Resources and/or Balance Resources. Work included geochemical programs, geological surveys and trenching. Northair Mines held the property as the McBride claim in 1990 and collected 34 rock samples. See also related showings 104I 093 (D1) and 104I 101 (D8).



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 169  
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**BIBLIOGRAPHY**

EMPR PF (Prospectus, Balance Resources Ltd., Aug. 28, 1987 (in  
104I 093 file)  
EMPR EXPL 1983-325; 1982-388; 1983-534; 1984-391; 1985-C386;  
1987-C382,C383; 1988-C227  
EMPR ASS RPT \*10699, \*10966, \*11279, \*13276, \*14004, \*15773,  
\*16683, \*16900, \*20986  
GSC OF 610; 2262; 2779  
GSC MAP 9-1957; 29-1962; 1418A

DATE CODED: 1995/09/20  
DATE REVISED: 1995/09/20

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 101**

NATIONAL MINERAL INVENTORY:

NAME(S): **D8, B, MCBRIDE 1**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I03E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 23 N  
LONGITUDE: 129 07 42 W  
ELEVATION: 1620 Metres

NORTHING: 6449840  
EASTING: 492454

LOCATION ACCURACY: Within 500M

COMMENTS: Location for B zone quartz vein on D8 claim, located east of McBride River (Assessment Report 11279, Figure 10).

COMMODITIES: Gold Silver Lead Zinc Copper

**MINERALS**

SIGNIFICANT: Galena Pyrite Chalcopyrite Sphalerite Bornite  
ASSOCIATED: Quartz  
ALTERATION: Limonite Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Triassic-Jurassic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Andesitic Tuff  
Agglomerate  
Andesitic Volcaniclastic  
Andesite  
Sandstone  
Argillite  
Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Channel

COMMODITY

GRADE

Silver	16.8000	Grams per tonne
Gold	2.9800	Grams per tonne
Copper	0.2500	Per cent
Lead	0.8400	Per cent

COMMENTS: From a 15-centimetre chip sample.  
REFERENCE: Assessment Report 20986.

**CAPSULE GEOLOGY**

The D8 (B zone) occurrence is located about 64 kilometres southeast of Dease Lake.

The area is underlain by Triassic to Jurassic green and purplish red volcanic and volcaniclastic rock of andesitic composition. These are interstratified with lithic sandstone and conglomerate and overlain by a black argillite unit. The strata dips gently to the east (5 to 30 degrees).

The B zone consists of a quartz vein carrying disseminated galena, pyrite, chalcopyrite, sphalerite and malachite. The vein occurs in a fissure cutting andesitic tuff and agglomerate and has been exposed for 75 metres, attaining widths up to 30 centimetres. Associated limonite alteration occurs within and adjacent to the vein. A 15-centimetre chip sample assayed 2.98 grams per tonne gold, 16.8 grams per tonne silver, 0.25 per cent copper and 0.84 per cent lead (Assessment Report 20986).

Two other showings about 250 metres west and 450 metres

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**CAPSULE GEOLOGY**

northwest of the B zone occur. Andesite agglomerate contains pyrite, chalcopyrite, galena, sphalerite and bornite as open space and fractures fillings. Apparently both of these zones are mineralized shears, the eastern one of which is mineralized over a 70 metre strike length and a 5 metres width. The best of several 2-metre samples assayed 8.23 grams per tonne silver, 0.09 per cent copper, 0.03 per cent lead, 0.09 per cent zinc and nil gold (Assessment Report 15773).

In each year from 1981 to 1987, the D claims were worked by Pamicon Developments in conjunction with Orsina Resources and/or Balance Resources. Work included geochemical programs, geological surveys and trenching. Northair Mines held the property as the McBride claim in 1990 and collected 34 rock samples. See also related showings 104I 093 (D1) and 104I 100 (D4).

**BIBLIOGRAPHY**

EMPR PF (Prospectus, Balance Resources Ltd., Aug. 28, 1987 (in 104I 093 file))  
EMPR EXPL 1983-325; 1982-388; 1983-534; 1984-391; 1985-C386;  
1987-C382,C383; 1988-C227  
EMPR ASS RPT \*10699, \*10966, \*11279, \*13276, \*14004, \*15773,  
\*16683, \*16900, \*20986  
GSC OF 610; 2262; 2779  
GSC MAP 9-1957; 29-1962; 1418A

DATE CODED: 1995/09/20  
DATE REVISED: 1995/09/20

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 102**

NATIONAL MINERAL INVENTORY:

NAME(S): **THORN 75**, SHEAR CREEK, TANZILLA,  
LOTUS, HORN, TOM,  
KEN

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104105E

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 58 18 07 N  
LONGITUDE: 129 39 41 W  
ELEVATION: 1650 Metres

NORTHING: 6462518  
EASTING: 461236

LOCATION ACCURACY: Within 500M

COMMENTS: Veins located in "Shear Creek" on the 1981 Thorn 75 claim (Assessment Report 19269).

COMMODITIES: Lead                      Copper                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Tetrahedrite              Chalcopyrite              Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Shear  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Triassic-Jurassic  
Jurassic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Snowdrift Creek Pluton

LITHOLOGY: Rhyolite  
Plagioclase Porphyry  
Andesite  
Volcanic Conglomerate  
Tuffaceous Mudstone  
Breccia  
Siltstone  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Thorn 75 showing is located about 30 kilometres southeast of Dease Lake.

The area of the Thorn 75 (Shear Creek) showings are underlain by an assemblage of Triassic to Lower Jurassic volcanic and volcanoclastic rocks consisting of grey and maroon plagioclase porphyry, andesite, volcanic conglomerate, tuffaceous mudstone, breccia, rhyolite, minor siltstone and shale. The Middle to Late Jurassic Snowdrift Creek Pluton occurs a few kilometres to the northeast.

Quartz veins are reported to carry galena, tetrahedrite, chalcopyrite and sphalerite. The shear zone in which the veins occur is 65 metres wide. The highest gold value obtained was 0.12 gram per tonne but in all other samples taken gold was virtually absent (Assessment Report 19269).

This showing is briefly mentioned in the above 1989 Equity Silver Mines report and Utah Mines examined the zone in 1975 as indicated by geology maps (Assessment Report 5769). A number of mining companies have conducted exploration programs over large claim areas in the late 1960s, early 1970s and again in 1991.

**BIBLIOGRAPHY**

EMPR ASS RPT 3538, 5769, \*19269, 22458  
EMPR GEM 1972-539; 1975-190  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

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RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
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**BIBLIOGRAPHY**

Placer Dome File

DATE CODED: 1995/10/06  
DATE REVISED: 1995/10/06

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 103**

NATIONAL MINERAL INVENTORY:

NAME(S): **TWO MILE JADE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I06E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 20 15 N  
LONGITUDE: 129 02 37 W  
ELEVATION: 1620 Metres

NORTHING: 6466287  
EASTING: 497446

LOCATION ACCURACY: Within 500M

COMMENTS: The given location is for one of three jade pods shown on Geological Survey of Canada Open File map 2779. The second occurs 1.4 kilometres to the northwest and the third about 0.9 kilometres to the southeast.

COMMODITIES: Jade/Nephrite                      Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Replacement                      Epigenetic                      Metamorphic                      Industrial Min.  
TYPE: Q01    Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cache Creek

**CAPSULE GEOLOGY**

The Two Mile Jade occurrence is located about 60 kilometres east-southeast of Dease Lake. The occurrence is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized. These rocks locally include pods of nephrite jade; three such pods are plotted on Geological Survey of Canada Open File map 2779 near the headwaters of Two Mile Creek. The characteristics of these pods are not documented.

**BIBLIOGRAPHY**

EMPR AR 1961-119-126  
EMPR PF (in 104I 085 file - Sevensma, P.H. (1970): Report on the Wheaton (Boulder) Creek jade deposits and other Turnagain placer leases for Demsey Mines Ltd.)  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779  
GSC P 72-53, p. 48; 74-1A, p. 375; 78-19, p. 32

DATE CODED: 1995/10/24  
DATE REVISED: 1995/10/24

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 104**

NATIONAL MINERAL INVENTORY: 104I7 Gem1

NAME(S): **ALICE SHEA JADE**, WHEATON CREEK

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 20 12 N  
LONGITUDE: 128 58 03 W  
ELEVATION: 1650 Metres

NORTHING: 6466194  
EASTING: 501903

LOCATION ACCURACY: Within 500M

COMMENTS: The given location is for one of two jade zones shown on Geological Survey of Canada Open File map 2779 that occur south of the confluence of Alice Shea Creek with Wheaton Creek. The second zone occurs 1.75 kilometres slightly west of north from the first.

COMMODITIES: Jade/Nephrite      Gemstones      Talc

**MINERALS**

SIGNIFICANT: Nephrite      Talc  
ALTERATION: Serpentine      Talc  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Replacement      Epigenetic      Metamorphic      Industrial Min.  
TYPE: Q01      Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Alice Shea Jade occurrence is located about 62 kilometres east-southeast of Dease Lake.

The occurrence is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentinized.

These rocks locally include pods or lenses of nephrite jade, two of which occur in east-west zones of altered serpentinite near the confluence of Alice Shea Creek with Wheaton Creek (Geological Survey of Canada Open File 2779).

The northern zone is mainly talc but the southern is reported to be 18.3 metres wide, containing some good quality jade. The contact with the encompassing serpentinite is not exposed.

**BIBLIOGRAPHY**

EMPR AR 1961-119-126  
EMPR PF (in 104I 085 file - Sevensma, P.H. (1970): Report on the Wheaton (Boulder) Creek jade deposits and other Turnagain placer leases for Demsey Mines Ltd.)  
EMPR ASS RPT 14000, 15494, 16418  
GSC MEM 194-14  
GSC P \*72-53, p. 48; 74-1A, p. 375; \*78-19, p. 32  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779  
EMR CORPFILE (Demsey Mines Ltd.)

DATE CODED: 1995/10/24  
DATE REVISED: 1995/10/24

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 105**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHEATON JADE**, WHEATON CREEK

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 23 03 N  
LONGITUDE: 128 58 49 W  
ELEVATION: 1360 Metres

NORTHING: 6471482  
EASTING: 501153

LOCATION ACCURACY: Within 500M

COMMENTS: Jade locality on ridge overlooking Wheaton Creek as plotted on Geological Survey of Canada Open File map 2779.

COMMODITIES: Jade/Nephrite Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Replacement Epigenetic Metamorphic Industrial Min.  
TYPE: Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Wheaton Jade occurrence is located about 63 kilometres east-southeast of Dease Lake.

The occurrence is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentized.

The ultramafic rocks locally include pods of nephrite jade, one of which is plotted on Geological Survey of Canada Open File map 2779 about 750 metres east of Wheaton Creek at a point 3 kilometres upstream from its mouth. The characteristics of these pods are not documented.

See placer jade occurrence Wheaton Creek Jade (104I 085) for related details.

**BIBLIOGRAPHY**

EMPR AR 1961-119-126  
EMPR PF (in 104I 085 file - Sevensma, P.H. (1970): Report on the Wheaton (Boulder) Creek jade deposits and other Turnagain placer leases for Demsey Mines Ltd.)  
GSC MEM 194-14  
GSC P \*72-53, p. 48; 74-1A, p. 375; \*78-19, p. 32  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779  
EMR CORPFILE (Demsey Mines Ltd.)

DATE CODED: 1995/10/24  
DATE REVISED: 1995/10/24

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104I 106**

NATIONAL MINERAL INVENTORY:

NAME(S): **PHILIPPON JADE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 22 11 N  
LONGITUDE: 128 55 29 W  
ELEVATION: 1700 Metres

NORTHING: 6469876  
EASTING: 504404

LOCATION ACCURACY: Within 500M

COMMENTS: The given location is for an in situ jade occurrence on the ridge from which the headwaters of Philippon Creek issue. Plotted on Geological Survey of Canada Open File map 2779.

COMMODITIES: Jade/Nephrite                      Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Replacement                      Epigenetic                      Metamorphic                      Industrial Min.  
TYPE: Q01    Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Philippon Jade occurrence is located about 65 kilometres east-southeast of Dease Lake. The occurrence is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized. Pods of nephrite jade are commonly found in these ultramafic rocks. One such locality, plotted on Geological Survey of Canada Open File map 2779, occurs on a ridge overlooking the headwaters of Philippon Creek. The characteristics of these pods are not documented.

**BIBLIOGRAPHY**

EMPR AR 1961-119-126  
EMPR PF (in 104I 085 file - Sevensma, P.H. (1970): Report on the Wheaton (Boulder) Creek jade deposits and other Turnagain placer leases for Demsey Mines Ltd.)  
GSC MEM 194-14  
GSC P 72-53, p. 48; 74-1A, p. 375; \*78-19, p. 32  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779  
EMR CORPFILE (Demsey Mines Ltd.)

DATE CODED: 1995/10/24  
DATE REVISED: 1995/10/24

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 107**

NATIONAL MINERAL INVENTORY:

NAME(S): **PR7**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 19 42 N  
LONGITUDE: 128 57 23 W  
ELEVATION: 1750 Metres

NORTHING: 6465266  
EASTING: 502554

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Alice Shea Creek (Assessment Report 16418).

COMMODITIES: Copper                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Pyrite                      Chalcopyrite                      Bornite  
ALTERATION: Serpentine                      Malachite  
ALTERATION TYPE: Serpentin'zn                      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Massive  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I06                      Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Upper Paleozoic

**GROUP**

Cache Creek

**FORMATION**

Kedadha

**IGNEOUS/METAMORPHIC/OTHER**

Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite  
Dunite  
Pyroxenite  
Serpentinite  
Graphitic Schist  
Chert  
Slate  
Argillite  
Limestone

HOSTROCK COMMENTS: Upper Mississippian to Permian ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY

YEAR: 1986

COMMODITY	GRADE	
Silver	16.4600	Grams per tonne
Gold	0.4100	Grams per tonne
Copper	0.8100	Per cent

COMMENTS: Sample from massive quartz boulders.  
REFERENCE: Assessment Report 16418.

**CAPSULE GEOLOGY**

The PR7 showing is located about 66 kilometres east-southeast of Dease Lake.

The area is underlain by a 5-kilometre wide belt of upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex consisting of serpentinized peridotite, dunite and pyroxenite. Areas of mafic volcanic rocks and sediments (chert, slate, argillite, graphitic schist, and limestone) occur and are, except for the limestone, probably part of the Mississippian to Triassic Kedadha Formation (Cache Creek Complex). These are believed to be in fault contact with the ultramafics.

In 1985, massive sulphides consisting of pyrite and chalcopyrite were found in outcrop on the PR7 claim. In 1986 at the western edge of the PR7 claim, massive quartz boulders were discovered among the coarse rubble from the outcrops and are reported to contain

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**CAPSULE GEOLOGY**

inclusions of bornite and malachite. A sample assayed 0.81 per cent copper, 16.46 grams per tonne silver and 0.41 gram per tonne gold (Assessment Report 16418).

Powder Ridge Resources conducted magnetic and electromagnetic surveys on the PR claims in 1985. No other work is documented.

**BIBLIOGRAPHY**

EMPR ASS RPT 13718, \*14000, \*16418  
EMPR EXPL 1985-387  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/10/29  
DATE REVISED: 1995/10/29

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 108**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING MOUNTAIN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 16 28 N  
LONGITUDE: 128 52 41 W  
ELEVATION: 1900 Metres

NORTHING: 6459272  
EASTING: 507153

LOCATION ACCURACY: Within 500M

COMMENTS: The given location is for the jade lens that occurs south of the western peak of King Mountain (Geological Survey of Canada Open File map 2779).

COMMODITIES: Jade/Nephrite                      Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Replacement                      Epigenetic                      Metamorphic                      Industrial Min.  
TYPE: Q01    Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The King Mountain occurrence is located about 70 kilometres east-southeast of Dease Lake.

The area is underlain by upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex. These rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

Several nephrite veins are reported to occur in the King Mountain area. However, little commercial nephrite has been found because of the schistose structure exhibited by most of the deposits.

Three small lenses occur in a saddle adjacent to the most westerly peak of the chain of peaks that make up King Mountain (Geological Survey of Canada Paper 78-19). Two other jade lenses are also plotted on Geological Survey of Canada Open File map 2779. One is one kilometre south of the western peak, on the ridge that extends southeast from the peak. The second is 1.5 kilometres east-southeast of the first.

**BIBLIOGRAPHY**

EMPR AR 1961-119-126  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 33  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779

DATE CODED: 1995/10/24  
DATE REVISED: 1995/10/24

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 109**

NATIONAL MINERAL INVENTORY:

NAME(S): **PR8**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 18 31 N  
LONGITUDE: 128 55 17 W  
ELEVATION: 1670 Metres

NORTHING: 6463072  
EASTING: 504607

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrop located on the upper reaches of the westernmost tributary of Ferry Creek (Assessment Report 16047).

COMMODITIES: Copper                      Gold                      Silver                      Lead

**MINERALS**

SIGNIFICANT: Pyrite                      Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown  
TYPE: \*                      Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Upper Paleozoic	Cache Creek	Kedahda	Cache Creek Complex

LITHOLOGY: Porphyry Dike  
Argillite  
Shale  
Slate  
Quartzite  
Andesite  
Serpentinite  
Peridotite  
Pyroxenite  
Dunite

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1986
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	6.1700      Grams per tonne
Gold	0.4100      Grams per tonne
Copper	1.6900      Per cent
Lead	0.3100      Per cent

REFERENCE: Assessment Report 16047.

**CAPSULE GEOLOGY**

The PR8 showing is located about 68 kilometres east-southeast of Dease Lake.

The showing occurs within a 5-kilometre wide belt of upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex consisting of serpentized peridotite, dunite and pyroxenite. Rocks of the Mississippian to Triassic Kedahda Formation (Cache Creek Complex) consisting of argillite, shale, phyllite, slate, quartzite and andesite are faulted in with the ultramafic rocks. Interbedded limestone and porphyry also occur.

A "porphyrite" dike of undetermined extent crosses the westernmost branch of Ferry Creek at its headwaters. Outcrops of the dike show "a promising quantity" of pyrite and chalcopyrite. A sample of the outcrop assayed 1.69 per cent copper, 0.31 per cent lead, 6.17 grams per tonne silver and 0.41 gram per tonne gold (Assessment Report 16047).

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RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

The property was held and prospected in 1986 by D.O. Friedlund.

**BIBLIOGRAPHY**

EMPR ASS RPT \*16047  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; \*2779

DATE CODED: 1995/10/31  
DATE REVISED: 1995/10/31

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 110**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPRING**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 17 49 N  
LONGITUDE: 128 49 43 W  
ELEVATION: 1700 Metres

NORTHING: 6461783  
EASTING: 510047

LOCATION ACCURACY: Within 500M

COMMENTS: Malachite showing on the western flank of the mountain west of Letain Lake (Assessment Report 13262).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Malachite  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic Upper Paleozoic	Cache Creek	Unnamed/Unknown Formation	Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Mafic Volcanic

HOSTROCK COMMENTS: The ultramafic and mafic units are upper Mississippian to Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Spring showing occurs within upper Mississippian to Permian ultramafic rocks of the Mississippian to Jurassic Cache Creek Complex consisting of serpentized peridotite, dunite and pyroxenite. Mafic volcanics of the same age and also part of the Cache Creek Complex are in contact with the ultramafic rocks forming the top of the mountain just above the showing area. The showings consist of two malachite stained areas a few hundred metres apart.

**BIBLIOGRAPHY**

EMPR ASS RPT \*13262  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/11/02  
DATE REVISED: 1995/11/02

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 111**

NATIONAL MINERAL INVENTORY: 10417 Gem3

NAME(S): **JADE 1**, BBS

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 58 17 02 N  
LONGITUDE: 128 40 24 W  
ELEVATION: 1330 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6460364  
EASTING: 519156

LOCATION ACCURACY: Within 500M

COMMENTS: Jade outcrop located within a few hundred metres east of the north end of Provencher Lake (Assessment Report 5815).

COMMODITIES: Jade/Nephrite                      Gemstones

**MINERALS**

SIGNIFICANT: Nephrite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform                      Massive  
CLASSIFICATION: Replacement              Epigenetic                      Metamorphic                      Industrial Min.  
TYPE: Q01      Jade

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                                                Cache Creek Complex

LITHOLOGY: Serpentinite  
Peridotite  
Pyroxenite  
Dunite  
Meta Sediment/Sedimentary  
Meta Volcanic

HOSTROCK COMMENTS: The ultramafic unit is upper Mississippian to Permian. The Cache Creek Complex ranges in age from Mississippian to Jurassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Jade 1 area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including metavolcanics (including greenstone), metasediments and tectonically emplaced ultramafic rocks. The ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinitized.

A talcy jade band occurs between serpentinite and sheared metamorphic rock. In 1975, one of two short drillholes put down by Nephro-Jade Canada intersected 30 centimetres of poor quality jade. This showing was first noted by the above company in 1973.

**BIBLIOGRAPHY**

EMPR GEM 1974-381  
EMPR ASS RPT \*5100, \*5815  
EMPR AR 1961-119-126  
GSC MEM 194-14  
GSC P 72-53; 74-1A, p. 375; \*78-19, p. 34  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/11/09  
DATE REVISED: 1995/11/09

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1041 112**

NATIONAL MINERAL INVENTORY:

NAME(S): **PW3**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 58 N  
LONGITUDE: 128 33 46 W  
ELEVATION: 1620 Metres

NORTHING: 6458421  
EASTING: 525652

LOCATION ACCURACY: Within 500M

COMMENTS: Area of rock samples 4009, 4310 and 4311 (Assessment Report 14137).

COMMODITIES: Copper                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Pyrite                      Pyrrhotite                      Chalcopyrite  
ALTERATION: Silica                      Malachite  
ALTERATION TYPE: Silicific'n                      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \*                      Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Tuff  
Greenstone  
Gabbro  
Meta Sediment/Sedimentary  
Meta Volcanic  
Serpentinite  
Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic. The rocks listed above are upper Mississippian to Permian Cache Creek Complex rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1985
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		4.9000	Grams per tonne
Gold		0.1500	Grams per tonne
Copper		2.1000	Per cent

REFERENCE: Assessment Report 14137.

**CAPSULE GEOLOGY**

The PW3 showing is located about 90 kilometres east-southeast of Dease Lake.

The region is underlain by upper Mississippian to Permian Cache Creek Complex rocks including volcanic, metavolcanics (greenstone), metasediments, gabbro and tectonically emplaced ultramafic rocks. The ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinized.

The PW3 area is reported to be underlain by tuffaceous rocks, typically silicified, malachite-stained and containing up to 10 per cent pyrite, pyrrhotite and from 1 to 2 per cent disseminated chalcopyrite. Grab sample 4009 assayed 3.3 grams per tonne silver and 0.7 per cent copper; and a sample of talus (sample 4310) yielded 0.15 gram per tonne gold, 4.9 grams per tonne silver and 2.1 per cent copper (Assessment Report 14137).

In 1985, Getty Canadian Metals conducted a geological survey and

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**CAPSULE GEOLOGY**

took 234 rock and 134 soil samples. No other work is documented.  
See related occurrences PW1 (104I 113) and WW3 (104I 114).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14137  
EMPR EXPL 1985-C391  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779

DATE CODED: 1995/11/14  
DATE REVISED: 1995/11/14

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 113**

NATIONAL MINERAL INVENTORY:

NAME(S): **PW1**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 16 03 N  
LONGITUDE: 128 32 29 W  
ELEVATION: 1540 Metres

NORTHING: 6458584  
EASTING: 526906

LOCATION ACCURACY: Within 500M

COMMENTS: Area of chip sampling on PW1 claim (Assessment Report 14137).

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Pyrite Talc  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite  
Tuff  
Meta Sediment/Sedimentary  
Meta Volcanic  
Greenstone  
Gabbro

HOSTROCK COMMENTS: The Cache Creek Complex is Mississippian to Jurassic. The ultramafics and volcanics are Mississippian to Permian Cache Creek Complex rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP:  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1985  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 4.2000 Grams per tonne  
Gold 19.0000 Grams per tonne  
COMMENTS: Range of values from 0.5-metre chip samples over 7 metres.  
REFERENCE: Assessment Report 14137.

**CAPSULE GEOLOGY**

The PW1 showing is located about 90 kilometres east-southeast of Dease Lake, just west of Kutcho Creek.

The PW1 area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including volcanics, metavolcanics (greenstone), metasediments, gabbro and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinized.

The serpentinite in this area is exposed over a width of 100 metres and a length of 120 metres. Within is an area of about 20 by 110 metres which consists of sheared, talcose serpentinite containing elongate gypsum blebs and 3 per cent pyrite. In 1985, 14 rock chip samples taken across 7 metres of sheared talcose serpentinite yielded values ranging up to 19 grams per tonne gold and 4.2 grams per tonne silver (Assessment Report 14137). Each sample was 0.5 metre in length. Within this zone is a 4-metre section that assayed from 1.8

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RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

to 19 grams per tonne gold.

On the PW claims in 1985, Getty Canadian Metals conducted a geological survey and took 234 rock and 134 soil samples. No other work is documented. See related occurrences 104I 112 (PW3) and 104I 114 (WW3).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14137  
EMPR EXPL 1985-C391  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779

DATE CODED: 1995/11/14  
DATE REVISED: 1995/11/14

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 114**

NATIONAL MINERAL INVENTORY:

NAME(S): **WW3**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 17 19 N  
LONGITUDE: 128 34 07 W  
ELEVATION: 1780 Metres

NORTHING: 6460924  
EASTING: 525293

LOCATION ACCURACY: Within 500M

COMMENTS: Area of rock sample 4636 (Assessment Report 14137).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite      Pyrrhotite      Chalcopyrite  
ALTERATION: Silica      Sericite  
ALTERATION TYPE: Silicific'n      Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Phyllite  
Meta Sediment/Sedimentary  
Meta Volcanic  
Serpentinite  
Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite  
Greenstone  
Gabbro

HOSTROCK COMMENTS: The Cache Creek Complex is Mississippian to Jurassic. Metasedimentary, metavolc. and ultramafic rocks are all Upper Paleozoic Cache Creek.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**CAPSULE GEOLOGY**

The WW3 showing is located about 90 kilometres east-southeast of Dease Lake.

The area is underlain by upper Mississippian to Permian Cache Creek Complex rocks including volcanic, metavolcanics (greenstone), metasediments, gabbro and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinized.

At the WW3 showing, siliceous, sericite-rich phyllites contain 3 to 10 per cent disseminated pyrite, pyrrhotite and trace amounts of chalcopyrite.

On the PW claims in 1985, Getty Canadian Metals conducted a geological survey and took 234 rock and 134 soil samples. No other work is documented. See related occurrences 104I 112 (PW3) and 113 (PW1).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14137  
EMPR EXPL 1985-C391  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779

DATE CODED: 1995/11/15  
DATE REVISED: 1995/11/15

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 115**

NATIONAL MINERAL INVENTORY:

NAME(S): **LU**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 21 05 N  
LONGITUDE: 128 42 22 W  
ELEVATION: 1800 Metres

NORTHING: 6467870  
EASTING: 517201

LOCATION ACCURACY: Within 500M

COMMENTS: Area of sample 4477 that contained anomalous gold (Assessment Report 14136).

COMMODITIES: Gold Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Arsenopyrite  
ASSOCIATED: Quartz Epidote Chlorite  
ALTERATION: Silica Malachite  
ALTERATION TYPE: Silicific'n Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I VEIN, BRECCIA AND STOCKWORK

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Volcanic Rock  
Greenstone  
Phyllite  
Meta Sediment/Sedimentary  
Meta Volcanic  
Gabbro  
Serpentinized Peridotite  
Serpentinized Dunite  
Serpentinized Pyroxenite

HOSTROCK COMMENTS: The Cache Creek Complex is Mississippian to Jurassic. The ultramafics and metavolcanics are Mississippian to Permian Cache Creek rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP:  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1985  
SAMPLE TYPE: Grab  
COMMODITY \_\_\_\_\_ GRADE \_\_\_\_\_  
Gold 0.7700 Grams per tonne  
COMMENTS: Sample from a 10-centimetre quartz vein containing pyrite.  
REFERENCE: Assessment Report 14136.

**CAPSULE GEOLOGY**

The Lu showing is located approximately 80 kilometres east of Dease Lake.

The region of the Lu occurrence is underlain by upper Mississippian to Permian Cache Creek Complex rocks including volcanic, metavolcanics (greenstone), metasediments, gabbro and tectonically emplaced ultramafic rocks. The Cache Creek ultramafic rocks consist of peridotite, dunite and pyroxenite which are generally serpentinized.

A 1985 prospecting program by Getty Canadian Metals is the only documented work on this ground. The Lu property is reported to be underlain mainly by phyllite and mafic to intermediate volcanic rocks.

Quartz veins are common in the volcanic rocks pinching and swelling up to 2 metres in thickness. Most contain trace amounts of

**CAPSULE GEOLOGY**

chlorite, epidote, pyrite, chalcopyrite, malachite and arsenopyrite. A 10-centimetre wide quartz vein containing pyrite assayed 0.77 gram per tonne gold (Assessment Report 14136). In the same area, several samples of silicified greenstone assayed 0.03 to 0.14 per cent copper (Assessment Report 14136).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14136  
EMPR EXPL 1985-C390  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 56; 610; 2262; 2779

DATE CODED: 1995/11/14  
DATE REVISED: 1995/11/14

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 116**

NATIONAL MINERAL INVENTORY:

NAME(S): **FLAT**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W 104107E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 25 44 N  
LONGITUDE: 128 45 21 W  
ELEVATION: 1560 Metres

NORTHING: 6476487  
EASTING: 514260

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for high gold sample 51415 taken at the headwaters of one of the branches of Faulkner Creek (Assessment Report 20118).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Sericite Pyrite  
ALTERATION TYPE: Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: \* Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Paleozoic

**GROUP**

Unnamed/Unknown Group  
Road River

**FORMATION**

Unnamed/Unknown Formation  
Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Altered Meta Sediment/Sedimentary  
Rhyolite Dike  
Volcanic Rock  
Phyllite  
Tuff  
Argillite  
Limestone  
Shale  
Slate  
Siltstone

HOSTROCK COMMENTS: The host unit is uncertain.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel

Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1989

COMMODITY

GRADE

Gold

1.5950

Grams per tonne

REFERENCE: Assessment Report 20118.

**CAPSULE GEOLOGY**

The Flat occurrence is located approximately 75 kilometres east of Dease Lake.

The showing occurs near the faulted contact of the Ordovician to Devono-Mississippian and (?) younger rocks of the Road River Group, on the north, and an Upper Paleozoic (?) and/or Triassic unit, on the south. The Road River Group, part of Ancestral North America, in this area consists of undivided black, calcareous shale, slate, phyllitic shale, minor limestone, siltstone, and pebble conglomerate. The Paleozoic/Triassic unit consists of mafic to felsic volcanics, tuff, chert, phyllite, argillite, schist and limestone. This unit may be part of the Quesnel Terrane but this assignment is uncertain (Geological Survey of Canada Open File 2779).

In 1989, Placer Dome conducted a program of heavy mineral, rock and silt sampling on the Flat claims. Two rock samples collected assayed 0.225 and 1.595 grams per tonne gold (Assessment Report



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RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

20118). Both samples were taken from the same felsic outcrop, either a rhyolite dike or a lens of metasediments. The host rock consisted of quartz, sericite and pyrite, suggesting that the rock may have been hydrothermally altered.

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GSC MEM 194-14  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779

DATE CODED: 1995/11/21  
DATE REVISED: 1995/11/21

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 117**

NATIONAL MINERAL INVENTORY: 10417 Cu3

NAME(S): **DAVIS 2**, AGNES, TURN,  
CUB, TURNAGAIN

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 29 53 N  
LONGITUDE: 128 53 40 W  
ELEVATION: 1630 Metres

NORTHING: 6484167  
EASTING: 506152

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 5 kilometres north-northwest of the outlet of Flat  
Creek in the Turnagain River (Clark, 1975, Figure 31).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrrhotite Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Magmatic Syngenetic  
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Road River	Unnamed/Unknown Formation	
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Upper Triassic			Ultramafic Intrusions

LITHOLOGY: Pyroxenite  
Olivine Pyroxenite  
Pegmatitic Pyroxenite  
Peridotite  
Dunite  
Serpentinite  
Slate  
Phyllite  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Quesnel

Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

The Davis 2 (Agnes) occurrence is located about 70 kilometres east of Dease Lake, just west of the Turnagain River.

The showing is hosted in an Alaskan-type ultramafic intrusive complex. This zoned complex consists of a dunite core and surrounding peripheral peridotites, pyroxene-rich peridotite, and olivine pyroxenite with maximum dimensions of 3 by 8.2 kilometres. It was intruded in the Late Triassic into Upper Paleozoic (?) and/or Triassic (?) metavolcanic and metasedimentary rocks of the Quesnel Terrane. It is in faulted contact on the east and north with slate and phyllite of the Paleozoic Road River Group (Ancestral North America).

A blasted area about 30 metres long reveals olivine pyroxenite grading to pyroxenite. About half the outcrop consists of pegmatitic pyroxenite which displays very irregular but sharp contacts with olivine pyroxenite. Interstitial sulphides consisting of pyrrhotite and very minor chalcopyrite occur throughout the olivine pyroxenite and locally in the pegmatitic pyroxenite.

See the Turnagain prospect (104I 014) for further details and history of this and other nearby related showings.

**BIBLIOGRAPHY**

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EMPR ASS RPT 2056, \*3206, 3735, 4097, 8055, \*15994, 16458, 24911,  
25475  
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EMPR GEM 1969-49; 1970-40; 1971-46; 1972-545; 1973-512

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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**BIBLIOGRAPHY**

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GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
CJES \*Vol.15, No.12, 1978, pp. 1893-1903; \*Vol.17, No.6, 1980, pp. 744-757  
WWW <http://www.canadianmetalsexploration.com>  
\*Clark, T. (1975): Geology of an ultramafic complex on the Turnagain River, northwestern British Columbia. Ph.D. thesis, Queen's University, Kingston, Ontario

DATE CODED: 1985/07/24  
DATE REVISED: 1995/11/29

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 118**

NATIONAL MINERAL INVENTORY: 10417 Cu1

NAME(S): **CLIFF, TURN, AGAIN,**  
**CUB, TURNAGAIN**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 58 28 26 N  
LONGITUDE: 128 48 16 W  
ELEVATION: 1200 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6481488  
EASTING: 511406

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 1.5 kilometres east of the Turnagain River at a point about 3.5 kilometres northeast of the Flat Creek outlet (Clark, 1975, Figure 31; Assessment Report 15994, Figure 4).

COMMODITIES: Copper                      Nickel                      Palladium                      Platinum                      Cobalt

**MINERALS**

SIGNIFICANT: Pyrrhotite              Pentlandite              Chalcopyrite  
ASSOCIATED: Magnetite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Magmatic              Syngenetic  
TYPE: M05      Alaskan-type Pt±Os±Rh±Ir

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic  
Paleozoic-Mesozoic  
Upper Triassic

GROUP

Road River  
Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation  
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions

LITHOLOGY: Serpentinized Peridotite  
Pegmatic Pyroxenite  
Serpentinite  
Clinopyroxenite  
Dunite  
Slate  
Phyllite  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Quesnel

Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1986

COMMODITY

GRADE

Palladium              1.4500      Grams per tonne  
Platinum              0.3000      Grams per tonne

REFERENCE: Assessment Report 15994.

**CAPSULE GEOLOGY**

The Cliff (Turn) occurrence is located about 72 kilometres east of Dease Lake.

The prospect is hosted in an Alaskan-type ultramafic intrusive complex. This zoned complex consists of a dunite core and surrounding peripheral peridotites, pyroxene-rich peridotite, and olivine pyroxenite with maximum dimensions of 3 by 8.2 kilometres. It was intruded in the Late Triassic into Upper Paleozoic (?) and/or Triassic (?) metavolcanic and metasedimentary rocks of the Quesnel Terrane. It is in faulted contact on the east and north with slate and phyllite of the Paleozoic Road River Group (Ancestral North America).

The mineralized area occurs near the eastern end of the complex. Net textured pyrrhotite, pentlandite and chalcopyrite occur in a band

## CAPSULE GEOLOGY

of poikilitic serpentized peridotite in contact with an underlying pegmatitic pyroxenite, all hosted within a large unit of magnetite clinopyroxenite. Net-textured chalcopyrite occurs at the the contact between the peridotite and the pegmatite, and is also found as disseminations within shears. Mineralization occurs over an area of at least 75 by 100 metres (Assessment Report 15994, Figure 4). The showing has been extensively sheared and is fault bounded to the north.

Falconbridge Nickel Mines explored this showing and several others as the Turn property from 1966 to 1973. Four packsack holes were drilled in the showing area in 1970 but results were never published (Assessment Report 3735, Claims and Grid Location figure (M1)). The Cliff showing was resampled for platinum and palladium by Equinox Resources in 1986. The highest value for platinum was 0.30 gram per tonne and for palladium, 1.45 gram per tonne (Assessment Report 15994).

See the Turnagain prospect (104I 014) for further details and history of this and other nearby related showings.

## BIBLIOGRAPHY

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EMPR AR 1966-22; 1967-28  
EMPR ASS RPT 2056, \*3735, \*4097, 8055, \*15994, \*16458, 24911, 25475  
EMPR EXPL 1979-484; 1987-384,385  
EMPR GEM 1969-49; 1970-40; 1971-46; 1972-545; 1973-512  
EMPR PF (Kilburn, L.C. (1967): Report on Turnagain Copper-Nickel Prospect to December 1967 (in 104I 014 file))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
CJES \*Vol.15, No.12, 1978, pp. 1893-1903; \*Vol.17, No.6, 1980, pp. 744-757  
WWW <http://www.canadianmetalexploration.com>  
\*Clark, T.(1975): Geology of an ultramafic complex on the Turnagain River, northwestern British Columbia. Ph.D. thesis, Queen's University, Kingston, Ontario  
Falconbridge File

DATE CODED: 1995/11/29  
DATE REVISED: 1995/11/29

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 119**

NATIONAL MINERAL INVENTORY: 10417 Cu1

NAME(S): **HORSETRAIL, TURN, CUB,  
TURNAGAIN, HORSE TRAIL**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104107W  
BC MAP:

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)

LATITUDE: 58 28 16 N  
LONGITUDE: 128 50 57 W  
ELEVATION: 1070 Metres

NORTHING: 6481172  
EASTING: 508798

LOCATION ACCURACY: Within 500M

COMMENTS: The showing is located within 500 metres to the northwest of the Turnagain River at a point about 2.5 kilometres northeast of the Flat Creek outlet in the river (Clark, 1975, Figure 31).

COMMODITIES: Nickel                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Pyrrhotite      Pentlandite      Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Magmatic                      Syngenetic  
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Road River	Unnamed/Unknown Formation	
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Upper Triassic			Ultramafic Intrusions

LITHOLOGY: Serpentinite  
Peridotite  
Dunite  
Pyroxenite  
Slate  
Phyllite  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Cassiar Mountains  
Ancestral North America

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core  
COMMODITY: Nickel

YEAR: 1967

GRADE: 0.4000 Per cent

COMMENTS: From a 30-metre drill intersection.  
REFERENCE: Kilburn, 1967 - Property File.

**CAPSULE GEOLOGY**

The Horsetrail (Turn) occurrence is located about 70 kilometres east of Dease Lake.

The showing is hosted in an Alaskan-type ultramafic intrusive complex. This zoned complex consists of a dunite core and surrounding peripheral peridotites, pyroxene-rich peridotite, and olivine pyroxenite with maximum dimensions of 3 by 8.2 kilometres. It was intruded in the Late Triassic into Upper Paleozoic (?) and/or Triassic (?) metavolcanic and metasedimentary rocks of the Quesnel Terrane. It is in faulted contact on the east and north with slate and phyllite of the Paleozoic Road River Group (Ancestral North America).

The rock in the showing area is layered. Most of the outcrop is variably serpentized peridotite, with lesser amounts of dunite. A band of olivine pyroxenite strikes 083 degrees. Two or three small lenses of pyroxene-rich rock occur in the outcrop. Most of the outcrop has a rusty weathered surface but sulphides are generally in low concentrations. Pentlandite, pyrrhotite and chalcopyrite are the

## CAPSULE GEOLOGY

only reported sulphides in the showing. Net-textured mineralization occurs in black serpentinite. Sulphides are present in lesser amounts in grey peridotite. A section of diamond-drill hole 10, drilled on the showing by Falconbridge Nickel Mines, contained 30 metres grading 0.4 per cent nickel (Property File - Kilburn, 1967). A background value of 0.1 per cent nickel or less was suggested to exist.

See the Turnagain prospect (104I 014) for further details and history of this and other nearby showings that Falconbridge Nickel worked as a single property from 1966 to 1973. Bren-Mar Resources Ltd. worked the property between 1996 and 1999.

## BIBLIOGRAPHY

EM EXPL 1999-19-31  
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EMPR ASS RPT 2056, \*3735, \*4097, 8055, \*15994, \*16458  
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EMPR GEM 1969-49; 1970-40; 1971-46; 1972-545; 1973-512  
EMPR PF (Kilburn, L.C. (1967): Report on Turnagain Copper-Nickel Prospect to December 1967 (in 104I 014 file))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
CJES \*Vol.15, No.12, 1978, pp. 1893-1903; \*Vol.17, No.6, 1980, pp. 744-757  
WWW <http://www.canadianmetalexploration.com>  
\*Clark, T. (1975): Geology of an ultramafic complex on the Turnagain River, northwestern British Columbia. Ph.D. thesis, Queen's University, Kingston, Ontario  
Falconbridge File

DATE CODED: 1995/11/28  
DATE REVISED: 1995/11/28

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104I 120**

NATIONAL MINERAL INVENTORY: 10417 Cu1

NAME(S): **FISHING ROCK** TURN 23, TURN,  
COBALT, PYRRHOTITE, CUB,  
TURNAGAIN, EAST END

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104I07W

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 58 28 23 N  
LONGITUDE: 128 50 17 W  
ELEVATION: 1020 Metres

NORTHING: 6481390  
EASTING: 509446

LOCATION ACCURACY: Within 500M

COMMENTS: The showing is located on the northwest side of the Turnagain River at a point about 3 kilometres northeast of the Flat Creek outlet in the river (Clark, 1975, Figure 31).

COMMODITIES: Copper Nickel Silver

**MINERALS**

SIGNIFICANT: Pyrrhotite Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein  
CLASSIFICATION: Magmatic Syngenetic  
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Road River	Unnamed/Unknown Formation	
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Upper Triassic			Ultramafic Intrusions

LITHOLOGY: Serpentinite  
Peridotite  
Dunite  
Pyroxenite  
Slate  
Phyllite  
Troctolite  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Cassiar Mountains  
Ancestral North America

**CAPSULE GEOLOGY**

The Fishing Rock (Turn) occurrence is located about 70 kilometres east of Dease Lake.

The showing is hosted in an Alaskan-type ultramafic intrusive complex. This zoned complex consists of a dunite core and surrounding peripheral peridotites, pyroxene-rich peridotite, and olivine pyroxenite with maximum dimensions of 3 by 8.2 kilometres. It was intruded in the Late Triassic into Upper Paleozoic (?) and/or Triassic (?) metavolcanic and metasedimentary rocks of the Quesnel Terrane. It is in faulted contact on the east and north with slate and phyllite of the Paleozoic Road River Group (Ancestral North America).

Net-textured to disseminated sulphides occur in peridotite. Some massive vein-like pyrrhotite-chalcopyrite is seen to replace fibrous serpentine.

See the Turnagain prospect (104I 014) for further details and history of this and other nearby showings that Falconbridge Nickel Mines worked as a single property from 1966 to 1973. Bren-Mar Resources Ltd. worked the property between 1996 and 1999.

**BIBLIOGRAPHY**

EM EXPL 1999-19-31  
EMPR AR 1966-22; 1967-28  
EMPR ASS RPT 2056, \*3735, \*4097, 8055, \*15994, \*16458, 24911, 25475  
EMPR EXPL 1979-484; 1987-384, 385



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 201  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR GEM 1969-49; 1970-40; 1971-46; 1972-545; 1973-512  
EMPR PF (Kilburn, L.C. (1967): Report on Turnagain Copper-Nickel  
Prospect to December 1967 (in 104I 014 file))  
GSC MAP 29-1962; 9-1957; 1418A  
GSC OF 610; 2262; 2779  
CJES \*Vol.15, No.12, 1978, pp. 1893-1903; \*Vol.17, No.6, 1980, pp.  
744-757  
WWW <http://www.canadianmetalsexploration.com>  
\*Clark, T.(1975): Geology of an ultramafic complex on the Turnagain  
River, northwestern British Columbia. Ph.D. thesis, Queen's  
University, Kingston, Ontario  
Falconbridge File

DATE CODED: 1995/11/28  
DATE REVISED: 1995/11/28

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1041 121**

NATIONAL MINERAL INVENTORY:

NAME(S): **YURSO VEIN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10414W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 52 24 N  
LONGITUDE: 129 01 58 W  
ELEVATION: 1900 Metres

NORTHING: 6525956  
EASTING: 498116

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver Gold Antimony Lead

**MINERALS**

SIGNIFICANT: Tetrahedrite Arsenopyrite Stibnite Pyrite  
ALTERATION: Sericite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Paleozoic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Dorsey Assemblage

LITHOLOGY: Phyllite  
Quartzite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 2001

**COMMODITY**

**GRADE**

Silver	1824.0000	Grams per tonne
Gold	1.1000	Grams per tonne
Antimony	0.8000	Per cent
Lead	2.2000	Per cent

REFERENCE: Nelson, J.L.: EMPR Fieldwork, pp. 19-35.

**CAPSULE GEOLOGY**

The Yurso vein outcrops in the pass at the head of the creek, where it has been traced as subcrop over 1000 metres along a northwesterly strike. The Yurso vein contains arsenopyrite, pyrite, stibnite and tetrahedrite. Analyses show it to be highly anomalous in a broad suite of metals, including gold (to 1250 ppb), silver (to 1824 g/tonne), bismuth (to 413 ppm), lead (to 23,000 ppm), antimony (to 8000 ppm), as well as Se, Te, Cu and Zn. Heavily oxidized vein fragments of secondary base metal sulphates and carbonates, such as anglesite and smithsonite, are abundant in float downslope from the projected vein trace. The largest pieces of vein material are 20-30 centimetres in their shortest dimension. The fracture that hosts the Yurso vein is also occupied by granite porphyry dikes that contain round quartz and orthoclase megacrysts. They may be offshoots from the nearby Cassiar Batholith, or younger, Late Cretaceous-Eocene intrusions. Some show strong argillic alteration, which also affects rocks of the upper Dorsey assemblage around the vein.

**BIBLIOGRAPHY**

EMPR FIELDWORK 2001, pp. 19-35

DATE CODED: 2001/12/13  
DATE REVISED: 2001/12/13

CODED BY: JN  
REVISED BY: JN

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1041 122**

NATIONAL MINERAL INVENTORY:

NAME(S): **NO FISH VEIN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10414W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 54 17 N  
LONGITUDE: 129 02 16 W  
ELEVATION: 1400 Metres

NORTHING: 6529441  
EASTING: 497824

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver Antimony Copper

**MINERALS**

SIGNIFICANT: Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Paleozoic			Dorsey Assemblage

LITHOLOGY: Phyllite  
Quartzite  
Meta Gabbro

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 2001

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	1.0000	Grams per tonne
Antimony	14.0000	Per cent
Copper	130.0000	Per cent

REFERENCE: Nelson, J.L.: EMPR Fieldwork, pp. 19-35

**CAPSULE GEOLOGY**

No Fish vein is 2-8 centimetres wide and strikes west-northwest. The No Fish vein contains pyrite, and a grey metallic mineral. It is anomalous in copper, antimony, tellurium, silver and cobalt.

**BIBLIOGRAPHY**

EMPR FIELDWORK 2001, pp. 19-15

DATE CODED: 2001/12/13  
DATE REVISED: 2001/12/13

CODED BY: JN  
REVISED BY: JN

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1041 123**

NATIONAL MINERAL INVENTORY:

NAME(S): **PERM**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10414W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 57 49 N  
LONGITUDE: 129 09 24 W  
ELEVATION: 1900 Metres

NORTHING: 6536006  
EASTING: 490989

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork  
CLASSIFICATION: Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Paleozoic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Nizi Pluton

ISOTOPIC AGE: Early Permian  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Ub

LITHOLOGY: Tonalite  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Harper Ranch

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Copper

YEAR: 2001

GRADE: 0.1200 Per cent

REFERENCE: Nelson, J.L.: EMPR Fieldwork, pp. 19-35.

**CAPSULE GEOLOGY**

Prominent gossans, including the Perm and Corydalis showings, occur within the Early Permian Nizi pluton. They are cross-cutting, linear, probably fracture-controlled zones, with west-northwesterly trends. The Perm is a prominent gossan on the bare west face of Tetipistikwan Mountain above the Four Mile River, roughly 50 metres across and 600 metres in strike length. Within the gossans, plagioclase-porphyry dikes and zones of finely comminuted intrusive breccia cut the main-phase tonalites, diorites and gabbros of the pluton. The intrusive breccias incorporate angular clasts of their country rocks. They characteristically contain rounded, milled single-crystal plagioclase and hornblende fragments in a matrix of dust-sized rock debris cemented by secondary silica. Many are laced with fine quartz veinlets. Disseminated pyrite and lesser chalcopyrite occur throughout the matrix, as well as in fractures in the surrounding country rock. Samples from these gossans contain 1100-1400 ppm copper, with anomalous silver, zinc and mercury.

**BIBLIOGRAPHY**

EMPR FIELDWORK 2001, pp. 19-35

DATE CODED: 2001/12/13  
DATE REVISED: 2001/12/13

CODED BY: JN  
REVISED BY: JN

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1041 124**

NATIONAL MINERAL INVENTORY:

NAME(S): **CORYDALIS**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 10414W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 52 02 N  
LONGITUDE: 129 07 40 W  
ELEVATION: 1900 Metres

NORTHING: 6525272  
EASTING: 492624

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork  
CLASSIFICATION: Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Paleozoic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Nizi Pluton

ISOTOPIC AGE: Early Permian  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Ub

LITHOLOGY: Tonalite  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Harper Ranch

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY

YEAR: 2001

COMMODITY	GRADE	
Copper	0.1400	Per cent
Silver	1.8000	Grams per tonne

REFERENCE: Nelson, J.L.: EMPR Fieldwork, pp. 19-35.

**CAPSULE GEOLOGY**

Prominent gossans, including the Perm and Corydalís showings, occur within the Early Permian Nizi pluton. They are cross-cutting, linear, probably fracture-controlled zones, with west-northwesterly trends. The Corydalís gossan crosses a spur ridge of the mountain in the headwaters of Nizi Creek. It is 200 metres across and 600 metres in strike length. Within the gossans, plagioclase-porphyry dikes and zones of finely comminuted intrusive breccia cut the main-phase tonalites, diorites and gabbros of the pluton. The intrusive breccias incorporate angular clasts of their country rocks. They characteristically contain rounded, milled single-crystal plagioclase and hornblende fragments in a matrix of dust-sized rock debris cemented by secondary silica. Many are laced with fine quartz veinlets. Disseminated pyrite and lesser chalcopyrite occur throughout the matrix, as well as in fractures in the surrounding country rock. Samples from these gossans contain 1100-1400 ppm copper, with anomalous silver, zinc and mercury.

**BIBLIOGRAPHY**

EMPR FIELDWORK 2001, pp. 19-35

DATE CODED: 2001/12/13  
DATE REVISED: 2001/12/13

CODED BY: JN  
REVISED BY: JN

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104J 001**

NATIONAL MINERAL INVENTORY: 104J13 Ni1

NAME(S): **OPAL LAKE, TEDIDEECH LAKE, KING NICKEL, BEAVER, NICKEL CITY, POND, CAMP**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J13W  
BC MAP:  
LATITUDE: 58 46 46 N  
LONGITUDE: 131 49 13 W  
ELEVATION: 1044 Metres  
LOCATION ACCURACY: Within 500M

MINING DIVISION: Atlin  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6518926  
EASTING: 336964

COMMENTS: Nickel City zone, located 500 metres west of "Opal Lake" about 9 kilometres east of the Nahlin River, approximately 100 kilometres north of the community of Telegraph Creek (Assessment Report 19928).

COMMODITIES: Nickel Gold

**MINERALS**

SIGNIFICANT:	Pyrite	Marcasite	Arsenopyrite	Millerite	
ASSOCIATED:	Chalcedony	Quartz	Opal	Ankerite	Carbonate
	Fuchsite				
ALTERATION:	Chalcedony	Quartz	Opal	Ankerite	Carbonate
	Fuchsite	Magnetite			
ALTERATION TYPE:	Serpentin'zn		Quartz-Carb.		Carbonate
MINERALIZATION AGE:					

**DEPOSIT**

CHARACTER:	Breccia	Vein	Stockwork	Shear
CLASSIFICATION:	Hydrothermal	Epigenetic		
TYPE:	101 Au-quartz veins			

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Nakina	
Upper Paleozoic	Cache Creek	Horsefeed	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Listwanite  
Serpentinite  
Peridotite  
Andesitic Meta Basalt  
Limestone  
Dolomitic Limestone  
Chert  
Cherty Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Opal Lake property covers a portion of a northwest trending regional structure known as the Nahlin Fault, which cuts through Carboniferous-Jurassic Cache Creek Complex strata. Rock types on the property comprise Upper Mississippian-Permian Horsefeed Formation limestone and dolomitic limestone; Mississippian-Triassic Kedahda Formation chert and cherty argillite; Mississippian-Pennsylvanian Nakina Formation andesitic, fine-grained metabasalt; and Upper Mississippian-Permian serpentinized peridotite and serpentinite.

Along the Nahlin fault, nickel mineralization (millerite) and low gold concentrations (up to 0.5 gram per tonne) are associated with a significant zone of listwanitic-ankeritic alteration. The listwanite is a brilliant bright green and white rock of alternating layers of quartz-carbonate and fuchsite-carbonate. Seams and disseminations of magnetite also occur. The ankerite is buff to rust-brown, medium to fine grained with occasional faint foliation fabric.

Three zones have been identified on the property: Nickel City, Camp and Pond. At the Nickel City zone, 500 metres west of "Opal Lake", millerite, pyrite and minor fine black sulphides (marcasite? or arsenopyrite?) reheat multi-episodic opaline quartz-chalcedony-ankerite breccias in a structurally disrupted zone of the Nahlin Fault. The breccias are characterized by matrix-supported, fine

## CAPSULE GEOLOGY

grained, highly altered clasts, which themselves are brecciated. Millerite and pyrite are confined to the vuggy, black chalcedonic quartz matrix of the breccias. The breccias and veins generally strike 040 to 050 degrees and dip steeply to the west. The highest gold values (up to 0.5 gram per tonne) were obtained from a zone of small opaline and black chalcedonic quartz veins cutting ankerite alteration in serpentinite.

The Camp zone is located on the east end of "Opal Lake", where there are several exposures of bright green and buff fuchsite-bearing listwanite. The listwanites are generally moderately foliated and host anastomosing magnetite seams which roughly parallel foliation. Quartz and dolomite veinlets and stockwork crosscut the listwanite foliation. Elevated gold and arsenic values tend to be associated with these veins.

The Pond zone is southwest of Tedideech Lake where an outcrop on the north shore of a small pond exposes weakly foliated fuchsite-bearing listwanite. No mineralization was observed in the listwanite or in late-stage quartz veinlets crosscutting foliation.

## BIBLIOGRAPHY

EMPR PF (Sketch map of workings (1957); 104J General File - Claim maps 73M, 73 M-2, Dec. 1970)  
EMPR AR 1957-5  
EMPR ASS RPT \*19928  
EMR MP CORPFILE (Canadian Explorers Limited; Moneta Porcupine Mines, Limited; Silver Standard Mines Ltd.)  
CANMET IR 3186 (1957)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 1433  
GSC P 74-47  
W MINER Oct.1956, pp. 132-135  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/19

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 002**

NATIONAL MINERAL INVENTORY: 104J13 Cu1

NAME(S): **ACE**, ACE 1-16

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J13E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 45 49 N  
LONGITUDE: 131 41 02 W  
ELEVATION: 1036 Metres

NORTHING: 6516840  
EASTING: 344775

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrops of feldspar porphyry just west of Tedideech Lake, between the lake and the Koshin River, located approximately 100 kilometres north of the community of Telegraph Creek (Assessment Report 220).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Hydrothermal  
TYPE: L PORPHYRY

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Permian	Cache Creek	Teslin	

LITHOLOGY: Feldspar Porphyry  
Argillite  
Greywacke  
Chert  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Ace showing is underlain by limestone of the Permian Teslin Formation (Cache Creek Complex) and argillite, greywacke and chert of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex). Isolated specks of pyrite and chalcopyrite occur in a feldspar porphyry.

**BIBLIOGRAPHY**

EMPR AR 1958-75  
EMPR ASS RPT \*220  
EMPR PF (104J General File - Claim maps 73M, 73 M-2, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/18

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104J 003**

NATIONAL MINERAL INVENTORY: 104J10 Asb1

NAME(S): **TUYA, TACK, TACHILTA LAKE,  
LAKE, TACH, RAFT**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J10W  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 58 37 03 N  
LONGITUDE: 130 52 35 W  
ELEVATION: 949 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6498985  
EASTING: 391013

LOCATION ACCURACY: Within 500M

COMMENTS: Located between Tachilta Lakes and the Tuya River, about 60 kilometres west-northwest of the community of Dease Lake (Assessment Report 293).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Trench

**CAPSULE GEOLOGY**

Cross-fibre veins of chrysotile asbestos occur in a body of serpentized peridotite located between Tachilta Lakes and the Tuya River.

The Upper Mississippian-Permian ultramafic body is part of the Cache Creek Complex and is about 4.8 kilometres long and 0.8 kilometre wide. Chrysotile veins wider than 3 millimetres appear to be spaced at least one to every 0.8 square metre and in numerous places are found several per 0.09 square metre. The veins cover a 182 to 274 metre area. Many of the veins have a central parting, but clean 1.2-centimetre fibre is abundant. The largest fibre noted was about 3.1 centimetres in length.

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim maps 73M, 73M-3, Dec. 1970)  
EMPR AR \*1960-119,126  
EMPR ASS RPT \*293, 316, 3772  
EMPR OF 1995-25  
GSC INF CIRC No.2 (1958), p. 7  
GSC OF 707; 2779  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/08

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 004**

NATIONAL MINERAL INVENTORY: 104J4 Cu4

NAME(S): **KID, GRIZZLY**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 26 N  
LONGITUDE: 131 53 01 W  
ELEVATION: 914 Metres

NORTHING: 6459115  
EASTING: 330728

LOCATION ACCURACY: Within 500M

COMMENTS: Showings on the west side of Sheslay River, opposite Kaketsa Mountain, about 56 kilometres northwest of the community of Telegraph Creek (Assessment Report 18421). The Golden Bear Mine Road is 10 kilometres south.

COMMODITIES: Copper Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: K-Feldspar  
ALTERATION: K-Feldspar Magnetite Epidote Carbonate Malachite  
Azurite  
ALTERATION TYPE: Potassic Propylitic Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated Vein  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Upper Triassic  
Upper Triassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Kaketsa Pluton

ISOTOPIC AGE: 218 +/- 8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende

LITHOLOGY: Quartz Diorite  
Granodiorite  
Monzonite Syenite Dike  
Andesitic Basaltic Porphyritic Flow  
Andesite  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1989

**COMMODITY**

Gold 1.5000 Grams per tonne  
Copper 3.6000 Per cent

REFERENCE: Assessment Report 19805.

**CAPSULE GEOLOGY**

A number of copper showings occur near the contact of the Late Triassic Kaketsa pluton with Upper Triassic Stuhini Group volcanic and related sedimentary rocks.

The volcanic rocks are mainly porphyritic flows with lesser tuffs and tuffaceous siltstones. The flow rocks form massive units and are grey to dark green andesitic to basaltic porphyries with phenocrysts of augite and hornblende. The Kaketsa pluton is an elliptical intrusion 4 by 5.6 kilometres in diameter. Hornblende yielded a K-Ar date of 218 +/- 8 million years (Geology, Exploration and Mining in British Columbia 1972, page 548). The core of the pluton is medium to coarse grained, equigranular quartz diorite or granodiorite.

Minor intrusions related to the Kaketsa pluton intrude volcanic

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## CAPSULE GEOLOGY

rocks and form monzonite to syenite dikes and irregular masses separated by screens and small roof pendants of volcanic rocks. At the Kid occurrence, an irregular shaped north-northwesterly trending tongue of the main pluton projects across the Sheslay River.

Alteration at the occurrence is an apparent linear zone of strong K-feldspar flooding with associated magnetite, epidote and carbonate. Chalcopyrite-pyrite mineralization is closely associated with the K-feldspar flooding and is finely disseminated in the pluton and also occurs as veinlets and fracture fillings along the intrusive-volcanic contact. Some dikes are also mineralized. Malachite and azurite have also been observed.

A grab sample of mineralization in 1989 analysed 3.6 per cent copper and 1.5 grams per tonne gold (Assessment Report 19805).

## BIBLIOGRAPHY

EMPR AR 1961-117; 1962-7,135  
EMPR GEM 1970-31,32; 1972-547; 1974-349  
EMPR ASS RPT 349, 428, 647, 2605, \*3990, \*3991, 5040, 5231, \*18421, 19805  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
EMPR FIELDWORK 1974, pp. 63-68  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
EMR MP CORPFILE (Cobre Exploration Limited; Ducanex Resources Limited)  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/31

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 005**

NATIONAL MINERAL INVENTORY: 104J4 Cu1

NAME(S): **COPPER CREEK**, CALLISON COPPER, GO,  
 COP

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104J04E  
 BC MAP:  
 LATITUDE: 58 13 09 N  
 LONGITUDE: 131 42 22 W  
 ELEVATION: 884 Metres

MINING DIVISION: Atlin  
 UTM ZONE: 09 (NAD 83)  
 NORTHING: 6456303  
 EASTING: 341049

LOCATION ACCURACY: Within 500M  
 COMMENTS: Main mineralized area along Copper Creek, about 1.5 kilometres up from its confluence with Hackett River, approximately 46 kilometres northwest of the community of Telegraph Creek (Assessment Report 2061). The Golden Bear Mine Road is 11 kilometres south.

COMMODITIES: Copper                      Gold                      Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Pyrrhotite	Pyrite	Galena	Sphalerite
ASSOCIATED:	Epidote	Chlorite	Actinolite	Garnet	Magnetite
ALTERATION:	Epidote	Chlorite	Actinolite	Garnet	Magnetite
	Azurite	Malachite	Limonite		
ALTERATION TYPE:	Propylitic		Skarn	Oxidation	
MINERALIZATION AGE:					

**DEPOSIT**

CHARACTER: Disseminated                      Vein                      Massive  
 CLASSIFICATION: Porphyry                      Skarn  
 TYPE: L03      Alkalic porphyry Cu-Au                      K01      Cu skarn

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Triassic-Jurassic			Kaketsa Pluton

LITHOLOGY: Andesite  
 Porphyritic Andesite  
 Tuffaceous Sediment/Sedimentary  
 Granodiorite  
 Diorite  
 Monzonite  
 Monzonite Syenite Dike  
 Andesitic Basaltic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: LENS                      REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1969
SAMPLE TYPE:	Grab		
<u>COMMODITY</u>	<u>GRADE</u>		
Silver	30.8000	Grams per tonne	
Gold	3.4000	Grams per tonne	
Copper	1.0400	Per cent	
Lead	0.6000	Per cent	
Zinc	1.8400	Per cent	

COMMENTS: Representative sample of a massive 0.6-metre wide lens.  
 REFERENCE: Assessment Report 2061, page 7.

**CAPSULE GEOLOGY**

The Copper Creek occurrence area is underlain by highly fractured, altered Upper Triassic Stuhini Group volcanic flow rocks and interbedded related tuffaceous sediments. Andesite and porphyritic andesite are the dominant rock types and are intruded by Late Triassic and Early Jurassic granodiorite, diorite and monzonite stocks, and monzonite-syenite dikes and sills. Andesitic to basaltic dikes have also been recognized.

Fracturing, shearing and faulting are extensive in and near the mineralized zone. There appears to be at least two shear/fault

## CAPSULE GEOLOGY

trends, northeast and northwest.

In the main mineralized area, disseminated and irregular veinlets of chalcopyrite, pyrite and pyrrhotite are associated with epidote-chlorite-actinolite alteration in limonitic volcanic rocks. Some garnet is also found in close association with the mineralization; it appears that the original volcanic sediments in this area were slightly limy to account for the formation of skarn minerals (Assessment Report 2061). Azurite and malachite are evident throughout the main zone. From 2 to 5 per cent finely disseminated magnetite is associated with the chalcopyrite at the north end of the zone.

Pyrrhotite, with lesser amounts of pyrite and chalcopyrite and minor galena and sphalerite, occurs as massive lenses up to 0.9 metre wide and 3.6 metres long in the highly fractured and altered volcanics located to the southeast of the main mineralized zone. A representative sample of a massive 0.6-metre lens of this mineralization analysed 1.04 per cent copper, 0.6 per cent lead, 1.84 per cent zinc, 3.4 grams per tonne gold and 30.8 grams per tonne silver (Assessment Report 2061, page 7).

In 1977, a trench sample assayed 0.41 per cent copper and about 0.5 grams per tonne gold over 179 metres (Exploration in BC 1996, page B14). In 1996, Erin Ventures conducted a VLF-EM survey.

## BIBLIOGRAPHY

EM EXPL 1996-B14  
EMPR AR 1955-13,14; 1956-14  
EMPR ASS RPT \*2061, 3296, \*11395, 12430  
EMPR GEM 1969-38  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/09/01

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 006**

NATIONAL MINERAL INVENTORY: 104J16 Au2

NAME(S): **DEFOT CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J16W  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 53 59 N  
LONGITUDE: 130 26 24 W  
ELEVATION: 1280 Metres

NORTHING: 6529779  
EASTING: 417032

LOCATION ACCURACY: Within 500M

COMMENTS: Defot Creek flows north into Canyon Creek, located about 23 kilometres northwest of the north end of Dease Lake.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
ASSOCIATED: Quartz  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Upper Triassic  
Lower Jurassic

**GROUP**

Unnamed/Unknown Group  
Unnamed/Unknown Group

**FORMATION**

Shonektaw  
Nazcha

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Gravel  
Volcanic Sandstone  
Argillaceous Tuff  
Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

In about 1876, gold was discovered in Defot Creek which flows north into Canyon Creek, located 23 kilometres northwest of the north end of Dease Lake.

Coarse, rough gold often full of quartz, was obtained from a 1.6-kilometre section of the creek which proved to be the most productive in 1878. The creek drains an area underlain by volcanic sandstone, argillaceous tuff and conglomerate of the undivided Triassic-Jurassic Shonektaw and Nazcha formations.

A total of 359,174 grams of gold was produced between 1880 and 1915. Over 90 per cent of this total was mined between 1886 and 1890 (Bulletin 28).

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR BULL 19, p. 7; \*28, pp. 57,58  
EMPR AR 1880-427  
EMPR ASS RPT 18579  
GSC SUM RPT 1925 Part A, pp. 33A-99A  
GSC ANN RPT 1887, p. 138R  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/10

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 007**

NATIONAL MINERAL INVENTORY: 104J16 Au1

NAME(S): **THIBERT CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J16E  
BC MAP:

Open Pit    Underground

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 49 06 N  
LONGITUDE: 130 06 52 W  
ELEVATION: 792 Metres

NORTHING: 6520359  
EASTING: 435638

LOCATION ACCURACY: Within 500M

COMMENTS: Old tunnels along Thibert Creek, about 1500 metres from where the creek enters the north end of Dease Lake and Dease River (Geological Survey of Canada Summary Report 1925 Part A, page 62A).

COMMODITIES: Gold                      Platinum

**MINERALS**

SIGNIFICANT: Gold            Platinum            Osmiridium  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02    Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Gravel  
Sand  
Silt  
Clay  
Serpentinite  
Peridotite  
Greywacke  
Slate  
Chert  
Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

Quesnel

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

In 1873, gold was discovered on a low bench on the north side of Thibert Creek, about 4.8 kilometres above its mouth. The discovery was made by a man in Henry Thibert's prospecting expedition, but Thibert was granted the Discovery claim as leader of the party. Thibert Creek flows easterly into the north end of Dease Lake.

Principal work was done on the lower 16 kilometres of the creek. Much of the early work consisted of drifting and shafts on the benches. Hydraulic mining was done by the Thibert Creek Mining Company, and several other companies, during 15 seasons or parts of seasons, from 1901 to 1922. Intermittent work was carried out by numerous companies, syndicates and individuals from the time of discovery until about 1937. Thibert Creek produced 1,570,083 grams of gold between 1875 and 1935; most (97 per cent) was mined prior to 1900 (Bulletin 28).

The pre-glacial creek channel is the source of the placer gold. Remnants of the old channel occur as a number of benches along the present creek channel. The materials filling the channel are sands and gravels with some silt and clay. Very little gold has been found above the mouth of Berry Creek which is located 10 kilometres upstream from the mouth of Thibert Creek. Between the mouth of Delure (or Deloire) Creek, about 6 kilometres downstream of Berry Creek, rock benches marking the old high-level channel are continuous along the south side of Thibert Creek for long distances. Small remnants of the old channel occur on the north side about 800 metres above the mouth of Delure Creek, and just above the mouth of "Fivemile Creek" which is 4 kilometres further upstream from Delure Creek. The rock benches, even the lowest, are or were covered with at least a thin veneer of glacial drift.

## CAPSULE GEOLOGY

Bedrock is exposed in the bed of Thibert Creek at only a few places. It comprises Upper Mississippian-Permian serpentinite, peridotite and pyroxenite and Mississippian-Triassic Kedahda Formation greywacke, slate, chert and undivided sediments and volcanics, all of the Cache Creek Complex.

Platinum is known to occur in the creek. About 68 grams per tonne of concentrate is reported to have been obtained in one hydraulicking operation. Osmiridium has also been identified in concentrates.

## BIBLIOGRAPHY

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EM FIELDWORK 2001, pp. 303-312  
EM GEOFILE 2000-2; 2000-5  
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EMPR ASS RPT 13914  
EMPR BULL 1 (1933), p. 27; 2, p. 27; 28, pp. 56,57,60  
EMPR PF (\*Hamfield, A. (1903): Report on the Thibert Creek Mine; 104J  
General File - Claim map 73M, Dec. 1970)  
GSC ANN RPT 1887, p. 138R  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC OF 707; 2779  
GSC P 68-48  
GSC SUM RPT \*1925 Part A, pp. 33A-99A  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/11

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104J 008**

NATIONAL MINERAL INVENTORY: 104J9 Au1

NAME(S): **DEASE CREEK**, MCCRIMMON, LAKETON,  
BIDDLE BENCH, ROOSEVELT CREEK, CALIFORNIA BAR,  
UNGERINI CREEK, ARROWOOD, BUCK,  
FLEMING CREEK, FOSTER BENCH, LONE STAR CREEK,  
SIMONS CREEK, CRAIG CREEK, LUDDINGTON BENCH,  
NIPIGON CREEK

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J09E 104J09W  
BC MAP:  
LATITUDE: 58 41 13 N  
LONGITUDE: 130 06 36 W  
ELEVATION: 792 Metres  
LOCATION ACCURACY: Within 500M

Open Pit    Underground

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6505727  
EASTING: 435652

COMMENTS: The old "McCrimmon tunnels" along Dease Creek which flows southwesterly into Dease Lake, about 30 kilometres north of the community of Dease Creek. Other occurrence names include Johnston, Hankin and Bryant workings, Ross bench, Rupe, Hanamen? and Honeyemen? (Property File - Sketch map of Dease Creek, 1930).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Permian	Cache Creek	French Range	

LITHOLOGY: Gravel  
Cherty Argillite  
Argillite  
Siltstone  
Chert  
Volcanic Sandstone  
Basalt  
Limestone  
Listwanite  
Tuff

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Dease Creek flows southwesterly into Dease Lake and enters the lake about 30 kilometres north of the community of Dease Creek. Gold in Dease Creek was discovered in the summer of 1873, and Captain W. Moore was among the first to begin work there. The settlement of Laketon (abandoned) was built at the mouth of the creek.

Bedrock outcrops in the bed of the creek at many places and, for 13 kilometres upstream, there is comparatively little drift or alluvial filling in the bottom of the valley, with the exception of the bottom of the canyon near the mouth of the creek, where the depth to bedrock is reported to be 5.4 to 7.6 metres. Parts of the old pre-glacial channel, in the form of drift covered rock benches, occur at intervals along the creek for 13 kilometres. The benches occur as small remnants on one side or the other. The longest stretch, about 518 metres, is about 2.4 kilometres up the creek from its mouth. Drifting and opencut work reportedly has shown that the benches contain fairly high gold values. It may be however, that most of the gold is in the basal gravels which were mostly drifted out. The old channel, for the most part, has been destroyed by the stream erosion that produced the present valley (Geological Survey of Canada Summary Report 1925 Part A, pages 56A-61A).

As indicated on Geological Survey of Canada Open File 2779, the

MINFILE NUMBER: **104J 008**

## CAPSULE GEOLOGY

creek is underlain by various units of the Carboniferous-Jurassic Cache Creek Complex. These include basalt, tuff, agglomerate, minor chert and argillite of the Permian French Range Formation and chert, cherty argillite, argillite, siltstone, volcanic sandstone, limestone and metamorphosed equivalents, of the Mississippian-Triassic Kedahda Formation. Quartz veins are locally evident. In 1991, mapping in the vicinity of Lyons Gulch uncovered a carbonate-altered, fuchsite-bearing listwanite along a road.

Mining on Dease Creek began in 1874 and continued for many years. The standard method was by diverting the creek by means of wing-dams, and sluicing the materials down to bedrock and thoroughly cleaning the bedrock. Drifting and opencuts were also carried out on the benches. The gold-rich spots were where the old channel had been cut away by the present channel; the barren places were opposite the stretches where the old channel is intact. Bedrock in the rich parts of the creek bottom, for 9 to 13 kilometres upstream, is said to have been cleaned at least a dozen times since 1874.

The most notable work was on the McCrimmon ground where nearly the whole 518-metre length of the bench was drifted. Considerable drifting and opencut work was done on the Brian-McKay ground 1.6 kilometres farther upstream, and at California bar about 13 kilometres upstream from the mouth. The chief interest in later years was in a 274-metre section of ground "from just above the canyon to where the stream issues into the flats". This ground was drilled in 1913, 1924 and 1930-31 with the idea of hydraulicking the benches, and mining the ground in the bed of the creek at and near the mouth. Several attempts were made at mining this section but none proved successful. The main activity on the creek ended in about 1932 although some production was reported into the 1940s.

Total recorded production from 1874 to 1945 totalled 3,923,576 grams of gold (Bulletin 28, page 58).

## BIBLIOGRAPHY

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- EMPR BULL 1 (1933), p. 7; 28, pp. 7,56-58
- EMPR ASS RPT 20763, 21851
- EMPR AR 1877-400; 1878-376; 1880-427; 1882-360; 1883-410; 1884-420, 421; 1885-490; 1886-200,201; 1887-259; 1893-1040; 1894-734,735; 1895-664; 1897-498; 1902-H42; 1903-H48; 1905-J77; 1906-H58; 1908-J53; 1911-K62; 1912-K29,K63,K64,K70,K71,K77,K80,K81; 1913-K75; 1914-K99; 1915-K68; 1916-K20,K48; 1917-F20,F75,F82; 1918-K21, K102; 1919-N93; 1920-N68,N69,N75; 1921-G75; 1922-N88; 1923-A88; 1924-B76; 1925-A111; 1926-A102,A103; 1927-C108; 1928-C119; 1929-C117; 1930-A20; 1931-A53,A54; 1932-A63
- GSC SUM RPT \*1925 Part A, pp. 33A-74A
- GSC MAP 9-1957; 21-1962; 15-1968; 1418A
- GSC OF 707; 2779
- GSC P 68-48
- GSC ANN RPT 1887, p. 138R

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/05

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 009**

NATIONAL MINERAL INVENTORY: 104J2 Au1

NAME(S): **TAHLTAN RIVER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J02W  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 00 49 N  
LONGITUDE: 130 58 36 W  
ELEVATION: 213 Metres

NORTHING: 6431934  
EASTING: 383215

LOCATION ACCURACY: Within 500M

COMMENTS: A cut on a low bench of the Tahltan River about 30 metres above the bridge, on Indian Reserve 1, just north of the confluence of Tahltan and Stikine rivers, approximately 36 kilometres northeast of the community of Telegraph Creek (Minister of Mines Annual Report 1933, page A62).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Unknown

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Gravel  
Clay Gravel  
Porphyritic Augite Basalt  
Feldspar Porphyry  
Basalt  
Olivine Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

Stikine

PHYSIOGRAPHIC AREA: Glenora Trench

**CAPSULE GEOLOGY**

Placer gold occurs in a cut on a low bench of the Tahltan River about 30 metres above the bridge, on Indian Reserve 1, just north of the confluence of Tahltan and Stikine rivers, approximately 36 kilometres northeast of the community of Telegraph Creek.

The cut exposed 2.4 metres of stratified and imbricated gravel. The upper section of the gravel is loose and easily picked and is superimposed on 0.45 metre of clayey gravel. Coarse colours were panned by the Resident Engineer from this basal streak and one test pan calculated out to 7.7 grams gold per 0.76 cubic metre. Up to the time of examination (August 29, 1933) John Carlick reported a recovery of over 279 grams gold. The last clean-ups, representing five and three days, yielded 1 ounce 9.5 grains and 13 dwt. 23 grains of gold respectively. Work on this ground was very intermittent (Minister of Mines Annual Report 1933, page A62).

Bedrock in the vicinity are Pleistocene olivine basalt, and porphyritic augite basalt, feldspar porphyry and basalt of the Upper Triassic Stuhini Group.

Recorded production from the Tahltan River from about 1911 to 1945 totalled 3669 grams of gold (Bulletin 28, page 60).

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR AR \*1933-A62  
EMPR BULL 19, p. 48; 28, p. 60  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1994/06/28

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 010**

NATIONAL MINERAL INVENTORY: 104J3 Cu1

NAME(S): **PINTO**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J03E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 00 12 N  
LONGITUDE: 131 00 39 W  
ELEVATION: 457 Metres

NORTHING: 6430850  
EASTING: 381163

LOCATION ACCURACY: Within 1 KM

COMMENTS: On the north side of the Stikine River about 2 kilometres downstream from the mouth of the Tahltan River, approximately 14 kilometres north of the community of Telegraph Creek (Geology, Exploration and Mining in British Columbia 1970).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Unknown  
ASSOCIATED: Apatite Magnetite  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown  
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tahltan Pluton

LITHOLOGY: Pyroxenite  
Pyroxene Syenite  
Syenite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Pinto showing is located on the north side of the Stikine River about 2 kilometres downstream from the mouth of the Tahltan River. This area is underlain by an Early Jurassic zoned ultramafic body (Tahltan pluton) comprising pyroxenite, pyroxene syenite and syenite rich in apatite and magnetite.

There is no information on mineralization but the National Mineral Inventory card indicates copper as the primary commodity. Exploration appears to have focused on copper, silver, gold, titanium and cadmium minerals/commodities.

**BIBLIOGRAPHY**

EMPR GEM \*1970-48  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/09/07

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 011**

NATIONAL MINERAL INVENTORY:

NAME(S): **NW**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 47 59 N  
LONGITUDE: 131 58 29 W  
ELEVATION: 427 Metres

NORTHING: 6521569  
EASTING: 328140

LOCATION ACCURACY: Within 500M

COMMENTS: A large, angular block of serpentinite located along the edge of the Nahlin River, about 1.5 kilometres from its confluence with Dudidontu River, approximately 130 kilometres north of the community of Telegraph Creek (Assessment Report 221).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Upper Paleozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Cache Creek Complex

LITHOLOGY: Serpentinite  
Ultramafic  
Argillite  
Greywacke  
Tuff  
Feldspar Porphyry  
Cherty Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The NW showing area is underlain by argillite, greywacke and tuff of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex). Feldspar porphyry is also evident.

A large, angular block of serpentinite weighing several tonnes is evident along the edge of Nahlin River. The serpentinite is strongly fractured and cut by a network of asbestos veinlets. Cross-fibre asbestos (probably chrysotile) constitutes 7 to 12 per cent of the rock mass. The fibres vary from about 1 to 6 millimetres in length. The angular character of the float suggests it is not far removed from its source. Geological Survey of Canada Open File 707 indicates that Upper Mississippian-Permian ultramafic bodies of the Cache Creek Complex are nearby.

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim maps 73M, 73 M-2, Dec. 1970)  
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EMPR ASS RPT \*221  
EMPR OF 1995-25  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
EMR MP MRF 216 (1968)

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/18

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 012**

NATIONAL MINERAL INVENTORY: 104J16 Au3

NAME(S): **KEYSTONE**, THIBERT

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J16E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 49 07 N  
LONGITUDE: 130 13 58 W  
ELEVATION: 0883 Metres

NORTHING: 6520510  
EASTING: 428804

LOCATION ACCURACY: Within 500M

COMMENTS: Drillhole collar, just south of the confluence of Boulder and Thibert creeks, about 8 kilometres west of the north end of Dease Lake (Assessment Report 17706).

COMMODITIES: Gold Platinum

**MINERALS**

SIGNIFICANT: Gold Platinum  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I01 Au-quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Shale  
Chert  
Altered Ultramafic  
Cherty Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core  
COMMODITY: Gold

YEAR: 1987

GRADE: 1.0000 Grams per tonne

COMMENTS: A 1.5-metre section of core.  
REFERENCE: Assessment Report 17706, page 10.

**CAPSULE GEOLOGY**

In 1931, stripping and opencutting the old Keystone showing exposed "a zone of quartz stringers in quartz porphyry", located on Thibert Creek below Berry Creek. The owner reported gold values up to \$5.50/ton across a width of 12 metres (Minister of Mines Annual Report 1931, page A53). The showing has not been located during recent exploration and is believed to be covered by placer tailings in the area immediately east of the confluence of Berry and Thibert creeks (Assessment Report 17706, pages 8,9).

A drillhole was collared just south of the confluence of Boulder and Thibert creeks (a short distance from the Berry Creek confluence) to test serpentinite, quartz veins and a veined black shale unit where sampling from a backhoe pit yielded up to 0.6 gram per tonne gold. In the vicinity, there are zones of strong folding, shearing and extensive quartz veining (from stringers to several metres wide) where competent rock units (altered, silicified ultramafic rocks and cherty metasediments) have been dismembered by folding and occur as folded blocks within sheared black shale and serpentinite masses. Deformation seems much less intense away from these zones. The metasediments are part of the Mississippian-Triassic Kedahda

## CAPSULE GEOLOGY

Formation (Cache Creek Complex); the Upper Mississippian-Permian ultramafic rocks are also part of the Cache Creek Complex.

Drillhole DDH87-B-3 intersected strongly sheared serpentinite, shale, chert, altered ultramafic and some quartz veining. A 1.5-metre section of drill core analysed 1 gram per tonne gold. Platinum values of up to 0.29 gram per tonne occur in parts of the serpentinite unit in the top-half of the hole (Assessment Report 17706, page 10).

Nu-Lite Industries Ltd. drilled 4 holes in 1997. Two holes confirmed previous results of 8.57 grams per tonne gold over 7.6 metres (Northern Miner, May 4, 1998).

## BIBLIOGRAPHY

EM EXPL 1996-B13; 1999-19-31  
EM GEOFILE 2000-2; 2000-5  
EMPR AR \*1931-A53; 1933-A63  
EMPR ASS RPT \*17706  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC OF 707; 2779  
GSC P 68-48  
GSC SUM RPT 1925 Part A, pp. 75A-99A  
GCNL #41((Feb.27), 1997; #62 (Mar.30), #75(Apr.20), #83(Apr.30),  
1998  
N MINER May 4, 1998  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/12

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 013**

NATIONAL MINERAL INVENTORY: 104J8 Cu2

NAME(S): **HU**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J08E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 20 41 N  
LONGITUDE: 130 11 27 W  
ELEVATION: 1235 Metres

NORTHING: 6467707  
EASTING: 430291

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized exposure along and near "Stain Creek", a tributary to Tanzilla River, about 15.5 kilometres south-southwest of the community of Dease Lake (Assessment Report 21707).

COMMODITIES: Copper Gold Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite  
ASSOCIATED: Magnetite Malachite Pyrrhotite  
ALTERATION: K-Feldspar Epidote Chlorite Magnetite Biotite  
Carbonate Clay Amphibole  
ALTERATION TYPE: Potassic Carbonate Skarn  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated Shear  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au K03 Fe skarn  
DIMENSION: 100 Metres  
COMMENTS: A mineralized exposure. STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Jurassic			

LITHOLOGY: Monzonite  
Syenite  
Diorite  
Crystal Lithic Tuff  
Andesite  
Crystal Lapilli Tuff  
Tuffaceous Argillite  
Siltstone  
Greywacke  
Limy Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Tanzilla Plateau  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1991  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Gold 1.3000 Grams per tonne  
Copper 1.1400 Per cent  
COMMENTS: Highest copper value from an area of intense fracturing; highest gold result from fault gouge.  
REFERENCE: Assessment Report 21707, page 12.

**CAPSULE GEOLOGY**

The HU occurrence area is underlain by northwest striking volcanic and sedimentary rocks of the Upper Triassic Stuhini Group which have been intruded by an Early to Middle Jurassic diorite to monzonite body and an east trending composite syenite body. Basaltic and felsic dikes also occur.  
The volcanic sequence comprises predominant crystal lithic tuffs intercalated with crystal tuffs, lapilli tuffs and tuff breccias which dip from 40 to 75 degrees north to 50 to 60 degrees south.



## CAPSULE GEOLOGY

These are underlain by augite and feldspar porphyry andesite. The volcanoclastic sedimentary sequence include tuffaceous argillite, siltstone and greywacke. The sediments are usually well bedded, locally display graded bedding and strike 340 degrees with variable dips. Small lenses of limy argillites and tuffaceous siltstone, exposed by trenches, have been partially altered to skarn and hornfels.

The intrusive rocks include coarse grained hornblende biotite diorite or monzonite, fine-grained diorite, and foliated hornblende diorite or monzonite. These rocks normally contain abundant magnetite. A variety of syenitic rocks comprise an irregular, east-west elongate body and consist of medium to coarse grained, equigranular to slightly porphyritic syenite, aplitic biotite syenite, aphanitic syenite (may be altered andesite), and hornblende biotite syenite (may be K-feldspathized diorite or monzonite).

Several felsite dikes are exposed in trenches where surrounding lapilli tuffs and sediments are intensely hornfelsed, partially bleached, and contain disseminated pyrrhotite, pyrite and chalcopyrite. The felsite dikes strike west-northwest or northwest and are vertical. Their widths vary from 0.6 to 9 metres. Carbonate altered, pyritic fault and shear zones cut sediments, volcanic rocks and syenite.

The alteration assemblage on the property is consistent with those associated with alkalic porphyry deposits. Alteration observed includes hornfels, skarn, patchy clay-carbonate associated with shear structures and, potassic alteration with associated copper mineralization.

Potassic alteration consists of potassium feldspar, epidote, chlorite, magnetite and biotite and is predominantly found along "Stain Creek" where it is closely associated with chalcopyrite mineralization. This alteration is weakly developed in diorite, but strong in areas of intense fracturing or faulting within and in close proximity to the syenite or monzonite intrusive rocks. Hornfelsing and amphibole-magnetite-epidote skarns are found in the volcanic and sedimentary units. A trench exposes a skarn for at least 15 metres within interbedded crystal tuffs and andesitic flows. Hornfelsing is weak to non-existent except along the edges of the felsite dikes.

Copper mineralization is evident in two areas on the property: within a trench north of "West Branch Creek", and in the upper parts of "Stain Creek". Large gossans observed at "Stain Creek" result from weathering of fracture fillings and disseminated pyrite within the shattered hostrocks. Numerous potassic altered zones trending either in a northerly or easterly direction and hosted within intrusive and volcanic rocks or along their contact, contain abundant pyrite with or without chalcopyrite and malachite. Significant chalcopyrite is confined to fault zones or intensely fractured areas along a 100-metre long exposure. Moderate to intense potassic alteration is associated with the fracturing or surround the fault zones, which are usually marked by a recessive clay gouge. The highest copper values are from areas of intense fracturing where grab samples yielded up to 1.14 per cent copper. High gold values were obtained from a fault contact, where a grab sample from fault gouge yielded 1.3 grams per tonne gold (Assessment Report 21707, page 12).

In a trench north of "West Branch Creek", about 3000 metres west of the mineralization at "Stain Creek", trace chalcopyrite, pyrite and molybdenite occurs along fractures in syenite.

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EMPR GEM 1969-44; 1970-37,38; 1972-551,552; 1973-513  
EMPR ASS RPT 3736, 3737, \*4399, 19009, \*21707  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
EMR MP CORPFILE (Tournigan Mining Explorations Ltd.)  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/04

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 014**

NATIONAL MINERAL INVENTORY: 104J8 Cu1

NAME(S): **MACK**, SNOW PEAK

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J08W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 27 23 N  
LONGITUDE: 130 25 03 W  
ELEVATION: 1661 Metres

NORTHING: 6480395  
EASTING: 417285

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on mineralized zone on the east slopes of Snow Peak, about 22 kilometres west of the community of Dease Lake (Assessment Report 6354).

COMMODITIES: Molybdenum                      Copper                      Gold                      Tungsten

**MINERALS**

SIGNIFICANT: Molybdenite      Pyrite      Chalcopyrite      Scheelite      Powellite  
ASSOCIATED: Quartz  
ALTERATION: Jarosite      Ferrimolybdite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Stockwork                      Vein                      Disseminated  
CLASSIFICATION: Porphyry  
TYPE: L05      Porphyry Mo (Low F- type)                      102      Intrusion-related Au pyrrhotite veins  
DIMENSION: 914      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Elongate mineralized zone trends east-southeasterly.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Takwahoni	
Upper Cretaceous			Snow Peak Pluton

LITHOLOGY: Granodiorite  
Quartz Monzonite  
Meta Sediment/Sedimentary  
Feldspar Porphyry Sill  
Feldspar Porphyry Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage                      Stikine  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      PHYSIOGRAPHIC AREA: Tanzilla Plateau  
GRADE:

**INVENTORY**

ORE ZONE: TRENCH                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1979  
SAMPLE TYPE: Rock  
COMMODITY

Gold	1.6000	Grams per tonne
Molybdenum	0.1300	Per cent
Tungsten	0.3000	Per cent

COMMENTS: Highest values from trench and pits.  
REFERENCE: Assessment Report 7657, page 10.

**CAPSULE GEOLOGY**

A trench is located in a mineralized zone on the east slope of Snow Peak, about 22 kilometres west of the community of Dease Lake. The Mack occurrence is in an area underlain by a belt of Lower Jurassic metasedimentary rocks of the Takwahoni Formation (Laberge Group) cut by abundant sills and dikes of feldspar porphyry. The Late Cretaceous Snow Peak Pluton composed of granodiorite and quartz monzonite, intrudes the metasediments immediately north and east of Snow Peak.

Molybdenite, pyrite and trace chalcopyrite occur within a slightly porphyritic granodiorite body in an elongate zone trending for about 914 metres in an east-southeasterly direction from the south wall of a cirque, southeast of a tarn on the east side of Snow Peak. The sulphide minerals either occur in hairline fractures, 0.6-centimetre quartz seams or as disseminations. Spacing on the

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**CAPSULE GEOLOGY**

molybdenite and/or pyrite quartz stringers ranges from about 15 to 61 centimetres.

The fractures dip steeply north and strike from 295 to 305 degrees. Some jarosite, ferrimolybdate, scheelite and/or powellite have also been observed.

Samples from a trench and pits yielded up to 0.13 per cent molybdenum, 0.39 per cent WO<sub>3</sub> (or 0.3 per cent tungsten) and 1.6 grams per tonne gold (Assessment Report 7657, page 10).

**BIBLIOGRAPHY**

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EMPR ASS RPT 3207, 3848, \*6354, 7657  
EMPR EXPL 1977-E236; 1979-292  
EMPR GEM 1969-44; 1970-37; 1971-49; 1972-551  
EMPR OF 1999-3  
EMPR PF (Reports by D.R. Cochrane, 1975, 1971; Prospectus, Tormex Resources Ltd., July 9, 1976; Report to Shareholders, Tournigan Mining Explorations Ltd., Spring-Summer 1974; Prospectus, Tournigan Mining Explorations Ltd., October 21, 1971 in 104I 042; 104J General File - Claim map 73M, Dec. 1970)  
EMR MP CORPFILE (Tournigan Mining Explorations Ltd.; Tormex Resources Ltd.)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/03

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 015**

NATIONAL MINERAL INVENTORY: 104J4 Cu3

NAME(S): **HOEY, PAT, BIG CREEK,  
MOON, SKI, D**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J04E  
BC MAP:

MINING DIVISION: Atlin  
UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 22 N  
LONGITUDE: 131 34 36 W  
ELEVATION: 747 Metres

NORTHING: 6452697  
EASTING: 348523

LOCATION ACCURACY: Within 500M

COMMENTS: Showings on the west-facing slope of a small steeply incised creek draining south into Hatchau Lake, about 39 kilometres northwest of the community of Telegraph Creek (Assessment Report 14802). The Golden Bear Mine Road is 10 kilometres south.

COMMODITIES: Copper                      Gold                      Silver                      Cobalt

**MINERALS**

SIGNIFICANT: Chalcopyrite      Pyrite  
ASSOCIATED: Specularite      Magnetite      Calcite  
ALTERATION: Erythrite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Porphyry  
TYPE: L03      Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Diorite  
Monzonite  
Andesite  
Cherty Tuffaceous Rock  
Tuff  
Calcareous Argillaceous Rock  
Argillite  
Porphyry

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1986
SAMPLE TYPE: Rock	
COMMODITY	<u>GRADE</u>
Silver	5.1000      Grams per tonne
Gold	6.1000      Grams per tonne
Copper	0.1700      Per cent
COMMENTS: Highest values.	
REFERENCE: Assessment Report 14802.	

**CAPSULE GEOLOGY**

The Hoey occurrence is situated on the west-facing slope of a small steeply incised creek draining south to Hatchau Lake. The showings are about 120 metres above the lake and consist of a number of veins and lenses of specularite with magnetite, chalcopyrite and pyrite, and are clustered on the steep valley slope. The area is also marked by a number of calcite veins variably mineralized with chalcopyrite and minor pyrite. Erythrite has also been noted in the showing area.

The mineralization occurs in an area of Late Triassic-Early Jurassic fine-grained intrusive rocks ranging from diorite to monzonite in composition. Upper Triassic Stuhini Group dark green andesite and cherty tuffaceous rocks are present and calcareous

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**CAPSULE GEOLOGY**

argillaceous rocks are reported at lower elevations to the south. Rock sampling yielded up to 0.17 per cent copper, 6.1 grams per tonne gold and 5.1 grams per tonne silver (Assessment Report 14802).

The D showing is located about 1.5 kilometres north of the Hoey mineralization. Trenches expose andesite, bedded tuff and porphyry. Three samples collected in 1985 yielded 1.3 to 3.8 grams per tonne gold (Assessment Report 14802).

**BIBLIOGRAPHY**

EM EXPL 2001-1-9  
EMPR ASS RPT 648, 2554, 6835, 7482, 13939, \*14802, 16311, \*18158,  
\*21615  
EMPR EXPL 1977-E234; 1979-291,292  
EMPR GEM 1970-32  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/09/06

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 016**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRIZZLY 4,13**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 34 N  
LONGITUDE: 131 52 25 W  
ELEVATION: 777 Metres

NORTHING: 6459338  
EASTING: 331326

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the west side of Sheslay River, opposite Kaketsa Mountain, about 56 kilometres northwest of the community of Telegraph Creek (Assessment Report 2605). The Golden Bear Mine Road is 10 kilometres south.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic  
Upper Triassic

Stuhini

Unnamed/Unknown Formation

Kaketsa Pluton

ISOTOPIC AGE: 218 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

LITHOLOGY: Andesitic Basaltic Porphyritic Flow  
Andesite  
Basalt  
Quartz Diorite  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Grizzly 4,13 copper showing occurs near the contact of a north-northwesterly trending tongue of the Late Triassic Kaketsa pluton with Upper Triassic Stuhini Group volcanic and related sedimentary rocks. Pyrite with minor chalcopyrite is localized along shears/fractures in volcanic rocks.

The volcanic rocks are mainly porphyritic flows with lesser tuffs and tuffaceous siltstones. The flow rocks form massive units and are grey to dark green andesitic to basaltic porphyries with phenocrysts of augite and hornblende. The Kaketsa pluton is an elliptical intrusion 4 by 5.6 kilometres in diameter. Hornblende gave a K-Ar date of 218 +/- 8 million years (Geology, Exploration and Mining in British Columbia 1972, page 548). The core of the pluton is medium to coarse grained, equigranular quartz diorite or granodiorite.

**BIBLIOGRAPHY**

EMPR GEM 1970-31,32; 1972-547; 1974-349  
EMPR ASS RPT 647, \*2605, 5231, 18421, 19805  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
EMPR FIELDWORK 1974, pp. 63-68  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/31

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 017**

NATIONAL MINERAL INVENTORY: 104J13 Ni2

NAME(S): **AL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 45 17 N  
LONGITUDE: 131 51 01 W  
ELEVATION: 1036 Metres

NORTHING: 6516248  
EASTING: 335113

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of the old Al claims, about 3.5 kilometres southwest of the Opal Lake prospect (104J 001), approximately 97 kilometres north of the community of Telegraph Creek (Descriptive Notes - Geological Survey of Canada Map 21-1962).

COMMODITIES: Nickel

**MINERALS**

SIGNIFICANT: Millerite  
ASSOCIATED: Chalcedony  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: M ULTRAMAFIC/MAFIC ASSOCIATION

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The location description of the Al showing is referred to as "similar nickeliferous rocks in a parallel fault zone 3.5 kilometres southwest of the Opal Lake occurrence (104J 001)".

Small amounts of millerite occur with chalcedony in sheared Upper Mississippian-Permian serpentinite of the Cache Creek Complex.

**BIBLIOGRAPHY**

GSC MAP 9-1957; \*21-1962; 1418A  
GSC OF 707  
EMPR PF (104J General File - Claim maps 73M, 73 M-2, Dec. 1970)

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/19

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 018**

NATIONAL MINERAL INVENTORY: 104J4 Cu2

NAME(S): **GO, CAR, EAST KAKETSA,  
PYRRHOTITE CREEK, POLAR CREEK, KAKETSA MOUNTAIN,  
SKYLINE, G, WHITE BEAR**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:  
LATITUDE: 58 12 49 N  
LONGITUDE: 131 47 39 W  
ELEVATION: 1326 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Trenches on the main showing on the east slopes of Kaketsa Mountain, about 2 kilometres west of Pyrrhotite Creek, approximately 52 kilometres northwest of the community of Telegraph Creek (Property File - Gambardella, 1973). The Golden Bear Mine Road is 10 kilometres south.

MINING DIVISION: Atlin  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6455896  
EASTING: 335853

COMMODITIES: Copper Gold Zinc

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Brochantite Chalcocite  
Covellite  
ASSOCIATED: Pyrite Hematite Magnetite  
ALTERATION: K-Feldspar Epidote Quartz Siderite Calcite  
Chlorite Actinolite Magnetite  
COMMENTS: Also hematite, goethite and laumontite.  
ALTERATION TYPE: Potassic Propylitic Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein Disseminated Shear  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au  
DIMENSION: 91 x 60 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Localized mineralization.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Upper Triassic			Kaketsa Pluton

ISOTOPIC AGE: 218 +/- 8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende

LITHOLOGY: Andesitic Basaltic Porphyritic Flow  
Andesite  
Basalt  
Tuff  
Tuffaceous Siltstone  
Hornblende Diorite  
Hornblende Diorite Dike  
Diorite Diabase Dike  
Monzonite Syenite Porphyritic Dike  
Quartz Diorite Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Stikine

**CAPSULE GEOLOGY**

A number of copper showings are evident near the contact of the Late Triassic Kaketsa pluton with Upper Triassic Stuhini Group volcanic and related sedimentary rocks. The main area of interest is within a 1828 by 762 metre zone of weakly pyritic rocks along the eastern margin of the pluton. Here, copper mineralization is localized along northwesterly trending fractures in a large embayment in the pluton. Pyrite and traces of disseminated chalcopyrite are also found in many of the dikes and irregular intrusive bodies to the east and southeast of the main contact.

The volcanic rocks are mainly porphyritic flows with lesser tuffs and tuffaceous siltstones. The flow rocks form massive units without any discernible stratification; they are grey to dark green andesitic to basaltic porphyries with euhedral, prismatic phenocrysts



## CAPSULE GEOLOGY

of amphibole and uralitic hornblende up to 1 centimetre diameter. Tuffaceous rocks occur in a single unit about 60 metres thick and outcrops as a persistent north-northeast to northeast striking band with 60 to 75 degree dips to the west. The Kaketsa pluton is an elliptical intrusion 4 by 5.6 kilometres in diameter. Hornblende gave a K-Ar date of 218 +/- 8 million years (Geology, Exploration and Mining in British Columbia 1972, page 548). The intrusion has been forcefully emplaced as it is foliated and contains many xenoliths near its border ranging in size from pebbles to large blocks. The pluton and related dikes in the area of mineralization are mainly medium grained hornblende diorite. The core of the pluton is medium to coarse grained, equigranular quartz diorite or granodiorite.

Minor intrusions related to the Kaketsa pluton intrude volcanic rocks to the east and southeast of the main pluton. They form dikes and irregular masses separated by screens and small roof pendants of volcanic rocks. Two other groups of dikes are recognized: an early suite related to the volcanic rocks and a later suite of monzonite and syenite intrusions that may be late differentiates of the main diorite body. The early dikes are diorite to diabase in composition; the younger dike suite consists of diorite to quartz diorite and leucocratic grey and pink porphyritic dikes of monzonite and syenite.

Most commonly, alteration is seen as thin, widely spaced K-feldspar flooded fractures that also contain epidote and minor quartz, siderite, calcite and sulphides. Otherwise, alteration is generally weak and is indicated by a greenish colouration in the volcanic rocks caused by dispersed epidote, chlorite, actinolite and magnetite that occurs mostly along fractures. Fault and fracture zones that commonly contain thin bands of mylonite also contain stringers of quartz, sulphides, magnetite, hematite, siderite and calcite. A late-forming alteration consists of a soft buff to pink, fibrous mineral that coats fracture surfaces in sheared rocks and was identified as the zeolite laumontite.

Sulphide mineralization is widespread as fracture-controlled pyrite in volcanic rocks and disseminated pyrite in diorite dikes. Chalcopyrite occurs in trace amounts with pyrite but higher copper grades are localized in steep, predominantly northwesterly striking fracture zones. In the area of the main showings, a series of subparallel or interconnected fracture and shear zones and thin bands of mylonite have localized mineralization in a 91 by 60 metre area. Chalcopyrite is seen as fracture fillings and fine grained replacements in the fractured volcanic rocks and margins of dikes within the zone. Chalcopyrite is frequently accompanied by patches, fracture fillings and stringers of specular hematite and magnetite. Along strike from the main zone to the northwest and in a number of other localities, mineralization is more vein-like in character with siliceous zones in the highly fractured rocks containing impregnations of fine grained magnetite and patches or grains of chalcopyrite, pyrite, sphalerite, hematite, marmatitic magnetite, siderite and possibly marcasite.

A considerable amount of goethite, brochantite, chalcocite, possibly covellite, and films of undetermined black oxides were noted in trenches. Three samples of typical mineralization from the centre of the main zone totalling 13.7 metres yielded a mean value of 0.58 per cent total copper of which 0.34 per cent was oxide copper and 0.24 per cent was sulphide copper. The amount of copper enrichment due to deposition of secondary copper minerals is uncertain but may be equivalent to the amount leached (Geology, Exploration and Mining in British Columbia 1972, page 549). Chip samples taken from veins in 1989 analysed up to 1.35 grams per tonne gold (Assessment Report 18927).

## BIBLIOGRAPHY

- EMPR GEM 1970-32; 1971-48,49; \*1972-547-549  
EMPR ASS RPT 648, 2805, 3514, 3515, 3516, 18840, 18927, 22100  
EMPR PF (\*Gambardella, A. (1973): Skyline-Polar Creek Project; 104J  
General File - Claim maps 73M, 73 M-1, Dec. 1970)  
EMPR FIELDWORK 1974, pp. 63-68  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/30

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 019**

NATIONAL MINERAL INVENTORY: 104J1 Cu1

NAME(S): **DISCO, CHOPPER**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J01W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 12 07 N  
LONGITUDE: 130 18 50 W  
ELEVATION: 1295 Metres

NORTHING: 6451946  
EASTING: 422778

LOCATION ACCURACY: Within 500M

COMMENTS: Pit exposing mineralization, located 2 kilometres north of the confluence of a major west tributary of Pallen Creek, about 33 kilometres south of Dease Lake (Assessment Report 8505).

COMMODITIES: Copper

Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite Molybdenite  
ASSOCIATED: Quartz  
ALTERATION: Pyrite  
ALTERATION TYPE: Pyrite  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Stockwork  
CLASSIFICATION: Porphyry  
TYPE: L04 Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Pallen Creek Pluton
Jurassic			

LITHOLOGY: Granodiorite  
Augite Plagioclase Porphyry Flow  
Augite Plagioclase Tuff Breccia  
Mafic Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

A pit exposes some minor mineralization at the Disco showing, located 2 kilometres north of a major west tributary of Pallen Creek, about 33 kilometres south of Dease Lake.

The area is underlain by the Early to Middle Jurassic Pallen Creek pluton of the Jurassic and Triassic Hotailuh batholith. The pluton grades from a porphyritic quartz monzonite core to a granodiorite/diorite margin, and intrudes Upper Triassic Stuhini Group augite-plagioclase porphyry flows and tuff breccias.

In an area of weak pyritic alteration in granodiorite, pits expose quartz-filled fractures containing spots of chalcopyrite. Chalcopyrite and molybdenite also occurs on fractures in the volcanic rocks further west, close to the contact with the intrusion.

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EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR ASS RPT 3169, \*8505  
EMPR GEM 1970-48; \*1971-48  
GSC OF 707; 2779  
GSC P 78-1A, pp. 29-31; 80-1A, pp. 37-40  
GSC MAP 9-1957; 21-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1994/06/23

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 020**

NATIONAL MINERAL INVENTORY:

NAME(S): **G**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 32 N  
LONGITUDE: 131 47 07 W  
ELEVATION: 861 Metres

NORTHING: 6459058  
EASTING: 336506

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the northeast slopes of Kaketsa Mountain, 750 metres west of the Hackett River, about 54 kilometres northwest of the community of Telegraph Creek (Assessment Report 3514). The Golden Bear Mine Road is 13 kilometres south.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic  
Upper Triassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Kaketsa Pluton

ISOTOPIC AGE: 218 +/- 8 Ma

DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende

LITHOLOGY: Andesitic Basaltic Porphyritic Flow  
Andesite  
Basalt  
Quartz Diorite  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The G copper showing occurs near the contact of the Late Triassic Kaketsa pluton with Upper Triassic Stuhini Group volcanic and related sedimentary rocks. Pyrite with minor chalcopyrite is localized along shears/fractures in volcanic rocks.

The volcanic rocks are mainly porphyritic flows with lesser tuffs and tuffaceous siltstones. The flow rocks form massive units and are grey to dark green andesitic to basaltic porphyries with phenocrysts of augite and hornblende. The Kaketsa pluton is an elliptical intrusion 4 by 5.6 kilometres in diameter. Hornblende gave a K-Ar date of 218 +/- 8 million years (Geology, Exploration and Mining in British Columbia 1972, page 548). The core of the pluton is medium to coarse grained, equigranular quartz diorite or granodiorite.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1974, pp. 63-68  
EMPR ASS RPT 3295, \*3514, 22100  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/31

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 021**

NATIONAL MINERAL INVENTORY:

NAME(S): **OH, E (GOSSAN) CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 11 33 N  
LONGITUDE: 131 36 53 W  
ELEVATION: 853 Metres

NORTHING: 6453123  
EASTING: 346300

LOCATION ACCURACY: Within 500M

COMMENTS: Showing along a tributary creek of Hackett River, just above Hatchau Lake, about 41 kilometres northwest of the community of Telegraph Creek (Assessment Report 14802). The Golden Bear Mine Road is 8 kilometres south.

COMMODITIES: Copper                      Gold                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Pyrite                      Chalcopyrite                      Galena                      Sphalerite  
ASSOCIATED: Chalcedony                      Quartz                      Calcite                      Dolomite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein                      Shear  
CLASSIFICATION: Porphyry  
TYPE: L03                      Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Cretaceous			

LITHOLOGY: Porphyritic Andesite  
Tuff  
Diorite  
Monzonite  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: GOSSAN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1986

COMMODITY	GRADE	
Gold	0.6500	Grams per tonne
Copper	0.7000	Per cent

REFERENCE: Assessment Report 14802.

**CAPSULE GEOLOGY**

The OH showing is underlain by a thick sequence of Upper Triassic Stuhini Group porphyritic andesites and bedded tuffs which have been intruded by a dioritic-monzonitic stock of probable Cretaceous age. This stock was outlined during an aeromagnetic survey by Newmont in 1964.

A conspicuous, bright orange-yellow gossan, cut by numerous shears, is located along a creek that drains into Hatchau Lake. The gossan zone is brecciated and veined by chalcedony, quartz, calcite and dolomite and mineralized with minor amounts of pyrite, chalcopyrite and lesser galena and sphalerite. Rock sampling yielded up to 0.7 per cent copper and 0.65 gram per tonne gold (Assessment Report 14802).

**BIBLIOGRAPHY**

EM EXPL 2001-1-9  
EMPR ASS RPT 648, 2554, 3296, 7482, \*14802, 16311, 21615  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 237  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/09/06

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 022**

NATIONAL MINERAL INVENTORY: 104J16 Cu1

NAME(S): **JIM, DEAK, BILL,  
GLEN**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J16W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 54 52 N  
LONGITUDE: 130 19 44 W  
ELEVATION: 1006 Metres

NORTHING: 6531286  
EASTING: 423466

LOCATION ACCURACY: Within 1 KM

COMMENTS: Reported outcrop along Beaver Creek about 1.6 kilometres from its confluence with Canyon Creek, 17.5 kilometres northwest of the north end of Dease Lake (Assessment Report 3424).

COMMODITIES: Molybdenum                  Copper

**MINERALS**

SIGNIFICANT: Molybdenite          Chalcopyrite  
ASSOCIATED: Quartz                  Pyrite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein                          Disseminated  
CLASSIFICATION: Porphyry  
TYPE: L04          Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Triassic-Jurassic

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
Diorite  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Chalcopyrite and molybdenite was first discovered in quartz veins in quartz monzonite to diorite intrusive rocks, along Beaver Creek about 1.6 kilometres south of its confluence with Canyon Creek. Granites to the north contain minor amounts of fine-grained molybdenite with some chalcopyrite and pyrite along fracture planes, and as disseminations throughout the rock.  
The intrusive rocks are Late Triassic-Early Jurassic age.

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR GEM 1972-552  
EMPR ASS RPT \*3424, 6887  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
GSC SUM RPT 1925 Part A, pp. 75A-99A

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/12

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 023**

NATIONAL MINERAL INVENTORY:

NAME(S): **HO**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 13 10 N  
LONGITUDE: 131 51 41 W  
ELEVATION: 1478 Metres

NORTHING: 6456711  
EASTING: 331933

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the west slopes of Kaketsa Mountain, 1.5 kilometres east of the Sheslay River, about 55 kilometres northwest of the community of Telegraph Creek (Assessment Report 3514). The Golden Bear Mine Road is 8 kilometres south.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic  
Upper Triassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Kaketsa Pluton

ISOTOPIC AGE: 218 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

LITHOLOGY: Andesitic Basaltic Porphyritic Flow  
Andesite  
Basalt  
Quartz Diorite  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The HO copper showing occurs near the contact of the Late Triassic Kaketsa pluton with Upper Triassic Stuhini Group volcanic and related sedimentary rocks. Pyrite with minor chalcopyrite is localized along fractures in volcanic rocks.

The volcanic rocks are mainly porphyritic flows with lesser tuffs and tuffaceous siltstones. The flow rocks form massive units and are grey to dark green andesitic to basaltic porphyries with phenocrysts of augite and hornblende. The Kaketsa pluton is an elliptical intrusion 4 by 5.6 kilometres in diameter. Hornblende gave a K-Ar date of 218 +/- 8 million years (Geology, Exploration and Mining in British Columbia 1972, page 548). The core of the pluton is medium to coarse grained, equigranular quartz diorite or granodiorite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*3514, 22100  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
EMPR FIELDWORK 1974, pp. 63-68  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/31

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 024**

NATIONAL MINERAL INVENTORY:

NAME(S): **WEST KAKETSA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 12 23 N  
LONGITUDE: 131 52 02 W  
ELEVATION: 1524 Metres

NORTHING: 6455272  
EASTING: 331528

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the west slopes of Kaketsa Mountain, about 2 kilometres east of the Sheslay River, approximately 54 kilometres northwest of the community of Telegraph Creek (Assessment Report 3514). The Golden Bear Mine Road is 6 kilometres south.

COMMODITIES: Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Pyrite              Chalcopyrite      Galena              Sphalerite

ASSOCIATED: Quartz              Carbonate

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Porphyry  
TYPE: L03      Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic  
Upper Triassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Kaketsa Pluton

ISOTOPIC AGE: 218 +/- 8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende

LITHOLOGY: Andesitic Basaltic Porphyritic Flow  
Andesite  
Basalt  
Tuff  
Tuffaceous Siltstone  
Quartz Diorite  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

A number of copper showings occur near the contact of the Late Triassic Kaketsa pluton with Upper Triassic Stuhini Group volcanic and related sedimentary rocks.

The volcanic rocks are mainly porphyritic flows with lesser tuffs and tuffaceous siltstones. The flow rocks form massive units and are grey to dark green andesitic to basaltic porphyries with phenocrysts of augite and hornblende. The Kaketsa pluton is an elliptical intrusion 4 by 5.6 kilometres in diameter. Hornblende gave a K-Ar date of 218 +/- 8 million years (Geology, Exploration and Mining in British Columbia 1972, page 548). The core of the pluton is medium to coarse grained, equigranular quartz diorite or granodiorite.

At the West Kaketsa showing, on the west slopes of Kaketsa Mountain, a series of quartz-carbonate veins are mineralized with pyrite and chalcopyrite with minor galena and lesser sphalerite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*3514, 22100  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
EMPR FIELDWORK 1974, pp. 63-68  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/30

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 024**



MINFILE NUMBER: **104J 025**

NATIONAL MINERAL INVENTORY: 104J5 Cu1

NAME(S): **PET**, MINERAL HILL

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J05W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 23 55 N  
LONGITUDE: 131 47 13 W  
ELEVATION: 1158 Metres

NORTHING: 6476465  
EASTING: 337130

LOCATION ACCURACY: Within 500M

COMMENTS: Main mineralized area adjacent to the Old Telegraph Trail and the Dudidontu River, between Ketchum and Camp Island lakes, about 66 kilometres northwest of the community of Telegraph Creek (Assessment Report 4095).

COMMODITIES: Copper Zinc

**MINERALS**

SIGNIFICANT:	Hematite	Chalcopyrite	Pyrite	Bornite	Chalcocite
	Sphalerite	Tennantite			
ASSOCIATED:	Hematite	Calcite	Quartz		
ALTERATION:	Hematite	Ankerite	Sericite	Clay	Limonite
	Malachite	Goethite	Covellite		
ALTERATION TYPE:	Hematite	Carbonate		Oxidation	

**DEPOSIT**

CHARACTER:	Breccia	Disseminated	Vein	Shear
CLASSIFICATION:	Porphyry	Hydrothermal	Epigenetic	
TYPE:	L03 Alkalic porphyry	Cu-Au	102	Intrusion-related Au pyrrhotite veins
DIMENSION:	243 x 91	Metres	STRIKE/DIP:	TREND/PLUNGE:
COMMENTS:	Main mineralized area.			

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Biotite Quartz Monzonite  
Granodiorite  
Syenite  
Altered Andesite  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE:	AREA	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1972
SAMPLE TYPE:	Chip		
COMMODITY	Copper	GRADE	0.2000 Per cent

COMMENTS: The majority of composite samples from a 243 by 91 metre mineralized area analysed at least 0.2 per cent copper.  
REFERENCE: Assessment Report 4095, page 5.

**CAPSULE GEOLOGY**

Chalcopyrite-hematite mineralization occurs in a 243 by 91 metre area adjacent to the Old Telegraph Trail and the Dudidontu River, between Ketchum and Camp Island lakes, approximately 66 kilometres northwest of the community of Telegraph Creek (Assessment Report 4095).

The Pet occurrence area is underlain by extensively altered andesites of the Upper Triassic Stuhini Group and part of a large Late Triassic and Early Jurassic intrusion ranging in composition from granodiorite to syenite. The Mesozoic rocks are overlain by extensive Miocene to Pleistocene basalt flow rocks intercalated with minor rhyolite. Northeasterly and north to northwesterly trending fault systems are the dominant structural feature.

The main mineralized area is contained within granitic rocks

## CAPSULE GEOLOGY

that have been variously described as syenite, hybrid syenite and granodiorite. Thin section study and feldspar staining indicate the rock may be classified as a leucocratic, medium grained, hypidiomorphic-granular, biotite quartz monzonite or quartz-bearing monzonite.

The intrusive rocks are extensively fractured. Locally, strongly foliated rocks have developed along north trends and commonly contain narrow brecciated zones in which mineralization normally occurs.

The most widespread alteration is a pervasive, pink colouration that may be caused in part by potassium feldspar but is probably largely due to the presence of finely dispersed hematite. However, the most profound alteration is replacement and associated fracture filling by ankerite which may form 10 per cent or more of the rocks. Sheared rocks usually appear bleached due to an increase in sericite and clay minerals and an attendant destruction of biotite. A distinctive gossan has formed over parts of the mineralized zone characterized by "limonite" that is a dark yellowish brown colour. This was determined by x-ray to be an amorphous substance derived mainly from the alteration of ankerite.

Mineralization occurs in discontinuous, braided, breccia zones a few centimetres to a couple of metres in width. The strongest mineralization consists of coarse-grained specular hematite containing random sulphide grains or, less commonly, patches of sulphide grains with little or no hematite. The most widespread mineralization is scattered grains or stringers of specular hematite and/or sulphides on fracture and shear planes or occasionally with calcite or quartz stringers. Detailed examination reveals that in addition to the main sulphides chalcopyrite and pyrite, small amounts of bornite, chalcocite, minor sphalerite, tennantite and traces of an unidentified sulphosalt are present. Some malachite, thin goethite rims on sulphide grains and fractures, and formation of minute covellite "flames" on bornite and chalcopyrite are also evident.

The majority of composite samples taken from the 243 by 91 metre mineralized area analysed at least 0.2 per cent copper (Assessment Report 4095, page 5).

## BIBLIOGRAPHY

EMPR ASS RPT 3695, \*4095  
EMPR GEM 1971-49; \*1972-549-551; 1973-512,513  
EMPR PF (Drill logs, plan and section; 104J General File - Claim map  
73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/23

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 026**

NATIONAL MINERAL INVENTORY: 104J4 Cu5

NAME(S): **VI, JC**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 04 40 N  
LONGITUDE: 131 36 21 W  
ELEVATION: 1097 Metres

NORTHING: 6440336  
EASTING: 346329

LOCATION ACCURACY: Within 1 KM

COMMENTS: Mineralized outcrop near a tributary creek to the Tahltan River, about 34 kilometres west-northwest of the community of Telegraph Creek (Assessment Report 21209). The Golden Bear Mine Access Road is about 700 metres to the east.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Malachite Chalcopyrite Pyrite  
ALTERATION: Sericite Malachite  
ALTERATION TYPE: Sericitic Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE    GROUP  
Upper Triassic        Stuhini  
Triassic-Jurassic

FORMATION  
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER  
Unnamed/Unknown Informal

LITHOLOGY: Biotite Hornblende Quartz Diorite  
Granodiorite  
Feldspar Porphyry  
Augite Porphyry Basalt Flow  
Basalt  
Tuff  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The VI property is underlain by Upper Triassic Stuhini Group feldspar porphyry, augite porphyry basalt flows, tuff and argillite which have been intruded by a Late Triassic and Early Jurassic diorite to granodiorite stock.

A biotite-hornblende quartz diorite to granodiorite outcrop is sericite-altered and is stained with malachite. Previous exploration (Assessment Report 3972) states that "some chalcopyrite and pyrite was observed in both plutonic and volcanic rocks".

**BIBLIOGRAPHY**

EMPR GEM 1972-546,547  
EMPR ASS RPT 3972, 20945, \*21209  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/24

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 027**

NATIONAL MINERAL INVENTORY: 104J16 Mo1

NAME(S): **SHIELD**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 53 43 N  
LONGITUDE: 130 16 01 W  
ELEVATION: 1265 Metres

NORTHING: 6529082  
EASTING: 426993

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrops on the east side of Slough Mountain, about 14 kilometres northwest of the north end of Dease Lake (Assessment Report 6887).

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite                      Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Sericite                      Orthoclase                      Biotite  
ALTERATION TYPE: Sericitic                      Potassic                      Propylitic  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Porphyry  
TYPE: L04      Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
Quartz Monzonite Porphyry

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Late Triassic-Early Jurassic quartz monzonite and quartz monzonite porphyry are cut by a large northwesterly trending fault zone. The adjoining rocks have pervasive propylitic alteration and quartz veining.

At the Shield showing, molybdenite and minor chalcopyrite occurs in quartz seams in fractured quartz monzonite adjacent to the fault structure. The mineralized zone is restricted, and exhibits intense sericite, minor orthoclase and biotite alteration.

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR ASS RPT 3423, 6887  
EMPR GEM \*1971-50; \*1972-552,553  
EMPR EXPL 1978-E266  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
GSC SUM RPT 1925 Part A, pp. 75A-99A

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/15

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 028**

NATIONAL MINERAL INVENTORY:

NAME(S): **CREEK**, PET, MINERAL HILL

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J05W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 23 17 N  
LONGITUDE: 131 46 57 W  
ELEVATION: 1082 Metres

NORTHING: 6475280  
EASTING: 337341

LOCATION ACCURACY: Within 500M

COMMENTS: Showing along a small unnamed tributary to the Dudidontu River, between Ketchum and Camp Island lakes, about 64 kilometres northwest of the community of Telegraph Creek (Assessment Report 4095).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Malachite Chalcopyrite Pyrite  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Shear Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: L03 Alkaline porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Unnamed/Unknown Informal

LITHOLOGY: Biotite Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1972

COMMODITY

GRADE

Copper

0.4600

Per cent

REFERENCE: Assessment Report 4095, page 6.

**CAPSULE GEOLOGY**

The region is underlain by extensively altered andesites of the Upper Triassic Stuhini Group and part of a large Late Triassic and Early Jurassic intrusion ranging in composition from granodiorite to syenite. The Mesozoic rocks are overlain by extensive Miocene to Pleistocene basalt flow rocks intercalated with minor rhyolite. Northeasterly and north to northwesterly trending fault systems are the dominant structural feature. See Pet (104J 025) for a detailed geological description of the area.

The Creek showing is located about 1500 metres south of the Pet prospect, and near a small tributary creek to the Dudidontu River. Disseminated malachite, chalcopyrite and pyrite occur in a 3-metre long, 0.2-metre wide shear in biotite quartz monzonite. A sample from a trench yielded 0.46 per cent copper (Assessment Report 4095).

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR ASS RPT 3695, \*4095  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/23

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 029**

NATIONAL MINERAL INVENTORY: 104J16 Asb1

NAME(S): **DEASE LAKE**, ELLERT

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J16E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 46 03 N  
LONGITUDE: 130 05 38 W  
ELEVATION: 884 Metres

NORTHING: 6514680  
EASTING: 436732

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches, on the east side of Dease Lake near its north end, about 200 metres east of Highway 37 (Property File - Whiting, 1980).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Asbestos  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP  
Upper Paleozoic

FORMATION

IGNEOUS/METAMORPHIC/OTHER  
Cache Creek Complex

LITHOLOGY: Serpentinite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

At the Dease Lake showing, asbestos occurs as very small veins in Upper Mississippian-Permian serpentinite of the Cache Creek Complex.

**BIBLIOGRAPHY**

EMPR OF 1995-25  
EMPR PF (Whiting, B.H. (1980): Report on Physical Work for the Ellert Project; 104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
GSC SUM RPT 1925 Part A, pp. 75A-99A

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/12

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 030**

NATIONAL MINERAL INVENTORY: 104J12 Asb1

NAME(S): **DUDIDONTU RIVER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 40 43 N  
LONGITUDE: 131 45 45 W  
ELEVATION: 1219 Metres

NORTHING: 6507565  
EASTING: 339840

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of ultramafic body located northwest of Hatin Lake, about 96 kilometres north of the community of Telegraph Creek (Geological Survey of Canada Open File 707).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Asbestos  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

General references are made about asbestos mineralization in Geological Survey of Canada Summary Report 1925 Part A. Such a showing may be located near the Dudidontu River, where an ultramafic body is located northwest of Hatin Lake (Geological Survey of Canada Open File 707).

The description from the report states "numerous small veins of asbestos are noted cutting serpentinite, but none exceeding 3 millimetres in length". The Upper Mississippian-Permian ultramafic rocks are part of the Cache Creek Complex.

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR AR 1960-131  
EMPR OF 1995-25  
GSC SUM RPT \*1925 Part A, p. 28A  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/23

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 031**

NATIONAL MINERAL INVENTORY: 104J13 Cu2

NAME(S): **NAHLIN RIVER**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J13W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 48 59 N  
LONGITUDE: 131 56 00 W  
ELEVATION: 548 Metres

NORTHING: 6523318  
EASTING: 330611

LOCATION ACCURACY: Within 5 KM

COMMENTS: Showing is located on the west side of the Nahlin River about 1.6 kilometres south of Chastot Creek, approximately 131 kilometres north of the community of Telegraph Creek (National Mineral Inventory card).

COMMODITIES: Copper Nickel

**MINERALS**

SIGNIFICANT: Chalcocite Copper  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal  
TYPE: M ULTRAMAFIC/MAFIC ASSOCIATION

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Nahlin River showing is located on the west side of the Nahlin River about 1.6 kilometres south of Chastot Creek.

Chalcocite and native copper are reported to occur in veins and stringers in Upper Mississippian-Permian serpentinite of the Cache Creek Complex. Selected samples assayed better than 15 per cent copper; an adjacent band of mineralization is reported to have assayed 0.48 per cent nickel (National Mineral Inventory card).

**BIBLIOGRAPHY**

GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
EMPR PF (104J General File - Claim maps 73M, 73 M-2, Dec. 1970)  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/19

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 249  
REPORT: RGEN0100

MINFILE NUMBER: **104J 032**

NATIONAL MINERAL INVENTORY: 104J1 Cu2

NAME(S): **BUD**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J01E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 02 23 N  
LONGITUDE: 130 01 19 W  
ELEVATION: 716 Metres

NORTHING: 6433589  
EASTING: 439662

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on the north side of the Stikine River, about 46 kilometres south of Dease Lake (Geology, Exploration and Mining in British Columbia 1971, page 48).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Stockwork  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: L PORPHYRY

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Middle Triassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Andesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Bud showing is located on the north side of the Stikine River, about 46 kilometres south of Dease Lake. Pyrite and chalcopyrite occur in fractures in Middle Triassic silicified andesite of the lower part of the Stuhini Group.

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR GEM \*1971-48  
GSC OF 707; 1080; 2779  
GSC P 78-1A, pp. 29-31; 80-1A, pp. 37-40  
GSC MAP 9-1957; 21-1962; 1418A

DATE CODED: 1985/07/24  
DATE REVISED: 1994/06/23

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 032**

MINFILE NUMBER: **104J 033**

NATIONAL MINERAL INVENTORY: 104J9 Asb1

NAME(S): **BAK**, WP

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J09E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 34 59 N  
LONGITUDE: 130 01 06 W  
ELEVATION: 914 Metres

NORTHING: 6494076  
EASTING: 440790

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 1.25 kilometres east of Dease Lake and about 2 kilometres northeast of Nine Mile Point, approximately 20 kilometres north of the community of Dease Lake (Geology, Exploration and Mining in British Columbia 1971, page 451).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Asbestos  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinized Peridotite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

At the Bak showing, asbestos occurs in serpentinized peridotite. Geological Survey of Canada Open File 2779 indicates the area is underlain by Upper Mississippian-Permian, generally serpentinized peridotite, dunite and pyroxenite of the Cache Creek Complex.

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR GEM \*1971-451  
EMPR OF 1995-25  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC OF 707; 2779  
GSC SUM RPT 1925 Part A, pp. 75A-99A  
GSC P 68-48

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/04

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 034**

NATIONAL MINERAL INVENTORY:

NAME(S): **STIKINE MOLY**, STIKINE, DISCO 74, 76

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J01W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 12 14 N  
LONGITUDE: 130 17 48 W  
ELEVATION: 1242 Metres

NORTHING: 6452143  
EASTING: 423794

LOCATION ACCURACY: Within 500M

COMMENTS: Area of mineralized outcrops, 1.5 kilometres north-northwest of Pallen Creek and along a tributary creek, about 32 kilometres south of Dease Lake (Assessment Report 8505).

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite              Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Albite              Chlorite              Sericite              Epidote              Pyrite  
ALTERATION TYPE: Propylitic  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein                              Shear  
CLASSIFICATION: Porphyry  
TYPE: L04      Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Jurassic			Pallen Creek Pluton
Triassic-Jurassic			Hotailuh Batholith

LITHOLOGY: Porphyritic Quartz Monzonite  
Augite Plagioclase Porphyry Flow  
Augite Plagioclase Porphyry Breccias  
Mafic Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Stikine Moly occurrence area is underlain by the Early to Middle Jurassic Pallen Creek pluton of the Jurassic and Triassic Hotailuh batholith. The pluton is a zoned intrusion grading from a porphyritic quartz monzonite core to a granodiorite/diorite margin and intrudes a volcanic-sedimentary succession of the Upper Triassic Stuhini Group. The Stuhini succession is predominantly composed of augite-plagioclase porphyry mafic flows and tuff breccias. The bulk of the pluton is massive, unfractured and barren of alteration or mineralization.

Rare quartz veins and fractures in quartz monzonite contain spots of molybdenite and chalcopyrite, and are limited in areal extent to narrow zones of possible faults or shears. Alteration in these zones is patchy and of low grade and comprises albite, chlorite, sericite, epidote and pyrite.

**BIBLIOGRAPHY**

EMPR ASS RPT 6873, 7459, \*8505  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
GSC P 78-1A, pp. 29-31; 80-1A, pp. 37-40  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/06/23

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 035**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR, DICK CREEK**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 14 04 N  
LONGITUDE: 131 43 59 W

NORTHING: 6458067  
EASTING: 339536

ELEVATION: 1006 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched showings on the westerly-facing slopes of "Dick Creek" which is a tributary of the Hackett River, about 52 kilometres northwest of the community of Telegraph Creek (Geology in British Columbia 1977-1981). The Golden Bear Mine Road is 14 kilometres south.

COMMODITIES: Copper Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Bornite Malachite Azurite

Brochantite

ASSOCIATED: Pyrite Magnetite

ALTERATION: Saussurite Chlorite Actinolite Epidote Calcite

Magnetite Clay Limonite

COMMENTS: Also albite, gypsum, zeolite, stilbite, pyrite, quartz, jarosite and muscovite.

ALTERATION TYPE: Propylitic Oxidation Leaching Skarn

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated Vein

CLASSIFICATION: Porphyry Skarn

TYPE: L03 Alkalic porphyry Cu-Au K01 Cu skarn

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

Stuhini

Unnamed/Unknown Formation

Upper Triassic

Kaketsa Pluton

LITHOLOGY: Quartz Diorite  
Andesite  
Porphyritic Andesite  
Porphyritic Basaltic Andesite  
Tuffaceous Sediment/Sedimentary  
Quartz Diorite Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Taku Plateau

TERRANE: Stikine

**INVENTORY**

ORE ZONE: AREA

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1977

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper 0.4000 Per cent

COMMENTS: Widespread areas with this average copper content.

REFERENCE: Geology in British Columbia 1977-1981, page 178.

**CAPSULE GEOLOGY**

Upper Triassic Stuhini Group andesitic flow rocks with subordinate sedimentary (tuffaceous) units are intruded by a bulbous, northeasterly elongated quartz diorite pluton. The pluton is at least 1100 metres long and up to 550 metres in width and has a multitude of subsidiary dikes. The intrusions are lithologically similar to the nearby Kaketsa pluton and are, therefore, believed to be cogenetic and coeval with the main intrusion that underlies Kaketsa Mountain to the west (Geology in British Columbia 1977-1981, page 176). The Kaketsa pluton is Late Triassic.

At the Star prospect, the main area of mineralization is exposed by trenches on southwesterly and west-facing slopes immediately to the north of "Dick Creek". Dick Creek is a small, westerly flowing

## CAPSULE GEOLOGY

tributary of the Hackett River. In the trenches, mineralization is found near the eastern margin of a small quartz diorite intrusion.

Northwesterly zones with crushed, clay-altered rocks form strong linear depressions, and the intervening rocks are broken by northeasterly trending fractures, joints and small faults. Country rocks are fine-grained andesite and porphyritic andesite or basaltic andesite.

Intrusions and adjoining country rocks are weakly hydrothermally altered to a propylitic assemblage. Saussuritization and chlorite-actinolite replacement of mafic minerals along with lesser epidote, calcite, magnetite and pyrite are the most widespread alteration type observed. The most pronounced alteration in outcrop is caused by near-surface weathering and oxidation. This supergene alteration results in a partially leached capping of clay altered limonitic rocks up to a few metres in thickness. The rocks are fine granular assemblages of quartz, albite, gypsum, zeolite, muscovite, clay minerals, chlorite, limonite and pyrite. These rocks are more abundant where faults and fractures are most strongly developed. Locally, jarosite and stilbite are present.

The "Dick Creek" showings of the Star property are similar to other known copper showings associated with the Kaketsa pluton. However, in this locality disseminated chalcopyrite and bornite are more widespread in the quartz diorite intrusion than in the other areas. In the northerly trenches, where weathering and oxidation are most pronounced, mineralization consists of black copper oxide, malachite, brochantite and cupriferous limonite. In the southerly, downhill trenches where rocks are less weathered, mineralization comprises disseminated chalcopyrite and traces of bornite as well as fracture-controlled malachite and azurite. Where chalcopyrite and bornite are abundant, magnetite is present but pyrite is relatively subordinate or absent. Most commonly, chalcopyrite occurs alone or together with pyrite. There appears to be a broad diffuse zone or halo of pyritic rocks surrounding the copper mineralized zone.

Pyrite is the dominant sulphide mineral in volcanic rocks surrounding the quartz diorite intrusion but overall pyrite content rarely exceeds 1 per cent. Copper sulphides generally replace mafic minerals whereas pyrite is present both as disseminations and fracture filling. Distribution of mineralized outcrops and assays from tractor trenches show that areas with average copper content in excess of 0.4 per cent copper are relatively widespread. Gold values are generally low (average 0.2 gram per tonne) but two samples analysed about 0.5 gram per tonne (Geology in British Columbia 1977-1981, pages 178,179).

Supergene mineralization is restricted to a thin oxidized capping under which there is no appreciable secondary copper sulphide enrichment zone. The copper minerals that have formed are copper oxides, carbonates, sulphates and cupriferous limonites.

A second mineralized zone in volcanic rocks is located east of Dick Creek, about 500 metres east of the trenched showings. A grab sample of the skarn mineralization consisting of epidote, pyrite and fine-grained chalcopyrite and magnetite analysed 0.72 per cent copper (Fieldwork 1977, page 70).

## BIBLIOGRAPHY

- EMPR EXPL 1976-E193; 1977-E234,E235  
EMPR FIELDWORK 1974, p. 63; 1977, pp. 69,70  
EMPR ASS RPT 648, 2061, 8882, 12430, 22100, 22173  
EMPR PF (Claim map (1976); 104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
EMPR GEOLOGY \*1977-1981, pp. 175-180  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
GCNL #184(Sept.24),#226(Nov.25), 1976; #225(Nov.23), 1978;  
#132(Jul.9), 1980; #53(Mar.18), 1981; #143(Jul.27), 1982

DATE CODED: 1985/07/24  
DATE REVISED: 1994/09/02

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 036**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAN**, ZILLA, TANZILLA

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J08W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 18 05 N  
LONGITUDE: 130 23 19 W  
ELEVATION: 1341 Metres

NORTHING: 6463105  
EASTING: 418615

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of grid, between Tanzilla River and Hluey Creek, about 26 kilometres southwest from the community of Dease Lake (Assessment Report 6422).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Carbonate Magnetite Pyrite  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Shear  
CLASSIFICATION: Hydrothermal  
TYPE: L03 Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	

LITHOLOGY: Andesitic Tuff  
Andesite  
Volcaniclastic  
Sediment/Sedimentary Breccia  
Siltstone  
Peridotite  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Tan showing area is underlain by Upper Triassic Stuhini Group andesitic tuffs, volcaniclastic rocks and fine sedimentary breccias with siltstone bands. The volcano-sedimentary sequence is intruded by minor peridotite and diorite bodies.  
Low to moderate amounts of magnetite and pyrite occur throughout the property. Minor chalcopyrite occurs in carbonate shears in tuffs.

**BIBLIOGRAPHY**

EMPR ASS RPT \*6422  
EMPR EXPL 1977-E235,E236; \*1978-E265,E266  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/03

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 037**

NATIONAL MINERAL INVENTORY:

NAME(S): **CALATA LAKE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J15W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 48 59 N  
LONGITUDE: 130 58 06 W  
ELEVATION: 1248 Metres

NORTHING: 6521278  
EASTING: 386324

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located just west of Calata Lake, about 74 kilometres northwest of the community of Dease Lake.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Asbestos

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Cache Creek	French Range	

LITHOLOGY: Basalt  
Tuff  
Agglomerate  
Chert  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

An asbestos showing is reported to be located just west of Calata Lake. This area is shown to be underlain by basalt, tuff, agglomerate, minor chert and argillite of the Permian French Range Formation (Cache Creek Complex).

**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
EMPR OF 1995-25  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
EMR MP CORPFILE \*MRF 216 (1968)

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/10

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 038**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZERO**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J16E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 49 20 N  
LONGITUDE: 130 12 12 W  
ELEVATION: 853 Metres

NORTHING: 6520881  
EASTING: 430512

LOCATION ACCURACY: Within 1 KM

COMMENTS: An area of dead trees along Thibert Creek, between Delure and Boulder creeks, about 6.5 kilometres west of the north end of Dease Lake (Property File - F.L. Croteau in Prospectus).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Residual  
TYPE: B RESIDUAL/SURFICIAL

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Upper Paleozoic			Cache Creek Complex
Triassic-Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Hornblende Diorite  
Serpentinite  
Peridotite  
Greywacke  
Slate  
Chert  
Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

Quesnel

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Zero showing is located near the boundary of the Cache Creek and Quesnel terranes. On the north side of Thibert Creek is a Late Triassic and Early Jurassic hornblende diorite intrusion. On the south, mixed Cache Creek Complex rocks include greywacke, slate, chert and undivided sediments and volcanics, of the Mississippian-Triassic Kedahda Formation, and Upper Mississippian-Permian serpentinite and peridotite.

Float containing malachite and chalcopyrite occurs along Thibert Creek. There are also two areas where a very large amount of dead trees occur. This growth has a pronounced green colour. An ashed sample of this wood yielded 2.98 per cent copper (Croteau, 1969).

**BIBLIOGRAPHY**

EMPR PF (Reports by F.L. Croteau (1969, 1970); Prospectus, Oremont Mines Ltd., Nov.15, 1970, Report by F.L. Croteau; 104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
GSC SUM RPT 1925 Part A, pp. 75A-99A

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/15

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104J 039**

NATIONAL MINERAL INVENTORY:

NAME(S): **TANZILLA VALLEY**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J02E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 12 05 N  
LONGITUDE: 130 33 32 W  
ELEVATION: 853 Metres

NORTHING: 6452191  
EASTING: 408378

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on the surface trace of a limestone band on the southeast side of the Tanzilla River valley (Geological Survey of Canada Open File 707).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Permian

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Industrial Min.  
TYPE: R09 Limestone  
COMMENTS: Limestone band trends northeast.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Permian

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Cherty Limestone  
Argillaceous Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

A unit of Permian pale grey and orange cherty limestone and argillaceous limestone trends northeastward along the southeast side of Tanzilla River valley. The underlying basalt, andesite, tuff, breccia and clastic sediments of the Upper Triassic Stuhini Group outcrop on the east side of the band.

**BIBLIOGRAPHY**

EMPR IND MIN FILE (Limestone Occurrences in British Columbia by McCammon, J.W. (1973), p. 35 (in Ministry Library); 104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/06/28

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 040**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHESLAY RIVER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 19 59 N  
LONGITUDE: 131 51 34 W  
ELEVATION: 762 Metres

NORTHING: 6469348  
EASTING: 332584

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on a limestone unit near the Sheslay River, 7.8 kilometres northwest of its confluence with the Hackett River, 64 kilometres northwest of the community of Telegraph Creek (Geological Survey of Canada Open File 707).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Permian

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Industrial Min.  
TYPE: R09 Limestone  
DIMENSION: 4000 x 1800              Metres  
COMMENTS: Limestone band trends west.

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Limestone  
Dolomite  
Chert  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

A 4 kilometre long westerly trending band of Permian limestone up to 1.8 kilometres wide, crosses the Sheslay River, 7.8 kilometres northwest of its confluence with the Hackett River.

The band is faulted against Upper Triassic Stuhini Group volcanic rocks and sediments to the south and bounded to the north by Late Triassic and Early Jurassic diorite and monzonite. The unit is folded about an east-northeast trending anticline.

The band is comprised of limestone with minor dolomite, chert and argillite.

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EMPR IND MIN FILE (Limestone Occurrences in British Columbia by McCammon, J.W. 1973, p. 35 (in Ministry Library))  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/23

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 259  
REPORT: RGEN0100

MINFILE NUMBER: **104J 041**

NATIONAL MINERAL INVENTORY:

NAME(S): **TATSHO MOUNTAIN**, DEASE LAKE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J08E  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 26 15 N  
LONGITUDE: 130 02 17 W  
ELEVATION: 1006 Metres

NORTHING: 6477888  
EASTING: 439393

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on a limestone outcrop on the north side of Tatsho Mountain, about 2 kilometres west of the community of Dease Lake (Geological Survey of Canada Open File 2779).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Upper Triassic

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Industrial Min.  
TYPE: R09 Limestone  
COMMENTS: Limestone mass trends west.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Unnamed/Unknown Group	Sinwa	

LITHOLOGY: Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

A mass of limestone of the Upper Triassic Sinwa Formation extends westward from near the south end of Dease Lake across the north slope of Tatsho Mountain. The mass is in fault contact with Upper Triassic Stuhini Group volcanic rocks to the south.

**BIBLIOGRAPHY**

EMPR IND MIN FILE (Limestone Occurrences in British Columbia by McCammon, J.W. 1973, p. 35 (in Ministry Library))  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/17

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 041**

MINFILE NUMBER: **104J 042**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRENCH RANGE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J10E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 39 59 N  
LONGITUDE: 130 35 26 W  
ELEVATION: 1494 Metres

NORTHING: 6503999  
EASTING: 407742

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on the surface trace of a limestone unit between Little Dease Creek and Tuya River (Geological Survey of Canada Open File 2779).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Dolomite Silica  
ALTERATION: Dolomite Silica  
MINERALIZATION AGE: Permian  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

**DEPOSIT**

CHARACTER: Stratabound Massive  
CLASSIFICATION: Sedimentary Industrial Min.  
TYPE: R09 Limestone  
SHAPE: Irregular  
MODIFIER: Folded  
COMMENTS: Limestone bands trend west-northwest for up to 30 kilometres.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Cache Creek	Teslin	
Permian	Cache Creek	French Range	

LITHOLOGY: Limestone  
Tuff  
Agglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Various parallel bands of Permian limestone of the Teslin Formation (Cache Creek Complex) extend west-northwest from Little Dease Creek and Killarney Creek along French Range, just west of Dease Lake.

The bands are the result of repeated folding of the Teslin Formation and underlying tuff and agglomerate of the Permian French Range Formation (Cache Creek Complex). The most significant band outcrops for 30 kilometres northward to the Tuya River along the west limb of a syncline. The limestone unit is estimated to be at least 300 metres thick.

The bands are generally composed of fine to medium grained, massive to bedded, dark grey limestone that has undergone variable amounts of dolomitization and minor silicification. Some silica nodules and thin chert layers (less than 1 centimetre) are present. Rare argillite interbeds also occur. The limestone becomes tuffaceous at the contact with the underlying French Range Formation.

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EMPR IND MIN FILE (Limestone Occurrences in British Columbia by McCammon, J.W. 1973, p. 35 (in Ministry Library))  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC OF 707; 2779  
GSC P \*68-48, pp. 19-24; 74-47, p. 5

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/08

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 042**

MINFILE NUMBER: **104J 043**

NATIONAL MINERAL INVENTORY:

NAME(S): **THUNDERCLOUD**, TUYA RIVER

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104J07W 104J07E 104J02E 104J02W  
BC MAP:

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 38 N  
LONGITUDE: 130 48 30 W  
ELEVATION: 762 Metres

NORTHING: 6459143  
EASTING: 393896

LOCATION ACCURACY: Within 500M

COMMENTS: The approximate centre of the property along Mansfield Creek, near Tuya River, about 48 kilometres southwest of the community of Dease Lake (Coal Assessment Report 244).

COMMODITIES: Coal

**MINERALS**

SIGNIFICANT: Coal  
MINERALIZATION AGE: Tertiary  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Pollen

**DEPOSIT**

CHARACTER: Stratabound  
CLASSIFICATION: Sedimentary  
TYPE: A04 Bituminous coal  
SHAPE: Tabular  
MODIFIER: Folded

Massive  
Fossil Fuel  
Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Unnamed/Unknown Group	Tanzilla Canyon	

LITHOLOGY: Sandstone  
Conglomerate  
Mudstone  
Diabase Sill  
Carbonaceous Shale  
Shale  
Carbonaceous Claystone  
Coal

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage  
COMMENTS: Sub-bituminous B to high-volatile bituminous C rank coal.

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Inferred  
QUANTITY: 200000000 Tonnes  
COMMODITY: Coal  
GRADE: 100.0000 Per cent  
YEAR: 1980

COMMENTS: A potential of surface mineable coal to a depth of 500 metres.  
REFERENCE: Fieldwork 1990, page 419.

**CAPSULE GEOLOGY**

The Tuya River Tertiary coal basin is located between the communities of Dease Lake and Telegraph Creek. The basin straddles the drainage of Tuya River and its tributaries Little Tuya River and Mansfield Creek. Limits of the basin are poorly defined and in places it is overlain by Recent volcanic rocks. However, it is estimated that the basin covers approximately 150 square kilometres and contains over 600 million tonnes of high-volatile B bituminous coal; a sizeable coalbed methane resource up to 0.04 Tcf (trillion cubic feet) may also exist (Fieldwork 1990, page 419).

The coal basin is bounded on the north by basic rocks, possibly part of the Recent Level Mountain Complex. The eastern and western boundaries are probably fault-controlled, with pre-Tertiary rocks to the east and younger volcanic rocks to the west. The southern boundary is arbitrarily defined by thick postglacial drift and absence of outcrop. Basement is composed of deformed Paleozoic and Mesozoic strata. Palynology dates the coal-bearing rocks as not

## CAPSULE GEOLOGY

younger than early Eocene and not older than Paleocene. They may be equivalent to the Tango Formation of the Sustut Group (Fieldwork 1990, page 420). Geological Survey of Canada Open File 2779 indicates bedrock to be Eocene Tanzilla Canyon Formation.

Sediments within the basin are generally coarse grained and poorly consolidated. In order of decreasing abundance, rock types are: sandstone, conglomerate and mudstone. The sandstones are medium to coarse grained, orange weathering and greyish when fresh. They contain numerous pebble grit bands and coal fragments. Conglomerates contain rounded volcanic and chert clasts ranging in size from granules to boulders, with pebbles predominating. They are yellow to orange weathering and form cliffs along the banks of the Little Tuya River. The mudstones are brown, sideritic and soft, and generally contain fine silty laminations. Vesicular basalts and diabases crop out in the basin.

Rocks structurally low in the succession in Mansfield Creek are mudstones, sandstones and a diabase sill, whereas rocks low in the succession in Tuya River are sandstones. Generally rocks high in the succession are conglomerates with volcanic clasts or basalt flows. Coal seams appear restricted to a zone fairly low in the succession.

The coal basin is an open, northerly plunging syncline, complicated by smaller scale faults and folds. The Tuya River coal basin was drilled and mapped in detail in the period 1979 to 1980 when interest in coal was high. PetroCanada mapped and drilled the western half (Thundercloud) of the basin and Esso Minerals Canada mapped the eastern half (see Tuya River, 104J 044).

In outcrop the coal is blocky, well banded and usually clean. It is often harder than the enclosing poorly consolidated sandstones. Seams vary in thickness up to 20 metres. Mudstone bands are common in the coal seams; bentonite layers are also conspicuous. The coal seams do not form part of fining-upwards sequences, and hangingwall and footwall contacts are sharp, with no particular enclosing rock type predominating. The coal is vitrain rich and contains an unusually high percentage of resin; some bands contain up to five per cent resin blebs ranging up to 5 millimetres in diameter. In places, the vitrain bands have a waxy lustre and conchoidal fracture which forms a distinctive eyed pattern on the fracture surfaces.

In the Thundercloud occurrence area, up to 7 seams consisting of sub-bituminous B to high-volatile bituminous C rank coal are present. The seams are numbered 1 to 7 from stratigraphically lower to higher. Seam 1 varies from 3.61 to 5.03 metres thick and contains numerous carbonaceous claystone bands. Seam 2 ranges from 1.24 to 1.55 metres thick; seams 3 to 7 are best developed in the north of the property. They are complex composite seams which contain numerous bands and partings of shale and carbonaceous shale of up to approximately 50 per cent. Interseam intervals vary from 5 to 28 metres. The seams are commonly repeated and intersected by faults.

The coal analysed on average 11.14 per cent moisture, 24.25 per cent ash, 29.09 per cent volatile matter, 34.30 per cent fixed carbon, 0.46 per cent sulphur and has a calorific value of 4299 calories/gram.

A potential of 200 million tonnes of surface mineable coal was outlined in the western half of the basin to a depth of 500 metres (Fieldwork 1990, page 419).

## BIBLIOGRAPHY

- GSC MAP 9-1957; 21-1962; 1418A
- GSC OF 707; 2779
- GSC P 71-44; 73-31
- EMPR COAL ASS RPT 242, \*243, 244
- EMPR P 1986-5, p. 26
- EMPR FIELDWORK \*1990, pp. 419-429
- EMPR PF (104J General File - Claim map 73M, Dec. 1970)

DATE CODED: 1986/05/29  
DATE REVISED: 1994/08/16

CODED BY: EVFK  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 044**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUYA RIVER**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J07E 104J02E 104J07W 104J02W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 15 02 N  
LONGITUDE: 130 43 37 W  
ELEVATION: 518 Metres

NORTHING: 6457905  
EASTING: 398643

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of the Esso/Klein Ront property, near Tuya River, about 46 kilometres southwest of the community of Dease Lake (Coal Assessment Report 246).

COMMODITIES: Coal

**MINERALS**

SIGNIFICANT: Coal  
MINERALIZATION AGE: Tertiary  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Pollen

**DEPOSIT**

CHARACTER: Stratabound  
CLASSIFICATION: Sedimentary  
TYPE: A04 Bituminous coal  
SHAPE: Tabular  
MODIFIER: Folded

Massive  
Fossil Fuel  
Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Unnamed/Unknown Group	Tanzilla Canyon	

LITHOLOGY: Sandstone  
Conglomerate  
Mudstone  
Shaly Coal  
Coal

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage  
COMMENTS: Sub-bituminous B to high-volatile bituminous C rank coal.

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Tuya River Tertiary coal basin is located between the communities of Dease Lake and Telegraph Creek. The basin straddles the drainage of Tuya River and its tributaries Little Tuya River and Mansfield Creek. Limits of the basin are poorly defined and in places it is overlain by Recent volcanic rocks. However, it is estimated that the basin covers approximately 150 square kilometres and contains over 600 million tonnes of high-volatile B bituminous coal; a sizeable coalbed methane resource up to 0.04 Tcf (trillion cubic feet) may also exist (Fieldwork 1990, page 419).

The coal basin is bounded on the north by basic rocks, possibly part of the Recent Level Mountain Complex. The eastern and western boundaries are probably fault-controlled, with pre-Tertiary rocks to the east and younger volcanic rocks to the west. The southern boundary is arbitrarily defined by thick postglacial drift and absence of outcrop. Basement is composed of deformed Paleozoic and Mesozoic strata. Palynology dates the coal-bearing rocks as not younger than early Eocene and not older than Paleocene. They may be equivalent to the Tango Formation of the Sustut Group (Fieldwork 1990, page 420). Geological Survey of Canada Open File 2779 indicates bedrock to be Eocene Tanzilla Canyon Formation.

Sediments within the basin are generally coarse grained and poorly consolidated. In order of decreasing abundance, rock types are: sandstone, conglomerate and mudstone. The sandstones are medium to coarse grained, orange weathering and greyish when fresh. They contain numerous pebble grit bands and coal fragments. Conglomerates contain rounded volcanic and chert clasts ranging in size from granules to boulders, with pebbles predominating. They are yellow to orange weathering and form cliffs along the banks of the Little Tuya River. The mudstones are brown, sideritic and soft, and generally contain fine silty laminations. Vesicular basalts and diabases crop

MINFILE NUMBER: **104J 044**

## CAPSULE GEOLOGY

out in the basin.

Rocks structurally low in the succession in Mansfield Creek are mudstones, sandstones and a diabase sill, whereas rocks low in the succession in Tuya River are sandstones. Generally rocks high in the succession are conglomerates with volcanic clasts or basalt flows. Coal seams appear restricted to a zone fairly low in the succession.

The coal basin is an open, northerly plunging syncline, complicated by smaller scale faults and folds. The Tuya River coal basin was drilled and mapped in detail in the period 1979 to 1980 when interest in coal was high. PetroCanada mapped and drilled the western half (Thundercloud, 104J 043) of the basin and Esso Minerals Canada mapped the eastern half (this description).

In outcrop the coal is blocky, well banded and usually clean. It is often harder than the enclosing poorly consolidated sandstones. Seams vary in thickness up to 20 metres. Mudstone bands are common in the coal seams; bentonite layers are also conspicuous. The coal seams do not form part of fining-upwards sequences, and hangingwall and footwall contacts are sharp, with no particular enclosing rock type predominating. The coal is vitrain rich and contains an unusually high percentage of resin; some bands contain up to five per cent resin blebs ranging up to 5 millimetres in diameter. In places, the vitrain bands have a waxy lustre and conchoidal fracture which forms a distinctive eyed pattern on the fracture surfaces.

Coal seams are present in the lower and middle members at the Tuya River occurrence. The seams are thickest and contain the least numbers of partings in the lower member. Two main seams are present in the lower member; the lower seam ranges from 1.45 metres thick in the northwest corner of the area to 2 to 3 metres in the Mansfield Creek area. The seam contains a number of partings and a sideritic horizon in the basal partings in the northwest. The upper seam ranges from 1.5 to 4 to 5 metres in thickness and also contains a number of partings. The seams are separated by approximately 1.2 metres of mudstone. The coal is high-volatile bituminous C in rank.

The middle member contains several thin coal seams 0.1 to 1.0 metre thick, but generally averaging approximately 0.4 metre. The coal is interbedded with, and contains numerous partings of mudstone.

A single coal seam was observed in the upper member. The seam is 0.5 metre thick and occurs in a 1.1-metre section of coal, shaly coal and mudstone.

The coal on this property analysed 11.35 to 16.9 per cent moisture, 5.1 to 9.92 per cent ash, 28.36 to 35.6 per cent volatile matter, 42.4 to 49.22 per cent fixed carbon, and 0.9 to 1.15 per cent sulphur. The calorific value ranges from 9680 to 11401 BTU per pound (as received).

## BIBLIOGRAPHY

GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
GSC P 73-31  
EMPR P 1986-5, p. 26  
EMPR COAL ASS RPT 245, \*246  
EMPR FIELDWORK \*1990, pp. 419-429  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)

DATE CODED: 1986/05/29  
DATE REVISED: 1994/08/16

CODED BY: EVFK  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104J 045**

NATIONAL MINERAL INVENTORY:

NAME(S): **NAHLIN RIVER LIMESTONE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 48 20 N  
LONGITUDE: 131 51 28 W  
ELEVATION: 1189 Metres

NORTHING: 6521924  
EASTING: 334921

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on the surface trace of a limestone unit, about 5 kilometres east of Nahlin River, 106 kilometres north of the community of Telegraph Creek (Geological Survey of Canada Open File 707).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Upper Paleozoic  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Industrial Min.  
TYPE: R09 Limestone  
COMMENTS: Limestone band trends northwest.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic	Cache Creek	Horsefeed	

DATING METHOD: Fossil  
MATERIAL DATED: Fusulinids

LITHOLOGY: Limestone  
Limestone Breccia

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

A fault-bounded Upper Mississippian-Permian limestone unit of the Horsefeed Formation (Cache Creek Complex) extends northwestward from Opal Lake for 12.5 kilometres to Chastot Creek, just east of Nahlin River.

The limestone unit widens northwestward from 300 to 2300 metres. A narrow, 6 kilometre long mass of chert of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex) lies infaulted within the limestone near its southwest margin. The limestone is also in contact with Upper Mississippian-Permian Cache Creek Complex ultramafic rocks to the southwest and altered basaltic flows and pyroclastic rocks of the Mississippian-Pennsylvanian Nakina Formation to the northeast.

The limestone band generally consists of pale grey weathering, pale to medium grey, massive, unsorted limestone breccia containing angular fragments up to 5 centimetres in length. The fragments are comprised of various carbonates including pale brownish grey, porcelaneous, very fine grained limestone, fusiliferous, calcarenitic limestone and fine grained, black limestone. The limestone is in places recrystallized and heavily veined with calcite.

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EMPR PF (104J General File - Claim maps 73M, 73 M-2, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707  
GSC P \*74-47, pp. 13-14, Figure 9  
Placer Dome File

DATE CODED: 1989/09/01  
DATE REVISED: 1994/08/15

CODED BY: PSF  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 046**

NATIONAL MINERAL INVENTORY:

NAME(S): **STIKINE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J01W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 13 14 N  
LONGITUDE: 130 16 55 W  
ELEVATION: 1341 Metres

NORTHING: 6453982  
EASTING: 424695

LOCATION ACCURACY: Within 500M

COMMENTS: Pit exposing mineralization, about 2.5 kilometres south-southwest of Pallen Lake and approximately 30 kilometres south of Dease Lake (Assessment Report 8505).

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite                      Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Albite                      Chlorite                      Sericite                      Epidote                      Pyrite  
ALTERATION TYPE: Propylitic  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein                                      Shear  
CLASSIFICATION: Porphyry  
TYPE: L04      Porphyry Cu ± Mo ± Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Jurassic			Pallen Creek Pluton
Triassic-Jurassic			Hotailuh Batholith

LITHOLOGY: Porphyritic Quartz Monzonite  
Augite Plagioclase Porphyry Flow  
Augite Plagioclase Porphyry Breccia  
Mafic Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

A pit exposes a mineralized outcrop, 2.5 kilometres south-southwest of Pallen Lake about 30 kilometres south of Dease Lake (Assessment Report 8505).

The Stikine occurrence area is underlain by the Early to Middle Jurassic Pallen Creek pluton of the Jurassic and Triassic Hotailuh batholith. The pluton is a zoned intrusion grading from a porphyritic quartz monzonite core to a granodiorite/diorite margin and intrudes a volcanic-sedimentary succession of the Upper Triassic Stuhini Group. The Stuhini succession is predominantly composed of augite-plagioclase porphyry mafic flows and tuff breccias. The bulk of the pluton is massive, unfractured and barren of alteration or mineralization.

Rare quartz veins and fractures in quartz monzonite contain spots of molybdenite and chalcopyrite, and are limited in areal extent to narrow zones of possible faults or shears. Alteration in these zones is patchy and of low grade and comprises albite, chlorite, sericite, epidote and pyrite.

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EMPR ASS RPT 6873, 7459, \*8505  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707; 2779  
GSC P 78-1A, pp. 29-31; 80-1A, pp. 37-40  
Falconbridge File

DATE CODED: 1994/06/21  
DATE REVISED: 1995/06/21

CODED BY: GO  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 047**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARTZ CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J02W  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 03 31 N  
LONGITUDE: 130 59 19 W  
ELEVATION: 487 Metres

NORTHING: 6436964  
EASTING: 382657

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Hartz Creek about 1.25 kilometres upstream from its confluence with Tahltan River, approximately 41 kilometres northeast of the community of Telegraph Creek.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Quaternary	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Upper Triassic	Stuhini	Unnamed/Unknown Formation	

LITHOLOGY: Gravel  
Porphyritic Augite Basalt  
Feldspar Porphyry  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

Stikine

PHYSIOGRAPHIC AREA: Glenora Trench

**CAPSULE GEOLOGY**

Placer gold occurs on Hartz Creek in an area of Pleistocene and Recent glacial and glacio-fluvial deposits. Hartz Creek is a tributary of the Tahltan River and is located approximately 41 kilometres northeast of the community of Telegraph Creek.

Bedrock in the vicinity comprise porphyritic augite basalt, feldspar porphyry and basalt of the Upper Triassic Stuhini Group. Recorded production from 1941 to 1945 totalled 62 grams (Bulletin 28, page 59).

**BIBLIOGRAPHY**

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GSC OF 707; 2779  
EMPR BULL 28, p. 59  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)

DATE CODED: 1994/07/15  
DATE REVISED: 1994/10/27

CODED BY: GO  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 048**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANKI**, KULTA

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J16E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 56 43 N  
LONGITUDE: 130 05 13 W  
ELEVATION: 1570 Metres

NORTHING: 6534467  
EASTING: 437455

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample location on the northwest slope of Northwest Mountain, about 1.5 kilometres east of Hankin Creek, approximately 60 kilometres north of Dease Lake (Assessment Report 10387).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: L PORPHYRY

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

**STRATIGRAPHIC AGE**

Upper Triassic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Shonektaw

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Chlorite Schist  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Anki showing area is underlain by fine-grained basalt and chlorite schist of the Upper Triassic Shonektaw Formation. Minor copper occurs in the schist in a 15 centimetre wide quartz vein mineralized with 2 to 3 per cent pyrite and chalcopyrite. The vein strikes southeast and is traceable for 0.5 metre.

**BIBLIOGRAPHY**

GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
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EMPR ASS RPT \*10387  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)

DATE CODED: 1994/07/30  
DATE REVISED: 1994/07/30

CODED BY: GO  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 049**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUYA 2**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J10W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 30 38 N  
LONGITUDE: 130 53 11 W  
ELEVATION: 891 Metres

NORTHING: 6487097  
EASTING: 390098

LOCATION ACCURACY: Within 500M

COMMENTS: Site of panned concentrate sample 14966, in a tributary creek to Tuya River, about 57 kilometres west of the community of Dease Lake (Assessment Report 21850).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
ALTERATION: Carbonate Kaolinite Dolomite Talc Ankerite

ALTERATION TYPE: Carbonate Argillic Serpentin'zn  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Inklin	
Upper Paleozoic			Cache Creek Complex
Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Gravel  
Syenite  
Serpentinite  
Phyllite  
Greywacke  
Conglomerate  
Granodiorite Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Trench  
Overlap Assemblage

**INVENTORY**

ORE ZONE: CREEK

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Gold  
GRADE: 3.1000 Grams per tonne

COMMENTS: Panned concentrate sample.  
REFERENCE: Assessment Report 21850.

**CAPSULE GEOLOGY**

Visible gold grains were observed in 3 of 4 panned concentrate samples taken from a tributary creek to Tuya River. The Tuya 2 showing area is underlain by an Early-Middle Jurassic(?) syenite body. The syenite is white and is altered, in part, to kaolinite. A small Upper Mississippian-Permian serpentinite body of the Cache Creek Complex is exposed downstream from the syenite. The serpentinite exhibits strong carbonate alteration with dolomite, talc, ankerite and fuchsite present. Downstream from the serpentinite, interbedded phyllite, greywacke and conglomerate of the Lower Jurassic Inklin Formation (Laberge Group) strike north and dips moderately east. These rocks are intruded by granodiorite dikes. Panned concentrate sample 14966 taken downstream from the carbonate alteration associated with the syenite intrusion yielded visible gold and analysed 3.1 grams per tonne gold (Assessment Report 21850).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 270  
REPORT: RGEN0100

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GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
EMPR ASS RPT 20764, \*21850  
EMPR PF (104J General File - Claim maps 73M, 73M-3, Dec. 1970)

DATE CODED: 1994/08/04  
DATE REVISED: 1994/08/04

CODED BY: GO  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 050**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOP**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 48 30 N  
LONGITUDE: 130 31 06 W  
ELEVATION: 1348 Metres

NORTHING: 6519704  
EASTING: 412289

LOCATION ACCURACY: Within 500M

COMMENTS: Trench, near the headwaters of Rose Creek, a tributary to Thibert Creek, about 52 kilometres northwest of the community of Dease Lake (Assessment Report 19473).

COMMODITIES: Gold Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Calcite Chlorite Epidote K-Feldspar  
ALTERATION TYPE: Silicific'n Potassic Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: I01 Au-quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Permian	Cache Creek	French Range	

LITHOLOGY: Mudstone  
Phyllite  
Andesite  
Crystal Lithic Andesitic Tuff  
Limestone  
Chert  
Carbonaceous Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Tanzilla Plateau

RELATIONSHIP: GRADE:

**INVENTORY**

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Gold  
GRADE: 10.5000 Grams per tonne

REFERENCE: Assessment Report 19473.

**CAPSULE GEOLOGY**

The Hop occurrence is near the contact of the Mississippian-Triassic Permian Kedahda Formation (Cache Creek Complex) and Permian French Range Formation (Cache Creek Complex). Volcanic rocks (French Range Formation) comprise fine-grained andesite and crystal lithic andesitic tuff. Sedimentary rocks (Kedahda Formation) consist of fine to coarse grained limestone, chert, mudstone, phyllite and carbonaceous shale. Considerable folding and fracturing is evident throughout the area.

Alteration minerals observed in increasing abundance are potassium feldspar, epidote, chlorite, calcite and quartz. Silicification is widespread throughout an argillaceous mudstone and/or phyllite while the remaining alteration minerals are in the volcanic rocks. Locally, manganese staining is present.

Sulphide mineralization comprising pyrite and chalcopyrite appears to be confined to quartz veining or within silicified zones within the sediments. A grab sample from a trench exposing a pyritic quartz vein yielded 10.5 grams per tonne gold (Assessment Report

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 272  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

19473).

**BIBLIOGRAPHY**

GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
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EMPR ASS RPT 18225, \*19473  
EMPR PF (104J General File - Claim map 73M, Dec. 1970; McLeod,  
J.W. (1987): Geological and Geochemical Reconnaissance Report on  
the Hop Mineral Claims)  
Placer Dome File

DATE CODED: 1994/08/05  
DATE REVISED: 1994/08/07

CODED BY: GO  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104J 051**

NATIONAL MINERAL INVENTORY:

NAME(S): **FALL GULCH**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J15E  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 47 46 N  
LONGITUDE: 130 37 42 W  
ELEVATION: 1127 Metres

NORTHING: 6518493  
EASTING: 405902

LOCATION ACCURACY: Within 5 KM

COMMENTS: Fall Gulch is a tributary to Thibert Creek, 30 kilometres west of the north end of Dease Lake (Bulletin 28, Figure 2).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Gravel  
Cherty Argillite  
Chert  
Argillite  
Siltstone  
Volcanic Sandstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Gold production of 902 grams was recorded for the period 1876 to 1880 from Fall Gulch, a tributary of Thibert Creek, about 30 kilometres west of the north end of Dease Lake.

The creek drains an area underlain by chert, cherty argillite, argillite, siltstone and volcanic sandstone of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex) and Pleistocene and Recent glacial and glacio-fluvial deposits.

**BIBLIOGRAPHY**

EMPR BULL \*28, pp. 57,58  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC SUM RPT 1925 Part A, pp. 33A-99A  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/11

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 052**

NATIONAL MINERAL INVENTORY:

NAME(S): **VOWEL CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J16W  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 48 54 N  
LONGITUDE: 130 27 20 W  
ELEVATION: 1097 Metres

NORTHING: 6520366  
EASTING: 415931

LOCATION ACCURACY: Within 1 KM

COMMENTS: Vowel Creek flows southerly into Thibert Creek, located about 20 kilometres west of the north end of Dease Lake (Bulletin 28, Figure 2).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Quaternary	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Paleozoic-Mesozoic	Cache Creek	Kedahda	

LITHOLOGY: Gravel  
Greywacke  
Slate  
Chert

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Gold production was recorded from Vowel Creek, a tributary to Thibert Creek, located about 20 kilometres west of the north end of Dease Lake.

The creek drains an area underlain by greywacke, slate and chert of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex) and Pleistocene and Recent glacial and glacio-fluvial deposits.

**BIBLIOGRAPHY**

EMPR BULL \*28, pp. 57,61  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC SUM RPT 1925 Part A, pp. 33A-99A  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/11

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 053**

NATIONAL MINERAL INVENTORY:

NAME(S): **PORCUPINE CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J16W  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 52 04 N  
LONGITUDE: 130 22 13 W  
ELEVATION: 1158 Metres

NORTHING: 6526138  
EASTING: 420976

LOCATION ACCURACY: Within 1 KM

COMMENTS: Porcupine Creek flows into Porcupine Lake, located about 14 kilometres west of the north end of Dease Lake (Bulletin 28, Figure 2).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Unnamed/Unknown Group	Shonektaw	
Lower Jurassic	Unnamed/Unknown Group	Nazcha	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Gravel  
Volcanic Sandstone  
Argillaceous Tuff  
Conglomerate  
Serpentinite  
Peridotite  
Pyroxenite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Quesnel

Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Gold production (1876 to 1880) totalling 10,698 grams is recorded for Porcupine Creek, which flows into Porcupine Lake, located about 14 kilometres west of the north end of Dease Lake. The creek drains an area underlain by volcanic sandstone, argillaceous tuff and conglomerate of the Upper Triassic undivided Shonektaw and Nazcha formations and also Upper Mississippian-Permian serpentinite, peridotite and pyroxenite of the Cache Creek Complex. The Nazcha Formation is Lower Jurassic.

**BIBLIOGRAPHY**

EMPR BULL \*28, pp. 57,60  
EMPR ASS RPT 18579  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC SUM RPT 1925 Part A, pp. 33A-99A  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/11

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 054**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOULDER CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J16E  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 48 46 N  
LONGITUDE: 130 13 51 W  
ELEVATION: 1006 Metres

NORTHING: 6519858  
EASTING: 428905

LOCATION ACCURACY: Within 1 KM

COMMENTS: Boulder Creek flows south into Thibert Creek, located about 8 kilometres west of the north end of Dease Lake (Bulletin 28, Figure 2).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Gravel  
Greywacke  
Slate  
Chert

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**INVENTORY**

ORE ZONE: PLACER

REPORT ON: Y

CATEGORY: Combined  
QUANTITY: 841060 Tonnes

YEAR: 1986

**COMMODITY**

Gold

**GRADE**

1.3000 Grams per tonne

COMMENTS: Proven, probable and possible reserves. The tonnage figure is cubic metres.

REFERENCE: George Cross News Letter No.139 (July 21), 1986.

**CAPSULE GEOLOGY**

Gold production (1905-1920) totalling 275,919 grams is recorded for Boulder Creek, which flows south into Thibert Creek, located about 8 kilometres west of the north end of Dease Lake.

The creek drains an area underlain by greywacke, slate and chert of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex). Proven, probable and possible reserves are 841,060 cubic metres grading 1.3 grams per tonne (George Cross News Letter No.139 (July 21), 1986).

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EMPR BULL 28, pp. 57,58  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC SUM RPT 1925 Part A, pp. 33A-99A  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
GCNL #104(May 30), #139(July 21), #167(Aug.29), #177(Sept.15), 1986

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/11

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 055**

NATIONAL MINERAL INVENTORY:

NAME(S): **DELURE CREEK**, DELOIRE CREEK

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J16E  
BC MAP:

Open Pit    Underground

MINING DIVISION: Liard

LATITUDE: 58 48 45 N  
LONGITUDE: 130 09 24 W  
ELEVATION: 884 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6519751  
EASTING: 433188

LOCATION ACCURACY: Within 500M

COMMENTS: An old tunnel on Delure Creek which flows north into Thibert Creek, located about 3 kilometres west of the north end of Dease Lake (Geological Survey of Canada Summary Report 1925 Part A, page 67A).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Upper Paleozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Cache Creek Complex

LITHOLOGY: Alluvium  
Greywacke  
Slate  
Chert  
Serpentinite  
Peridotite  
Pyroxenite  
Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Gold production totalling 13 kilograms is recorded for Delure Creek (also known as Deloire Creek), which flows north into Thibert Creek, located about 3 kilometres west of the north end of Dease Lake. Most production came prior to 1910 but some work also occurred up to about 1940.

The creek drains an area underlain by greywacke, slate, chert and undivided sediments and volcanics of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex). Locally, Upper Mississippian-Permian Cache Creek Complex serpentinite, peridotite and pyroxenite occur. A narrow, deep rock canyon extends for approximately 1066 metres up from the mouth of the creek. Above the upper end of the canyon the valley widens with a low gradient for about 1600 metres, where another rock canyon begins. In this part of the flat area the cover is 6 to possibly 12 metres deep. A buried channel of the creek probably extends from the lower end of the wide, flat part of the creek, through to the valley of Thibert Creek. The channel is filled with glacial drift to a maximum depth of about 60 metres (Geological Survey of Canada Summary Report 1925 Part A, page 68A).

Some mining was done on the creek days in the early days and several shafts were sunk to mine the ground in the flat area above the canyon; but without much success. Several tunnels were driven into the south bank of Thibert Creek to try to find the outlet of the buried channel into Thibert Creek valley.

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EMPR AR 1907-L55; 1908-J53,J54; 1911-K62; 1912-K63; 1913-K76; 1915-K68; 1917-F82; 1922-N88; 1921-G74,G75; 1925-A111,A112; 1933-A63

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 278  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC SUM RPT \*1925 Part A, pp. 33A-99A  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/11

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 056**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOSQUITO CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104J16W  
BC MAP:

Open Pit    Underground

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 50 27 N  
LONGITUDE: 130 21 27 W  
ELEVATION: 975 Metres

NORTHING: 6523123  
EASTING: 421652

LOCATION ACCURACY: Within 500M

COMMENTS: Old tunnel along Mosquito Creek, about 400 metres upstream from its confluence with Thibert Creek, 14 kilometres west of the north end of Dease Lake (Geological Survey of Canada Summary Report 1925 Part A, page 69A).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Alluvium  
Greywacke  
Slate  
Chert

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Gold production (from 1876 to 1940) totalling 22,484 grams is recorded for Mosquito Creek, which flows into Thibert Creek, located about 14 kilometres west of the north end of Dease Lake.

The creek drains an area underlain by greywacke, slate and chert of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex). The lower part of the creek, for about 304 metres up from its mouth, is a narrow rock canyon in which the alluvium is a metre deep, but very bouldery. Above the canyon, the valley widens and has an alluvial flat averaging about 45 metres in width. Tunnels driven upstream from the canyon for over 182 metres failed to reach bedrock because of the bouldery nature of the ground and the lack of drainage for the deepest part of the channel.

Considerable work has been done on the creek and included tunnels (inclined), boreholes and hydraulicking.

**BIBLIOGRAPHY**

EMPR BULL 28, pp. 57,59  
EMPR AR 1912-K63; 1913-K76; 1914-K99; 1915-K68; 1917-F82; 1921-G75;  
1925-A112; 1929-C116,C117  
EMPR ASS RPT 16624  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)  
GSC SUM RPT \*1925 Part A, pp. 33A-99A  
GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
GSC ANN RPT 1887, p. 138R

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/11

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 057**

NATIONAL MINERAL INVENTORY: 104J16 Gem1

NAME(S): **SEYWERD**, SEYWERD CREEK, GREENGOLD

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104J16E

BC MAP:

LATITUDE: 58 46 29 N

LONGITUDE: 130 05 13 W

ELEVATION: 884 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Seywerd Creek flows into Dease Lake at Sawmill Point, near the lakes north end (Minister of Mines Annual Report 1965).

UTM ZONE: 09 (NAD 83)

NORTHING: 6515477

EASTING: 437147

COMMODITIES: Jade/Nephrite

**MINERALS**

SIGNIFICANT: Nephrite

ASSOCIATED: Magnetite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Unconsolidated

CLASSIFICATION: Placer Industrial Min.

TYPE: Q01 Jade

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Kedahda	
Upper Paleozoic			Cache Creek Complex

LITHOLOGY: Serpentinite  
Argillite  
Greywacke

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Late in the summer of 1963, a large nephrite boulder was found on the roadside where a culvert had been built for Seywerd Creek beneath the Cassiar-Stewart highway (Highway 37). The creek flows into Dease Lake at Sawmill Point, near the lakes north end. Nephrite (jade) boulders were found in considerable quantity along the creek for more than 1.6 kilometres east of the road.

Rocks exposed along the creek are dominantly argillites and greywackes of the Mississippian-Triassic Kedahda Formation (Cache Creek Complex). There are also outcrops of Cache Creek Complex serpentinite a short distance south of the creek, which are Upper Mississippian-Permian age.

Numerous nephrite boulders, some up to 4.5 tonnes in weight, have been found in the creek. Quality of the material in most instances is difficult to judge from the exposed surfaces, so as a consequence each boulder is initially sampled by breaking a slab along a sawcut 15 to 25 centimetres deep made with a portable diamond saw. Although some nephrite is sheared, and some have inclusions of magnetite or is mottled, some material of very good colour has been found (Minister of Mines Annual Report 1965, page 250).

About 1.8 tonnes of jade were sold in West Germany and about 3.1 tonnes in Japan.

**BIBLIOGRAPHY**

GSC MAP 9-1957; 21-1962; 15-1968; 1418A  
GSC P 68-48  
GSC OF 707; 2779  
GSC SUM RPT 1925 Part A, pp. 75A-99A  
EMPR AR 1963-151; \*1965-250  
EMPR PF (104J General File - Claim map 73M, Dec. 1970)

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/15

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104J 058**

NATIONAL MINERAL INVENTORY:

NAME(S): **HALT**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 03 07 N  
LONGITUDE: 131 31 34 W  
ELEVATION: 716 Metres

NORTHING: 6437283  
EASTING: 350921

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrop near a small tributary creek to the Tahltan River, about 29 kilometres west-northwest of the community of Telegraph Creek (Assessment Report 10423). The Golden Bear Mine Road is about 2 kilometres to the north.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Malachite Pyrite Chalcopyrite  
ALTERATION: Silica Malachite Goethite Jarosite  
ALTERATION TYPE: Silicific'n Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	

LITHOLOGY: Dacite  
Andesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Halt showing is underlain by Upper Triassic Stuhini Group dacite and andesite which have been silicified and badly weathered. A gossanous outcrop contains less than 1 per cent pyrite and minor chalcopyrite as well as malachite, goethite and jarosite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*10423  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/24

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 059**

NATIONAL MINERAL INVENTORY:

NAME(S): **WOLVERINE**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104J04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 07 13 N  
LONGITUDE: 131 40 41 W  
ELEVATION: 1067 Metres

NORTHING: 6445232  
EASTING: 342259

LOCATION ACCURACY: Within 500M

COMMENTS: Showing along the Golden Bear Mine Road, 1.5 kilometres south of the Hackett River, about 38 kilometres west-northwest of the community of Telegraph Creek (Assessment Report 20945).

COMMODITIES: Gold Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
ASSOCIATED: Pyrrhotite Magnetite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein Podiform Shear Disseminated  
CLASSIFICATION: Porphyry  
TYPE: L03 Alkalic porphyry Cu-Au I02 Intrusion-related Au pyrrhotite veins  
SHAPE: Bladed  
MODIFIER: Faulted Sheared  
DIMENSION: 8 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Vein segment.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic  
Triassic-Jurassic

GROUP

Stuhini

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Diorite  
Gouge  
Gouge  
Mafic Tuff  
Agglomerate  
Trachytic Andesite  
Augite Feldspar Porphyritic Flow  
Mafic Volcanic  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1990

SAMPLE TYPE: Channel

COMMODITY

Gold

GRADE

34.0000

Grams per tonne

COMMENTS: An 8 metre vein segment yielded from less than 34 to up to 154 grams per tonne gold over a 0.4 metre width.

REFERENCE: Assessment Report 20945, page 17.

**CAPSULE GEOLOGY**

The Wolverine prospect was discovered in 1988 during the construction of a 155 kilometre long access road to the Golden Bear mine (104K 079). The property was staked in November 1989 following the removal of a staking moratorium along the road corridor.

Upper Triassic Stuhini Group volcanic rocks in the east and a Late Triassic and Early Jurassic quartz diorite to diorite pluton in the southwest are the two main rock types that underlie the Wolverine property. The volcanics form a north-trending belt of moderately west dipping (average 45 degrees) mafic tuffs, agglomerate, trachytic andesite, augite and feldspar porphyritic flows and mafic volcanics of uncertain character. Thin argillite units are interbedded with the trachytic andesite and mafic volcanics. The diorite is the

## CAPSULE GEOLOGY

northern portion of a large pluton which is located south of the property. Although mainly intermediate in composition, the intrusion includes tonalite or quartz diorite, monzodiorite and monzonite.

There are at least three fault trends characterized by zones of shearing and significant gouge development. Two trends host gold and copper mineralization and are probably coeval; the third is post-mineral. The most dominant structural feature is a 360 to 030 degree fault trend which follows the Wolverine Creek valley to the south. On the property, two major fault and several small shear zones follow the trend. The faults at the Wolverine showing are narrow, generally less than 1 metre wide, and tend to meander back and forth while maintaining the overall strike direction of the fault trend. Small lenses of massive pyrite and chalcopyrite mineralization occur in these faults.

The second set of faults trend 060 to 070 degrees and are thought to be an extensional set to the 360-030 degree trend at the showing. They occur as crosscutting joints, fractures and shears in the microcrystalline diorite. This trend contains most of the gold-bearing, high-sulphide disrupted veins found at the showing.

Late faults trend 160 to 180 degrees and displace mineralization in both 020 and 060 degree fault trends at the main showing.

Mineralization consists of pods or perhaps disrupted veins of massive pyrite and chalcopyrite which occur in fault gouge cutting a microcrystalline, marginal phase of the diorite. The largest segment of vein consists of massive pyrite and chalcopyrite and is approximately 8 metres long. It yielded from less than 34 to up to 154 grams per tonne gold over a 0.4 metre width. Several smaller segments of massive pyrite yielded grades up to 16 grams per tonne gold, however, others are only weakly anomalous or barren (Assessment Report 20945, page 17). The segments of veins have been found only within the trenched areas of the main showing.

Mineralization on the other parts of the property consist mainly of finely disseminated pyrite in volcanic rocks and pyrite, chalcopyrite, pyrrhotite or magnetite in intrusive rocks. Minor chalcopyrite stringers occur in altered volcanic rocks near the northern contact of a strongly magnetic diorite stock in the southeast corner of the property. A high-grade grab sample from the stringers analysed 1.8 per cent copper (Assessment Report 20945, page 17).

## BIBLIOGRAPHY

EMPR ASS RPT \*20945, 22126  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/24

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 060**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL 9**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 09 59 N  
LONGITUDE: 131 52 51 W  
ELEVATION: 1227 Metres

NORTHING: 6450856  
EASTING: 330538

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz veins about 1.5 kilometres east of the Sheslay River, 7.5 kilometres south of the summit of Kaketsa Mountain, approximately 50 kilometres west-northwest of the community of Telegraph Creek (Assessment Report 20128). The Golden Bear Mine Road is to the south.

COMMODITIES: Copper Gold

**MINERALS**

SIGNIFICANT: Malachite  
ASSOCIATED: Quartz  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I VEIN, BRECCIA AND STOCKWORK

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	

LITHOLOGY: Porphyritic Basalt  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1989

Gold	0.5400	Grams per tonne
Copper	0.1400	Per cent

REFERENCE: Assessment Report 20128.

**CAPSULE GEOLOGY**

Porphyritic and massive basalt of the Upper Triassic Stuhini Group underlie the Al 9 showing. Four quartz veins related to north trending fault zones are locally malachite stained. One vein is 1.2 metres wide; the others are 10 to 15 centimetres wide. Rock samples from the veins analysed up to 0.14 per cent copper and 0.54 gram per tonne gold (Assessment Report 20128).

**BIBLIOGRAPHY**

EMPR ASS RPT \*20128  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/25

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 061**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 06 26 N  
LONGITUDE: 131 57 25 W  
ELEVATION: 945 Metres

NORTHING: 6444466  
EASTING: 325774

LOCATION ACCURACY: Within 500M

COMMENTS: Showing about 750 metres east of the Sheslay River, approximately 52 kilometres west-northwest of the community of Telegraph Creek (Assessment Report 20940). The Golden Bear Mine Road is 1.4 kilometres north.

COMMODITIES: Copper                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Magnetite              Chalcopyrite  
ALTERATION: Magnetite              Malachite  
ALTERATION TYPE: Skarn              Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Massive  
CLASSIFICATION: Skarn  
TYPE: K03      Fe skarn

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Triassic-Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Calcareous Volcanic Siltstone  
Chloritic Schist  
Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis              YEAR: 1990  
SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	8.5700	Grams per tonne
Gold	4.2500	Grams per tonne
Copper	5.4500	Per cent

REFERENCE: Assessment Report 20940, page 5.

**CAPSULE GEOLOGY**

At the Eagle showing, Upper Triassic Stuhini Group calcareous volcanic siltstone intercalated with chloritic schists have been replaced by magnetite and chalcopyrite mineralization adjacent a Late Triassic and Early Jurassic monzonite stock. Mineralization has been noted up to 300 metres away from the intrusive contact. The zones of replacement are malachite stained, confined to specific stratigraphic horizons, and vary in width from 0.1 to 2 metres but average approximately 1.5 metres. The best results from grab rock sampling are 4.25 grams per tonne gold, 5.45 per cent copper and 8.57 grams per tonne silver (Assessment Report 20940, page 5).

**BIBLIOGRAPHY**

EMPR ASS RPT \*20940  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/25

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104J 062**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN SHOWER**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104J06W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 58 23 21 N  
LONGITUDE: 131 23 32 W  
ELEVATION: 1829 Metres

NORTHING: 6474525  
EASTING: 360153

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location about 9 kilometres west of Beatty Creek, in the Level Mountain Range, approximately 56 kilometres north of the community of Telegraph Creek (Assessment Report 12219).

COMMODITIES: Mercury

**MINERALS**

SIGNIFICANT: Silica           Limonite  
ALTERATION: Silica           Limonite  
ALTERATION TYPE: Silicific'n           Oxidation  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Breccia  
CLASSIFICATION: Epithermal  
TYPE: H05   Epithermal Au-Ag: low sulphidation

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Tertiary

**GROUP**

Level Mountain

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Felsite  
Altered Rhyolite  
Altered Trachyte

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Rock

COMMODITY

GRADE

Mercury

0.0006

Per cent

REFERENCE: Assessment Report 12219, page 11.

**CAPSULE GEOLOGY**

The Golden Shower occurrence area is underlain by a bimodal assemblage of Miocene to Pleistocene volcanic rocks belonging to the Level Mountain Complex. Spectacular alteration zones along the main ridges are associated with iron and manganese stained, weakly brecciated, silicified and kaolinized rhyolites and trachytes. A rock sample from a brecciated, weakly silicified, limonitic stained felsite (altered rhyolite or trachyte) analysed up to 6000 parts per billion mercury (Assessment Report 12219).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12219  
EMPR PF (104J General File - Claim maps 73M, 73 M-1, Dec. 1970)  
GSC MAP 9-1957; 21-1962; 1418A  
GSC OF 707

DATE CODED: 1985/07/24  
DATE REVISED: 1994/08/30

CODED BY: GSB  
REVISED BY: GO

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 001**

NATIONAL MINERAL INVENTORY: 104K13 Pb1

NAME(S): **SPEC**, SHAZAH CREEK

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 45 34 N  
LONGITUDE: 133 37 06 W  
ELEVATION: 350 Metres

NORTHING: 6514091  
EASTING: 579929

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the east side of Shazah Creek, about 2.0 kilometres north of its junction with the Tulsequah River.

COMMODITIES: Copper                      Iron                      Silver                      Gold                      Lead

**MINERALS**

SIGNIFICANT: Pyrrhotite      Chalcopyrite      Pyrite  
COMMENTS: Traces of silver, lead and gold mineralization.

ALTERATION: Pyrite  
ALTERATION TYPE: Pyrite                      Potassic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Replacement                      Epigenetic                      Industrial Min.  
DIMENSION:                      STRIKE/DIP: 360/65E  
COMMENTS: Sulphide band strikes north and dips 50 to 75 degrees east.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic	Unnamed/Unknown Group	Undefined Formation	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Limestone  
Greenstone  
Tuff  
Felsite Dike  
Quartz Porphyry Dike

HOSTROCK COMMENTS: Permian limestone with Triassic and older rocks are intruded by feldspar porphyry, likely related to Sloko Group volcanics(GSC Map 1262A)

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

Plutonic Rocks                      PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Syn-mineralization                      GRADE: Greenschist  
Post-mineralization

**INVENTORY**

ORE ZONE: LENS                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1952  
SAMPLE TYPE: Chip

COMMODITY	GRADE
Copper	0.7000 Per cent
Iron	28.0000 Per cent

COMMENTS: Sulphide lens within limestone, also showed traces of gold, silver and lead.

REFERENCE: Assessment Report 77.

**CAPSULE GEOLOGY**

The area is underlain by Triassic and older rocks comprised mainly of volcanics and volcanoclastics with minor interbedded limestone. To the east, these rocks are intruded by a Late Cretaceous to Tertiary quartz monzonite pluton which may be part of the Coast Plutonic Complex.

On the claims, the rocks are regionally metamorphosed up to greenschist facies, and are described as greenstones intercalated with banded tuffs, argillaceous tuffs and coarse, sugary to massive limestone. The banded rocks strike north and dip east. Regional north trending faults and shears cut the greenstones. Felsitic alteration and minor pyritization occur near the faults. Felsite dykes and feldspar porphyry dykes crosscut the volcanics.

Mineralization on the claims consists of a band of pyrrhotite,

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**CAPSULE GEOLOGY**

which is 15 centimetres wide and 12 metres long, occurring in limestone near the number 1 claim post. The sulphide band strikes north and dips 50 to 75 degrees east and is parallel to the banding in the limestone unit. Scattered chalcopyrite and pyrite occur throughout the pyrrhotite-rich band and is thought to be replacement mineralization along bedding planes.

A 1.2 metre sample (1952) of this sulphide lens contained 0.7 per cent copper, 28 per cent iron and traces of gold, silver and lead. Another 3.0 metre sample contained 0.3 per cent copper and 31.1 per cent iron.

A small replacement deposit of lead-zinc-silver sulphides was reported in limestone near the end of Shazah Valley, just above the valley flat, on the southeast side (GSC Memoir 248 page 70).

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/28

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 002**

NATIONAL MINERAL INVENTORY: 104K12 Zn2

NAME(S): **TULSEQUAH CHIEF**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104K12E 104K13E  
BC MAP:

Underground

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 44 09 N  
LONGITUDE: 133 36 04 W  
ELEVATION: 100 Metres

NORTHING: 6511483  
EASTING: 580980

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of the Tulsequah River about 12.9 kilometres north of the confluence of the Tulsequah and Taku rivers, about 95 kilometres south of Atlin (Exploration in British Columbia 1987). Production includes Big Bull (104K 001).

COMMODITIES: Zinc                      Copper                      Lead                      Silver                      Gold  
                    Cadmium

**MINERALS**

SIGNIFICANT: Chalcopyrite              Sphalerite              Galena              Pyrite  
ASSOCIATED: Quartz              Carbonate              Barite              Gypsum  
ALTERATION: Pyrite              Sericite              Silica  
ALTERATION TYPE: Silicific'n              Pyrite              Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Massive                      Disseminated  
CLASSIFICATION: Volcanogenic              Syngenetic              Exhalative  
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Pennsylvan.-Permian  
Upper Paleozoic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Stikine Assemblage

ISOTOPIC AGE: Early Mississippian

DATING METHOD: Uranium/Lead

MATERIAL DATED: Rhyodacite

Tertiary

Unnamed/Unknown Informal

LITHOLOGY: Dacite  
Dacitic Tuff  
Andesite  
Andesitic Flow  
Dacite Flow  
Rhyolite

HOSTROCK COMMENTS: Mineralization occurs in pre-Permian submarine rocks on the west limb of a north plunging anticline.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

Plutonic Rocks

RELATIONSHIP: Post-mineralization

GRADE: Zeolite  
Greenschist

COMMENTS: In linear belt between Stuhini Group (E) and Boundary Ranges Suite(W).

**INVENTORY**

ORE ZONE: TULSEQUAH CHIEF

REPORT ON: Y

CATEGORY: Measured

YEAR: 1996

QUANTITY: 7910000 Tonnes

COMMODITY

GRADE

Silver	100.9100	Grams per tonne
Gold	2.4200	Grams per tonne
Copper	1.2700	Per cent
Lead	1.1800	Per cent
Zinc	6.3500	Per cent

COMMENTS: An initial mineable reserve which is part of the overall geological reserve of 8.9 million tonnes.

REFERENCE: Information Circular 1998-1, pages 17, 20.

**CAPSULE GEOLOGY**

The Tulsequah Chief deposit is located on the east side of the Tulsequah River about 10 kilometres north of its junction with the

## CAPSULE GEOLOGY

Taku River.

The Tulsequah Chief was discovered in 1925 but saw limited development during the 1930's. Cominco acquired the mine in 1946. The mine produced base metals from 1951 to 1957 and was mined from the 579 and 121 metre elevations. Since the ore from the Tulsequah Chief mine and the nearby Big Bull mine (104K 008) were combined and processed together at the Polaris Taku mine (104K 003) facilities, it is not possible to give accurate values for the amount of commodities recovered from just Tulsequah Chief ore. Recorded production figures give only the total amount of recovered commodities from the combined ore of the two mines. It is known, however, how much ore was actually mined in a given year and from which mine. A breakdown of these tonnages is given in the Production Report comment field. Over the life of the two mines a total of 580,256 tonnes was mined from Tulsequah Chief and 353,314 tonnes from Big Bull at a combined average grade of 3.77 grams per tonne gold, 126.5 grams per tonne silver, 1.59 per cent copper, 1.54 per cent lead and 7.0 per cent zinc.

The deposit is within volcanic rocks which have been mapped by Nelson and Payne (1984) as Upper Paleozoic Stikine. This date was recently reaffirmed by a uranium/lead date of Lower Mississippian on host rhyodacite (Mortensen, Geol. Surv. of Canada, unpublished data). The hanging wall is composed of dacitic tuffs which contain varying amounts of quartz fragments. Underlying this unit are more massive, often aphanitic dacitic to andesitic flows. These rocks contain much less visible quartz and feldspar. In the area of mineralization, alteration consists primarily of sericite-pyrite and locally, anastomosing zones of silica veins and pervasive silicification. The mineralization sits very high in the sequence of altered volcanic rocks. Paleozoic limestones hosting Rugosa fossils have been mapped north of the mine. It is now thought that the Pennsylvanian-Permian fossilized limestone-chert-clastic sequence lies stratigraphically above the deposit which occurs in a northeasterly striking, west dipping sequence of pre-Permian rocks located on the west limb of a north plunging anticline (Casselman, 1989). All rocks are intruded by Paleozoic diorite and dacite dykes and Tertiary rhyolite plugs, sills and dykes.

The Tulsequah Chief occurrence is a classic Kuroko-type stratiform, volcanogenic massive sulphide deposit. The deposit is located near the base of large lenticular mass of dacite-rhyolite pyroclastics at the transition with an underlying thick sequence of andesitic pyroclastics and flows. The deposit is broken into four blocks by north striking, steeply dipping faults, some of which may have been part of synvolcanic growth faults.

The orebody consists of lenses of massive sulphides which attain a maximum thickness of 10 metres and a maximum length of 170 metres. The lenses pinch out at a depth of 230 metres. The main body strikes northeast and dips steeply west, and is often highly sheared. Seven separate conformable lenses have been identified within an open syncline which strikes northeast. Mineralization consists of massive lenses of pyrite and chalcopyrite and semi-massive sphalerite, galena and pyrite throughout silicified, quartz-carbonate-barite-gypsum gangue. Deformation of these lenses is intense, with at least 3 phases of deformation having effected the area.

In 1987, rehabilitation of the 5400 level by Redfern Resources was underway with the focus on extending the existing reserves along strike and to depth. A new discovery, to the northeast of the main workings, returned several well-mineralized drill intercepts. In 1987, a 6.25 metre intercept from one drill hole assayed 6.5 grams per tonne gold, 222.85 grams per tonne silver, 1.4 per cent copper, 2.8 per cent lead and 8.0 per cent zinc (Northern Miner, July 4, 1988, page 20). In 1988, drilling confirms that mineralization called the E lens continues at least 213 metres down plunge from the lowest mine level. Also, the newly discovered G lens has been intersected in 6 holes over a strike length of 137 metres and a dip length over 137 metres. It appears to be open in all directions (George Cross News Letter October 3, 1988).

Mineralization at present is contained in two lenses, the lower AB lens and the stratigraphically higher H lens. True thicknesses range from 1.5 to 7.6 metres in the AB lens and from 1.5 to 38.4 metres in the H lens. Drilling since 1987 has indicated a preliminary reserve of 7,801,060 tonnes grading 1.6 per cent copper, 1.2 per cent lead, 6.5 per cent zinc, 2.74 grams per tonne gold and 109.69 grams per tonne silver (Northern Miner - October 12, 1992, page 3). About 85 per cent of the reserve is contained in the H lens (Property File - Northwest Mining Conference (Spokane, Washington), Handout, 1991)

The Tulsequah Chief drill indicated geological reserve in all categories totals 8,930,000 tonnes grading 1.31 per cent copper, 1.24

## CAPSULE GEOLOGY

per cent lead, 6.62 per cent zinc, 2.53 grams per tonne gold and 107.56 grams per tonne silver (George Cross News Letter No.105 (June 1), 1995).

In July 1995 Redfern Resources Ltd. reported positive results from a 1.5 million dollar feasibility study conducted by Rescan Engineering Ltd. with contributions by a team of independent consulting engineers. The study is based on an initial mineable reserve of 7.2 million tonnes grading 1.24 per cent copper, 1.18 per cent lead, 6.32 per cent zinc, 2.41 grams per tonne gold and 99.33 grams per tonne silver, which is part of the overall geological reserve of 8.9 million tonnes. At a production rate ranging from 800,000 to 900,000 tonnes per year, the mine life is estimated to be about 8.3 years. Economic analysis is based on the year-round utilization of a 160-kilometre access road to be built from the minesite northwards to the existing road at Atlin, British Columbia. An alternative access option contemplates the seasonal use of barges on the Taku River, from its confluence with the Tulsequah River to its outlet at the ocean near Juneau, Alaska. Revisions to the feasibility study are anticipated, but Redfern hopes to file an application for a Mine Development Certificate before the end of the year (Information Circular 1996-1, page 16).

Redfern Resources Ltd. submitted a revised Project Report for the Tulsequah Chief to the Environmental Assessment office on July 8, 1997. Reserves estimated by the company in 1996 are 7.91 million tonnes grading 6.35 per cent zinc, 1.27 per cent copper, 1.18 per cent lead, 100.91 grams per tonne silver and 2.42 grams per tonne gold, and open to depth and along strike (Information Circular 1998-1, page 20). At full production, milling 900,000 tonnes per year, the mine is forecast to produce 53,200 tonnes of zinc, 10,090 tonnes of copper, 9350 tonnes of lead, 75,270 kilograms of silver and 1742 kilograms of gold annually over a minimum mine life of 9 years. The mine will employ 260 people; the capital cost is estimated at \$155 million. Redfern has established a maximum public awareness program, including close contacts with the Taku River Tlingit First Nation Band. The company received approval for the mine in March 1998. Production is planned in early 2000.

Redfern received a second project approval certificate in December 2002.

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DATE CODED: 1985/07/24  
DATE REVISED: 1989/01/09

CODED BY: GSB  
REVISED BY: LLD

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 003**

NATIONAL MINERAL INVENTORY: 104K12 Au1

NAME(S): **NEW POLARIS**, POLARIS-TAKU, WHITEWATER,  
SILVER KING, Y VEIN, AB VEIN,  
C VEIN, NEW C VEIN, SERPENTINE,  
D

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

Underground

MINING DIVISION: Atlin

LATITUDE: 58 42 02 N  
LONGITUDE: 133 37 33 W  
ELEVATION: 0170 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6507525  
EASTING: 579630

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southwest side of Whitewater Creek, which enters the  
Tulsequah River about 9.7 kilometres above its junction with the Taku  
River.

COMMODITIES: Gold Silver Copper Antimony

**MINERALS**

SIGNIFICANT: Arsenopyrite Stibnite Pyrite

ASSOCIATED: Quartz Carbonate

ALTERATION: Carbonate Chlorite Sericite Ankerite Fuchsite

ALTERATION TYPE: Chloritic Carbonate Silicific'n Sericitic Albitic

MINERALIZATION AGE: Upper Cretaceous  
ISOTOPIC AGE: 63.44 Ma

DATING METHOD: Argon/Argon MATERIAL DATED: Sericite/Fuchsite

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I01 Au-quartz veins

DIMENSION: Metres STRIKE/DIP: 315/70W

COMMENTS: Veins and shears located near the base of the Stuhini Group volcanics. TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Stikine Assemblage
Permian			Unnamed/Unknown Informal

LITHOLOGY: Andesitic Pyroclastic  
Greenstone  
Serpentinite  
Amphibolite  
Basalt  
Diorite  
Gabbro  
Feldspar Porphyry Andesite  
Limestone  
Felsite Dike

HOSTROCK COMMENTS: Small dioritic and gabbroic stocks intrude the rocks exposed in the  
mine workings.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: NEW POLARIS

REPORT ON: Y

CATEGORY: Combined  
QUANTITY: 3270000 Tonnes

YEAR: 1997

COMMODITY: Gold  
GRADE: 13.7000 Grams per tonne

COMMENTS: Possible and probable resources.  
REFERENCE: Information Circular 1999-1, page 9.

## INVENTORY

ORE ZONE: POLARIS-TAKU REPORT ON: N  
CATEGORY: Indicated YEAR: 1995  
QUANTITY: 2540000 Tonnes  
COMMODITY: \_\_\_\_\_ GRADE \_\_\_\_\_  
Gold 14.1000 Grams per tonne  
COMMENTS: Drill indicated geological reserves estimated by an independent study  
in early 1995.  
REFERENCE: Information Circular 1996-1, page 17.

ORE ZONE: NORTH REPORT ON: N  
CATEGORY: Inferred YEAR: 1996  
QUANTITY: 204000 Tonnes  
COMMODITY: \_\_\_\_\_ GRADE \_\_\_\_\_  
Gold 6.5100 Grams per tonne  
REFERENCE: Information Circular 1996-1.

## CAPSULE GEOLOGY

The Polaris-Taku deposit lies in a wedge-shaped zone of Upper Triassic Stuhini Group volcanics which trend southeast and have their apex to the northwest. The wedge is thought to be a syncline plunging gently to the southeast. It is composed mainly of thin-bedded tuffs and more massive andesitic to rhyolitic pyroclastics. The volcanics are fault-bounded to the west by a band of Permian to Triassic limestone and Triassic or older metamorphosed volcanics and volcanoclastics.

Mineralization consists mainly of veins or fissure infilling within shear zones located near the base of the Stuhini Group volcanic assemblage. The volcanics are comprised mainly of andesitic pyroclastics which are cut by numerous small dioritic to gabbroic stocks, tentatively dated as Permian, all of which are crosscut by elongated felsite dykes. The volcanics are altered to greenstones and have undergone intense chlorite and carbonate alteration. Near or within the shear zones, the wallrock is almost completely silicified and partially sericitized.

There are two main mineralized shear structures. Most of the early production came from the AB zone which strikes northwest and dips about 70 degrees southwest for a strike length in excess of 750 metres and a depth of 250 metres. The Y zone was developed later, and strikes to the north, dipping 45 degrees east. A longitudinal section showing the old mining stopes and pierce points of previous drill holes in four subparallel veins comprising the Y vein system, indicates an ore shoot more than 426 metres long and over 213 metres deep. Drill indicated reserves of this system are approximately 59,868 tonnes grading 23.99 grams per tonne gold (George Cross News Letter #161, 1991).

The C vein has been drill tested along a 365 metre length and to a depth of 304 metres (George Cross News Letter No.15, 1992).

The AB, C and Y veins are open-ended systems, considering drilling has located neither the margins nor the bottoms of the main ore shoots (George Cross News Letter No.15, 1992).

The ore in all the shears is similar, and consists of white quartz and carbonate veins with lenses and fragments of wallrock which are partly replaced by pyrite and arsenopyrite. The quartz-carbonate veins range up to 6.0 metres in width and are irregularly mineralized with lenses and fine disseminations of pyrite, arsenopyrite and minor stibnite. The stibnite generally occurs as coarse-bladed crystals. The gold is associated with the arsenopyrite and to some extent with the pyrite. No free gold has been reported.

Gold mineralization was first discovered at Polaris-Taku in 1929. The Polaris-Taku mine was in operation from 1937 to 1951 with the exception of the war years, 1942 to 1946, when production was suspended. Production totalled 683,337 tonnes yielding 365,772 grams of silver, 7,203,579 grams of gold and 79,958 kilograms of copper.

Underground rehabilitation of the old mine workings is in progress by Canarc Resources Corporation.

Consultants Watts, Griffith and McQuat recently calculated a preliminary resource of about 680,325 tonnes grading 15.76 grams per tonne gold for the C Vein system and 544,260 tonnes grading 16.11 grams per tonne for the Y Vein system based on a 20 per cent dilution factor. With additional reserves remaining in the old mining area estimated at 221,332 tonnes grading 11.31 grams per tonne gold, the total diluted preliminary resource stands at about 1,451,360 tonnes grading 15.08 grams per tonne gold (Northern Miner - September 7, 1992).

Montgomery Consultants were commissioned to update their

**CAPSULE GEOLOGY**

previous independent study of drill indicated, probable and possible, geological gold resources in the AB, C and Y vein systems. Montgomery's new resource estimates are as follows:

VEIN SYSTEM	CLASS.	CUTOFF GOLD GRADE (grams per tonne)	TONNAGE (tonnes)	GRADE GOLD (grams per tonne)
Y Vein	Probable	8.57	190,491	15.80
AB Vein	Probable	8.57	70,753	13.81
C Vein	Probable	8.57	40,819	13.36
New C Vein	Probable	8.57	47,169	14.53
Total	Probable	8.57	349,232	14.94
Y Vein	Possible	8.57	895,307	16.07
AB Vein	Possible	8.57	460,806	13.26
C Vein	Possible	8.57	360,118	13.64
New C Vein	Possible	8.57	521,582	13.47
Total	Possible	8.57	2,237,813	14.74

Grand Total - Probable/Possible reserves - 2,587,045 tonnes grading 14.56 grams per tonne gold (George Cross News Letter No. 207 (October 27), 1992).

All three vein systems at Polaris-Taku remain open along strike and at depth (George Cross News Letter No. 207 (October 27), 1992).

Drill indicated geological reserves, estimated by an independent study in early 1995, total 2.54 million tonnes grading 14.1 grams per tonne gold (Information Circular 1996-1).

Drilling was also conducted on the North zone where the target is one or more gold-bearing quartz-carbonate vein systems within a favourable alteration zone up to 30 metres thick and over 670 metres long. A total of 27 drillholes have delineated the North zone over a strike length of 670 metres, with an additional 240 metres of strike length indicated by soil geochemical anomalies. The average width of the zone is about 7 metres grading 5.14 grams per tonne gold (Information Circular 1995-9, page 17). A resource is estimated at 204,000 tonnes grading 6.51 grams per tonne gold (Information Circular 1996-1).

In late 1996, Golden Angus Mines Ltd., a subsidiary of Canarc Resources Corporation, began a multi-million dollar underground exploration and development program on the Polaris-Taku. Drill-indicated geological reserves, contained in the AB, Y and C vein systems, were estimated in 1996 at 3.27 million tonnes grading 13.7 grams per tonne gold, at a cut-off grade of 6.86 grams per tonne gold. Annual production is forecast at 2800 kilograms of gold over a minimum 8-year mine life. Initial underground work will include rehabilitation, sampling and drilling of the upper workings on the AB and Y vein systems between the Canyon adit and the surface to test for potential open-pit resources, and testing the bottom of the mineralization below the 750 level on the C veins and possible depth extension of the AB vein system. The company plans 200 drill holes in its 1996-1997 program designed to increase the contained mineable resource sufficient to complete a bankable feasibility study for production in the spring of 1998 (Information Circular 1997-1, page 21).

During 1997, Canarc Resource Corporation completed a multi-million underground exploration and development program on the New Polaris project. They completed approximately 12,190 metres of diamond-drilling out of a planned 30,480 metres. The best intersection was a 34.2-metre interval assaying 14.4 grams per tonne gold in the C zone, below the 600 level workings. Drilling on the AJ level intersected ore grades in the AB and Y zones that were either neglected or not previously known. Reserves estimated by Canarc in 1996 are 3.27 million tonnes grading 13.7 grams per tonne gold at a cut-off grade of 6.86 grams per tonne gold (Information Circular 1998-1, page 22). Two new zones, Serpentine and D, were found near the north end of the old workings.

In 1997, the property was renamed the New Polaris project. Recent drilling (6950 metres in 47 holes) has increased probable and possible resources to 3.27 million tonnes grading 13.7 grams per tonne gold (Information Circular 1999-1, page 9).

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#162(Aug.24),#192(Oct.6),#213(Nov.7),#232(Dec.5), 1994; #48(Mar.9),  
#58(Mar.23),#60(Mar.27),#141(Jul.24),#153(Aug.10),#197(Oct.13),  
#201(Oct.19),#238(Dec.12), 1995; #17(Jan.24),\*#53(Mar.14), 1996;  
#42(Feb.28),\*#99(May 23),#133(Jul.11), 1997  
N MINER \*Dec.19, 1988; Mar.6, Jul.17, 1989; Feb.5, Apr.9, 1990;  
Jul.15,29, Sept.16, 1991; Mar.30, Jul.20, Aug.10, \*Sept.7,  
Nov.9, 1992; Mar.1, Aug.20, Dec.20, 1993; Oct. 17, Nov.21,  
Dec.26, 1994; Jul.31, Dec.25, 1995; Feb.5, Mar.18, 1996; Nov.11,  
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W MINER June 1975, p. 54  
WWW <http://www.mcomm.com/canarc/bc.htm>; <http://www.infomine.com/>

DATE CODED: 1985/07/24  
DATE REVISED: 1997/04/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 004**

NATIONAL MINERAL INVENTORY: 104K12 Sb1

NAME(S): **SILVER QUEEN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 41 03 N  
LONGITUDE: 133 38 53 W  
ELEVATION: 400 Metres

NORTHING: 6505675  
EASTING: 578379

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southern flank of Whitewater Mountain on the north side of Wilms Creek about 2.0 kilometres southwest of the Polaris-Taku Mine (104K 003).

COMMODITIES: Antimony                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Stibnite                      Chalcopyrite                      Pyrite  
ALTERATION: Pyrite  
ALTERATION TYPE: Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                                      Massive  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Unnamed/Unknown Informal

LITHOLOGY: Meta Volcanic  
Gneiss  
Quartz Biotite Schist  
Amphibolite  
Limestone

HOSTROCK COMMENTS: Undivided metamorphic assemblage may be correlative with a Permo-Pennsylvanian chert-limestone succession (GSC Memoir 362, page 14).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges  
Nisling  
RELATIONSHIP: Syn-mineralization  
Post-mineralization  
GRADE:

**CAPSULE GEOLOGY**

The area is underlain by regionally metamorphosed Paleozoic sedimentary and volcanic rocks which consist largely of gneisses with augin-shaped porphyroblasts of feldspar and large amounts of quartz occurring as veins, lenses, and irregular patches throughout the gneiss. As well, coarse-grained amphibolite and garnet-bearing quartz-biotite schists occur with several lenses of coarsly crystalline limestone, locally with tremolite. South of the Polaris-Taku Mine (104K 003) the phyllitic sediments have a very high silica content and the presence of limestone suggests a correlation with the Permo-Pennsylvanian chert-limestone succession.

The Silver Queen occurrence appears to be on strike with a mineralized shear and altered zone which occurs on the Polaris-Taku Mine property (104K 003). The main showing is described as an altered zone about 61 metres wide in metavolcanics that has been heavily pyritized. In places, the pyrite is massive and is associated with some stibnite and chalcopyrite. No arsenopyrite or significant gold values were reported.

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GSC SUM RPT 1932A, pp. 15-28, Fig. 3  
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GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30  
N MINER Dec. 25, 1980; Mar. 19, 1981

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/02

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 004**

MINFILE NUMBER: **104K 005**

NATIONAL MINERAL INVENTORY: 104K12 Au2

NAME(S): **SILVER BIRD**, SOUTH SLOPE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 40 48 N  
LONGITUDE: 133 40 57 W  
ELEVATION: 370 Metres

NORTHING: 6505171  
EASTING: 576391

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southern flank of Whitewater Mountain on the north side of Wilms Creek about 4.0 kilometres southwest of the Polaris-Taku Mines (104K 003).

COMMODITIES: Gold Silver Antimony

**MINERALS**

SIGNIFICANT: Arsenopyrite Stibnite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia Disseminated Massive  
CLASSIFICATION: Epigenetic  
DIMENSION: STRIKE/DIP: 360/45E TREND/PLUNGE:  
COMMENTS: Mineralized shear zone along Sulphide Creek.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic Unnamed/Unknown Informal

LITHOLOGY: Sericite Schist  
Quartz Biotite Schist  
Felsite Dike  
Gneiss  
Quartz Breccia

HOSTROCK COMMENTS: Undivided metamorphic assemblage may be correlated with a Permo-Pennsylvanian chert-limestone succession (GSC Memoir 362, page 14).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine Nisling  
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE:  
Post-mineralization

**INVENTORY**

ORE ZONE: SHEAR REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1947  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Gold 7.5000 Grams per tonne  
COMMENTS: Hand picked sample from mineralized shear zone on Sulphide Creek; also returned traces of silver.  
REFERENCE: Minister of Mines Annual Report 1947, page A68.

**CAPSULE GEOLOGY**

The area is underlain by regionally metamorphosed Paleozoic sedimentary and volcanic rocks which consist largely of gneisses with augin-shaped porphyroblasts of feldspar and large amounts of quartz occurring as veins, lenses, and irregular patches throughout the gneiss. As well coarse-grained amphibolite and garnet-bearing quartz-biotite schists occur with several lenses of coarsely crystalline limestone, locally with tremolite. South of the Polaris-Taku Mine (104K 003) the phyllitic sediments have a very high silica content and the presence of limestone suggests a correlation with the Permo-Pennsylvanian chert-limestone succession.

There are two main showings on the Silver Bird. These occur in sheared and altered volcanics over widths from 61 to 305 metres. The first showing occurs along a small creek, known as Sulphide Creek, within a shear zone that cuts sericitic schist. The shear strikes

## CAPSULE GEOLOGY

080 degrees and dips steeply southward. Mineralization within the shear consists of pyrite and arsenopyrite across a width of about 20 centimetres and a length of about 46 metres. In 1947, a hand picked sample assayed 7.5 grams per tonne gold and trace silver (Minister of Mines Annual Report 1947).

There has been considerable fracturing along this shear and in places it is filled by a quartz-cemented breccia which is mineralized with arsenopyrite, together with some pyrite and stibnite. The arsenopyrite occurs disseminated and as crystals up to 0.6 centimetres in length. The stibnite is described as fairly massive and irregularly distributed.

The second showing, occurs in another shear zone on Middle Creek, about 1.6 kilometres north-northwest of the first shear. The host rock is a quartz-biotite schist, striking northwest and dipping southwest which is crosscut by a shear zone located about 3 metres west of a 0.6 metre wide felsite dyke. Both the shear and the dyke strike northwards.

The shear zone, which ranges from 0.9 to 1.5 metres in width, consists of a very dark, partly leached silicified zone containing pyrite and arsenopyrite. At the southern end of its exposed length, the shear dips moderately westward. In 1947, a 121 centimetre chip sample taken across the shear assayed 5.14 grams per tonne gold and 6.86 grams per tonne silver. At the northern end of the shear, the mineralized zone dips gently westward and in 1947, a 106 centimetre sample assayed 0.34 grams per tonne gold and no silver (ibid.).

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GSC SUM RPT 1932A, pp. 16,25-27, Fig 3  
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GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30  
N MINER Dec. 25, 1980, Mar. 19, 1981

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/02

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 006**

NATIONAL MINERAL INVENTORY: 104K12 Zn3

NAME(S): **POTLATCH**, SPARLING (L.6166), VEGA,  
 SILVER TALON

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K12E  
 BC MAP:  
 LATITUDE: 58 40 28 N  
 LONGITUDE: 133 35 17 W  
 ELEVATION: 150 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS: Located on the east side of the Tulsequah River about 5.6 kilometres above its junction with the Taku River.

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6504664  
 EASTING: 581880

COMMODITIES: Gold Silver Lead Zinc Copper

**MINERALS**

SIGNIFICANT:	Galena	Sphalerite	Pyrite	Chalcopyrite		
ASSOCIATED:	Quartz					
ALTERATION:	Sericite	Pyrite	Carbonate	Quartz	Clay	
ALTERATION TYPE:	Silicific'n	Sericitic		Pyrite	Carbonate	Argillic
MINERALIZATION AGE:	Unknown					

**DEPOSIT**

CHARACTER: Vein  
 CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Andesite  
 Hornblende Andesite Porphyry  
 Hornblende Andesite  
 Volcanic Flow

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN REPORT ON: N  
 CATEGORY: Assay/analysis YEAR: 1983  
 SAMPLE TYPE: Chip  

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	98.7000	Grams per tonne
Gold	0.5490	Grams per tonne
Lead	1.7900	Per cent
Zinc	0.9700	Per cent

 COMMENTS: A 0.4 metre sample from a clean, mineralized vein.  
 REFERENCE: Assessment Report 12707.

**CAPSULE GEOLOGY**

The area is underlain by the Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, volcanic breccia and agglomerate with lapilli tuff, volcanic sandstone, greywacke, and siltstone.  
 The Sparling occurrence is underlain by Stuhini volcanics which have undergone sericite-mariposite-silica-carbonate and retrograde clay alteration. The main rock type is described as pyroxene porphyry andesite flows which exhibits the above alteration mineral assemblage. Trenching over an area of 420 by 200 metres has exposed galena and sphalerite mineralization with minor associated chalcopyrite and pyrite along north-northwest trending stringers and veins ranging between 0.3 to 0.4 metres in width. This mineralization occurs within a knob of andesitic volcanics located to the west of a well-marked northwest striking draw which follows the surface trace of a two to three metre wide shear zone parallel to the Tulsequah Valley. The shear zone is exposed at surface over a strike length of approximately 200 metres.  
 In 1983, a 0.3 metre sample from the bottom of a 6.0 metre shaft

## CAPSULE GEOLOGY

assayed 0.219 grams per tonne gold, 274.3 grams per tonne silver, 0.78 per cent lead, and 0.63 per cent zinc. Another 0.4 metre sample from a mineralized vein assayed 0.549 grams per tonne gold, 98.7 grams per tonne silver, 1.79 per cent lead, and 0.97 per cent zinc (Assessment Report 12707).

In 1957, three holes were drilled to test a wide zone of alteration along the northwest trending draw. Mineralization along a shear found directly below the draw assayed 0.34 grams per tonne gold, 24 grams per tonne silver, 0.1 per cent copper, and 0.2 per cent lead over 1.5 metres and 0.68 grams per tonne gold, 27.4 grams per tonne silver, 0.1 per cent copper, and 0.1 per cent lead over 1.0 metres.

The drilling was localized at the intersection of northwest and north striking shears. This intersection showed strong sericite-quartz-mariposite alteration assemblages. The sheared and sericitic portions are more pyritic closer to the main draw. The host rock for the mineralization is andesite which shows local development of coarse hornblende.

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EMPR AR 1929-142; 1935-B29; 1964-8; 1968-23  
EMPR GEM 1971-52; 1972-554; 1973-514  
EMPR ASS RPT 841, \*12707  
EMPR EXPL \*1983-548  
GSC MEM \*248, p. 63; 362  
GSC MAP 6-1960; 931A; \*1262A  
GSC P 45-30  
EMPR PF (1964 Claim Map)  
EMR MP CORPFILE (New Taku Mines Limited)  
GCNL #123, June 26, 1987

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/30

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 007**

NATIONAL MINERAL INVENTORY: 104K12 Ag1

NAME(S): **BANKER (L 6169)**, JOKER, JANET,  
POTLATCH, VEGA, SPARLING

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:  
LATITUDE: 58 40 09 N  
LONGITUDE: 133 34 40 W  
ELEVATION: 160 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Located along the east side of the Tulsequah River about 4.0 kilometres above its junction with the Taku River.

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6504089  
EASTING: 582488

COMMODITIES: Silver Gold Lead Zinc Copper

**MINERALS**

SIGNIFICANT: Sphalerite Galena Tetrahedrite Arsenopyrite Chalcopyrite  
Pyrite Jamesonite Magnetite  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Pyrite Silica Magnetite Mariposite  
ALTERATION TYPE: Silicific'n Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Unnamed/Unknown Group	Undefined Formation	
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Limestone  
Siliceous Limestone  
Schist  
Volcanic Flow

HOSTROCK COMMENTS: Sequence of pre-Permian and Permian limestones and schist is unconformably overlain by the Upper Triassic Stuhini Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Chip		
COMMODITY	GRADE		
Silver	2894.3000	Grams per tonne	
Gold	2.8000	Grams per tonne	
Lead	3.5100	Per cent	
Zinc	2.4900	Per cent	

COMMENTS: A 1.25 metre vertical chip sample from the southeast wall of Trench C.

REFERENCE: Assessment Report 12707.

**CAPSULE GEOLOGY**

The area is underlain by a thick sequence of pre-Permian and Permian limestone and schist which is unconformably overlain by the Upper Triassic Stuhini Group volcanics. The volcanics are comprised mainly of andesitic to basaltic flows, tuff, and breccia with minor associated volcanoclastics.

The Banker occurrence is underlain by silicified, thin bedded, grey and white limestone. The bedding trends between 300 to 330 degrees and dips from 80 degrees southwest to 60 degrees northeast. The limestone is considered by most previous workers to be of Permian Age. Mariposite-sulphide bearing veinlets and dykes trending sub-parallel to the bedding were mapped in the trenches, but it is uncertain whether they show crosscutting relationships to bedding or not.

It is suggested that the mineralization at the Banker was

## CAPSULE GEOLOGY

confined to the crest of an anticline plunging gently to the south-east. The ore minerals are mainly galena and sphalerite with minor tetrahedrite and chalcopyrite, all along veinlets and stringers subparallel to bedding. Mineralization occurs in irregular lenses. Minor jamesonite and magnetite were also reported. Carbonates and quartz form the main gangue minerals with the richer parts of the deposit higher in quartz. Abundant pyrite and lesser amounts of arsenopyrite show crosscutting relationships to the above mineralization and locally develop hairline stringer stockworks of variable density within the trenches.

In 1964, a 0.3 metre sample from trench number 1 assayed 13.03 grams per tonne gold, greater than 29,000 grams per tonne silver, 10.45 per cent lead, 15.43 per cent zinc, and 1.2 per cent copper. In 1971, another 1.2 metre sample from trench number 1 assayed 5.49 grams per tonne gold, 9462 grams per tonne silver, 6.5 per cent lead, 15.2 per cent zinc and 0.5 per cent copper. Sampling in 1983 returned the highest silver assay of 2983 grams per tonne silver over 0.25 metres. A 0.35 metre chip sample from the northwest wall of Trench C in 1983 assayed 0.25 grams per tonne gold, 2521 grams per tonne silver, 4.03 per cent lead, and 2.12 per cent zinc. A vertical chip sample, 1.25 metres in length, from the southeast wall of Trench C assayed 2.8 grams per tonne gold, 2894 grams per tonne silver, 3.51 per cent lead, and 2.49 per cent zinc (Assessment Report 12707).

In 1935, a 5 tonne bulk sample taken from the fissure vein network in the limestone contained 62 grams gold, 31,570 grams silver, and 544 kilograms lead (Mines Ministers Annual Report 1935).

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EMPR GEM 1971-52; 1972-554; 1973-514  
EMPR EXPL \*1983-548  
EMPR ASS RPT 841, \*12707, \*16570, 24188  
EMPR BULL 1  
EMPR BC METAL MM00266  
GSC MEM \*248, pp. 63,70; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30  
GSC SUM RPT 1930A, pp. 36,40  
EMR MP CORPFILE (New Taku Mines Ltd.; Transcontinental Resources Limited)  
EMPR PF (1964 Claim Map; 1964 Banker Showing Drill Hole Plan and 1964 Banker Showing DDH Sections)  
GCNL Mar. 3, Oct. 29, 1971; #123, June 26, 1987

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/03

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 008**

NATIONAL MINERAL INVENTORY: 104K12 Zn1

NAME(S): **BIG BULL**, MANVILLE

STATUS: Past Producer  
 REGIONS: British Columbia  
 NTS MAP: 104K12E  
 BC MAP:

Underground

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 40 07 N  
 LONGITUDE: 133 32 55 W  
 ELEVATION: 150 Metres

NORTHING: 6504063  
 EASTING: 584181

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 5 kilometres north of the junction of the Tulsequah and Taku rivers. See Tulsequah Chief (104K 002) for production details.

COMMODITIES: Copper                      Zinc                      Lead                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Sphalerite              Chalcopyrite              Galena              Pyrite              Magnetite

ASSOCIATED: Quartz              Calcite              Barite

ALTERATION: Chlorite              Sericite              Mica              Carbonate              Pyrite

COMMENTS: Possibly minor talc in shear.

ALTERATION TYPE: Chloritic                      Sericitic                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Massive                      Disseminated

CLASSIFICATION: Volcanogenic              Syngenetic              Exhalative

TYPE: G06      Noranda/Kuroko massive sulphide Cu-Pb-Zn

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

**STRATIGRAPHIC AGE**

Upper Triassic  
 Cretaceous-Tertiary

**GROUP**

Stuhini

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Andesite  
 Andesitic Volcanic  
 Greenstone  
 Phyllite  
 Biotite Hornblende Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Boundary Ranges

GRADE:

**INVENTORY**

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1929

SAMPLE TYPE: Channel

COMMODITY

COMMODITY	GRADE	
Silver	233.1000	Grams per tonne
Gold	2.0500	Grams per tonne
Copper	2.8000	Per cent
Lead	0.8000	Per cent
Zinc	20.2000	Per cent

COMMENTS: An 8.2-metre channel sample across surface showings.

REFERENCE: Minister of Mines Annual Report 1929, pages 120, 139-142.

**CAPSULE GEOLOGY**

The area is underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, volcanic breccia and agglomerate with lapilli tuff, volcanic sandstone, greywacke and siltstone. The volcanics are intruded by a pink, biotite-hornblende quartz monzonite pluton, tentatively dated as Late Cretaceous to Early Tertiary, which is thought to be genetically related to the Eocene Sloko Group volcanics.

On the property, the Stuhini volcanic rocks are altered to chlorite-rich greenstones, which are generally massive and host lenses and disseminations of magnetite. Alteration of the magnetite to hematite has produced much jasper-like rock. The principal rock exposed in the mine workings is an andesitic volcanic. Immediately west of the mine is a fine-grained, southwest dipping phyllite which



## CAPSULE GEOLOGY

is cut by chloritic quartz veins which are hematite stained. North of the mine, the predominant rock type is andesite, which is heavily altered to chlorite and sericite and hosts very fine calcite stringers.

The volcanic rocks are cut by a shear zone that strikes northwest and dips from vertical to 45 degrees southwest. Within the shear zone, but much narrower than it, is an altered zone which ranges from very narrow up to 60 to 90 metres in width. The intensely altered rock is composed of quartz, light colored mica, pyrite and possibly some talc.

The principal orebody was about 275 metres long with a maximum width of about 8 metres and extended 90 metres below the surface. Mineralization consisted of a conformable lens of pyrite, sphalerite, chalcopyrite and galena in a gangue of barite, quartz, some calcite and altered country rock.

Channel samples taken from the surface showings in 1929 assayed 2.05 grams per tonne gold, 233.1 grams per tonne silver, 2.8 per cent copper, 20.2 per cent zinc and 0.8 per cent lead over 8.2 metres, and 6.9 grams per tonne gold, 257.1 grams per tonne silver, 2.0 per cent copper, 14.4 per cent zinc and 2.8 per cent lead over 1.5 metres (Minister of Mines Annual Report 1929).

From 1951 to 1956, inclusive, the combined production from the Tulsequah Chief (104K 002) and the Big Bull properties totalled 804,262 tonnes of ore. About 353,314 tonnes of ore was apparently mined from the Big Bull deposit and trucked 8 kilometres to the Polaris-Taku mine (104K 003) where it was mixed and processed with ore from the Tulsequah Chief mine (104K 002). See Tulsequah Chief for details on Big Bull production.

The Big Bull deposit is a polymetallic volcanogenic massive sulphide body hosted by a variably altered sequence of mafic and felsic volcanic flows, sills and volcanoclastic rocks, which together form part of the upper Paleozoic Stikine Assemblage. The stratigraphy at Big Bull includes a mafic footwall that is overlain by an altered felsic package which is in turn overlain by a second package of mafic rocks. The altered felsic package is the host to the massive sulphide mineralization. This overall sequence of lithologies is similar to the stratigraphy at the Tulsequah Chief deposit (104K 002), which is hosted by this same suite of felsic-mafic volcanic rocks.

Drilling at the Big Bull property in 1994 successfully demonstrated that massive sulphide mineralization remains open outside the limits of the historic workings and the 1993 drilling. Four of the 15 holes drilled in 1994 intersected ore grade material (greater than \$45 NSR) over mineable widths (greater than 3 metres), and three other holes intersected ore grade over widths between 1 and 3 metres (Assessment Report 24188).

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/03

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 009**

NATIONAL MINERAL INVENTORY: 104K11 Ag1

NAME(S): **ERICKSEN-ASHBY**, APEX-BADGER

STATUS: Developed Prospect

MINING DIVISION: Atlin

REGIONS: British Columbia

NTS MAP: 104K11W

BC MAP:

LATITUDE: 58 39 29 N

LONGITUDE: 133 28 30 W

ELEVATION: 840 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south side of the Taku River, on the north ridge of Mount Ericksen. The property includes Maidas (104K 020) and Ericksen Ashby Zone 8 (104K 021).

UTM ZONE: 08 (NAD 83)

NORTHING: 6502983

EASTING: 588477

COMMODITIES: Silver Lead Zinc

**MINERALS**

SIGNIFICANT: Sphalerite Galena Argentite Freibergite Pyrite

Magnetite

ALTERATION: Magnetite Garnet Rhodonite

COMMENTS: Rhodonite and magnetite are found in abundant small skarns near the massive sulphides.

ALTERATION TYPE: Skarn Pyrite

MINERALIZATION AGE: Tertiary

ISOTOPIC AGE: DATING METHOD: Lead/Lead MATERIAL DATED: Galena, Zircons

**DEPOSIT**

CHARACTER: Podiform Stratabound Massive Discordant

CLASSIFICATION: Skarn

TYPE: K02 Pb-Zn skarn

COMMENTS: Also Uranium/Lead method used for dating.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Stikine Assemblage
Mesozoic-Cenozoic			Unnamed/Unknown Informal

LITHOLOGY: Skarn  
Limestone  
Chert  
Rhyolite  
Basaltic Tuff  
Porphyritic Quartz Monzonite  
Andesite  
Basalt  
Greywacke  
Gabbro

HOSTROCK COMMENTS: Also the Eocene Eriksen Sill.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Contact Regional

RELATIONSHIP:

GRADE:

COMMENTS: Regionally, greenschist grade and lower.

**INVENTORY**

ORE ZONE: ERICKSEN-ASHBY

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1964

QUANTITY: 907100 Tonnes

COMMODITY

GRADE

Silver 214.9000 Grams per tonne

Lead 2.2300 Per cent

Zinc 3.7900 Per cent

COMMENTS: Year of reserves is questionable.

REFERENCE: Vancouver Stock Exchange Application for Listing 142/80.

**CAPSULE GEOLOGY**

The Ericksen-Ashby deposit is located on the sharp northern ridge of Mount Erickson, about 64 kilometres east of Juneau, Alaska and 130 kilometres south of Atlin.

The Upper Paleozoic (?Late Carboniferous to Permian) Stikine Assemblage is comprised of metamorphosed chert, greywacke and

## CAPSULE GEOLOGY

limestone with intercalated volcanics. The volcanics are mainly greenstone and phyllite, andesitic to basaltic flows, tuff and agglomerate with rhyolite and minor volcaniclastics. These rocks are intruded by Early Tertiary porphyritic dikes which are genetically related to the Eocene Sloko Group volcanics.

On the Ericksen-Ashby property, the stratigraphic section consists of two major sedimentary units interlayered with predominantly andesitic volcanics. Massive sulphide mineralization occurs in the upper sedimentary unit above a thin rhyolite unit.

The property is divided into two structural blocks by a major fault, called the Bracken fault which strikes north-northwest and is thought to be related to a regional fault system in the Taku River area. A small subsidiary fault occurs just northwest of Bracken fault, and is called Zone 8A fault. Also, a minor north-northwest trending fault occurs within epidotized andesites/basalts south of the mineralized zones.

South of the Bracken fault, which includes Zones 1, 2, 2S, 2N and the Glory Hole, mineralization occurs with and is genetically related to the major footwall rhyolite.

A typical stratigraphic section consists of a lower zone of rhyolite and pyritic rhyolite, overlain by more pyritic rhyolite with lenses of massive pyrite and of magnetite, which in turn, is overlain by massive sulphides. Commonly, galena and sphalerite are concentrated towards the top of the massive sulphide section. Silver minerals reported include argentite, freibergite and argentiferous galena. Rhodonite and magnetite are abundant in small skarns near the rhyolite and massive sulphides.

Drilling in 1981 within Zone 1 indicated ore grade material extends to depth. Mineralization consists of massive sulphides which are roughly lenticular or podiform and plunge about 20 degrees south. The zones of mineralization all occur near the unconformable contact of a slightly metamorphosed, occasionally brecciated limestone-chert sequence with a massive basaltic tuff unit. Rhyolite occurs near the unconformable contact, and dips about 75 degrees southwest and strikes northwest. Mineralization is found in a rhyolite breccia with the matrix that surrounds altered fragments which include chert, andesite and limestone. Locally, garnetiferous zones occur within the breccia.

In 1981, drillhole 3 intersected 20.2 metres which assayed 567.1 grams per tonne silver, 4.94 per cent lead and 4.22 per cent zinc. Drillhole 4 intersected 5.1 metres which assayed 627.4 grams per tonne silver, 6.42 per cent lead and 6.2 per cent zinc (Assessment Report 10026).

North of the Bracken fault, the lithologies are predominantly chert, limestone, and hornfelsed siltstone. Mineralization is associated with cherts and limestones. This mineralization is described in Ericksen-Ashby Zone 8 (104K 021) and includes sulphide zones with lower grades.

A new conodont age determination from calcareous sediments structurally below the deposit is tentatively Sakmarian (Early Permian). Thermal metamorphism is due to emplacement of a thick quartz monzonite sill (the Ericksen sill) dated by uranium/lead geochronology at 53.5 +/- 0.7 Ma in the structural footwall of the deposit (Mihalynuk, et al, 1996).

Lead/Lead isotopic data indicate that the lead signature preserved is Tertiary, therefore most or all of the lead was deposited during a Tertiary mineralizing event. Remobilization, metamorphism or skarn alteration of a pre-existing massive sulphide deposit would not reset the lead isotopic signature of the galena within the deposit. Thus, lead-zinc-silver mineralization at this deposit is primarily a Tertiary skarn hosted by Late Carboniferous to Permian volcanosedimentary strata.

In 1964, indicated reserves were reported to be 907,100 tonnes grading 214.9 grams per tonne silver, 2.23 per cent lead and 3.79 per cent zinc; year of reserves is questionable (Vancouver Stock Exchange Application for Listing 142/80).

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- GSC P 45-30; 72-53, p. 61

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 308  
REPORT: RGEN0100

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N MINER Apr.30, 1981; Jan.29, 1981; Oct.15, 1981; Nov.25, 1982  
EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1996/08/19

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104K 010**

NATIONAL MINERAL INVENTORY: 104K11 Cu1,Pb1

NAME(S): **RED CAP, MIKE CAP,  
GOLDCAP, GOAT**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W 104K14W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 44 34 N  
LONGITUDE: 133 17 48 W  
ELEVATION: 1070 Metres

NORTHING: 6512664  
EASTING: 598583

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west slopes of Mount Lester Jones, north of Red Cap Creek along the east side of the Taku River. See also Cap (104K 085).

COMMODITIES: Silver                      Zinc                      Copper                      Gold                      Lead  
                  Molybdenum                      Cobalt

**MINERALS**

SIGNIFICANT: Arsenopyrite      Chalcopyrite      Sphalerite      Galena      Pyrrhotite  
                  Pyrite      Molybdenite      Copper      Cuprite

COMMENTS: Native copper and cuprite were reported.

ASSOCIATED: Quartz      Carbonate      Silica  
ALTERATION: Malachite      Silica      Chlorite      Epidote      Pyrite

ALTERATION TYPE: Sericite                      Carbonate                      Pyrite                      Sericitic                      Chloritic  
                  Silicific'n                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia                      Disseminated  
CLASSIFICATION: Epigenetic                      Hydrothermal                      Igneous-contact  
COMMENTS: The gold values have been referred to as associated with epithermal (mesothermal?) mineralization.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Triassic	Stuhini	King Salmon	
Cretaceous			Coast Plutonic Complex

LITHOLOGY: Rhyolite Breccia  
Pyroclastic Breccia  
Lapilli Tuff  
Tuffaceous Breccia  
Dacite Porphyry Dike  
Granodiorite  
Hornblende Biotite Granodiorite

HOSTROCK COMMENTS: The Stuhini Group consists of undivided volcanics and pyroclastics with a local disconformity hosting King Salmon Formation sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine                      Plutonic Rocks  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels  
COMMENTS: Mineralization occurs near contact of granodiorite and Stuhini Group.

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1981  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE  
Silver                      24.6900                      Grams per tonne  
Gold                      0.1700                      Grams per tonne  
Copper                      0.1200                      Per cent  
Lead                      0.0600                      Per cent  
Zinc                      0.2500                      Per cent

COMMENTS: Sample of Drill Hole RC-1.  
REFERENCE: Assessment Report 9246.

**CAPSULE GEOLOGY**

The property is situated between the Atlin Horst to the north-

## CAPSULE GEOLOGY

east and the Stikine Arch to the south. To the west, most units are underlain by granitic rocks of the Coast Plutonic Complex. These rocks have not been regionally metamorphosed or intensely folded as are the older units in the Tulsequah map area.

The occurrence is situated on the southern flank of a south-east plunging anticline and is located in the northwest trending Stuhini Group.

The claims are underlain by Upper Triassic Stuhini Group rocks comprised mainly of andesitic to basaltic flows, volcanic breccia, agglomerate, lapilli tuffs and minor volcanic sandstone, greywacke and siltstone. The rocks are disconformably underlain by the King Salmon Formation which is part of the Triassic Stuhini Group and is comprised of thick-bedded, dark greywacke, conglomerate, siltstone, shale, tuff, and limy shale.

The Stuhini Group rocks are intruded by a Cretaceous hornblende-biotite granodiorite stock probably belonging to the Coast Plutonic Complex and by quartz-feldspar porphyry dykes which are thought to be genetically related to the Tertiary-Cretaceous Sloko Group volcanics (GSC Map 1262A).

On the property, the hornfelsed volcanic rocks near the contact with the granodiorite plug are heavily pyritized, silicified, and fractured. Malachite, cuprite, chalcopyrite, native copper, and molybdenite are reported to occur in this area (refer to Cap 104K 085).

Drilling in 1980 to 1981 within a mineralized area in the Stuhini Group volcanic rocks, indicated that the area was underlain by rhyolitic pyroclastic breccia and tuff breccia with fragments up to 20 centimetres across. Intercalated angular lapilli tuffs are also present. Dacite porphyry dykes cut the rhyolite breccia and are sericitized and locally host disseminated pyrite and pyrrhotite. Molybdenite occurs in tiny quartz veinlets.

Four types of alteration occur on the property and the strongest alteration is pervasive silica flooding of the rhyolite breccia. Carbonate alteration occurs in the form of crosscutting carbonate veinlets. Chloritic and sericitic alteration occurs along fractures.

Three zones of mineralization were reported in the rhyolite breccia. The first mineralized zone occurs near the contact of sheared rhyolite breccia and a dacite porphyry dyke which hosts disseminated pyrite, arsenopyrite, sphalerite, and chalcopyrite. The sheared breccia hosts disseminated pyrite and sphalerite.

The second zone of mineralization in the rhyolite breccia consists of disseminated and fracture coatings of pyrite and sphalerite in addition to crosscutting quartz veins which contain coarse-grained pyrite.

The other mineralization consists of about 5 per cent sulphides occurring in quartz-pyrite veins, pyritic fractures, arsenopyrite veins and disseminations, and as disseminated, fracture coating and vein sphalerite. Minor chalcopyrite and galena are also present. Scattered carbonate veinlets contain either quartz, pyrite, or sphalerite. All of these sulphides are coarsely crystalline and tend to occur as bunches rather intimately intermixed.

Two mineralized samples taken from Drill Hole RC 1 in 1981 assayed 0.17 grams per tonne gold, 24.69 grams per tonne silver, 0.12 per cent copper, 0.06 per cent lead, and 0.25 per cent zinc and 0.103 grams per tonne gold, 22.63 grams per tonne silver, 0.08 per cent copper, 0.08 per cent lead, and 0.16 per cent zinc, respectively (Assessment Report 9246).

In 1988, Omni Resources Inc. conducted 92 kilometres of airborne magnetics and VLF in the area. Omni Resources conducted geological mapping and rock, silt and soil sampling in 1989 and rock sampling in 1991.

Xplorer Gold Corp. drilled 11 holes in 1998 (See Cap, 104K 085).

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- GCNL #144, 1981; #169, 1982; #120, 1983
- N MINER Oct.14, 1982

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/26

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 010**

MINFILE NUMBER: **104K 011**

NATIONAL MINERAL INVENTORY: 104K10 Cu2

NAME(S): **BWM, BARB 1, BACON, DAISY, KS**

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K10W  
 BC MAP:

MINING DIVISION: Atlin

LATITUDE: 58 44 26 N  
 LONGITUDE: 132 54 10 W  
 ELEVATION: 1800 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6513063  
 EASTING: 621383

LOCATION ACCURACY: Within 500M  
 COMMENTS: Located north of King Salmon Lake, on the south side of the King Salmon thrust fault.

COMMODITIES: Copper                      Silver                      Zinc                      Gold                      Lead  
 Antimony

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Pyrrhotite      Stibnite      Pyrite  
 Magnetite  
 ASSOCIATED: Quartz      Calcite      Tourmaline  
 ALTERATION: Pyrite      Limonite      Hematite      Malachite      Jarosite  
 Chlorite      Epidote

COMMENTS: Skarn mineralization occurs within limestone, north of the King Salmon thrust fault.

ALTERATION TYPE: Pyrite                      Silicific'n                      Oxidation                      Propylitic                      Carbonate  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia                      Pipe                      Massive  
 CLASSIFICATION: Epigenetic                      Hydrothermal                      Igneous-contact  
 DIMENSION: 0396 x 0140                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
 COMMENTS: Deposit character is also disseminated.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	King Salmon	
Upper Triassic	Undefined Group	Sinwa	
Jurassic-Cretaceous			Coast Plutonic Complex
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Breccia  
 Siltstone  
 Shale  
 Andesitic Volcanic  
 Mudstone  
 Quartz Diorite  
 Quartz Feldspar Porphyry  
 Quartz Feldspar Porphyry Dike  
 Gossan

HOSTROCK COMMENTS: Juro-Cret. quartz diorite may be part of Coast Plutonics. Tertiary-Cretaceous feldspar-porphyry is related to Sloko Group(GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Stikine  
 METAMORPHIC TYPE: Contact      Regional      Cache Creek  
 PHYSIOGRAPHIC AREA: Taku Plateau  
 RELATIONSHIP: Syn-mineralization      GRADE:  
 Post-mineralization

**INVENTORY**

ORE ZONE: BRECCIA                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1971  
 SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	127.0000	Grams per tonne
Gold	0.0400	Grams per tonne
Copper	1.1000	Per cent
Lead	0.2000	Per cent
Zinc	1.2000	Per cent

COMMENTS: Sample from breccia pipe, breccia fragment 3.  
 REFERENCE: Assessment Report 3208.

## CAPSULE GEOLOGY

The area is underlain by the Upper Triassic Stuhini Group, King Salmon Formation which is comprised of a thick-bedded, mixed assemblage of sediments, minor andesitic volcanics, volcaniclastics and limestone. To the northeast, the Upper Triassic Sinwa limestone is found along the northeast dipping King Salmon thrust fault. These rocks are intruded by intermediate composition Jurassic and/or Cretaceous plutons and younger porphyritic dykes, possible Tertiary in age.

The structure in the area is dominated by the northwest trending, northeast dipping King Salmon thrust fault and associated smaller faults. Perpendicular to these faults is another set that trend northeast, which offset the King Salmon thrust fault.

On the property the King Salmon Formation rocks are mainly dark green andesitic or tuffaceous volcanics with disseminated pyrite and chloritic siltstone and argillite which also contain disseminated pyrite. The rocks are highly fractured and alteration consists mainly of minor silicification, pyritization with occasional epidote stringers. Minor crosscutting quartz stringers are mineralized with chalcopyrite.

A large gossanous zone adjacent to a small quartz diorite stock, that cuts the Upper Triassic volcanics and sediments, is crosscut by tabular and irregular masses of pink quartz-feldspar porphyry. The main mineralization consists of a breccia pipe which is irregular in outline and is about 396 metres long and 140 metres wide. The breccia is mainly feldspar porphyry fragments in a matrix of quartz, carbonate, pyrite, chalcopyrite, and pyrrhotite. The breccia pipe shows large euhedral pyrite and chalcopyrite in a vuggy quartz matrix. Chalcopyrite is the most abundant sulphide and usually forms massive, irregular fragments or may be disseminated in calcite and quartz gangue. Sphalerite, pyrrhotite, and stibnite occur in the chalcopyrite and show exsolution textures. Stibnite occurs occasionally with calcite in late veins. A few euhedral grains of magnetite are also present. The pyrite is weathered and forms limonite, hematite, and jarosite. Fractures also show coatings of malachite.

Selected samples from the breccia, taken in 1971, assayed 0.04 grams per tonne gold, 127.0 grams per tonne silver, 1.10 per cent copper, 1.2 per cent zinc, 0.2 per cent lead, and trace gold, 265 grams per tonne silver, 19.7 per cent copper, 2.3 per cent zinc, 0.003 per cent lead, and less than 0.01 per cent antimony (Assessment Report 3208).

The breccia occurs in the King Salmon Formation siltstone and shale. The quartz-feldspar porphyry dyke which cuts this zone, is about 30 metres wide and exhibits strong propylitic alteration and in places strong pervasive silicification. Traces of tourmaline are also reported.

Magnetite-skarn mineralization occurs within the Sinwa Formation limestone north of the King Salmon thrust fault (refer to Barb 104K 107).

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GSC MAP 6-1960; 1262A  
GSC MEM \*362, p. 55  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/17

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 012**

NATIONAL MINERAL INVENTORY: 104K12 Pb1

NAME(S): **HIGHLAND BOY**, HIGHLAND GIRL

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 33 43 N  
LONGITUDE: 133 37 02 W  
ELEVATION: 119 Metres

NORTHING: 6492104  
EASTING: 580447

LOCATION ACCURACY: Within 500M

COMMENTS: Located at elevation 76 metres along the north side of the Sittakanay River near the International Boundary, 3.5 kilometres east of confluence of Sittakanay River with Taku.

COMMODITIES: Gold Silver Lead

**MINERALS**

SIGNIFICANT: Arsenopyrite Galena Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Mica  
ALTERATION TYPE: Silicific'n Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic  
DIMENSION: STRIKE/DIP: 035/90 TREND/PLUNGE:  
COMMENTS: Mineralized quartz vein occurs along a vertical shear zone.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE: Paleozoic GROUP: Unnamed/Unknown Group FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER: \_\_\_\_\_

LITHOLOGY: Quartz Mica Schist  
Quartzite  
Argillite  
Slate

HOSTROCK COMMENTS: Intercalated volcanic and sedimentary assemblage from the Paleozoic Era.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact Regional  
PLUTONIC ROCKS: Plutonic Rocks  
RELATIONSHIP: Syn-mineralization Post-mineralization  
PHYSIOGRAPHIC AREA: Boundary Ranges  
GRADE:

**INVENTORY**

ORE ZONE: VEIN REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1932  
SAMPLE TYPE: Grab  
COMMODITY: Gold 18.2500 Grams per tonne  
COMMENTS: Sample from north end of arsenopyrite-quartz vein contained \$11.00 gold.  
REFERENCE: GSC Memoir 248, page 72.

**CAPSULE GEOLOGY**

The area is underlain by Paleozoic rocks which consist mainly of fine-grained, dark clastic sedimentary rocks and intercalated volcanic rocks. They have been intensely folded and sheared with the consequent development of slaty cleavage and foliation. Fine-grained secondary mica has formed in most of the rocks to give them a platy, phyllitic texture. The volcanic rocks have been metamorphosed to greenstone and chlorite-amphibole schist.

On the south side of the Sittakanay River the Paleozoic rocks are intruded by a Tertiary-Cretaceous biotite-hornblende quartz monzonite stock which is thought to be correlative with the Sloko Group volcanics.

The Highland Boy group of 6 claims is reported to be one of the oldest groups in the Taku River area. The property is underlain by quartz-mica schist, quartzite, argillite, and slate which strike about 345 degrees and most commonly dip moderately to the east. The

## CAPSULE GEOLOGY

quartzites and quartz-mica schists are intensely folded and give the impression of a succession of small, nearly isoclinal folds. The formation carries large masses of barren quartz, the largest being 60 metres long and up to 10 metres wide (oriented 210/37W) as well as veins which carry massive pyrite and a vein of galena with arsenopyrite on which most of the work was done. Quartz veins five to six centimetres wide occur parallel to foliation.

The galena-arsenopyrite vein is about 6 metres long and 2.5 centimetres wide and lies within a shear zone which strikes 035 degrees and dips vertically. In 1932, a sample from the north end of the vein was reported to assay about 18 grams per tonne gold. Another pyrite, galena, and arsenopyrite vein about 2.5 centimetres wide was reported to have returned silver values. West of these veins is about 0.9 metres of quartz and pyrite which is reported to contain 2.4 grams per tonne and 3.3 grams per tonne gold (GSC Memoir 248).

A reported 75 foot long adit exists east of the mineralized vein. A shallow four to six metre deep shaft also cuts into the mineralized vein. Mineralized tailings from the shaft, sampled in 1991, reportedly assayed 10.4 grams per tonne gold, 35.4 parts per million silver, 995 parts per million lead and 226900 parts per million arsenic.

Recent work also explored six old trenches on the showing with a sample of fault gouge from trench #1 assaying 8.05 grams per tonne gold, 475.2 parts per million silver, 68790 parts per million lead, 242700 parts per million arsenic.

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EMPR ASS PRT 21121, 22037  
GSC MEM \*248, p. 72; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/04

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 013**

NATIONAL MINERAL INVENTORY: 104K6 Mo1

NAME(S): **MT. OGDEN (MOLY-TAKU)**, NAN, PAT,  
MOLLY

STATUS: Developed Prospect

MINING DIVISION: Atlin

REGIONS: British Columbia

NTS MAP: 104K06W

BC MAP:

LATITUDE: 58 26 18 N

LONGITUDE: 133 21 39 W

ELEVATION: 1500 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Showings located in two opposing cirque headwalls on the northern and northeastern slopes of Mt. Ogden, adjacent to the International Boundary about 25.7 kilometres southeast of the Taku River community of Tulsequah.

UTM ZONE: 08 (NAD 83)

NORTHING: 6478679

EASTING: 595697

COMMODITIES: Molybdenum

Zinc

Copper

Silver

Tungsten

### MINERALS

SIGNIFICANT: Molybdenite Sphalerite Pyrite Chalcopyrite Pyrrhotite

Scheelite Magnetite

ASSOCIATED: Quartz Chlorite Fluorite Rhodochrosite Scheelite

ALTERATION: Pyrite Epidote Chlorite Garnet Calcite

Tremolite Wollastonite Sericite

COMMENTS: Diopside-epidote-garnet skarn.

ALTERATION TYPE: Pyrite Skarn Silicific'n Sericitic Chloritic

MINERALIZATION AGE: Unknown

### DEPOSIT

CHARACTER: Stockwork Stratiform Disseminated  
CLASSIFICATION: Porphyry Igneous-contact Skarn  
TYPE: L05 Porphyry Mo (Low F- type) K02 Pb-Zn skarn

### HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Permian	Undefined Group	Unnamed/Unknown Formation	
Permian-Triassic	Unnamed/Unknown Group	Undefined Formation	
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Diopside Epidote Garnet Skarn  
Wollastonite Calc-silicate  
Tremolite Calc-silicate  
Hornfels  
Alaskite  
Felsite Dike  
Gossan

HOSTROCK COMMENTS: Permian limestones with Triassic and older rocks are intruded by a Tertiary-Cretaceous alaskite pluton associated felsite dyke swarm.

### GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline	PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine	
METAMORPHIC TYPE: Contact Regional	Plutonic Rocks
	RELATIONSHIP: Syn-mineralization Post-mineralization
	GRADE: Hornfels

### INVENTORY

ORE ZONE: MT. OGDEN REPORT ON: Y

CATEGORY: Unclassified	YEAR: 1981
QUANTITY: 217704000 Tonnes	
COMMODITY: Molybdenum	GRADE: 0.1700 Per cent

COMMENTS: Grade given was 0.3 per cent MoS2; conversion to Mo using the factor 1.6681.

REFERENCE: Mining Review - May/June 1981.

### CAPSULE GEOLOGY

The principal country rock is a Permo-Triassic sequence of high rank metamorphics which include Permian limestones, dolomitic limestones with chert, and pre-Upper Triassic fine-grained hornfelsed clastic sediments and intercalated volcanics which are largely altered to greenstone and phyllite. These rocks are intruded by a Tertiary-Cretaceous granitic stock exposed in nine locations on Mt.

## CAPSULE GEOLOGY

Ogden.

In the mineralized area there are only two basic varieties of high rank metamorphics: a fine-grained, dull green, diopside-epidote-garnet skarn hosting disseminated pyrite, pyrrhotite, magnetite or traces of sphalerite, and a white calc-silicate rock containing calcite, dolomite, and wollastonite or tremolite. These rocks are described as exceedingly hard and are descriptively called tactites. They strike northwest and dip steeply to the northeast.

There are two Tertiary-Cretaceous intrusives. One is a series of thin, widely-spaced, light coloured dykes. The mineralized intrusive stock is a light coloured, fine-grained alaskite with quartz and feldspar phenocrysts. The alaskite stock is about 1500 metres wide and 1600 metres long.

Molybdenite occurs in several modes within the alaskite. It occurs as coarse platy crystals in widely spaced sub-horizontal veins; in networks of thin veinlets with light coloured alteration envelopes; along fractures; as rosettes of coarse or medium grains associated with vuggy quartz and as fine interstitial grains. Some of the sub-horizontal veins host accumulations of molybdenite up to 10 centimetres in thickness and are traceable for 30 metres across an exposure. Most of the molybdenum mineralization is confined to the alaskite with only minor mineralization in dykes and fractures within the overlying tactites.

Alteration associated with the molybdenum-bearing veins, in selvages from 2 to 10 centimetres in width, is mainly quartz-sericite, accompanied by fluorite, chloritized biotite, minor pyrite, and occasional sphalerite.

As exposed in an adit, the fracture density varies, with an average of four per metre. Near vertical fractures, generally less than 1 centimetre in width, are the most frequent. A prominent flat-lying joint system, at 2 metre intervals, carries higher grade molybdenite mineralization. Quartz is the main fracture filling with associated chlorite, fluorite, rhodocrosite, and minor scheelite.

Sampling a set of mineralized sub-horizontal fractures in Zone Z averaged 0.24 per cent molybdenite within 3 metre chip samples from approximate 300 metre intervals. Also, drilling in 1979 within Zones M and N returned averages of 0.31 per cent and 0.32 per cent molybdenite, respectively (Nevin, 1979).

Reserves are 217,704,000 tonnes grading 0.3 per cent MoS<sub>2</sub>; conversion to Mo using the factor 1.6681 (Mining Review - May/June 1981). Both tin and tungsten were not reported present in any significant amounts. Likewise, gold, silver, uranium, lead, and zinc showed no significant values.

Locally, a fine-grained, green, diopside-epidote-garnet skarn developed with wallrocks adjacent to the porphyry stock contains disseminated pyrite, chalcocite, magnetite, and sphalerite with silver values. These stratiform gossans in certain metasedimentary units contain mainly pyrite and/or pyrrhotite with irregular clots of dark sphalerite. Also, minor molybdenite, scheelite, and pyrite are found in quartz veinlets that crosscut skarn and hornfels.

Doublestar Resources Ltd. acquired an interest in the property in 1998.

## BIBLIOGRAPHY

- EMPR ASS RPT 383, 1627, \*6639, \*7175, 9085  
EMPR EXPL 1977-E236; \*1978-E266; \*1979-292,293; \*1980-488,489  
EMPR FIELDWORK 1978, p. 105  
EMPR GEM 1967-25  
EMPR GEOLOGY 1977-1981, p. 180, Fig. 59  
EMPR OF 1991-17  
EMPR PF (Nevin, A.E. (1978) Progress Report on Moly-Taku Claims, Atlin MD, B.C., October 16, 1978; \*Nevin, A.E. (1979) Omni Resources Inc., 1978 Work Report and 1979 Recommendations Moly-Taku Claims at Mt. Ogden, Atlin MD, B.C., Jan. 15, 1979; Nan photos)  
EMR MIN BULL MR 223 B.C. 340  
GSC MAP 6-1960; 931A; \*1262A  
GSC MEM 248; 362, p. 56  
EMR MP CORPFILE (Omni Resources Inc.)  
CMJ April 1980, p. 55  
GCNL #180, 1978; \*#2, #54, #95, #145, #161, 1979; #120, #136, 1980; #105 (June 2), 1998  
N MINER Jan. 18, 1979, p. A28  
W MINER Feb. 1979, pp. 14-19

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/16

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 014**

NATIONAL MINERAL INVENTORY: 104K8 Cu2

NAME(S): **FAE**, NORM, SAMOTUA

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K08E  
 BC MAP:

MINING DIVISION: Atlin

LATITUDE: 58 17 29 N  
 LONGITUDE: 132 02 32 W  
 ELEVATION: 1320 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6464961  
 EASTING: 673375

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 5924) taken near a tributary creek south of the Samotua River.

COMMODITIES: Molybdenum                  Copper                  Silver                  Lead

**MINERALS**

SIGNIFICANT: Molybdenite          Chalcopyrite          Pyrite  
 ASSOCIATED: Quartz                  Feldspar                  Plagioclase          Biotite  
 ALTERATION: Clay                  Quartz  
 ALTERATION TYPE: Argillic                  Silicific'n  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                  Stockwork                  Disseminated  
 CLASSIFICATION: Magmatic                  Epigenetic                  Skarn  
 DIMENSION: 1200 x 700                  Metres                  STRIKE/DIP:                  TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Permian-Triassic	Unnamed/Unknown Group	Undefined Formation	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Quartz Monzonite  
 Hornfels  
 Skarn  
 Limestone

HOSTROCK COMMENTS: The sediments and volcanics are intruded by quartz monzonite, which is genetically related to the Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Taku Plateau
TERRANE: Stikine	
METAMORPHIC TYPE: Contact	Plutonic Rocks
	RELATIONSHIP: Syn-mineralization
	Post-mineralization
	GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1976
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	4.4600 Grams per tonne
Copper	0.0300 Per cent
Molybdenum	0.0330 Per cent
Lead	0.1200 Per cent

COMMENTS: 6 metre sample.  
 REFERENCE: Assessment Report 5924.

**CAPSULE GEOLOGY**

In the area, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic age, unfoliated diorite of Jurassic age and quartz monzonite and quartz feldspar porphyry, which are probably genetically related to the Cretaceous to Tertiary Sloko Group. The volcanics and sediments are separated by a northeast trending fault from sandstone, conglomerate and minor shale of the Jurassic Takwahoni Formation (Laberge Group). These rocks are overlain by flat lying basalt flows of the Miocene Level Mountain Group.

The quartz monzonite occurs as a stock measuring about 1.2 by 0.7 kilometres. It is equigranular, containing plagioclase,

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**CAPSULE GEOLOGY**

potassium feldspar, quartz and minor biotite. Hornfels and skarn are developed along the intrusive contact.

The stock contains areas of alteration (feldspars to clay), silicification and quartz veins. Pyrite, molybdenite, and chalcopyrite are associated with these areas. The minerals occur in fractures, veinlets and as disseminations in the intrusive rock and, to a lesser extent, in the hornfels.

Chip sampling of an area with the best molybdenum mineralization, assayed 0.024 per cent molybdenite and 0.026 per cent copper over 24 metres. A 6 metre chip sample from this area assayed 0.033 per cent molybdenum, 0.030 per cent copper, 0.12 per cent lead and 4.46 grams per tonne silver. A 6 metre chip sample, 200 metres to the northwest, assayed 0.005 per cent molybdenum, 0.022 per cent copper, 0.23 per cent lead and 39.4 grams per tonne silver. (Assessment Report 5924).

**BIBLIOGRAPHY**

EMPR ASS RPT \*476, 3842, \*5924  
EMPR AR 1963-7,130  
EMPR GEM 1972-553-554  
EMPR EXPL 1976-194  
GSC MAP 6-1960; 1262A  
GSC MEM 362, pp. 53-54,56  
EMPR PF (RPTS by Lefebure, D. (1987))  
EMR MP CORPFILE (Skyline Explorations Ltd.)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/10

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 015**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARTHA**, SINCLAIR

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 40 57 N  
LONGITUDE: 133 37 45 W  
ELEVATION: 100 Metres

NORTHING: 6505511  
EASTING: 579478

LOCATION ACCURACY: Within 500M

COMMENTS: Two claims located at the west edge of the Tulsequah Valley flats, about 1.6 kilometres south of the Polaris-Taku Mine (104K 003).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Pyrite  
COMMENTS: Mineralogy not reported.  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Carbonate Pyrite Chlorite  
ALTERATION TYPE: Pyrite Chloritic Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	Unnamed/Unknown Informal
Paleozoic			

LITHOLOGY: Schist  
Chlorite Greenstone  
Greenstone

HOSTROCK COMMENTS: Undivided metamorphic assemblage may be correlative with a Permo-Pennsylvanian chert-limestone succession (GSC Memoir 364, page 14).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine Nisling  
PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The area is underlain by regionally metamorphosed Paleozoic sedimentary and volcanic rocks which consist largely of gneisses with augen-shaped porphyroblasts of feldspar and large amounts of quartz occurring as veins, lenses and irregular patches throughout the gneiss. As well, coarse grained amphibolite and garnet-bearing quartz-biotite schists occur with several lenses of coarsely crystalline limestone, locally with tremolite. South of the Polaris Taku Mine (104K 003) the phyllitic sediments have a very high silica content and the presence of limestone suggests a correlation with the Permo-Pennsylvanian chert-limestone succession.

These rock are overlain by the Upper Triassic Stuhini Group volcanics. Mineralization at the Polaris Taku Mine is associated with the base of the Stuhini Group volcanics which consists of altered greenstones that have undergone intense chlorite and carbonate alteration.

In 1948, a hole was drilled westwards at minus 40 degrees for 122 metres on the Martha claim, to explore under the valley slope. The core consisted of schistose, chloritic greenstone crosscut by innumerable white quartz and carbonate veinlets with grey, pyritized altered rock. The grey, altered rock was intersected from 45 to 99 metres. It was reported by the owners that some sections from this core contained mineralization of economic importance. The assay results and mineralogy were not published.

**BIBLIOGRAPHY**

EMPR AR \*1948-64  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC SUM RPT 1932A, pp. 15-28, Fig. 3

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 320  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC P 45-30

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/02

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 016**

NATIONAL MINERAL INVENTORY: 104K12 Sb2

NAME(S): **SURVEYOR**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 36 45 N  
LONGITUDE: 133 32 11 W  
ELEVATION: 50 Metres

NORTHING: 6497832  
EASTING: 585026

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south bank of the Taku River about 0.8 kilometres southwest of the junction of Stuhini Creek and the Taku River.

COMMODITIES: Antimony

**MINERALS**

SIGNIFICANT: Stibnite Pyrite  
ASSOCIATED: Quartz Calcite Mariposite  
COMMENTS: Insoluble silicate, coloured by chromium.  
ALTERATION: Mariposite Stibiconite Cervantite Quartz Mica  
COMMENTS: Antimony oxide.  
ALTERATION TYPE: Silicific'n Carbonate Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive Disseminated  
CLASSIFICATION: Epigenetic  
DIMENSION: STRIKE/DIP: 310/50S TREND/PLUNGE:  
COMMENTS: Mineralized shear zone strikes 310 degrees dipping 50 degrees southwest.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Arkosic Argillite  
Quartzite  
Quartz Mica Schist

HOSTROCK COMMENTS: Intercalated, metamorphosed volcanics and sediments contain Triassic and older rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP:  
GRADE:

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1930  
SAMPLE TYPE: Grab  
COMMODITY: Antimony GRADE: 37.0000 Per cent  
COMMENTS: Sample from quartz-rich zone with pyrite and stibnite, no gold or silver values were present.  
REFERENCE: Minister of Mines Annual Report 1930, page A121.

**CAPSULE GEOLOGY**

The area is underlain by Paleozoic (Triassic and older) rocks consisting mainly of fine-grained, dark clastic sedimentary rocks and intercalated volcanics. They have been intensely folded and sheared with the consequent development of slaty cleavage and foliation. Secondary mica has formed in most of the sedimentary rocks giving it a phyllitic texture. The volcanic rocks have been converted to mainly greenstone and chlorite-amphibolite schist.

The metamorphic assemblage is unconformably overlain by the Upper Triassic Stuhini Group volcanics.

The mineral occurrence consists of a well defined shear zone about 3.3 metres wide, striking 310 degrees and dipping 50 degrees southwest. The shear is traceable from elevation 15 metres to 58 metres above the river. The shear zone is banded and reticulated in structure and is well mineralized with streaks, bunches, and veinlets of massive and disseminated stibnite, accompanied by fine dissem-

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**CAPSULE GEOLOGY**

inations of pyrite, in a gangue of quartz and calcite. In some places the stibnite has been extensively weathered to an antimony oxide, possibly stibiconite or cervantite. In some sections, the gangue contains greenish diffusion bands, which were identified as insoluble silicate, coloured by chromium. These are thought to be a very fine distribution of mariposite.

The mineralized shear zone is hosted by altered arkosic argillite, quartzite, and quartz-mica schists.

In 1930, a sample was taken from the quartz-rich part of the zone which was mineralized with pyrite and minor stibnite. This sample assayed 37 per cent antimony and was totally absent of silver and gold values. "The antimony ore is remarkably free from refractory adulterants and may possibly be of commercial importance on this account" (GSC Memoir 243 page 70).

**BIBLIOGRAPHY**

EMPR AR \*1930-121  
EMPR EXPL \*1980-495  
GSC MEM \*243, pp. 69-70; 362, p. 57  
GSC MAP 6-1960; 931A; 1262A  
EMPR BULL 1 (1930)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/04

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 017**

NATIONAL MINERAL INVENTORY: 104K12 Sb2

NAME(S): **COUNCIL**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 35 53 N  
LONGITUDE: 133 34 38 W  
ELEVATION: 50 Metres

NORTHING: 6496173  
EASTING: 582689

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the south bank of the Taku River about 2.0 kilometres southwest of the Surveyor (104K 016) near the junction of Stuhini Creek and the Taku River.

COMMODITIES: Antimony                      Gold                      Silver                      Nickel

**MINERALS**

SIGNIFICANT: Stibnite                      Pyrite  
ASSOCIATED: Quartz                      Calcite                      Mariposite  
COMMENTS: Insoluble silicate coloured by chromium with trace nickel and some iron.

ALTERATION: Mariposite                      Quartz                      Mica  
COMMENTS: Antimony oxides.

ALTERATION TYPE: Silicific'n                      Carbonate                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Massive                      Disseminated  
CLASSIFICATION: Epigenetic  
DIMENSION:                      STRIKE/DIP: 310/60S                      TREND/PLUNGE:  
COMMENTS: Mineralized shear zone.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE                      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic                      Unnamed/Unknown Group                      Undefined Formation

LITHOLOGY: Argillite  
                    Quartzite  
                    Schist

HOSTROCK COMMENTS: Intercalated, metamorphosed volcanics and sediments contain Triassic and older rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

**CAPSULE GEOLOGY**

The area is underlain by Paleozoic (Triassic and older) rocks consisting mainly of fine-grained, dark clastic sedimentary rocks and intercalated volcanics. They have been intensely folded and sheared with the consequent development of slaty cleavage and foliation. Secondary mica has formed in most of the sedimentary rocks giving it a phyllitic texture. The volcanic rocks have been converted to mainly greenstone and chlorite-amphibolite schist.

The occurrence consists of a well defined shear zone traceable for about 91 metres between elevations 33 to 50 metres above the river. The shear zone is similar to the Surveyor (104K 016) and strikes 310 degrees and dips 60 degrees south. Mineralization consists of massive and disseminated stibnite with some finely disseminated pyrite in a gangue of quartz and lesser calcite. Oxides of antimony are widely distributed. The shear cuts metamorphosed rocks, mainly argillites, quartzites, and schists.

A green diffusion band, about 46 centimetres wide within the mineralized shear, was described as an insoluble silicate coloured by chromium with some iron and trace nickel. Possibly, this may be mariposite within the gangue exposed in an upper cut. In 1930, a sample of this band assayed trace gold, silver, and nickel with no copper. A sample of dark, quartzose-sheared material with antimony oxide from the lower showing returned traces of silver and gold. A sample from the same cut with stibnite and some gangue returned no gold and silver (GSC Memoir 243).

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RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 324  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR AR 1930-121  
EMPR EXPL 1980-495  
GSC MEM 243, pp. 69-70; 362, p. 57  
GSC MAP 6-1960; 931A; 1262A  
EMPR BULL 1 (1930)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/04

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 018**

NATIONAL MINERAL INVENTORY: 104K10 Cu5

NAME(S): **DRILL CREEK**, THORN, DAISY,  
INK, STUART 3

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10W  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 58 32 15 N  
LONGITUDE: 132 47 22 W  
ELEVATION: 700 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6490672  
EASTING: 628686

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 10243) taken near a tributary creek south of the Sutlahine River. See also Thorn (104K 031) and Camp Creek (104K 116).

COMMODITIES: Copper Silver Barite Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Galena Barite  
ASSOCIATED: Quartz Calcite Siderite  
ALTERATION: Pyrite  
ALTERATION TYPE: Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	
Tertiary	Sloko	Undefined Formation	

LITHOLOGY: Rhyolite  
Porphyritic Andesite  
Brecciated Rhyolite  
Quartz Feldspar Porphyry

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1983

COMMODITY	GRADE	Units
Silver	7.2000	Grams per tonne
Copper	1.0000	Per cent

REFERENCE: Assessment Report 10243.

**CAPSULE GEOLOGY**

A northwest trending, 1830 by 1340 metre intrusive-extrusive acidic complex of the Tertiary Sloko Group is cored by quartz feldspar porphyry and includes plagioclase porphyry, felsite and breccia. The complex appears to have intruded the contact between pre-Upper Triassic metasediments and volcanics, and porphyritic andesite, rhyolite and tuff of the Upper Triassic Stuhini Group.

The acid complex, its few satellites and peripheral rocks are extensively pyritized, hydrothermally altered and locally mineralized.

Brecciated rhyolite, within a sequence of interbedded rhyolites and andesites, contains chalcopyrite, pyrite, quartz and minor galena, barite, calcite and siderite. A rock sample assayed over 1.0 per cent copper and 7.2 grams per tonne silver (Assessment Report 10243). This area lies at the southeastern end of the intrusive complex and is referred to as the Drill Creek Zone.

Inland Recovery Group Ltd. owned and American Reserve Mining Corp. operated the property in 1987. Golden Rule Resources Ltd. sampled and mapped the area property in 1991. In 1998, Kohima Pacific Gold Corp. and Almaden Resources Corp. mapped and sampled the property. Rimfire Minerals Corporation optioned the property in

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 326  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

February 2000.  
See also Thorn (104K 031) and Camp Creek (104K 116).

**BIBLIOGRAPHY**

EMPR AR 1963-6; 1964-11; 1965-17  
EMPR ASS RPT \*2512, 10243, 11923, \*15897, 21968, 23612, 25725  
EMPR EXPL 1981-242; 1983-546  
EMPR PF (Offering of Rights - Consolidated Inland Recovery Group Ltd.)  
GSC MAP 6-1960; 1262A  
GSC MEM 362, p. 56  
GCNL #57, #139, 1986  
WWW <http://www.rimfire.bc.ca>

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/31

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 019**

NATIONAL MINERAL INVENTORY: 104K12 Zn4

NAME(S): **LUCKY STRIKE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 35 19 N  
LONGITUDE: 133 40 07 W  
ELEVATION: 300 Metres

NORTHING: 6495013  
EASTING: 577399

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north side of the Taku River, just west of Flannigan Slough, about 5 metres east of the International Boundary.

COMMODITIES: Zinc Lead

**MINERALS**

SIGNIFICANT: Sphalerite Galena Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Mica  
ALTERATION TYPE: Silicific'n Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

**STRATIGRAPHIC AGE**

Paleozoic  
Cretaceous

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Coast Plutonic Complex

LITHOLOGY: Quartz Mica Schist  
Quartzite  
Quartz Vein  
Granodiorite

HOSTROCK COMMENTS: Intercalated, metamorphosed volcanics and sediments contain Triassic and older rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact Regional

Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE:

**CAPSULE GEOLOGY**

The area is underlain by Paleozoic (Triassic and older) rocks consisting mainly of fine-grained, dark clastic sedimentary rocks and intercalated volcanics. They have been intensely folded and sheared with the consequent development of slaty cleavage and foliation. Secondary mica has formed in most of the sedimentary rocks giving it a phyllitic texture. The volcanic rocks have been converted to mainly greenstone and chlorite-amphibolite schist.

These rocks are intruded by a Cretaceous Coast Plutonic Complex granodiorite stock which is exposed along the western flank of Mount Strong.

The property is underlain by quartz-mica schists and quartzites that are intensely folded and host large masses of barren quartz as well as veins which are mineralized with pyrite, some sphalerite and an occasional speck of galena. The showing is comprised of two such quartz-rich zones which host minor disseminated pyrite, sphalerite, and galena.

**BIBLIOGRAPHY**

EMPR AR \*1929-119  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/04

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 020**

NATIONAL MINERAL INVENTORY: 104K11 Ag3

NAME(S): **MAIDAS**, MOHAWK, ERIKSEN - ASHBY

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 39 28 N  
LONGITUDE: 133 27 55 W  
ELEVATION: 1200 Metres

NORTHING: 6502965  
EASTING: 589042

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location on Mt. Erikson about 4.8 kilometres northeast of Tulsequah. The claims are located southeast of the adjacent Erikson-Ashby Mine (104K 009).

COMMODITIES: Gold Silver Lead Zinc

**MINERALS**

SIGNIFICANT: Sphalerite Galena Pyrrhotite Chalcopyrite Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive  
CLASSIFICATION: Epigenetic Hydrothermal  
DIMENSION: STRIKE/DIP: 330/90 TREND/PLUNGE:  
COMMENTS: Fissure vein with sulphide ore body strikes northwest and dips vertically.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	
Paleozoic	Unnamed/Unknown Group	Undefined Formation	
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Acid Dike  
Feldspar Porphyry Dike  
Andesitic Flow  
Andesite  
Limestone

HOSTROCK COMMENTS: Permian limestone with Triassic and older rocks are intruded by feldspar porphyry, likely related to Sloko Group; GSC Map 1262A.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE:  
Post-mineralization

**INVENTORY**

ORE ZONE: VEIN REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1929
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	548.5600	Grams per tonne	
Gold	2.5700	Grams per tonne	
Lead	8.0000	Per cent	
Zinc	26.0000	Per cent	

COMMENTS: Sample from 2.4 metre wide sulphide vein.  
REFERENCE: Minister of Mines Annual Report 1929, page C119.

**CAPSULE GEOLOGY**

Paleozoic (Triassic and older) metasedimentary chert, greywacke, and limestone with intercalated volcanics, mainly greenstone and phyllite, are unconformably overlain by Upper Triassic Stuhini Group volcanics. The Stuhini Group is comprised mainly of andesitic to basaltic flows, tuff and agglomerate with rhyolite, tuff, lithic tuff, and minor volcanoclastics.  
Upper Cretaceous to Lower Tertiary feldspar porphyry dykes intrude the Stuhini Group rocks. These intrusives are genetically related to the Sloko Group volcanics (GSC Map 1262A).  
On the property, the rocks are comprised of andesitic flows and fragmentaries with some belts of limestone which are crosscut by acid dykes. Mineralization appears to be associated with the



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**CAPSULE GEOLOGY**

feldspar porphyry dykes and consists of dark sphalerite with interspersed grains of galena, associated pyrite, pyrrhotite, and a little chalcopyrite.

On the Maldas, the orebody was reported to be 6.7 metres wide, with a northwest strike and vertical dip. A 2.4 metre wide vein is reported to be well mineralized. A sample taken in 1929 assayed 2.57 grams per tonne gold, 548.56 grams per tonne silver, 8.0 per cent lead, and 26 per cent zinc (Minister of Mines Annual Report 1929).

This historic showing, which was comprised of Maldas, (I-II claims) and the adjoining Mohawk (1-6 claims) is now part of the Eriksen-Ashby Mine property (104K 009).

**BIBLIOGRAPHY**

EMPR AR 1929-119  
EMPR EXPL 1980-494  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/09

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 021**

NATIONAL MINERAL INVENTORY: 104K11 Ag1

NAME(S): **ERICKSEN - ASHBY ZONE 8, EA 2**

STATUS: Developed Prospect

MINING DIVISION: Atlin

REGIONS: British Columbia

NTS MAP: 104K11W

BC MAP:

LATITUDE: 58 40 04 N

LONGITUDE: 133 28 19 W

ELEVATION: 760 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6504069

EASTING: 588630

LOCATION ACCURACY: Within 500M

COMMENTS: Part of the Erickson-Ashby property (104K 009) located on the south side of the Taku River, north of Mt. Ericksen.

COMMODITIES: Silver                      Lead                      Zinc                      Rhodonite                      Gemstones

**MINERALS**

SIGNIFICANT: Pyrrhotite      Galena              Sphalerite              Stibnite              Magnetite

Rhodonite              Pyrite

ASSOCIATED: Rhodonite

COMMENTS: Vein-like zones of rhodonite.

ALTERATION: Magnetite              Tremolite              Hornblende              Actinolite              Garnet

Diopside              Silica

ALTERATION TYPE: Skarn                      Silicific'n

MINERALIZATION AGE: Tertiary

**DEPOSIT**

CHARACTER: Podiform                      Stratabound                      Massive  
CLASSIFICATION: Skarn                      Epigenetic                      Industrial Min.  
TYPE: K02      Pb-Zn skarn                      Q02      Rhodonite

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Sloko	Undefined Formation	
Upper Triassic	Stuhini	Undefined Formation	
Mesozoic-Cenozoic			Unnamed/Unknown Informal

LITHOLOGY: Skarn  
Limestone  
Brecciated Chert  
Andesite  
Rhyolite  
Basalt  
Tuff  
Porphyry Dike  
Chert  
Greenstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Contact              Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE:

**INVENTORY**

ORE ZONE: 8

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Drill Core

COMMODITY

COMMODITY	GRADE	
Silver	173.1000	Grams per tonne
Lead	1.2000	Per cent
Zinc	1.3700	Per cent

COMMENTS: A 15.1 metre drill hole intersection.

REFERENCE: Assessment Report 10026.

**CAPSULE GEOLOGY**

The Ericksen-Ashby Zone 8 deposit is located about 64 kilometres east of Juneau, Alaska and 130 kilometres south of Atlin.

The Upper Paleozoic (?Late Carboniferous to Permian) Stikine Assemblage is comprised of metasedimentary chert, greywacke, and limestone with intercalated volcanics. The volcanics are mainly greenstone and phyllite, andesitic to basaltic flows, tuff and agglomerate with rhyolite, and minor volcanoclastics. These rocks

## CAPSULE GEOLOGY

are intruded by Early Tertiary porphyritic dikes which are genetically related to the Eocene Sloko Group volcanics.

On the property, the stratigraphic section consists of two major sedimentary units interlayered with predominantly andesitic volcanics. Massive sulphide mineralization, described in Ericksen-Ashby (104K 009), occurs in the upper sedimentary unit above a thin rhyolite unit.

The property is divided into two structural blocks by a major north-northwest trending fault, called Bracken Fault, and a subsidiary fault called Zone 8A Fault.

North of Bracken Fault, sulphide zones occur within sedimentary basin type rocks which consist predominantly of chert and limestone. Skarns occur within the limestone beds. Only minor amounts of rhyolite fragments are associated with chert breccia. The mineralized zones occur mainly within mixed tuff and chert.

A skarned, tremolitic limestone contains patches of massive sulphides. Mineralization is mainly rhodonite-magnetite skarn with patches up to a few centimetres across of galena and/or sphalerite. Abundant skarn and chert-breccia deposits occur and most of the skarns are formed by replacement of chert. The brecciated chert is replaced by skarn which consists of pods and irregular vein-like zones composed of rhodonite, abundant pyrrhotite and locally sphalerite, galena, magnetite, garnet, actinolite, hornblende, diopside, and tremolite (in siliceous altered limestone). Stibnite locally forms needles up to 2 millimetres in length.

In 1981, a 15.1 metre drill intersection in mineralized cherts in Zone 8 assayed 173.1 grams per tonne silver, 1.2 per cent lead and 1.37 per cent zinc (Assessment Report 10026).

The sulphide zones intersected within the sedimentary basin, where chert and limestone predominate are low grade.

## BIBLIOGRAPHY

EMPR AR 1929-C119; 1931-63; 1948-65; 1951-74; 1952-76; 1964-9; 1965-9  
EMPR ASS RPT 76, 543, \*7707, \*10026  
EMPR EXPL 1979-293; \*1980-494; 1981-183  
EMPR FIELDWORK 1995, pp. 175-179  
EMPR PF (Refer to Ericksen-Ashby (104K 009))  
GSC MAP 6-1960; 931A; 1262A  
GSC MEM 248; 362  
GSC P 45-30  
GCNL #121, 1979; #33, #173, #224, 1980; #84, #155, 1981; #198, 1982  
N MINER Jan.29, Apr.30, Oct.15, 1981; Nov.25, 1982

DATE CODED: 1985/07/24  
DATE REVISED: 1996/08/20

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104K 022**

NATIONAL MINERAL INVENTORY: 104K15 Pb1

NAME(S): **INKLIN**, YETH CREEK

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K15W  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 58 56 33 N  
LONGITUDE: 132 49 47 W  
ELEVATION: 600 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6535676  
EASTING: 624881

LOCATION ACCURACY: Within 1 KM

COMMENTS: This occurrence is located along Yeth Creek, a tributary of the Inklin River.

COMMODITIES: Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Pyrite  
ALTERATION TYPE: Silicific'n              Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic              Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Andesitic Volcanic  
Volcanic Flow  
Volcaniclastic  
Tuff  
Agglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine                      Inklin

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

Along Yeth Creek, Upper Triassic Stuhini Group volcanics occur in fault contact with the Lower to Middle Jurassic Laberge Group, Inklin Formation which is comprised of intercalated sediments. The Stuhini Group is comprised mainly of andesitic volcanics, lava flows, volcanic breccia, and agglomerate with minor associated tuff and volcaniclastics.

The occurrence is reported to be a wide zone of quartz stringers mineralized with galena, sphalerite, and pyrite.

**BIBLIOGRAPHY**

EMPR AR 1929-119  
GSC MEM 362  
GSC MAP 6-1960; 1262A  
GSC P 74-47, Fig. 2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/20

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 023**

NATIONAL MINERAL INVENTORY: 104K12 Sb2

NAME(S): **ANTY**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E 104K11W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 36 15 N  
LONGITUDE: 133 29 15 W  
ELEVATION: 370 Metres

NORTHING: 6496967  
EASTING: 587887

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the south side of Stuhini Creek about 4 kilometres from the junction of Stuhini Creek and the Taku River.

COMMODITIES: Antimony Silver

**MINERALS**

SIGNIFICANT: Stibnite Arsenopyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Sericite Epidote Mica  
ALTERATION TYPE: Silicific'n Sericitic Epidote  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic  
DIMENSION: STRIKE/DIP: 335/70E TREND/PLUNGE:  
COMMENTS: Mineralization occurs along northwest trending fault which dips steeply to the east.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic Unnamed/Unknown Group Undefined Formation

LITHOLOGY: Mica Quartzite  
Quartzite  
Schist  
Mica Quartz Schist  
Argillaceous Schist  
Phyllite

HOSTROCK COMMENTS: Intercalated, metamorphosed volcanics and sediments contain Triassic and older rock units.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1965  
SAMPLE TYPE: Bulk Sample  
COMMODITY GRADE  
Antimony 9.5000 Per cent  
COMMENTS: Mineralized section about 75 metres long and 1.5 metres wide.  
REFERENCE: Minister of Mines Annual Report 1967, page 25.

**CAPSULE GEOLOGY**

The area is underlain by Paleozoic (Triassic and older) rocks consisting mainly of fine-grained, dark clastic sedimentary rocks and intercalated volcanics. They have been intensely folded and sheared with the consequent development of slaty cleavage and foliation. Secondary mica has formed in most of the sedimentary rocks giving it a phyllitic texture. The volcanic rocks have been converted to mainly greenstones and chlorite-amphibolite schists.

The main rock types present on the Anty claims consist of a monotonous succession of argillaceous schists and micaceous derivatives of silty to quartzitic sediments (micaceous quartzites). The argillaceous schists are in part limy and vary from mica-quartz schists with minor accessory minerals such as garnet and epidote to limy feldspathic siltstone with minor amounts of sericite and epidote. The micaceous quartzites vary from cherty argillite to sericite-quartz phyllite. Sills and irregular tabular andesitic

## CAPSULE GEOLOGY

bodies, generally less than 9 metres thick, intrude these meta-sediments.

Two predominant sets of faulting, one trending northwest and the other trending northeast, form part of the regional fracture system. Numerous branch faults, striking 335 to 360 degrees and dipping steeply to the east, occur along and parallel to axial planes of folds, and are generally accompanied by a zone of fracturing and shearing. These intersections are a favourable loci for mineralization and generally occur in relatively brittle quartzites.

The Anty Creek fault is considered to be one of these branch faults. It hosts massive stibnite mineralization as well as disseminated stibnite and arsenopyrite in quartz vein fissure fillings within the shear zone. Trenching in 1967, revealed a 107 metre zone of mineralization carrying massive and disseminated stibnite in a gangue of quartz within tightly folded micaceous quartzites and schists and is related to a pronounced northwest trending shear. Mineralization consists of fracture replacement over a width of 12 metres.

In 1965, a report stated that a section 33.5 metres long with an average width of 1.5 metres assayed 3.25 per cent antimony and another section 73 metres long with an average width of 1.6 metres assayed 9.5 per cent antimony (Minister of Mines Annual Report 1967).

## BIBLIOGRAPHY

EMPR AR \*1965-9; \*1967-25  
EMPR ASS RPT \*1165, 8932  
EMPR EXPL 1980-493  
GSC MEM 248, p. 69; 362  
GSC MAP 6-1960; 931A; 1262A  
N MINER Dec.25, 1980; Mar.19, 1981  
EMR MP CORPFILE (New Taku Mines Limited)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/05

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 024**

NATIONAL MINERAL INVENTORY: 104K16 Asb1

NAME(S): **MAGNET**, NOMAD

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K16E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 54 29 N  
LONGITUDE: 132 11 53 W  
ELEVATION: 1070 Metres

NORTHING: 6533194  
EASTING: 661377

LOCATION ACCURACY: Within 500M

COMMENTS: Located 16 kilometres southeast of Victoria Lake, about 300 metres east of Teditua Creek on a small tributary creek, on the northwest flanks of Nahlin Mountain.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT:	Chrysotile	Magnetite	Pyrrhotite
ASSOCIATED:	Magnetite	Calcite	
ALTERATION:	Serpentine	Carbonate	
ALTERATION TYPE:	Serpentin'zn	Carbonate	
MINERALIZATION AGE:	Unknown		

**DEPOSIT**

CHARACTER:	Vein	Stratabound
CLASSIFICATION:	Epigenetic	Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian			Ultramafic Intrusions

LITHOLOGY: Peridotite  
Serpentinized Peridotite  
Serpentinite  
Diorite Dike  
Ultramafic

HOSTROCK COMMENTS: Permian to Pennsylvanian Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The area is underlain by the Pennsylvanian or Permian Nahlin ultramafic body which is a large ultramafic body that parallels the southwestern side of the Atlin Horst. In plan it forms two, narrow prongs that converge in an acute angle at Nahlin Mountain. The rocks weather uniformly reddish brown and are generally devoid of vegetation.

The chrysotile occurrence is within pyroxenite which is slightly serpentinized and has phenocrysts of pyroxene up to 0.9 centimetres in diameter. The chrysotile occurs in both walls of a small stream canyon and is intermittently exposed for a distance of 35 metres along the canyon. Chrysotile occurs in varying amounts throughout this section in small discontinuous veinlets and boxwork structures which contain fibre generally less than 0.6 centimetres in length. A 0.3 metre section near the centre of the fibre zone, which is an intersection of two faults contains approximately 20 per cent fibre that averages 0.6 centimetres in length. The longest fibre noted was 1.3 centimetres long. Several of the chrysotile veins average 2.5 centimetres in width, but parting of the longest, strong fibres in these veins is common. Magnetite occurs along the fibre vein walls and at the parting planes within the vein.

Veins of serpentine occasionally containing discontinuous veins of chrysotile occur in the vicinity of the fibre zone. Less magnetite is present here. Calcite veinlets also occur infrequently in fractures in the pyroxenite.

Diorite dykes were noted to crosscut the ultramafic mass. A 1.5 metre wide diorite dyke, located immediately west of the chrysotile occurrence, was noted to host traces of pyrrhotite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*1925

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 336  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR OF 1995-25  
GSC MEM \*362, pp. 40-42  
GSC MAP 6-1960; \*1262A  
GSC P 74-47, Fig. 2  
EMR MP CORPFILE (Centex Mines Ltd.)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/19

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 025**

NATIONAL MINERAL INVENTORY: 104K16 Asb3

NAME(S): **ACE**

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104K16E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 52 56 N  
LONGITUDE: 132 07 03 W  
ELEVATION: 1525 Metres

NORTHING: 6530516  
EASTING: 666139

LOCATION ACCURACY: Within 500M

COMMENTS: Located 19 kilometres southeast of Victoria Lake in the Menatatluline Range, along Camp Creek, a tributary of Tseta Creek.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Magnetite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein	Stockwork	Stratabound	Disseminated
CLASSIFICATION: Metamorphic	Hydrothermal	Epigenetic	Industrial Min.
TYPE: M06	Ultramafic-hosted asbestos		

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian			Ultramafic Intrusions

LITHOLOGY: Peridotite  
Serpentinized Peridotite  
Serpentinite  
Ultramafic

HOSTROCK COMMENTS: Permian to Pennsylvanian Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: ACE

REPORT ON: Y

CATEGORY: Inferred	YEAR: 1966
QUANTITY: 11793401 Tonnes	
COMMODITY: Asbestos	GRADE: 5.0000
	Per cent

COMMENTS: Estimated fibre potential from surface work.  
REFERENCE: Assessment Reports 1030, 4913.

**CAPSULE GEOLOGY**

The area is underlain by the Pennsylvanian to Permian Nahlin ultramafic body which is a large ultramafic body that parallels the southwestern side of the Atlin horst. In plan it forms two narrow prongs that converge in an acute angle at Nahlin Mountain. The rocks weather uniformly reddish brown and are generally devoid of vegetation.

The asbestos fibre occurrence lies within pyroxenite which is slightly serpentinized and host phenocrysts of pyroxene. All of the ultramafic rocks are well jointed and are crosscut by acid to basic dykes.

The main fibre zone occurs on the north side of Camp Creek and consists of a continuous zone about 122 by 60 metres, containing greater than 5 per cent chrysotile with fibre lengths averaging about 2 centimetres. Another possible continuous fibre zone is located on the south side near the headwaters of Camp Creek.

An extensive shear zone, about 305 metres long and 30 metres wide, has resulted in the rocks of the immediate area being serpentinized. There are three major shears in the area that branch off to the northwest which have also resulted in local serpentinization of the rocks.

The chrysotile fibre occurs in two rock types. Firstly, as

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**CAPSULE GEOLOGY**

stockworks in the highly serpentized zones and secondly, as lenses within the serpentized peridotite which, in turn, are situated in peridotite with pyroxene phenocrysts.

Disseminated magnetite occurs in the vicinity of the serpentized zones and is associated with the chrysotile fibre veinlets.

In 1966, it was estimated from surface work that the fibre zone had a potential of up to 11,793,400 tonnes of ore (Assessment Reports 1030, 4913).

**BIBLIOGRAPHY**

EMPR GEM \*1973-536  
EMPR AR \*1966-260  
EMPR ASS RPT \*1030, \*4913  
EMPR OF 1995-25  
GSC MEM \*362, pp. 40-42  
GSC MAP 6-1960; \*1262A  
GSC P 74-47, Fig. 2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/19

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 026**

NATIONAL MINERAL INVENTORY: 104K7 Mo

NAME(S): **LC 1, PETER, FOOL**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 20 23 N  
LONGITUDE: 132 42 03 W  
ELEVATION: 1520 Metres

NORTHING: 6468833  
EASTING: 634596

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized zone (Assessment Report 2059) located about 10 kilometres south of Tunjony Lake.

COMMODITIES: Molybdenum                      Copper                      Silver                      Tungsten                      Fluorite

**MINERALS**

SIGNIFICANT:	Molybdenite	Pyrite	Chalcopyrite	Malachite	Magnetite
	Fluorite	Stibnite	Powellite	Scheelite	
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Chlorite	Epidote	Biotite		
ALTERATION TYPE:	Chloritic		Epidote		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Disseminated		
CLASSIFICATION:	Epigenetic	Industrial Min.		
DIMENSION:	0170 x 0110	Metres	STRIKE/DIP:	TREND/PLUNGE:
COMMENTS:	Main mineralized zone.			

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic			Unnamed/Unknown Informal

LITHOLOGY: Diorite  
Quartz Diorite  
Quartz Feldspar Porphyry

HOSTROCK COMMENTS: Triassic diorite and quartz-diorite intrusive.

**GEOLOGICAL SETTING**

TECTONIC BELT:	Coast Crystalline	PHYSIOGRAPHIC AREA:	Boundary Ranges
TERRANE:	Plutonic Rocks		

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1969
SAMPLE TYPE:	Bulk Sample		
COMMODITY		GRADE	
Molybdenum		0.0510	Per cent
REFERENCE:	Assessment Report 2059.		

**CAPSULE GEOLOGY**

Diorite and quartz diorite of Triassic age are intruded by quartz feldspar porphyry and plagioclase porphyry dykes and associated calcite and quartz veins. A few small areas of sheared and altered rocks, with chlorite, epidote and biotite, occur.

Several quartz veins, from 1 centimetre to 3 metres wide, carry molybdenite as coarse rosettes and disseminations. Associated minerals include pyrite, chalcopyrite, magnetite, fluorite and minor stibnite, scheelite and powellite. The mineralized veins occur mainly within the diorite, with an apparent relationship to the quartz feldspar porphyry. The main mineralized zone measures about 170 by 110 metres, with scattered mineralized veins occurring over a 1.0 by 1.5 kilometre area.

Several samples within the main mineralized area assayed over 1.0 per cent molybdenum. One sample assayed 9.45 per cent molybdenum and a bulk sample assayed 0.051 per cent molybdenum (Assessment Report 2059). One kilometre southwest of the main mineralized zone, chip samples from 5 locations along a 50 metre length, across a 2 to 3 metre vein, assayed 0.116 per cent molybdenum, 0.01 per cent tungsten and 4.1 grams per tonne silver (Assessment Report 8030). A 3.0 metre sample of a sheared dyke, about 200 metres west of the main zone, assayed 6.9 per cent fluorite

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 340  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

(Assessment Report 8030).

**BIBLIOGRAPHY**

EMPR ASS RPT \*2059, \*8030, \*9410  
EMPR GEM 1969-37  
EMPR EXPL 1980-490  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (Reports by Lefebure, D. (1987))  
EMPR OF 1991-17; 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/26

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 027**

NATIONAL MINERAL INVENTORY: 104K7 Cu

NAME(S): **LC 2, JONY**

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K07E  
 BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 24 00 N  
 LONGITUDE: 132 47 09 W

NORTHING: 6475375  
 EASTING: 629400

ELEVATION: 1300 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Main mineralized vein (Assessment Report 2060) located about 5 kilometres south-southwest of Tunjony Lake.

COMMODITIES: Copper Silver Lead Zinc Cadmium

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite  
 ASSOCIATED: Quartz Calcite  
 ALTERATION: Hematite Malachite Azurite  
 ALTERATION TYPE: Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive Disseminated  
 CLASSIFICATION: Epigenetic  
 DIMENSION:  
 COMMENTS: Main vein. STRIKE/DIP: 029/85W TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Hornblende Quartz Monzonite  
 Monzonite  
 Quartz Feldspar Porphyry  
 Gossan  
 Quartz Porphyry Dike

HOSTROCK COMMENTS: Feldspar porphyry likely related to Sloko Group volcanics(GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Boundary Ranges  
 TERRANE: Overlap Assemblage

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1969
SAMPLE TYPE:	Bulk Sample		
COMMODITY		GRADE	
Silver		1941.0000	Grams per tonne
Cadmium		0.3300	Per cent
Copper		9.6000	Per cent
Lead		10.6000	Per cent
Zinc		11.2000	Per cent

REFERENCE: Assessment Report 2060.

**CAPSULE GEOLOGY**

Quartz monzonite and monzonite, likely genetically related to the Tertiary-Cretaceous Sloko Group, are intruded by a dyke-like mass of diorite. These are intruded by a series of narrow feldspar and quartz feldspar porphyry dykes of probable Tertiary Age. All the rocks are intruded by numerous narrow feldspar porphyry and mafic dykes. Foliation within the quartz monzonite is evidenced by the orientation of hornblende crystals. The feldspar and quartz feldspar porphyry dykes are spatially related to the mineralization.

The rocks are fractured and contain quartz-calcite veins which strike north and east, with dips 68 to 80 degrees to the south. A few of the veins contain pyrite, galena, chalcopyrite, sphalerite and hematite.

The main vein, which strikes 029 degrees, dips 85 degrees west and plunges 55 degrees east, is 80 metres long and 5 to 60 centimetres wide. The vein occurs within hornblende monzonite,

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**CAPSULE GEOLOGY**

perpendicular to a nearby quartz porphyry dyke, and contains massive and disseminated chalcopyrite, galena, pyrite with minor malachite and azurite. Bulk sampling from a trench on the vein assayed 9.6 per cent copper, 10.6 per cent lead, 11.2 per cent zinc, 0.33 per cent cadmium and 1941 grams per tonne silver (Assessment Report 2060).

A mineralized fracture zone within a gossan, 300 metres northwest of the main vein, contains pyrite and sphalerite. The fracture, which strikes 078 degrees and dips 36 degrees west, is 27 metres long and 3 to 120 centimetres wide.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2060, \*9575  
EMPR GEM 1969-37  
EMPR EXPL 1980-489-490  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (Reports by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/26

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 028**

NATIONAL MINERAL INVENTORY: 104K10 Cu4

NAME(S): **MAD, NUT, KS-1,  
KS-2**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 39 40 N  
LONGITUDE: 132 55 29 W  
ELEVATION: 1525 Metres

NORTHING: 6504180  
EASTING: 620387

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 6.4 kilometres south of King Salmon Lake, north of the Sutlahine River. Evidence indicates the KS claims cover the old Mad and Nut claims.

COMMODITIES: Silver                      Copper                      Lead                      Zinc                      Gold  
                  Arsenic

**MINERALS**

SIGNIFICANT: Chalcopyrite      Pyrite              Galena              Magnetite  
ASSOCIATED: Pyrite  
ALTERATION: Limonite              Malachite              Clay              Silica  
ALTERATION TYPE: Pyrite              Silicific'n              Argillic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Hydrothermal              Igneous-contact              Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic Cretaceous-Tertiary	Laberge	Takwahoni	Unnamed/Unknown Informal

LITHOLOGY: Hornfels  
Siltstone  
Sandstone  
Greywacke  
Conglomerate  
Felsite  
Quartz Feldspar Porphyry  
Quartz Feldspar Porphyry Dike  
Gossan

HOSTROCK COMMENTS: Feldspar porphyry intrusions related to Tertiary-Cretaceous Sloko Group. Takwahoni sediments range from Lower-Mid.Jurassic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Stikine                      Plutonic Rocks  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Silver	13.2000      Grams per tonne
Arsenic	0.0040      Per cent
Gold	0.0400      Grams per tonne
Copper	0.0230      Per cent
Lead	1.3200      Per cent
Zinc	0.0410      Per cent

COMMENTS: Sample #72420 from silicified zone.  
REFERENCE: Assessment Report 15477.

**CAPSULE GEOLOGY**

The area is underlain by the Lower to Middle Jurassic Laberge Group rocks of the Takwahoni Formation. These rocks are comprised of well-bedded greywacke, graded siltstone, sandstone, mudstone, and pebble conglomerate. The Takwahoni Formation trends northwest to northeast, exhibits two stages of folding, and is faulted in a number of locations in a general east-west direction.

## CAPSULE GEOLOGY

The Takwahoni sediments are crosscut by numerous felsite and quartz-feldspar porphyry dykes and sills of Late Cretaceous to Lower Tertiary Age. These intrusions are thought to be genetically related to the Sloko Group volcanics (GSC Map 1262A).

A hydrothermal zone containing considerable pyrite mineralization is associated with the intrusions. As well, considerable silicification-pyritization and clay alteration accompanies the emplacement of these intrusives.

Northeast trending faults and narrow shears are often characterized by bright gossans with considerable magnetite and limonite staining. These are spatially related to the felsite dyke alteration zones. In 1970, minor copper mineralization was reported within narrow shears in or adjacent to the intrusive rocks. Mineralization consisted of disseminated pyrite, chalcopyrite, and malachite.

In 1987, rock samples were collected from silicified zones within the hornfelsed sediments. One sample from a silicified zone assayed 0.04 grams per tonne gold, 13.2 grams per tonne silver, 1.32 per cent lead, 0.041 per cent zinc, 0.023 per cent copper, and 0.004 per cent arsenic. Another sample assayed 0.06 grams per tonne gold, 2.0 grams per tonne silver, 0.102 per cent lead, 0.04 per cent zinc, 0.023 per cent copper, and 0.102 per cent arsenic. The gold values ranged from 0.04 to 0.07 grams per tonne with the highest assay associated with 0.62 per cent arsenic.

## BIBLIOGRAPHY

EMPR GEM 1970-30  
EMPR ASS RPT \*2537, \*15477  
GSC MEM 362  
GSC MAP 6-1960; 1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/26

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 029**

NATIONAL MINERAL INVENTORY: 104K10 Cu3

NAME(S): **BS - J**, B, S - J

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 30 25 N  
LONGITUDE: 132 56 28 W  
ELEVATION: 1525 Metres

NORTHING: 6486990  
EASTING: 619963

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southeast side of the Sutlahine River in the Chechidla Range, about 12 kilometres northwest of Tunjony Lake, on a north-facing slope just below a small glacier.

COMMODITIES: Copper Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite Molybdenite Pyrite Magnetite  
ASSOCIATED: Calcite Chalcedony Quartz Specularite Fluorite  
ALTERATION: Malachite Azurite Epidote Chlorite Limonite  
Pyrite Carbonate

ALTERATION TYPE: Argillic Propylitic Oxidation Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia Disseminated  
CLASSIFICATION: Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	
Cretaceous-Tertiary			Unnamed/Unknown Informal
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Biotite Hornblende Quartz Monzonite  
Quartz Monzonite Porphyry  
Quartz Monzonite  
Meta Volcanic  
Siltstone  
Hornfels  
Diorite Gneiss  
Quartz Biotite Diorite  
Breccia

HOSTROCK COMMENTS: Tertiary-Cretaceous quartz monzonite is likely related to the Sloko Group. Diorite gneiss is of unknown age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks Stikine  
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Syn-mineralization  
Post-mineralization GRADE: Amphibolite  
Hornfels

COMMENTS: Monzonite stock in contact with diorite gneiss and Stuhini Group.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1970  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Copper 0.2000 Per cent  
Molybdenum 0.0080 Per cent

COMMENTS: Sample from D Zone chalcopyrite, molybdenite (MoS<sub>2</sub>) mineralization.

REFERENCE: Assessment Report 2648.

**CAPSULE GEOLOGY**

The area is underlain by an Upper Cretaceous to Lower Tertiary quartz monzonite batholith which intrudes Mesozoic sedimentary and volcanic rocks along the eastern margin of the Coast Plutonic Complex.

On the property, the biotite-hornblende quartz monzonite intrusive is medium-grained and contains accessory pyrite, specularite, magnetite, chalcopyrite, molybdenite, and fluorite.

## CAPSULE GEOLOGY

There is a gradational contact between a quartz-monzonite porphyry phase, which hosts phenocrysts of quartz and feldspar, ranging from 6 to 10 millimetres in length.

Along the western margin of the quartz monzonite stock there is a sharp contact with quartz-biotite diorite and diorite gneiss. They have undergone intense alteration and host abundant epidote, epidote veining, pyrite, and a gneissic texture. The age of these metamorphics are unknown.

The quartz monzonite intrudes Upper Triassic Stuhini Group volcanics which are represented by dark, metamorphosed andesitic rocks, siltstones, and hornfels.

Most of the intrusive rock exhibits argillic and propylitic alteration with abundant chlorite epidote and carbonate. Secondary potassium-feldspar is commonly associated within shear zones and zones of intense fracturing. Limonite is associated with southwest dipping fractures.

Mineralization within the quartz monzonite consists of chalcopyrite, malachite, and trace amounts of molybdenite along steeply dipping northeast joints or on vertical fractures striking west-northwest. Malachite, azurite and rare chalcopyrite disseminations occur within breccia, and as small massive blebs and stringers within quartz-chalcedony-calcite veinlets. The mineralization is mainly controlled by northeast faulting and resultant fracturing. Magnetite is commonly associated with the chalcopyrite mineralization occurring on fractures and as disseminations.

A broad zone of mineralization, trending northeast and open in both strike directions, was defined and sampled in 1970. Samples of the mineralization returned grades ranging from 0.02 to 0.32 per cent copper and trace to 0.012 per cent molybdenite. A bulk sample assayed 0.05 per cent copper (Assessment Report 2648).

## BIBLIOGRAPHY

EMPR GEM 1970-31  
EMPR ASS RPT \*2648, 2649  
GSC MEM 248; 362  
GSC MAP 6-1960; 1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/30

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 030**

NATIONAL MINERAL INVENTORY: 104K10 Cu6

NAME(S): **KAY**, LIN, LIN 1-8

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 33 45 N  
LONGITUDE: 132 44 48 W  
ELEVATION: 1200 Metres

NORTHING: 6493537  
EASTING: 631082

LOCATION ACCURACY: Within 500M

COMMENTS: Located within a north facing cirque about 11.3 kilometres north-northwest of Trapper Lake, on the southeast side of the Sutlahine River.

COMMODITIES: Copper Molybdenum Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite Molybdenite Tetrahedrite Enargite Pyrite  
ASSOCIATED: Quartz Orthoclase  
ALTERATION: Pyrite  
ALTERATION TYPE: Silicific'n Potassic Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal Porphyry  
COMMENTS: Faults strike 045 and 090 degrees across the property.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary	Sloko	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Syenite  
Monzonite  
Felsite  
Rhyolite Flow  
Rhyolite  
Feldspar Porphyry Dike

HOSTROCK COMMENTS: Felsite and pink syenite or monzonite intrusions thought to be genetically related to Tertiary-Cretaceous Sloko Group volcanics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

Overlap Assemblage

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1969
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Copper	1.2000 Per cent
Molybdenum	0.0030 Per cent

COMMENTS: Sample from Trench 4 assayed 1.27 per cent copper and 0.003 per cent Molybdenite (MoS<sub>2</sub>) over 15 metres.

REFERENCE: Assessment Report 2512.

**CAPSULE GEOLOGY**

A series of Upper Cretaceous to Lower Tertiary Sloko Group volcanics, felsite and rhyolite, overlie mixed Lower Jurassic Laberge Group sediments. Several stocks of granitic to dioritic composition intrude the volcanics and sediments in a belt subparallel to the eastern margin of the Coast Plutonic Complex.

The area of the claims is underlain by a series of cream to buff coloured rhyolitic flows of the Sloko Group volcanics, and by associated grey felsite and a pinkish syenitic (monzonitic?) intrusion with a relatively wide chill margin. The intrusives are thought to be genetically related to the Upper Cretaceous to Lower Tertiary Sloko Group (GSC Map 1262A). Feldspar porphyry dykes cut all rocks on the property.

The felsite is microcrystalline with small phenocrysts of glassy quartz and relics of feldspars. The intrusive ranges in composition

## CAPSULE GEOLOGY

from diorite to syenite over several metres, and generally is a fine to medium-grained pink rock, frequently containing phenocrysts of glassy quartz, orthoclase, and plagioclase feldspar. Finely disseminated euhedral pyrite is relatively consistent throughout the intrusive, and is also found in the felsite, rhyolite, and andesite.

Several wide faults cross the property in two general strike directions, about 090 degrees and 045 degrees, respectively. Secondary quartz, orthoclase, and sulphides have mineralized faults trending in both directions as well as minor faults and shears which lie parallel and perpendicular.

Chalcopyrite and molybdenite mineralization occur as disseminations and fracture fillings in the secondary quartz-orthoclase veinlets in the syenitic intrusive. Minor enargite and tetrahedrite also occur within the quartz veinlets and fractures. Samples taken in 1969 returned the highest individual assay of 0.29 per cent copper over 6.1 metres. Drilling between 1964 to 1965 returned values of ranging from 0.1 to 0.3 per cent copper with traces of molybdenum (Assessment Report 2512).

## BIBLIOGRAPHY

EMPR AR 1964-11; 1965-17  
EMPR ASS RPT \*2512  
GSC MEM 362  
GSC MAP 6-1960; \*1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/31

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 031**

NATIONAL MINERAL INVENTORY: 104K10 Cu1

NAME(S): **THORN, DAISY, INK,  
 CHECK-MATE, STUART, OBAN,  
 TAMOHU, I, EAST**

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104K10W  
 BC MAP:  
 LATITUDE: 58 32 43 N  
 LONGITUDE: 132 48 32 W  
 ELEVATION: 720 Metres  
 LOCATION ACCURACY: Within 500M

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6491501  
 EASTING: 627526

COMMENTS: Drilling location in Main Target Zone. Drilling in the East Zone lies 350 metres to the east. Property located south of the Sutlahine River. See also Drill Creek (104K 018) and Camp Creek (104K 116).

COMMODITIES: Copper Silver Gold Zinc Lead

**MINERALS**

SIGNIFICANT: Tetrahedrite Enargite Pyrite Arsenopyrite Chalcopyrite  
 Pyrrhotite Stibnite Magnetite Sphalerite Galena  
 ASSOCIATED: Quartz  
 ALTERATION: Sericite Epidote Saussurite Muscovite Jarosite  
 Kaolinite Hematite Carbonate  
 COMMENTS: Extensively pyritized and hydrothermally altered.  
 ALTERATION TYPE: Silicific'n Pyrite Sericitic  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork Breccia Massive Disseminated  
 CLASSIFICATION: Porphyry Epigenetic Hydrothermal  
 TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary	Sloko	Undefined Formation	
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Quartz Feldspar Porphyry  
 Breccia  
 Porphyritic Andesite  
 Andesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Overlap Assemblage Stikine  
 PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: MAIN TARGET REPORT ON: N  
 CATEGORY: Assay/analysis YEAR: 1987  
 SAMPLE TYPE: Drill Core  

COMMODITY	GRADE	
Silver	152.6000	Grams per tonne
Gold	2.0000	Grams per tonne
Copper	3.7800	Per cent

 COMMENTS: 2.58 metre sample.  
 REFERENCE: Assessment Report 15897.

**CAPSULE GEOLOGY**

A northwest trending, 1830 by 1340 metre intrusive-extrusive acidic complex of the Tertiary Sloko Group is cored by quartz feldspar porphyry and includes plagioclase porphyry, felsite and breccia. The complex appears to have intruded the contact between pre-Upper Triassic metasediments and volcanics, and porphyritic andesite, rhyolite and tuff of the Upper Triassic Stuhini Group. The acid complex, its few satellites and peripheral rocks are extensively pyritized, hydrothermally altered and locally mineralized. Alteration minerals include sericite, epidote, saussurite, muscovite, jarosite, kaolinite, hematite and carbonate minerals. Mineralized shear zones in the intrusion contain tetrahedrite,

## CAPSULE GEOLOGY

enargite, pyrite and stibnite, occurring as disseminations and in narrow quartz veins.

An east trending silicified and pyritized breccia zone, up to 250 metres wide and about 600 metres long, is associated with the altered porphyry. Within the breccia zone, tetrahedrite, enargite and pyrite occur as disseminations and in narrow quartz veins. The zone includes the Main Target or Stringer Zone, to the west, and the East Zone and East Extension.

The Main Target Zone contains a 15 centimetre wide tetrahedrite vein. A sample from the vein assayed 33.71 per cent copper, 868 grams per tonne silver and 7.54 grams per tonne gold (Assessment Report 2512). Nearby, a 7 metre wide area contained 1 to 15 centimetre wide veins with tetrahedrite, enargite, pyrite and quartz. A 1 metre chip sample across the area assayed 4.75 per cent copper, 164 grams per tonne silver and 2.0 grams per tonne gold (Assessment Report 11923). A drill hole to the southeast of the mineralized area intersected 3.78 per cent copper, 152.6 grams per tonne silver and 2.0 grams per tonne gold over 2.58 metres (Assessment Report 15892).

The East Zone, which lies 300 metres east of the drilled area on the Main Target Zone, consists of several parallel silicified and brecciated vertical structures, over a 30 metre width, within the altered porphyry. The silicified structures contain massive quartz with large pockets of pyrite and minor enargite or tetrahedrite. The zone strikes 070 degrees for 1200 metres.

A 3.7-metre sample from a trench assayed 0.03 per cent copper, 312 grams per tonne silver and 8.6 grams per tonne gold (Assessment Report 2512). A drill hole intersected 35.3 grams per tonne silver, 0.07 per cent copper, and 2.7 grams per tonne gold over 10.29 metres (Assessment Report 15897).

The East Extension Zone lies 200 metres east of the East Zone and may be the same zone offset by a fault. It consists of silicified porphyry carrying some pyrite, arsenopyrite and minor tetrahedrite and chalcopyrite.

Northwest of the Main Target Zone is a 30 metre halo of altered andesite, adjacent to the porphyry. The andesite contains massive blebs and stringers of chalcopyrite, pyrite and pyrrhotite. Epidote and minor magnetite are associated with this alteration. Minor sporadic exploration since 1963 identified numerous zones of mineralized veining exposed over a 2 by 1.5 kilometre area.

Inland Recovery Group Ltd. owned and American Reserve Mining Corp. operated the property in 1987. Golden Rule Resources Ltd. sampled and mapped the area property in 1991. In 1998, Kohima Pacific Gold Corp. and Almeden Resources Corp. mapped and sampled the property. Rimfire Minerals Corporation optioned the property in February 2000. In 2000, Rimfire completed an airborne 385-line-kilometre electromagnetic survey, mapping and prospecting, soil geochemical sampling and relogging and sampling of core from eight diamond drill holes completed in 1986. During the 2000 season, Rimfire identified new massive pyrite-enargite-tetrahedrite vein showings, the Catto and Tamdhu.

See also Drill Creek (104K 018) and Camp Creek (104K 116).

Diamond drilling in 2002 by First Au Strategies Corp. and Rimfire Minerals tested 3 zones including the I zone. One vein assayed 9.3 grams per tonne gold, 760 grams per tonne silver and 0.3 per cent copper over 70 centimetres (Press Release, First Au Strategies Corp., October 10, 2002).

The Oban breccia zone was discovered in 2002 and is reported to be a 200 metre wide hydrothermal breccia that can be traced 160 metres along a north-south trend. An intensely sericitized breccia grab sample, containing interstitial sulphides, assayed 1260 grams per tonne silver, 5.32 grams per tonne gold, 5.8 per cent lead and 5.83 per cent zinc. Another 2002 discovery, west of the Oban zone, was the Glenlivet zone that is a 3-metre wide quartz-pyrite-sericite vein that can be traced for 210 metres along strike. An assay highlight is reported at 2580grams per tonne silver, 20.39 grams per tonne gold and 23.9 per cent copper from a grab sample (PR REL Rimfire Minerals Corp., December 5, 2002). 2002 drilling targeted the I and Tamdhu zones as well as the Oban zone. Sulphosalts are reported to occur in the veins.

## BIBLIOGRAPHY

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EMPR ASS RPT \*2512, 10243, \*11923, \*15897; 21968, 23612, 25725  
EMPR EXPL 1981-242; 1983-546; 1999-19-31; 2000-1-8  
EMPR OF 1998-8-E, pp. 1-25  
EMPR PF (Offering of Rights. Consolidated Inland Recovery Group Ltd.; Rimfire Minerals Corporation Website (Feb.2000))  
GSC MAP 6-1960; 1262A  
GSC MEM 362, p. 56

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 351  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GCNL #183, 1968; #57, #139, 1986; #128(Jul.5), #196(Oct.13), 2000  
N MINER Aug.12, Dec.2, 2002  
PR REL First Au Strategies Corp., Oct.10, 2002; Rimfire Minerals  
Corp., Dec.5, 2002  
WWW <http://www.rimfire.bc.ca>; <http://www.infomine.com/>;  
<http://www.firstaustategies.com>

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/31

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 032**

NATIONAL MINERAL INVENTORY: 104K8 Cu5,Sb2

NAME(S): **MC, ICY, BING**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 22 16 N  
LONGITUDE: 132 11 33 W  
ELEVATION: 1525 Metres

NORTHING: 6473455  
EASTING: 664199

LOCATION ACCURACY: Within 500M

COMMENTS: Trench IV (Assessment Report 3475) located north of the Samotua River.

COMMODITIES: Copper Zinc Molybdenum Gold Antimony Silver Lead

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Stibnite Galena

Tetrahedrite

ASSOCIATED: Quartz Actinolite Biotite Plagioclase

ALTERATION: Chlorite Epidote Pyrite Malachite Azurite

ALTERATION TYPE: Sericitic Potassic Silicific'n Pyrite Argillic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal Porphyry Igneous-contact  
DIMENSION: 2000 x 0800 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Altered-mineralized zone.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Permian-Triassic Cretaceous-Tertiary	Unnamed/Unknown Group	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesite  
Granodiorite  
Gossan  
Hornblende Diorite  
Quartz Feldspar Porphyry

HOSTROCK COMMENTS: Permian limestone with Triassic & older rocks intruded by feldspar porphyry genetically related to Sloko Group volcanics(GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Taku Plateau

TERRANE: Stikine

METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1971
SAMPLE TYPE: Bulk Sample	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	3.4000 Grams per tonne
Gold	0.7000 Grams per tonne
Copper	0.3800 Per cent
Molybdenum	0.0600 Per cent

COMMENTS: 8.6 kilogram sample.  
REFERENCE: Assessment Report 3475.

**CAPSULE GEOLOGY**

In the area, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic age, unfoliated diorite of Jurassic age and quartz monzonite and quartz feldspar porphyry, which are probably genetically related to the Sloko Group of Cretaceous to Tertiary Age. These rocks are intruded by diabase dykes, likely correlative with the Miocene Level Mountain Group, and by rhyolitic dykes, likely correlative with the



## CAPSULE GEOLOGY

Tertiary Hearts Peak Formation.

Structural trends include prominent north trending fractures, east to northeast fractures with siliceous zones and widely spaced northwest fractures with 70 degree to near vertical dips.

A 2000 by 800 metre, northwest trending, hydrothermally altered gossanous area, contains disseminated and stockwork copper-molybdenum mineralization. Sulphide minerals include pyrite, chalcopyrite, molybdenite, malachite, azurite, stibnite with minor tetrahedrite and galena. The sulphide mineralization appears to be related to the porphyry intrusions.

Alteration types include sericitic (phyllic), characterized by sericitization of biotite and plagioclase and quartz veining; argillic, showing development of kaolin and silica; and pyritic. The andesites are partially feldspathized and also contain epidote, chlorite and actinolite.

An 8.6 kilogram sample from a 7.3 by 4.6 metre area (Trench IV) assayed 0.38 per cent copper, 0.06 per cent molybdenum, 3.4 grams per tonne silver and 0.7 grams per tonne gold. A 20 by 30 centimetre sample from this trench assayed 10.47 per cent copper, 0.03 per cent molybdenum, 17.14 grams per tonne silver and 1.37 grams per tonne gold. (Assessment Report 3475).

A drill hole, 300 metres east of the trench, intersected 0.1 per cent copper, 0.005 per cent molybdenum and 1.1 grams per tonne silver over 30 metres (Assessment Report 6400).

A 15 centimetre chip sample from a quartz vein with galena, chalcopyrite and stibnite, assayed 205.7 grams per tonne silver, 1.32 per cent copper, 1.76 per cent lead, 0.85 per cent zinc and 1.6 per cent stibnite (Assessment Report 3075). This showing lies 1000 metres southeast of the trench.

## BIBLIOGRAPHY

EMPR ASS RPT 653, 3075, \*3475, \*6019, 6400  
EMPR AR 1964-11-12; 1965-17-18  
EMPR GEM 1971-50-51  
EMPR EXPL 1976-194; 1977-237  
GSC MAP 6-1960; 1262A  
GSC MEM 362, p. 53  
EMR MP CORPFILE (Skyline Explorations Ltd.)  
EMPR PF (Reports by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/17

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 033**

NATIONAL MINERAL INVENTORY: 104K7 Mo

NAME(S): **TRAPPER LAKE, KAREN, ELAINE,  
LEAH, LINDA, ANDERSON**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K07E  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 58 18 40 N  
LONGITUDE: 132 38 35 W  
ELEVATION: 1150 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6465765  
EASTING: 638089

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched area in west mineralized zone located along a creek within the Chechidla Range.

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite              Pyrite              Powellite              Chalcopyrite              Sphalerite  
COMMENTS: Chalcopyrite and sphalerite are minor.  
ASSOCIATED: Quartz              Feldspar              Rutile  
ALTERATION: Sericite              Clay              Powellite  
ALTERATION TYPE: Propylitic              Sericitic              Argillic              Potassic              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                              Disseminated  
CLASSIFICATION: Epigenetic                      Porphyry                      Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary Triassic			Unnamed/Unknown Informal Unnamed/Unknown Informal

LITHOLOGY: Alaskite  
Quartz Monzonite  
Diorite  
Granodiorite  
Diorite Dike

HOSTROCK COMMENTS: Quartz monzonite genetically related to the Tertiary-Cretaceous Sloko Group. Diorite ranges from Lower to Middle Triassic (GSC MAP 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Overlap Assemblage                      Plutonic Rocks

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1972  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE  
Molybdenum                      0.1800                      Per cent  
COMMENTS: Sample over 15.2 metres; grade is percent molybdenite.  
REFERENCE: NMI card 104K7 Mo1.

**CAPSULE GEOLOGY**

Foliated diorite and granodiorite of Triassic Age are intruded by irregular stocks of quartz monzonite and alaskite, which are likely genetically related to the Tertiary-Cretaceous Sloko Group (GSC MAP 1262A). North trending diorite dykes cut all the rocks. The prominent mineralized quartz vein and joint directions trend about 120 degrees and dip 80 to 90 degrees northeast or southwest. Prominent fractures, faults and shear zones strike 30 to 50 degrees and dip 60 to 70 degrees northwest. Alteration types, mainly within the alaskite, include potassic, argillic, sericitic and propylitic. Disseminated and fracture and vein filled molybdenite occur mainly within three alaskite bodies, described as the west, central and east zones. The west mineralized area measures about 800 by 160 by 50 metres. In this zone, quartz veins, 0.5 centimetres to 2 metres wide and mainly within the diorite, contain pyrite, molybdenite, powellite and occasional chalcopyrite, rutile and sphalerite. Channel sampling from trenches averaged 0.17 per cent molybdenite over 12.5 metres (Assessment Report 6897). A hole drilled in 1972

## CAPSULE GEOLOGY

intersected 0.18 per cent molybdenite over 15.2 metres (National Mineral Inventory card 104K/7 MO 1).

In the east zone, quartz veins and joints commonly strike 100 degrees and dip 70 degrees north. The molybdenite occurs mainly as large rosettes, erratically distributed within alaskite. The east zone is about 1.4 kilometres from the west zone and measures about 400 by 200 metres. Drilling in 1972 intersected 0.55 per cent molybdenite over 3.3 metres in one hole and 0.86 per cent molybdenite over 1.8 metres in another (National Mineral Inventory card 104K/7 MO 1).

Minor mineralized veins, which strike 20 degrees and dip 60 to 80 degrees northwest, occur to the south.

## BIBLIOGRAPHY

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- EMPR GEM 1972-553
- EMPR EXPL 1977-237; 1981-51
- GSC MAP 6-1960; 1262A
- GSC MEM 362, pp. 53,56
- EMPR PF (Monthly report by T. Schroeter, Aug. 1980; Reports by Lefebure, D. (1987))
- EMR MP CORPFILE (Plateau Metals & Industries Ltd - includes Report on Trapper Lake Molybdenum Property by D.D. Campbell, in Statement of Material Facts, April 1972; Glory Explorations Ltd. - includes Geological Report on Trapper Lake Molybdenum Property by J.R. Chamberlain and C.R. Saunders, in Statement of Material Facts, 51/81)
- GCNL #110, 1981

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/24

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 034**

NATIONAL MINERAL INVENTORY: 104K8 Cu2

NAME(S): **NORM**, FAE, SAMOTUA

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 17 58 N  
LONGITUDE: 132 03 12 W  
ELEVATION: 1080 Metres

NORTHING: 6465828  
EASTING: 672685

LOCATION ACCURACY: Within 500M

COMMENTS: Magnetite showing (Assessment Report 3842) located along a tributary creek on the south side of the Samotua River.

COMMODITIES: Iron                      Copper                      Molybdenum

**MINERALS**

SIGNIFICANT: Magnetite      Chalcopyrite      Molybdenite      Pyrite

ALTERATION: Magnetite

COMMENTS: Skarn mineralogy not defined.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive                      Disseminated  
CLASSIFICATION: Replacement              Skarn                      Igneous-contact              Industrial Min.

SHAPE: Tabular

DIMENSION: 0003                      Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Width of magnetite lenses.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Permian-Triassic  
Cretaceous-Tertiary

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
Limestone  
Skarn  
Hornfels

HOSTROCK COMMENTS: Permian limestone with Triassic and older rocks are intruded by quartz monzonite likely related to Sloko Group volcanics(GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Contact

PLUTONIC BELT: Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Taku Plateau

GRADE: Hornfels

**CAPSULE GEOLOGY**

In the area, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic Age, unfoliated diorite of Jurassic Age and quartz monzonite and quartz feldspar porphyry, which are probably genetically related to the Sloko Group of Cretaceous to Tertiary Age (GSC MAP 1262A). The volcanics and sediments are separated by a northeast trending fault from sandstone, conglomerate and minor shale of the Jurassic Takwahoni Formation (Laberge Group). These rocks are overlain by flat lying basalt flows of the Miocene Level Mountain Group.

The quartz monzonite occurs as a stock measuring about 1.2 by 0.7 kilometres. It is equigranular, containing plagioclase, potassium feldspar, quartz and minor biotite. Hornfels and skarn are developed along the intrusive contact.

Magnetite occurs as three tabular masses, up to 3 metres wide and several metres long, associated with the quartz monzonite and limestone contact. The masses contain up to 50 per cent pyrite and some chalcopyrite. Minor chalcopyrite and molybdenite occur in the hornfels.

**BIBLIOGRAPHY**

EMPR ASS RPT \*476, 3297, 3842  
EMPR AR 1963-7-130  
EMPR GEM 1971-50; 1972-553-554  
GSC MAP 6-1960; 1262A

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 357  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 362, p. 56  
EMR MP CORPFILE (Skyline Explorations Ltd.)  
EMPR PF (Reports by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/10

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 035**

NATIONAL MINERAL INVENTORY: 104K8 Cu

NAME(S): **BING**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 21 13 N  
LONGITUDE: 132 07 39 W  
ELEVATION: 1440 Metres

NORTHING: 6471668  
EASTING: 668082

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of widespread mineralization.

COMMODITIES: Copper Molybdenum

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Molybdenite	Pyrite	Pyrrhotite
ASSOCIATED:	Quartz	Feldspar		
ALTERATION:	Epidote	Actinolite	Garnet	Diopside
ALTERATION TYPE:	Silicific'n	Skarn		Potassic
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER:	Vein	Stockwork	Disseminated
CLASSIFICATION:	Igneous-contact	Skarn	

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Permian-Triassic  
Cretaceous-Tertiary

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

**LITHOLOGY:**

Dioritic Volcanic  
Limestone  
Epidote Actinolite Garnet Skarn  
Quartz Feldspar Porphyry

**HOSTROCK COMMENTS:**

Permian limestone with Triassic and older rocks are intruded by feldspar porphyry likely related to Sloko Group volcanics(GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Taku Plateau

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**CAPSULE GEOLOGY**

In the area, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic age, unfoliated diorite of Jurassic age and quartz monzonite and quartz feldspar porphyry, which are probably genetically related to the Sloko Group of Cretaceous to Tertiary Age (GSC MAP 1262A). These rocks are intruded by diabase dykes, likely correlative with the Miocene Level Mountain Group, and by rhyolitic dykes, likely correlative with the Tertiary Hearts Peak Formation.

Wide spread disseminated and stockwork copper-molybdenum mineralization occur in zones of feldspar-silica alteration within "dioritized" volcanics and sediments. A 300 by 15 metre, northeast trending skarn zone also occurs adjacent to a crescent-shaped feldspar porphyry stock. The sulphide minerals, which include pyrite, chalcopyrite, pyrrhotite and molybdenite, appear to be related to the porphyry intrusion. Skarn minerals include epidote, actinolite, garnet, diopside and minor chalcopyrite.

No assays are reported.

**BIBLIOGRAPHY**

EMPR ASS RPT \*668  
EMPR AR 1964-11-12; 1965-17-18  
GSC MAP 6-1960; 1262A  
GSC MEM \*362, pp. 53,56  
EMPR PF (Reports by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/17

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 036**

NATIONAL MINERAL INVENTORY: 104K2 Cu

NAME(S): **TESS**, WHIT, WHITING LAKE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K02W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 03 16 N  
LONGITUDE: 132 50 11 W

NORTHING: 6436818  
EASTING: 627682

ELEVATION: 550 Metres  
LOCATION ACCURACY: Within 1 KM

COMMENTS: Copper location from GSC Map 1262A.

COMMODITIES: Copper Silver Gold

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Malachite

COMMENTS: Manganese oxide.

ASSOCIATED: Quartz

ALTERATION: Limonite Malachite

ALTERATION TYPE: Pyrite Argillic Silicific'n Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Cretaceous-Tertiary  
Cretaceous-Tertiary

**GROUP**

Sloko

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Quartz Feldspar Porphyry  
Biotite Hornblende Quartz Monzonite  
Rhyolite  
Breccia

HOSTROCK COMMENTS: Quartz-feldspar porphyry probably related to the Upper Cretaceous-Lower Tertiary Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

4.2000

Grams per tonne

Gold

0.7800

Grams per tonne

COMMENTS: 10 centimetre sample.  
REFERENCE: Assessment Report 14365.

**CAPSULE GEOLOGY**

A 3 kilometre wide quartz-feldspar porphyry stock intrudes biotite-hornblende quartz monzonite, which is likely related to the Sloko Group of Cretaceous to Tertiary Age (GSC MAP 1262A). A northwest trending, generally siliceous and argillaceous, contact separates the stock with rhyolite, dacite, trachyte and pyroclastic rock of the Sloko Group to the east. Granodiorite of the Coast Plutonic Complex lie to the west and pre-Upper Triassic sediments and volcanics lie to the east.

The rhyolite is strongly brecciated and contains disseminated and fracture filled pyrite. The porphyry also contains pyrite. Minor occurrences of chalcopyrite and malachite are reported in the porphyry.

Within the rhyolite, a 10 centimetre wide chalcedonic, brecciated quartz vein with minor limonite and manganese oxide stain assayed 4.2 grams per tonne silver and 0.78 grams per tonne gold (Assessment Report 14366).

**BIBLIOGRAPHY**

EMPR ASS RPT \*4628, \*14365

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 360  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR GEM 513-514  
EMPR EXPL 1986-450  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (Reports by Lefebure, D. (1987))  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/20

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 037**

NATIONAL MINERAL INVENTORY: 104K8 Sb1

NAME(S): **TOT 2**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 19 51 N  
LONGITUDE: 132 25 29 W  
ELEVATION: 1440 Metres

NORTHING: 6468429  
EASTING: 650793

LOCATION ACCURACY: Within 500M

COMMENTS: Location (Assessment Report 11779) is along a small tributary creek north of Tatsamenie Lake.

COMMODITIES: Copper Silver Antimony Barite

**MINERALS**

SIGNIFICANT: Chalcopyrite Stibnite Barite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite  
ALTERATION TYPE: Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Permian-Triassic  
GROUP: Unnamed/Unknown Group  
FORMATION: Undefined Formation  
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Chlorite Schist  
Meta Volcanic  
Siliceous Siltstone  
Limestone

HOSTROCK COMMENTS: Permian limestones are intercalated with metamorphosed volcanics and sediments which include Triassic and older rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 14.8000 Grams per tonne  
Copper 1.0000 Per cent

REFERENCE: Assessment Report 11779.

**CAPSULE GEOLOGY**

In the area northwest of Tatsamenie Lake, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic Age, unfoliated diorite of Jurassic Age and feldspar porphyry basaltic dykes of the Sloko Group of Cretaceous to Tertiary Age. The volcanics and sediments have undergone two phases of folding, a tight isoclinal fold with a horizontal fold axis and an upright more open fold.

The Permian limestones are a dark grey, thin bedded, grey weathering carbonaceous unit. The overlying phyllites contain interbedded siliceous siltstone and buff weathering limestone. These are overlain by intermediate to mafic volcanics, some of which have been metamorphosed to chlorite schist.

A 5 to 10 centimetre chalcopyrite vein occurs within the chlorite schist. A sample assayed over 1.0 per cent copper and 14.8 grams per tonne silver (Assessment Report 11779). Stibnite and barite veins also occur in this area (GSC Map 1262A).

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR ASS RPT 7610, \*11779  
EMPR EXPL 1983-544  
EMPR FIELDWORK 1985, pp. 175-183  
GSC MAP 6-1960; 1262A  
GSC MEM 362, p. 53  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/04

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 038**

NATIONAL MINERAL INVENTORY: 104K8 Asb1

NAME(S): **TATSAMENIE LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 17 10 N  
LONGITUDE: 132 19 45 W  
ELEVATION: 2040 Metres

NORTHING: 6463670  
EASTING: 656584

LOCATION ACCURACY: Within 500M

COMMENTS: Showing (Assessment Report 12688) located south of Tatsamenie Lake.

COMMODITIES: Asbestos Talc

**MINERALS**

SIGNIFICANT: Serpentine Antigorite Magnetite  
ASSOCIATED: Carbonate Magnetite  
ALTERATION: Serpentine Talc Carbonate Magnetite Quartz  
ALTERATION TYPE: Serpentin'zn Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Replacement Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Permian-Triassic Permian	Unnamed/Unknown Group	Undefined Formation	Ultramafic Intrusions

LITHOLOGY: Serpentinized Amphibolite  
Tuff  
Phyllite  
Limestone  
Siltstone  
Listwanite  
Crystal Tuff  
Lapilli Tuff

HOSTROCK COMMENTS: Intercalated volcanics and sediments contain Triassic and older rocks  
Permian (?) serpentinized ultramafic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Hornblende diorite and quartz-monzonite of Juro-Triassic Age intrude and are in fault contact with the pre-Upper Triassic rocks. These are commonly altered to chlorite, hematite and epidote. The Mesozoic strata are overlain unconformably by flat-lying Upper Tertiary and Pleistocene plateau basalts of the Level Mountain Group.

A major north to northwest trending fault, known as the Ophir Break Zone, extends through the area for over 10 kilometres. This zone is about 3500 metres wide, and is defined by areas of intense fracturing with abundant slickensiding; areas of carbonaceous and siliceous black siltstone and gouge; and linear quartz-iron carbonate-pyrite-fuchsite (listwanites) and quartz-dolomite alteration zones. The listwanites occur in the tuffs. The Ophir Break Zone is bounded on the west by the West Wall fault and on the east by the Ultramafic fault.

The pre-Upper Triassic rocks consist of fine-grained crystal to lapilli tuff, phyllite, limestone, siltstone and intraformational breccia. A sliver of ultramafic rock, consisting of serpentinized amphibolite, occurs adjacent to the West Wall Fault. In thin section, the rock contains antigorite, talc and minor carbonate and magnetite. These rocks are considered to be part of the Stikinia Terrane.

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**BIBLIOGRAPHY**

EMPR ASS RPT 10757, 11408, \*12688, 16523, \*16726  
EMPR EXPL 1983-542; 1984-398  
EMPR PF (RPTS by Lefebure, D. (1987))  
EMPR OF 1995-25  
GSC MAP 6-1960; 1262A  
GSC MEM 362, pp. 42-43,52  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/02

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 039**

NATIONAL MINERAL INVENTORY: 104K1 Cu1

NAME(S): **ORO, TAN**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 10 09 N  
LONGITUDE: 132 17 47 W  
ELEVATION: 1860 Metres

NORTHING: 6450733  
EASTING: 659028

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 12628) located about 5 kilometres north of the Samotua River.

COMMODITIES: Copper Gold

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Malachite

ASSOCIATED: Quartz

ALTERATION: Ankerite Hematite Limonite Malachite Carbonate

COMMENTS: Quartz-iron carbonate gossan

ALTERATION TYPE: Quartz-Carb. Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated

CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Triassic  
Jurassic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Diorite  
Gossan  
Argillite  
Greenstone

HOSTROCK COMMENTS: Intercalated volcanics and sediments comprise Triassic and older rocks and are intruded by Jurassic diorite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Grab

**COMMODITY**

Gold

**GRADE**

0.9000

Grams per tonne

Copper

0.8100

Per cent

REFERENCE: Assessment Report 12628.

**CAPSULE GEOLOGY**

The area south of Bearskin Lake (Muddy Lake) is predominantly underlain by pre-Upper Triassic volcanoclastics, tuffs, tuffaceous breccias, argillites and minor limestone of the Stikinia Terrane. These are intruded by several small structurally controlled stocks of hornblende diorite to augite porphyry of Jurassic age. The rocks are regionally metamorphosed to lower greenschist facies. Faults, with strike directions of 018 to 027 degrees, occur in the area.

Gossans, containing ankerite, hematite, pyrite and sometimes chalcopyrite and malachite, occur within the stratified rocks and sometimes adjacent to faults and diorite stocks.

A grab sample from an altered diorite assayed 0.81 per cent copper and 0.9 gram per tonne gold (Assessment Report 12628). About 600 metres to the south a large (700 by 300 metres) quartz-iron-carbonate gossan zone contain pyrite, minor chalcopyrite blebs, limonite and malachite.

**BIBLIOGRAPHY**

EMPR ASS RPT 11820, \*12628, 13840, \*15894

RUN DATE: 26-Jun-2003  
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**BIBLIOGRAPHY**

EMPR EXPL 1983-539; 1984-396; 1985-393  
EMPR FIELDWORK 1985, pp. 175-183  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/06

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 040**

NATIONAL MINERAL INVENTORY: 104K8 Cu4

NAME(S): **VAL 1**

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K08W 104K08E  
 BC MAP:  
 LATITUDE: 58 27 07 N  
 LONGITUDE: 132 15 49 W  
 ELEVATION: 1980 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS: Sample location (Assessment Report 8962) located near the headwaters of Sheslay Creek.

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6482279  
 EASTING: 659675

COMMODITIES: Copper Silver Molybdenum Gold

**MINERALS**

SIGNIFICANT: Bornite	Chalcocite	Malachite	Molybdenite		
ASSOCIATED: Quartz	Feldspar				
ALTERATION: Sericite	Clay	Chlorite	Malachite		
ALTERATION TYPE: Potassic		Oxidation	Argillic	Sericitic	Chloritic
MINERALIZATION AGE: Unknown					

**DEPOSIT**

CHARACTER: Vein Disseminated  
 CLASSIFICATION: Epigenetic Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Biotite Hornblende Quartz Monzonite  
 Quartz Feldspar Porphyry  
 Aplite Dike  
 Monzonite Dike  
 Diorite Dike

HOSTROCK COMMENTS: Quartz monzonite & feldspar porphyry may be related to Upper Cretaceous-Lower Tertiary Sloko Gp volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Plutonic Rocks Stikine  
 PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1980
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	11.0000 Grams per tonne
Gold	0.9600 Grams per tonne
Copper	1.1800 Per cent
COMMENTS: 9.1 chip sample.	
REFERENCE: Assessment Report 8967.	

**CAPSULE GEOLOGY**

The area is underlain by quartz monzonite and quartz feldspar porphyry, which are probably genetically related to the Sloko Group of Cretaceous to Tertiary Age (GSC Map 1262A). These rocks are cut by monzonite, diorite, and aplite dykes. Northwest trending structures control alteration, quartz veining and mineralization. The quartz monzonite, consisting mainly of hornblende, biotite and feldspar, sometimes has zones of sericite-clay-chlorite-iron oxide alteration. An area of potassium feldspar-quartz veins, measuring 600 by 500 metres, striking 125 degrees and dipping 55 degrees southwest, contains bornite, chalcocite, malachite and minor molybdenite.

A selected sample from a 20 centimetre quartz vein assayed 35 per cent copper, 0.003 per cent molybdenum, 251 grams per tonne silver and 0.55 gram per tonne gold. A 9.1 metre chip sample assayed 1.18 per cent copper, 11.0 grams per tonne silver and 0.96 gram per tonne gold. Four hundred metres to the south, a 6.1 metre chip sample assayed 0.335 per cent copper. (Assessment Report 8962).

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**BIBLIOGRAPHY**

EMPR ASS RPT \*8962  
EMPR EXPL 1980-490-491  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/17

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 041**

NATIONAL MINERAL INVENTORY: 104K8 Cu3

NAME(S): **MB**, TATSAMENIE LAKE WEST

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 19 59 N  
LONGITUDE: 132 22 06 W  
ELEVATION: 1200 Metres

NORTHING: 6468804  
EASTING: 654084

LOCATION ACCURACY: Within 1 KM

COMMENTS: Symbol on GSC Map 1262A, located along the north shore of Tatsamenie Lake.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcocite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Silica Pyrite  
ALTERATION TYPE: Pyrite Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Triassic  
Permian

GROUP

Unnamed/Unknown Group  
Undefined Group

FORMATION

Undefined Formation  
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Salts  
Phyllite  
Limestone  
Tuff

HOSTROCK COMMENTS: Permian limestone underlies Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**CAPSULE GEOLOGY**

In the area north of Tatsamenie Lake, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic Age, unfoliated diorite of Jurassic Age and feldspar porphyry basaltic dykes of the Sloko Group of Cretaceous to Tertiary Age.

The volcanics and sediments are pervasively silicified and pyritized. Chalcocite occurs in the rocks.

**BIBLIOGRAPHY**

EMPR ASS RPT 7610  
GSC MAP 6-1960; 1262A  
GSC MEM \*362, p. 53  
EMPR PF (RPTS by Lefebure, D. (1987))  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/05

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 042**

NATIONAL MINERAL INVENTORY: 104K8 Pb1

NAME(S): **SAM**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 15 30 N  
LONGITUDE: 132 18 54 W  
ELEVATION: 1680 Metres

NORTHING: 6460612  
EASTING: 657538

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 10158)

COMMODITIES: Silver                      Lead                      Antimony

**MINERALS**

SIGNIFICANT: Pyrite              Arsenopyrite      Stibnite              Galena  
ASSOCIATED: Calcite              Quartz  
ALTERATION: Quartz              Calcite  
ALTERATION TYPE: Carbonate              Silicific'n              Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork              Disseminated  
CLASSIFICATION: Epigenetic              Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Phyllite  
Limestone  
Greenstone  
Volcanic  
Gossan

HOSTROCK COMMENTS: Intercalated metamorphosed sediments and volcanics contain Triassic and older rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1981  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      5.4000                      Grams per tonne  
REFERENCE: Assessment Report 10158.

**CAPSULE GEOLOGY**

The area is underlain by pre-Upper Triassic felsic and mafic phyllites and intercalated limestone, dolomite and greenstone of the Stikinia Terrane. These are cut by northwest trending faults. Quartz and quartz-carbonate veins are common in gossanous zones which have extensive siliceous and carbonate alteration. Pyrite and minor arsenopyrite and stibnite occur in the altered quartz-carbonate zones and the phyllite units. Galena occurs in quartz veins, which have been found as float in the same location as the showing marked on GSC Map 1262A. A rock sample assayed 5.4 grams per tonne silver (Assessment Report 10158).

**BIBLIOGRAPHY**

EMPR ASS RPT \*10158, 13984, \*16523, \*16726  
EMPR EXPL 1981-220; 1985-395  
EMPR FIELDWORK 1985, pp. 175-183  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/03

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 043**

NATIONAL MINERAL INVENTORY: 104K16 Asb2

NAME(S): **TEDITUA CREEK**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K16W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 52 30 N  
LONGITUDE: 132 20 53 W  
ELEVATION: 1300 Metres

NORTHING: 6529163  
EASTING: 652887

LOCATION ACCURACY: Within 500M

COMMENTS: Nahlin ultramafic body extends north-northwest along the Nahlin Fault from Nahlin Mountain to Peridotite Peak. The showing is identified as an asbestos occurrence on GSC Map 1262A.

COMMODITIES: Asbestos                      Magnesite

**MINERALS**

SIGNIFICANT:	Chrysotile	Magnesite			
ASSOCIATED:	Magnesite	Antigorite	Magnetite		
ALTERATION:	Serpentine	Ankerite	Dolomite	Magnesite	Antigorite
ALTERATION TYPE:	Serpentin'zn	Carbonate		Quartz-Carb.	
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein                              Stratabound  
CLASSIFICATION: Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian			Ultramafic Intrusions

LITHOLOGY: Peridotite  
Serpentinized Peridotite  
Serpentinite  
Carbonatized Peridotite  
Ultramafic  
Listwanite

HOSTROCK COMMENTS: Permian to Pennsylvanian Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The area is underlain by the Pennsylvanian to Permian Nahlin ultramafic body which is a large belt of ultramafic bodies that parallel the southwestern side of the Atlin Horst. It forms two long, narrow prongs that converge in an acute angle at Nahlin Mountain. The longer axis of the body trends west-northwest from Nahlin Mountain to Peridotite Peak, paralleling the Nahlin fault.

The ultramafic consists of hard, dark green to black peridotite with crystals and crystal clusters of pyroxene ranging from 0.3 to 1.3 centimetres across. The principal variation in the body is the degree of serpentinization, which is most intense along contacts and sheared or brecciated zones.

Exposed contacts between the Nahlin ultramafic body and layered Jurassic and Triassic rocks are invariably marked by fault zones adjacent to which the peridotite has been sheared and serpentinized. The Nahlin fault, which bounds the southwestern margin of the body, comprises a subparallel network of anastomosing shear planes and fractures with steep northerly or vertical dips.

Locally, the highly serpentinized rock contains a filigree of fine chrysotile veinlets usually less than 1 millimetre across. An asbestos occurrence is located along the Nahlin fault as shown on GSC Map 1262A. The thicker chrysotile veins, ranging up to 2 centimetres across, apparently contain brittle slip-fibre that are deemed as of no commercial value.

Adjacent to this major fault network the serpentinized peridotite has also been carbonitized (listwanite). Ankerite is the principal carbonate but veins of pure white, microgranular magnesite and coarsely crystalline dolomite are also present. Where serpentinization is complete, veinlets of antigorite blades with disseminated magnetite grains also occur.

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR OF 1995-25  
GSC MEM \*362, pp. 40-42, 52, 53  
GSC MAP 6-1960; \*1262A  
GSC P 74-47, Fig. 2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/24

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 044**

NATIONAL MINERAL INVENTORY: 104K16 Asb3

NAME(S): **MENATATULINE RANGE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K16W 104K16E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 56 56 N  
LONGITUDE: 132 13 46 W  
ELEVATION: 1600 Metres

NORTHING: 6537663  
EASTING: 659382

LOCATION ACCURACY: Within 500M

COMMENTS: Nahlin ultramafic body extends northwest from Nahlin Mountain to the Menatatuline Range near Victoria Lake.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Magnetite      Antigorite  
ALTERATION: Serpentine      Antigorite  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein      Stratabound  
CLASSIFICATION: Epigenetic      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Pennsylvan.-Permian			Ultramafic Intrusions

LITHOLOGY: Peridotite  
Serpentinized Peridotite  
Serpentinite  
Ultramafic

HOSTROCK COMMENTS: Permian to Pennsylvanian Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The area is underlain by the Pennsylvanian to Permian Nahlin ultramafic body which is a large belt of ultramafic bodies that parallel the southwestern side of the Atlin Horst. It forms two long, narrow prongs that converge in an acute angle at Nahlin Mountain. The longer axis of the body trends west-northwest from Nahlin Mountain to Peridotite Peak. The small axis trends northwest from Nahlin Mountain into the Menatatuline Range.

The ultramafic body is a hard, tough, dark green to black peridotite consisting of fine-grained, partly serpentinized olivine, orthopyroxene, augite, and chrome spinel. The pyroxene forms discrete crystals and crystal clusters ranging from 0.3 to 1.3 centimetres across. The principal variation in the body is the degree of serpentinization. It is most intense along contacts and sheared or brecciated zones. Normally the unfoliated peridotite has a platy fabric, accentuated by streaks of serpentine, lenses of magnetite and slikenides along fractures. Serpentinization of the unsheared peridotite, containing pseudomorphs of olivine and pyroxene (bastite), has occurred in zones adjacent to sheared serpentinite, and in lenses surrounded by highly sheared serpentinite. Locally, the highly serpentinized rock contains a filigree of fine chrysotile veinlets usually less than 1 millimetre across. Thicker chrysotile veins contain brittle slip-fibre that are deemed as of no commercial value.

Serpentinization of unsheared peridotite can be observed in all stages, from the initial formation of platy antigorite to complete replacement of both olivine and pyroxene. Where serpentinization is complete, the original grain boundaries are preserved as veinlets of reticulated antigorite blades with disseminated magnetite grains, or are converted to clear amorphous serpentine. Where shearing has accompanied serpentinization the rock is converted to a mass of feathery antigorite crystals with lensoid streaks of magnetite.

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GSC MAP 6-1960; \*1262A  
GSC P 74-47, Fig. 2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/19

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 045**

NATIONAL MINERAL INVENTORY: 104K16 Ni1

NAME(S): **CHASTOT CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K16E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 50 11 N  
LONGITUDE: 132 00 47 W  
ELEVATION: 1500 Metres

NORTHING: 6525680  
EASTING: 672384

LOCATION ACCURACY: Within 500M

COMMENTS: Nickel occurrence located along Chastot Creek as shown on GSC Map 1262A.

COMMODITIES: Nickel                      Magnesite                      Opal                      Gemstones

**MINERALS**

SIGNIFICANT:	Millerite	Magnesite	Chalcedony	Opal
COMMENTS:	Nickeliferous chlorite			
ASSOCIATED:	Chalcedony	Opal	Pyroxene	
ALTERATION:	Ankerite	Dolomite	Magnesite	Serpentine
ALTERATION TYPE:	Serpentin'zn		Carbonate	Quartz-Carb.
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER:	Stockwork	Stratabound	Disseminated
CLASSIFICATION:	Magmatic	Epigenetic	Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Pennsylvan.-Permian			Ultramafic Intrusions

LITHOLOGY: Carbonatized Serpentinite  
Serpentinized Peridotite  
Serpentinite  
Peridotite  
Carbonatized Peridotite  
Ultramafic  
Listwanite

HOSTROCK COMMENTS: Permian to Pennsylvanian Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The area is underlain by the Pennsylvanian to Permian Nahlin ultramafic body which is a large belt of ultramafic bodies that parallel the southwestern side of the Atlin Horst. It forms two narrow pronges that converge at an acute angle at Nahlin Mountain.

The ultramafic body consists of green to black peridotite with fine-grained partly serpentized olivine, orthopyroxene, augite, and chrome spinel. The pyroxene forms discrete crystals and crystal clusters ranging from 0.3 to 1.3 centimetres across. The principal variation in the body is the degree of serpentization which is most intense along contacts and sheared or brecciated zones.

Exposed contacts between the Nahlin ultramafic body and layered Jurassic and Triassic rocks are invariably marked by fault zones adjacent to which the peridotite has been sheared and serpentized. The Nahlin fault, which bounds the southwestern margin of the body, comprises a subparallel network of anastomosing shear planes and fractures with steep northerly or vertical dips. The width and complexity of the Nahlin fault varies.

Adjacent to this major fault network the peridotite has been carbonitized (listwanite) producing bright orange weathering outcrops from a few metres to over 7 metres in width. Ankerite is the principal carbonate but veins of pure white, microgranular magnesite and coarsely crystalline dolomite are also present. The carbonitized zones are riddled with a network of thin chalcedony or opal stringers, as well as traces of bright green nickeliferous chlorite.

A nickel occurrence along Chaslot Creek, as shown on GSC Map 1262A, hosts traces of millerite and veins of magnesite in shear zones along the margin of the Nahlin ultramafic body. The nickel-bearing zones are sheared, carbonated serpentinite, veined with a stockwork of chalcedony and opal stringers.

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**BIBLIOGRAPHY**

GSC MEM \*362, pp. 40-42, 52, 53  
GSC MAP 6-1960; \*1262A  
GSC P 74-47, Fig. 2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/19

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 046**

NATIONAL MINERAL INVENTORY: 104K15 Ni1

NAME(S): **GOAT**, PERIDOTITE PEAK SOUTHEAST

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K15E  
BC MAP:  
LATITUDE: 58 56 31 N  
LONGITUDE: 132 40 24 W  
ELEVATION: 1300 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Located on the southeastern flanks of Peridotite Peak just north of Yeth Creek, on the north side of the Nahlin fault.

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6535917  
EASTING: 633880

COMMODITIES: Nickel                      Magnesite                      Opal                      Gemstones

**MINERALS**

SIGNIFICANT: Millerite                      Magnesite                      Chalcedony                      Opal  
COMMENTS: Nickeliferous chlorite.  
ASSOCIATED: Chalcedony                      Opal                      Pyroxene  
ALTERATION: Ankerite                      Dolomite                      Magnesite                      Sapphirine                      Chlorite  
ALTERATION TYPE: Serpentin'zn                      Carbonate                      Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stratabound                      Disseminated  
CLASSIFICATION: Magmatic                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Jurassic	Laberge	Inklin	
Pennsylvan.-Permian			Ultramafic Intrusions

LITHOLOGY: Carbonatized Serpentinite  
Serpentinized Peridotite  
Peridotite  
Carbonatized Peridotite  
Serpentinite  
Ultramafic  
Listwanite

HOSTROCK COMMENTS: Nahlin fault separates Lower to Middle Jurassic Laberge Group sediments from Pennsylvanian to Permian Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Syn-mineralization                      GRADE: Post-mineralization

**CAPSULE GEOLOGY**

The Nahlin fault, which trends northeast and dips steeply to the northeast, juxtaposes the Pennsylvanian to Permian Nahlin ultramafic body to the north with Lower to Middle Jurassic Laberge Group, Inklin Formation sediments to the south. The sediments are comprised mainly of a thick sequence of shales and siltstones.

The Nahlin body peridotite and serpentinitized peridotite forms rough weathering, reddish brown knobs. The peridotite is green to black and hosts discrete crystals and crystal clusters of pyroxene ranging from 0.3 to 1.3 centimetres across.

Adjacent to the Nahlin fault network the peridotite has been carbonitized producing bright orange weathering outcrops. Ankerite is the principal carbonate but veins of pure white, microgranular magnesite and dolomite are also present. Milky quartz with some magnesite also line vugs and cavities within this peridotite. A meshwork of chalcedony veins with chalcedony and opal stringers are common in the fractured, carbonitized peridotite.

The peridotite is variably quartz-carbonate altered (listwanite) and traces of secondary fuchsite (?) and bright green nickeliferous chlorite are common. Traces of millerite and veins of magnesite are hosted by sheared and carbonated serpentinite. The serpentine exposures are generally irregular pods surrounded by partially serpentinitized peridotite.

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GSC P 74-47, Fig. 2  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/26

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 047**

NATIONAL MINERAL INVENTORY: 104K6 Mo1

NAME(S): **MOLY-TAKU (Y ZONE)**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K06W  
BC MAP:  
LATITUDE: 58 26 09 N  
LONGITUDE: 133 20 48 W  
ELEVATION: 1700 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Part of the Moly-Taku property (104K 013), Y Zone located 0.6 kilometres east of Mt. Ogden; drilling location (Assessment Report 9085).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6478421  
EASTING: 596531

COMMODITIES: Molybdenum                      Tungsten                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite                      Scheelite                      Pyrrhotite                      Sphalerite                      Chalcopyrite  
                    Magnetite                      Pyrite  
ASSOCIATED: Quartz                      Fluorite  
ALTERATION: Sericite                      Chlorite                      Epidote                      Silica  
ALTERATION TYPE: Sericitic                      Chloritic                      Epidote                      Silicific'n                      Potassic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic                      Hydrothermal                      Porphyry                      Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Undefined Formation	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Quartz Feldspar Porphyry  
Hornfels  
Argillite  
Greenstone  
Phyllite

HOSTROCK COMMENTS: Metasediments and volcanics consist of Triassic and older rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact                      Regional                      Plutonic Rocks  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Syn-mineralization                      Post-mineralization  
GRADE: Greenschist                      Hornfels

**INVENTORY**

ORE ZONE: Y                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1980  
SAMPLE TYPE: Bulk Sample  
COMMODITY                      GRADE  
Molybdenum                      0.0730                      Per cent  
Tungsten                      0.0840                      Per cent  
COMMENTS: Bulk sample assayed 0.073 per cent molybdenum sulphide, and 0.084 per cent tungsten sulphide.  
REFERENCE: Assessment Report 9085.

**CAPSULE GEOLOGY**

The oldest rocks exposed on the Moly-Taku claims consist of Permian limestones, dolomitic limestones, and minor chert. These occur with pre-Upper Triassic fine-grained clastic sediments and intercalated volcanic rocks which are largely altered to greenstone and phyllite. These metasediments and volcanics have been intruded by felsic dykes and plutons of Upper Cretaceous to Tertiary Age. This Upper Cretaceous to Lower Tertiary pluton lies about 2.0 kilometres west of a batholith of coarse-grained biotite-hornblende quartz monzonite, and is probably a satellite intrusion related to the batholith. Surface exposures indicate the stock is about 2.0 kilometres long and 1.0 kilometre wide. The pluton is composed of inequigranular to sub-porphyrific fine-grained alaskite which contains quartz, k-feldspar, plagioclase, and less than 1 per cent biotite, chlorite, sphene, and fluorite.

## CAPSULE GEOLOGY

About 600 metres southeast of the Mt. Ogden stock (Moly-Taku, 104K 013) is a large, 150 metre long outcrop, called the Y Zone. This exposure consists of quartz-feldspar porphyry which contains molybdenum-tungsten mineralization. In 1980, a bulk sample from this zone assayed 0.073 per cent molybdenite and 0.084 per cent tungsten (Assessment Report 9085).

Compositionally, the Y Zone intrusive is similar to the Mt. Ogden stock but texturally it is distinctly a separate intrusive phase. Prominent and distinct quartz eyes and feldspar phenocrysts in an aphanitic matrix distinguish it from the Mt. Ogden alaskite stock.

The quartz-feldspar porphyry intrudes meta-argillite and greenstone which is hornfelsed near the contact. These rocks have been altered by a strong hydrothermal system. Five types of alteration were recognized, strong sericitization with chloritization, epidotization, silicification, and k-feldspathization.

Mineralized quartz veins occur throughout. The most common type of vein is quartz-pyrite-pyrrhotite-sphalerite which also contain minor scheelite. Other common vein types are quartz-molybdenite, quartz-epidote-pyrite-magnetite-scheelite, and quartz-magnetite-epidote. Quartz veins with pyrrhotite, chalcopyrite, and scheelite occur as well as quartz veins with just sphalerite or scheelite. Fluorite-bearing and magnetite-bearing veins occurred in drill hole Y-1.

Fracture-coating mineralization also occurs but less commonly than mineralized veins. The fracture coatings include pyrrhotite, chalcopyrite, molybdenite, magnetite, sphalerite, and pyrite.

The molybdenum-tungsten mineralization is thought to occur within the "hood" zone of a buried stock.

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- EMPR EXPL 1977-E236; \*1978-E266; 1979-292,293; 1980-488,489
- EMPR GEM 1967-25
- EMPR GEOLOGY 1977-1981, p. 180, Fig.59
- EMPR FIELDWORK 1978, p. 105
- GSC MEM 248; 362, p. 56
- GSC MAP 6-1960; 931A; 1262A
- EMR MP CORPFILE (Omni Resources Inc.)
- CMJ Apr. 1980, p. 55
- GCNL #180, 1978; \*#2, #54, #95, #145, #161, 1979; \*#120, #136, 1980
- N MINER Jan.18, 1979
- W MINER Feb. 1979
- EMPR PF (Refer to Mt. Ogden Moly-Taku, 104K 013)
- EMPR OF 1991-17

DATE CODED: 1988/05/13  
DATE REVISED: 1988/05/13

CODED BY: LLC  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 048**

NATIONAL MINERAL INVENTORY: 104K11 Sb1

NAME(S): **BAKER**, HINI, STU

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 35 39 N  
LONGITUDE: 133 21 09 W  
ELEVATION: 270 Metres

NORTHING: 6496039  
EASTING: 595758

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Stuhini Creek, in the valley between Mount Ericksen and Sittakanay Mountain.

COMMODITIES: Antimony Silver Lead Zinc Copper  
Gold

**MINERALS**

SIGNIFICANT: Stibnite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Pyrite  
ALTERATION TYPE: Pyrite Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal  
COMMENTS: Mineralization occurs in north-northwest trending faults.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Andesitic Pyroclastic  
Andesite Flow  
Andesite  
Tuff  
Quartz Monzonite

HOSTROCK COMMENTS: Quartz monzonite stock & associated feldspar porphyry dykes thought to be genetically related to Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact Regional  
Plutonic Rocks  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: GRADE:

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1981  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 1.3700 Grams per tonne  
Copper 0.0100 Per cent  
Lead 0.0200 Per cent  
Zinc 0.0100 Per cent

COMMENTS: Sample from pyritic alteration zone, also assayed trace gold.  
REFERENCE: Assessment Report 8932.

**CAPSULE GEOLOGY**

The claims are underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic flows, breccias, and tuffs. The volcanics are hydrothermally altered by the intrusion of a Tertiary-Cretaceous quartz-monzonite pluton and associated porphyry dykes. This pluton is thought to be genetically related to the Tertiary-Cretaceous Sloko Group volcanics (GSC Map 1262A).

The claims cover pyritic gossans within the Stuhini Group andesitic flows and fragmentals. A reported occurrence of stibnite, known as the Baker showing, is located here. The stibnite is reported to occur in veins and as disseminations in a large altered zone in the andesitic volcanics. The alteration and mineralization is controlled by north-northwest striking faults which occur along the south side of Stuhini Creek (refer to Anty, 104K 023).

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**CAPSULE GEOLOGY**

In 1981, prospecting was carried out along the north side of Stuhini Creek in a small, pyritic alteration zone within andesitic pyroclastics. A sample of the intermediate, silicified and pyritic pyroclastic from this alteration zone assayed trace gold, 1.37 grams per tonne silver, 0.01 per cent copper, 0.02 per cent lead, and 0.01 per cent zinc (Assessment Report 8932).

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EMPR AR 1965-9; 1967-25  
EMPR ASS RPT 1165, \*8932  
GSC MEM 248; \*362, p. 57  
GSC MAP 6-1960; 931A; \*1262A  
N MINER Dec.25, 1980; Mar.19, 1981  
GCNL Jul.25, 1968

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/04

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 049**

NATIONAL MINERAL INVENTORY:

NAME(S): **YELLOW BLUFF, MUD**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 42 25 N  
LONGITUDE: 133 27 57 W  
ELEVATION: 350 Metres

NORTHING: 6508438  
EASTING: 588884

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southern flanks of Yellow Bluff, on the north side of the Taku River, 45 kilometres northeast of Tulsequah.

COMMODITIES: Gold                      Lead                      Zinc                      Silver                      Copper

**MINERALS**

SIGNIFICANT: Pyrite              Sphalerite              Galena              Chalcopyrite

COMMENTS: Probable sulphide mineralogy within lenses.

ALTERATION: Limonite              Pyrite

ALTERATION TYPE: Pyrite              Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform              Massive              Disseminated  
CLASSIFICATION: Volcanogenic              Exhalative

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Cretaceous-Tertiary	Stuhini	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesitic Volcanic  
Andesitic Flow  
Tuff  
Biotite Hornblende Quartz Monzonite

HOSTROCK COMMENTS: Quartz monzonite intrusion is thought to be correlative with the Tertiary-Cretaceous Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Contact              Regional

Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE:

**CAPSULE GEOLOGY**

The area is underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, tuffs, agglomerate, and minor associated volcaniclastics. The Stuhini Group is intruded by a large, medium to coarse-grained, pink, biotite-hornblende-quartz monzonite stock. The intrusive is dated as Upper Cretaceous to Lower Tertiary and is thought to be correlative with the Sloko Group volcanics.

Yellow Bluff, along the Taku River, displays a large area of volcanic rocks altered and impregnated with sulphides (GSC Memoir 248, page 55). Many of the altered zones in the volcanics appear to only carry pyrite, however, some of these deposits are said to contain gold, but they have not been thoroughly tested.

In 1980, prospecting on the Yellow Bluff indicated pyritic massive sulphide lenses occur with variable copper, lead, zinc, gold, and silver values and are associated with acidic phases of the Stuhini volcanic rocks. The sulphide mineralogy is likely to be pyrite with minor sphalerite, galena, and chalcopyrite. The flows and fragmental andesites dip steeply westward. Mineralization is thought to be similar to the Tulsequah Chief Mine (104K 002) which is a Kuroko-type stratiform, volcanogenic massive sulphide deposit.

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GSC P 45-30  
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EMPR ASS RPT \*10719  
EMPR AR 1956-12

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CIM Jubilee Vol. 1, 1948, p. 112

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/02

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 050**

NATIONAL MINERAL INVENTORY: 104K11 Mo1

NAME(S): **STUHINI, SUE 2**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 32 07 N  
LONGITUDE: 133 17 34 W  
ELEVATION: 1370 Metres

NORTHING: 6489570  
EASTING: 599396

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the eastern flanks of Sittakanay Mountain, north of the Sittakanay Glacier.

COMMODITIES: Silver                      Copper                      Molybdenum                      Gold

**MINERALS**

SIGNIFICANT: Pyrite                      Molybdenite  
ASSOCIATED: Quartz  
ALTERATION: Pyrite                      Chlorite                      Epidote                      Calcite  
ALTERATION TYPE: Pyrite                      Silicific'n                      Propylitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Epigenetic                      Hydrothermal                      Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Cretaceous-Tertiary	Stuhini	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Volcanic Greenstone  
Andesitic Volcanic  
Alaskite Dike  
Quartz Feldspar Porphyry Dike

HOSTROCK COMMENTS: Quartz monzonite, feldspar-porphyry, & alaskite dykes are genetically related to the Upper Cretaceous-Lower Tertiary Sloko Group volcanics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine	Plutonic Rocks
METAMORPHIC TYPE: Contact                      Regional	RELATIONSHIP: Syn-mineralization                      Post-mineralization
	GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1981
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	3.2000                      Grams per tonne
Copper	0.0040                      Per cent
Molybdenum	0.0020                      Per cent

COMMENTS: Sample from alaskite dyke contact.  
REFERENCE: Assessment Report 9107.

**CAPSULE GEOLOGY**

The area is underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, volcanic breccia, tuff, agglomerate, and minor intercalated volcanoclastics. The Stuhini Group rocks are intruded by quartz-monzonite stocks and associated feldspar-porphyry dykes which range from Upper Cretaceous to Lower Tertiary in age and are genetically related to the Sloko Group volcanics (GSC Map 1262A).

On the property, the Stuhini Group volcanics have undergone lower greenschist facies metamorphism and host abundant chlorite, epidote, and minor calcite.

The volcanic greenstones are intruded by a strong northeast trending alaskite dyke swarm. The dykes vary in texture and range from alaskite to quartz-feldspar porphyry dykes. Typically, minor pyrite and silicification is associated with the dyke contacts. This mineralization is strongest where faults and fractures intersect the contacts.

**CAPSULE GEOLOGY**

In 1980, rock samples were collected and showed anomalous values in molybdenum and silver. Molybdenite occurs in the alaskite dykes and it is thought that minor silver values are related to the contact pyritization associated with these dykes.

In 1981, one sample assayed 0.08 grams per tonne gold, 1.4 grams per tonne silver, trace copper, and molybdenum. Other samples returned 3.2 grams per tonne silver, 0.004 per cent copper, 0.002 per cent molybdenum, and 1.6 grams per tonne silver, 0.009 per cent copper, 0.0002 per cent molybdenum, respectively. (Assessment Report 9107).

**BIBLIOGRAPHY**

EMPR EXPL 1980-493  
EMPR ASS RPT 8436B, \*9107  
GSC MEM 248; 362, p. 53  
GSC MAP 6-1960; 931A; \*1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/05

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 051**

NATIONAL MINERAL INVENTORY: 104K11 Pb2

NAME(S): **SUE**, GRAG, STUHINI

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W 104K06W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 30 58 N  
LONGITUDE: 133 17 31 W  
ELEVATION: 1000 Metres

NORTHING: 6487438  
EASTING: 599498

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the north side of the Sittakanay Glacier.

COMMODITIES: Silver                      Copper                      Molybdenum                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Pyrite                      Magnetite                      Pyrrhotite                      Chalcopyrite                      Molybdenite

Sphalerite                      Galena

ASSOCIATED: Quartz

ALTERATION: Pyrite                      Chlorite                      Epidote                      Carbonate

ALTERATION TYPE: Pyrite

Carbonate

Silicific'n

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

Disseminated

CLASSIFICATION: Epigenetic

Hydrothermal

Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

Stuhini

Undefined Formation

Jurassic-Cretaceous

Cretaceous-Tertiary

Coast Plutonic Complex

Unnamed/Unknown Informal

LITHOLOGY:

Greenstone  
Andesite  
Rhyolite Porphyry Dike  
Feldspar Porphyry Dike  
Hornblende Diorite  
Gossan

HOSTROCK COMMENTS:

Quartz monzonite & associated porphyry dykes genetically related to Tertiary-Cretaceous Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Contact                      Regional

Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

13.0000

Grams per tonne

Copper

0.1250

Per cent

COMMENTS: Grab sample from small lens of massive magnetite and pyrite.

REFERENCE: Assessment Report 8436B.

**CAPSULE GEOLOGY**

The area is underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, volcanic breccia, tuff, agglomerate, and minor intercalated volcanoclastics. The Stuhini Group rocks are intruded by quartz-monzonite stocks and associated feldspar-porphyry dykes which range from Upper Cretaceous to Lower Tertiary in age and are genetically related to the Sloko Group volcanics (GSC Map 1262A).

The Sue claims are underlain by metamorphosed Stuhini Group volcanics and sediments. The volcanic derived greenstones cover most of the claims. The metamorphic grade of these country rocks is probably lower greenschist facies, with epidote and chlorite common in the greenstones, and the carbonates are recrystallized and dolomitized.

The sequence of country rocks has been intruded by several igneous phases. A small plug of hornblende diorite of Juro-Cretaceous

## CAPSULE GEOLOGY

Age, related to the Coast Plutonic Complex, was mapped and was found to be barren except for minor pyrite near the contact zone. Other later rhyolite porphyry dykes and feldspar porphyry dykes host minor pyrite mineralization associated with the dyke contacts.

In 1980, a small sample taken from a small lens of massive magnetite and pyrite in the greenstone assayed 13.0 grams per tonne silver and 0.125 per cent copper.

The area is reported to contain a lead-zinc occurrence, located along the southern edge of a small intrusive plug (GSC Map 1262A). The only evidence for this occurrence, found during a 1980-1981 exploration program, was a piece of float located north of the claims (Stuhini 104K 050). Mineralization within the float consisted of galena, sphalerite, and bornite in a garnet-epidote skarn (Assessment Report 9107).

In 1979, prospecting east of the Grag claims (now on the Sue) located a mineralized zone, marked by a gossan striking 020 to 030 degrees, about 150 metres wide and 1200 metres long. The host rock is highly silicified andesite (greenstone), which is crosscut by mineralized quartz veins. The sulphides occur along fractures and joint planes as well as minor disseminations, and include pyrite, pyrrotite, chalcopyrite, molybdenite, galena, and sphalerite. In 1979, an 8.0 metre sample assayed 2.9 grams per tonne silver, 0.04 per cent copper, and 0.005 per cent molybdenum. Another sample returned 3.9 grams per tonne silver, 0.008 per cent copper, and 0.045 per cent molybdenum. (Assessment Report 7558)

## BIBLIOGRAPHY

EMPR EXPL 1979-293; \*1980-493  
EMPR ASS RPT \*7558, \*8436B, 9107  
GSC MEM 248; 362, pp. 53,54  
GSC MAP 6-1960; 931A; \*1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/05

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 052**

NATIONAL MINERAL INVENTORY: 104K11 Ag2

NAME(S): **ZOHINI**, CAP 6, JH,  
MAIN ZOHINI, WEST ZOHINI, ZOH,  
ARN, ZO

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W

UTM ZONE: 08 (NAD 83)

BC MAP:  
LATITUDE: 58 41 59 N  
LONGITUDE: 133 18 08 W  
ELEVATION: 925 Metres

NORTHING: 6507862  
EASTING: 598383

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south side of Mount Lester Jones, along the north side of Zohini Creek about 2.5 kilometres east of the junction of Zohini Creek and the Taku River.

COMMODITIES: Gold                      Silver                      Lead                      Zinc                      Antimony  
                  Arsenic

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Stibnite      Arsenopyrite      Pyrrhotite  
                  Pyrite

COMMENTS: Antimony-rich sulphide associated with the arsenopyrite.

ASSOCIATED: Calcite      Siderite

ALTERATION: Limonite      Silica

ALTERATION TYPE: Oxidation                      Silicific'n                      Carbonate

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Epigenetic                      Hydrothermal                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic	Laberge	Takwahoni	
Cretaceous-Tertiary	Sloko	Undefined Formation	

LITHOLOGY: Rhyolite  
                  Tuffaceous Volcanic  
                  Gossan  
                  Dike

HOSTROCK COMMENTS: Mineralized gossanous zones occur in rhyolitic rocks of the Sloko Group. Northeast trending dolerite dykes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: MAIN ZOHINI

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	256.4000	Grams per tonne
Arsenic	2.4300	Per cent
Gold	1.3700	Grams per tonne
Lead	6.1000	Per cent
Zinc	5.3100	Per cent

COMMENTS: 2.0 metre chip sample from oxidized trench, sample Z 04 C.

REFERENCE: Assessment Report 9592.

**CAPSULE GEOLOGY**

The area is underlain by the Lower to Middle Jurassic Laberge Group rocks of the Takwahoni Formation comprised of a thick assemblage of interbedded conglomerates, greywackes, siltstones, and shales. The rocks are unconformably overlain by Lower Tertiary and Upper Cretaceous Sloko Group rocks comprised of light-coloured rhyolite, dacite, trachytic flows, and pyroclastics.

The claims are underlain by grey-green to greyish rhyolite and tuffaceous volcanics which have undergone silicification and hydrothermal alteration. Northeast trending dolerite dykes have been mapped crosscutting the rhyolites. Mineralization occurs in shears or

## CAPSULE GEOLOGY

fracture zones in the rhyolite, and is defined by bright orange weathering gossanous zones, which host limonite, narrow calcite veinlets, and lenses of siderite. The best mineralized zone is traceable for about 150 metres.

A shear zone, averaging about 11 metres in width and traceable for about 91 metres, hosts two mineralized sections of massive lead, zinc, and antimony sulphides. In 1964 to 1965, the weighted average of channel sampling over a 3.9 metre footwall section gave 1.7 grams per tonne gold, 617.1 grams per tonne silver, 2.1 per cent lead, 6.3 per cent zinc, and 1.5 per cent antimony. On the hangingwall section, a 1.8 metre section averaged 3.4 grams per tonne gold, 188.56 grams per tonne silver, 2.7 per cent lead, 3.3 per cent zinc, and 4.2 per cent antimony. (New Taku Mines Ltd.)

Detailed mapping of the gossanous zones in 1981 indicated three distinct types: 1) A reddish rusty gossan, caused by oxidation of disseminated pyrite and pyrrhotite, or veinlets within the rhyolite 2) A reddish to yellow gossan, caused by the oxidation of disseminated pyrite, pyrrhotite, and arsenopyrite, with or without hairline veinlets 3) An orange to yellow gossan, due to sulphide veins along shears hosting galena, sphalerite, arsenopyrite, pyrite, and possibly stibnite.

In 1981, chip samples from trenches in the Main Zohini vein contained several good assays. A 1.8 metre chip sample assayed 10.6 grams per tonne gold, 1664 grams per tonne silver, 5.12 per cent lead, 0.16 per cent zinc, and 1.89 per cent arsenic. Another 2.0 metre chip sample contained 1.37 grams per tonne gold, 256.4 grams per tonne silver, 6.1 per cent lead, 5.31 per cent zinc, and 2.43 per cent arsenic. (Assessment Report 9592)

A 1.0 metre chip sample taken from the West Zohini vein in 1981 contained 1.85 grams per tonne gold, 73.3 grams per tonne silver, 0.63 per cent lead, 0.08 per cent zinc, and 1.01 per cent arsenic. (Assessment Report 9592)

All of these samples were taken from strongly oxidized sections within the mineralized shear.

## BIBLIOGRAPHY

EMPR AR 1964-9; 1965-10  
EMPR EXPL \*1980-491,492; 1981-69  
EMPR ASS RPT \*9592  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1261A  
EMP MP CORPFILE (New Taku Mines Ltd.; Transcontinental Resources Limited)  
N MINER Jan.29, Apr.30, 1981  
EMPR PF (Photo of camp and Map of Zohini showing, 1964; New Taku Mines Ltd.)  
GSC P 45-30

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/26

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 053**

NATIONAL MINERAL INVENTORY: 104K14 Pb1

NAME(S): **KING SALMON**, KAP, KAP1-2,  
 GOLDCAP, CAP 11, RED CAP

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K14W  
 BC MAP:

MINING DIVISION: Atlin

LATITUDE: 58 47 00 N  
 LONGITUDE: 133 17 53 W  
 ELEVATION: 250 Metres

UTM ZONE: 08 (NAD 83)  
 NORTHING: 6517176  
 EASTING: 598388

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the east side of the Taku River, covering the western slopes of King Salmon Mountain, south of the junction of King Salmon Creek and the Taku River.

COMMODITIES: Silver                      Gold                      Zinc                      Lead                      Copper

**MINERALS**

SIGNIFICANT:	Arsenopyrite	Pyrite	Galena	Sphalerite	Chalcopyrite
ASSOCIATED:	Quartz	Carbonate			
ALTERATION:	Quartz	Sericite	Carbonate	Clay	
ALTERATION TYPE:	Sericitic		Argillic	Carbonate	Silicific'n
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Breccia	Massive	Disseminated
CLASSIFICATION:	Epigenetic			

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	King Salmon	
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Breccia  
 Brecciated Tuff  
 Black Argillite  
 Sandstone  
 Feldspar Sericite Porphyry Dike  
 Feldspar Porphyry Dike

HOSTROCK COMMENTS: Feldspar porphyry dykes are thought to be related to the Tertiary-Cretaceous Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine	Plutonic Rocks
METAMORPHIC TYPE: Contact	RELATIONSHIP: Syn-mineralization
	GRADE:

**INVENTORY**

ORE ZONE: DRILLHOLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1980
SAMPLE TYPE: Drill Core	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	57.9400 Grams per tonne
Gold	0.8200 Grams per tonne
Copper	0.0600 Per cent
Lead	0.8400 Per cent
Zinc	1.0800 Per cent

COMMENTS: A 6.1-metre intercept from 1980 drill hole.  
 REFERENCE: Property File (Prospectus for Basaba Enterprises Inc., Aug. 15, 1987).

**CAPSULE GEOLOGY**

The property is situated between the Atlin Horst to the northeast and the Stikine Arch to the south. To the west, most units are underlain by the granitic rocks of the Coast Plutonic Complex. These rocks have not been regionally metamorphosed or intensely folded as are the older units within the Tulsequah area.

The property is situated in the Upper Triassic Stuhini Group, King Salmon Formation, which is a northwest trending sequence of sedimentary and pyroclastic units. The formation occurs in a southeast plunging anticline that has been intruded by felsic dykes, which also trend in a northwest direction. The mineral occurrence was first discovered in 1980 by diamond drilling (Assessment Report 9246).

## CAPSULE GEOLOGY

Drill holes on the property intersected mineralized tuffs and brecciated tuffs. One drill hole encountered a 6.1-metre intercept grading 57.94 grams per tonne silver, 0.82 grams per tonne gold, 1.08 per cent zinc, 0.84 per cent lead, and 0.06 per cent copper (Basaba Enterprises, (1987)). Sericitized feldspar porphyry dykes intrude the King Salmon rocks, and are possibly of Late Cretaceous or Early Tertiary Age.

Sulphide mineralization in brecciated tuff consists of fine-grained pyrite and arsenopyrite disseminated in the quartz-rich matrix of the breccia. A 5.7-metre thick zone of massive sulphides was also encountered and contained massive, fine-grained arsenopyrite and some coarse-grained sphalerite in addition to finely banded arsenopyrite. Quartz and carbonate veins are common and some host pyrite and arsenopyrite.

Argillic and carbonate alteration types are present as well as chalcedonic silica. Sulphides include disseminations of pyrite and arsenopyrite with stratiform lenses of pyrite, arsenopyrite, chalcopyrite, galena, and sphalerite. The maximum observed widths of sulphide lenses was 20 centimetres.

In 1986, a grab sample of fine-grained grey sulphides within a stratiform rusty zone hosted by sandstone assayed 3.35 grams per tonne gold, 13.6 grams per tonne silver, 0.0195 per cent zinc, 0.0367 per cent lead, 0.0795 per cent copper, and 0.28 per cent arsenic (Assessment Report 15895).

## BIBLIOGRAPHY

EM EXPL 1999-19-31  
EMPR ASS RPT \*9246, 11421, \*15895  
EMPR EXPL 1982-398; 1983-547  
EMPR PF (\*Prospectus, Basaba Enterprises Inc., Aug.15, 1987:  
Report by Wahl, H. (1987), Kap-1 and Kap-2 Mineral Claims,  
Atlin Mining Division, B.C.)  
GSC MAP 6-1960; 931A; 1262A  
GSC MEM 248; \*362  
GSC P 45-30  
GCNL #12, Jan.20, 1981  
N MINER Jan.29, 1981

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/25

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 054**

NATIONAL MINERAL INVENTORY: 104K14 Pb1

NAME(S): **KING SALMON CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K14W 104K14E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 47 53 N  
LONGITUDE: 133 12 55 W  
ELEVATION: 150 Metres

NORTHING: 6518940  
EASTING: 603128

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in the King Salmon Valley along the northside of King Salmon Creek about 4.8 kilometres east of the Taku River.

COMMODITIES: Lead Silver

**MINERALS**

SIGNIFICANT: Unknown  
COMMENTS: Exact sulphide mineralization is not reported but is probably galena and arsenopyrite.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Undefined Group	Sinwa	

LITHOLOGY: Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
COMMENTS: King Salmon thrust fault parallels contact of Cache Crk. & Stikinia.

Cache Creek  
RELATIONSHIP:  
PHYSIOGRAPHIC AREA: Taku Plateau  
GRADE:

**CAPSULE GEOLOGY**

Small silver-lead deposits are reported in limestone in the King Salmon Valley. The deposits are hosted by the Upper Triassic Sinwa Formation limestone, located along the north side of the King Salmon thrust fault. The limestone has served as a relatively weak plane, along which thrust faulting, accompanied by intense local folding, has occurred.

**BIBLIOGRAPHY**

GSC MEM 248, p. 55; 362, pp. 22,23  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/25

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 055**

NATIONAL MINERAL INVENTORY: 104K13 Au1

NAME(S): **CANYON**, BEAR, UAH

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 47 37 N  
LONGITUDE: 133 32 55 W  
ELEVATION: 1400 Metres

NORTHING: 6517980  
EASTING: 583880

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 15 kilometres north of Tulsequah and about 4 kilometres north of Mount Eaton.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Pyrite  
ALTERATION TYPE: Silicific'n Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE

Permian-Triassic  
Cretaceous-Tertiary

GROUP

Unnamed/Unknown Group

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Quartz Vein  
Biotite Hornblende Quartz Monzonite  
Greenstone  
Phyllite  
Schist  
Chert  
Limestone

HOSTROCK COMMENTS: Permian limestone with Triassic and older rocks intruded by quartz monzonite genetically related to Sloko Group volcanics (GSC Map 1262A)

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact Regional  
Plutonic Rocks  
RELATIONSHIP: Syn-mineralization Post-mineralization  
PHYSIOGRAPHIC AREA: Boundary Ranges  
GRADE: Greenschist

COMMENTS: Mineralization occurs within the contact aureole.

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1931

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

15.0850

Grams per tonne

COMMENTS: Sample from a quartz vein on the Canyon Group.

REFERENCE: Minister of Mines Annual Report 1931, page A62.

**CAPSULE GEOLOGY**

A Tertiary to Cretaceous, medium to coarse-grained, pink biotite-hornblende quartz monzonite stock, which is thought to be correlative to the Sloko Group volcanics, intrudes Paleozoic to Triassic clastic sedimentary and volcanic rocks. These rocks have undergone regional greenschist facies metamorphism and are comprised mainly of greenstone and phyllites with schist, chert, slate, and minor limestone. The alteration halo indicates some pyritization and contains quartz veins with reported gold values.

In 1931, a sample from a 0.9 metre wide quartz vein assayed 15.09 grams per tonne gold (Minister of Mines Annual Report, 1931).

**BIBLIOGRAPHY**

EMPR AR \*1931-62  
EMPR EXPL \*1980-496

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 395  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/28

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 056**

NATIONAL MINERAL INVENTORY: 104K2 Mo1

NAME(S): **GLACIER**, WHITING LAKE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K02W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 08 55 N  
LONGITUDE: 132 52 54 W  
ELEVATION: Metres

NORTHING: 6447214  
EASTING: 624681

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Molybdenum occurrence from GSC Map 1262A.

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Magmatic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
Quartz Feldspar Porphyry  
Biotite Hornblende Quartz Monzonite

HOSTROCK COMMENTS: Quartz monzonite genetically related to Upper Cretaceous-Lower Tertiary Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

Quartz-feldspar porphyry intrudes biotite-hornblende quartz monzonite, which is likely genetically related to the Sloko Group of Cretaceous to Tertiary Age (GSC Map 1262A).  
Disseminated molybdenite occurs in quartz monzonite rocks, and is abundant within glacial float.

**BIBLIOGRAPHY**

EMPR ASS RPT \*4628  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (Reports by Lefebure, D. (1987))  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/20

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 057**

NATIONAL MINERAL INVENTORY: 104K6 Mo3

NAME(S): **WRIGHT GLACIER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K06W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 27 58 N  
LONGITUDE: 133 25 29 W  
ELEVATION: 800 Metres

NORTHING: 6481682  
EASTING: 591895

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north side of Wright Glacier near the International Boundary, about 5 kilometres northwest of Mount Ogden.

COMMODITIES: Molybdenum                      Zinc

**MINERALS**

SIGNIFICANT: Molybdenite      Pyrite      Sphalerite  
ASSOCIATED: Quartz  
ALTERATION TYPE: Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Unconsolidated                      Disseminated                      Stockwork  
CLASSIFICATION: Epigenetic                      Hydrothermal  
COMMENTS: Several tonnes of molybdenite-bearing float occurs on terminal and medial moraines.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Permian-Triassic  
Cretaceous-Tertiary

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Meta Sediment/Sedimentary  
Greenstone  
Phyllite  
Limestone  
Felsite Dike

HOSTROCK COMMENTS: Permo-Triassic intercalated, metamorphosed volcanics and sediments are crosscut by a Tertiary-Cretaceous felsite dyke swarm.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine                      Plutonic Rocks  
METAMORPHIC TYPE: Contact                      Regional                      RELATIONSHIP: Syn-mineralization                      GRADE: Post-mineralization

**CAPSULE GEOLOGY**

Several tonnes of molybdenite-bearing float occur on terminal and medial moraines, on the surface of an active glacier below the Mount Ogden deposit (104K 013, 104K 047). The molybdenite occurs in alaskite boulders up to 2.0 metres across. The boulders are porphyritic alaskite with prominent quartz phenocrysts and less prominent plagioclase phenocrysts in a groundmass dominated by quartz and feldspars. The boulders contain veins at random orientations containing quartz and/or molybdenite.

A molybdenum occurrence is located here on GSC Map 1262A. The host rocks are a Permo-Triassic sequence of metamorphics which include Permian limestones, dolomitic limestones with chert, and pre-Upper Triassic fine-grained clastic sediments and intercalated volcanics. These rocks are crosscut by a northeast trending, Upper Cretaceous to Lower Tertiary felsite dyke swarm. Only minor molybdenum mineralization is reported to occur within the dykes and metasediments on the Mount Ogden Moly-Taku property. Molybdenite, sphalerite, and large-scale pyritization were first noted in the area by a Geological Survey of Canada field party under the leadership of J.G. Souther, in the period of 1958-1960.

**BIBLIOGRAPHY**

GSC MEM 248; \*362  
GSC MAP 6-1960; 931A; \*1262A  
EMPR ASS RPT 383, 6639, 7175, 8433

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/16

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 057**

MINFILE NUMBER: **104K 058**

NATIONAL MINERAL INVENTORY: 104K6 Pb1

NAME(S): **HI YOGI**, TATSATUA CREEK NORTH, HI MOLY

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K06W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 29 04 N  
LONGITUDE: 133 26 58 W  
ELEVATION: 1400 Metres

NORTHING: 6483690  
EASTING: 590406

LOCATION ACCURACY: Within 500M

COMMENTS: Located north of the Wright Glacier along the International Boundary, about 6.0 kilometres northwest of Mount Ogden.

COMMODITIES: Zinc                      Lead                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Pyrrhotite      Pyrite              Sphalerite      Galena  
ASSOCIATED: Quartz  
ALTERATION: Limonite      Pyrite  
ALTERATION TYPE: Pyrite              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Podiform                      Massive                      Disseminated  
CLASSIFICATION: Epigenetic              Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Permian-Triassic  
Cretaceous-Tertiary

GROUP

Unnamed/Unknown Group

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Meta Sediment/Sedimentary  
Siltstone  
Mudstone  
Graphitic Mudstone  
Felsite Dike  
Gossan

HOSTROCK COMMENTS: Permo-Triassic intercalated metamorphosed volcanics and sediments are cut by a Tertiary-Cretaceous felsite dyke swarm.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

Plutonic Rocks

METAMORPHIC TYPE: Contact              Regional

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE:

**INVENTORY**

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	0.8000	Grams per tonne
Copper	0.0150	Per cent
Lead	0.0040	Per cent
Zinc	0.0150	Per cent

COMMENTS: Sample from pyritic lens within metasediments, located 500 metres north of a felsite dyke.

REFERENCE: Assessment Report 8433.

**CAPSULE GEOLOGY**

The area is underlain by a Permo-Triassic sequence of metamorphics which include Permian limestones, dolomitic limestones with chert, and pre-Upper Triassic fine-grained clastic sediments and intercalated volcanics. These rocks are crosscut by a northeast trending, Upper Cretaceous to Lower Tertiary felsite dyke swarm.

The metamorphic rocks are dominated by thin-bedded siltstones and mudstones, which are locally comprised of pyritic-graphitic mudstone. They have been strongly folded and show a northwest plunging lineation. Coarse, milky quartz veins are abundant and show deformation with the host rocks. Commonly, they are present as elongated lenses and pods parallel with the lineation and host pyrite and/or pyrrhotite.

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**CAPSULE GEOLOGY**

Numerous stratiform gossans are present within the metasediments. The limonite and iron-staining are a result of weathering of lenses and pods containing disseminated pyrite and pyrrhotite. Locally, a few concentrations of massive pyrrhotite up to 2 centimetres across are present.

In 1980, a sample from metasediments just south of a contact with a major felsite dyke assayed 0.2 grams per tonne silver, 0.011 per cent zinc, 0.002 per cent lead, and 0.007 per cent copper. Another sample taken 500 metres north of the dyke assayed 0.8 grams per tonne silver, 0.015 per cent zinc, 0.004 per cent lead, and 0.015 per cent copper. (Assessment Report 8433)

**BIBLIOGRAPHY**

EMPR EXPL \*1980-489  
EMPR ASS RPT 6639, 7175, \*8433  
GSC MEM 248; \*362  
GSC MAP 6-1960; 931A; 1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/16

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 059**

NATIONAL MINERAL INVENTORY: 104K11 Mo2

NAME(S): **ERIC**, WRIGHT GLACIER

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W 104K06W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 30 00 N  
LONGITUDE: 133 24 52 W  
ELEVATION: 475 Metres

NORTHING: 6485469  
EASTING: 592406

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 2.0 kilometres northeast of Border Lake, east of the International Boundary.

COMMODITIES: Copper Silver Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite  
ALTERATION: Limonite Chlorite Epidote Carbonate Dolomite  
ALTERATION TYPE: Oxidation Propylitic Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Undefined Formation	
Permian	Undefined Group	Unnamed/Unknown Formation	
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Greenstone  
Andesite  
Limestone  
Limonite Chert

HOSTROCK COMMENTS: Intercalated metamorphosed volcanics and sediments contain Triassic and older rocks as well as Permian limestones.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
Plutonic Rocks  
RELATIONSHIP: Syn-mineralization Post-mineralization  
PHYSIOGRAPHIC AREA: Boundary Ranges  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1979  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 11.0000 Grams per tonne  
Copper 0.4000 Per cent  
Molybdenum 0.0040 Per cent  
COMMENTS: Sample taken from greenstone.  
REFERENCE: Assessment Report 8436A.

**CAPSULE GEOLOGY**

The area is underlain by Permian limestone with minor chert that is overlain with an undivided metamorphic assemblage ranging from Triassic to older rocks, which are comprised of clastic sediments and intercalated volcanic rocks altered to greenstone and phyllite. These are unconformably overlain by the Upper Triassic Stuhini Group volcanics.

All of these rocks are intruded by an Upper Cretaceous to Lower Tertiary hornblende-biotite quartz monzonite stock and associated feldspar porphyry dykes which are genetically related to the Sloko Group volcanics. (GSC Map 1262A)

The area was staked in 1979, to cover a molybdenum showing indicated on GSC Map 1262A. The bedrock occurrence was not located except for a large quantity of molybdenum bearing alaskite float near the edge of a glacier terminating on the south end of Eric 1 claim. This material is probably derived from the Mount Ogden deposit to the south.



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**CAPSULE GEOLOGY**

In 1979, a 30 metre trench was dug in Permian limestones and Paleozoic limonitic cherts and greenstones. The metamorphic grade of these rocks is reported to be lower greenschist facies with epidote and chlorite common in the greenstones, and the carbonates are re-crystallized and dolomitized. The rocks are crosscut by porphyry dykes which show minor pyrite mineralization near their contacts.

Samples taken from the greenstones in 1979 returned 1.4 grams per tonne silver, 0.4 per cent copper; and 11.0 grams per tonne silver, 0.4 per cent copper, and 0.004 per cent molybdenum (Assessment Report 8436A). Mineralization probably is associated with disseminated pyrite, chalcopyrite, and minor molybdenite.

**BIBLIOGRAPHY**

EMPR EXPL 1980-489  
EMPR ASS RPT \*8436A  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; \*1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/09

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 060**

NATIONAL MINERAL INVENTORY: 104K11 Grp1

NAME(S): **RED CAP II**, MT. LESTER JONES, RED CAP

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K14W 104K14E 104K11W 104K11E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 44 03 N  
LONGITUDE: 133 15 26 W  
ELEVATION: 1675 Metres

NORTHING: 6511764  
EASTING: 600890

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on the top of a ridge about 1.6 kilometres northwest of Mount Lester Jones.

COMMODITIES: Graphite

**MINERALS**

SIGNIFICANT: Graphite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Industrial Min.  
COMMENTS: Graphite described as fissure vein filling.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Cretaceous	Stuhini	King Salmon	Coast Plutonic Complex

LITHOLOGY: Graphite  
Graphitic Vein  
Shale  
Granodiorite  
Diorite

HOSTROCK COMMENTS: Cretaceous hornblende-biotite granodiorite may be related to the Coast Plutonic Complex.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The Red Cap claims are underlain by Upper Triassic Stuhini Group rocks comprised mainly of andesitic to basaltic flows, volcanic breccia, agglomerate tuffs, and minor volcanic sandstones. These are disconformably underlain by the King Salmon Formation, which is part of the Triassic Stuhini Group and is comprised of thick-bedded, dark greywacke, conglomerate, mudstone, siltstone, and shale with minor volcanic flows, tuffs, breccia, limy shales, and limestone.

The Stuhini Group rocks are intruded by a Cretaceous hornblende-biotite granodiorite stock which may be part of the Coast Plutonic Complex, and by feldspar porphyry dykes, which are thought to be related to the Tertiary-Cretaceous Sloko Group volcanics. (GSC Map 1262A)

Graphite is reported to occur on the top of a ridge about 1.6 kilometres northwest of Mount Lester Jones. Samples weighing more than 0.5 kilogram were collected and were described as high-grade graphite with a somewhat sheared texture. The graphite is thought to be fissure vein-type material. No coal or carbon, from which graphite might be formed, has been reported in the Stuhini Group rocks. In this vicinity the Stuhini volcanic rocks are intruded by a small Jurassic or Cretaceous augite diorite stock.

**BIBLIOGRAPHY**

GSC MEM 248, pp. 57,73; 362  
GSC MAP 931A; 1262A  
GSC SUM RPT 1930A, Fig. 4  
GSC P 45-30

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/25

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 061**

NATIONAL MINERAL INVENTORY: 104K8 Cu

NAME(S): **TITO**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08E 104J05W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 21 29 N  
LONGITUDE: 132 00 37 W  
ELEVATION: 670 Metres

NORTHING: 6472461  
EASTING: 674917

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location from Geology, Exploration and Mining 1972. Located on the east side of the Samotua River.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Magmatic Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Triassic  
Cretaceous-Tertiary

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Syenite  
Andesite

HOSTROCK COMMENTS: Triassic and older intercalated volcanics and sediments intruded by syenite possibly related to Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

Pre-Upper Triassic tuffs, andesite, phyllites, siltstone, greenstone and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by foliated diorite of Triassic Age and by syenite, which is probably genetically related to the Sloko Group of Cretaceous to Tertiary Age.

A small syenite stock contains disseminated copper mineralization, likely chalcopyrite.

**BIBLIOGRAPHY**

EMPR GEM \*1972-554  
GSC MAP 6-1960; 1262A  
GSC MEM 362, pp. 53,54,56  
EMPR PF (Reports by D. Lefebure (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/16

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 062**

NATIONAL MINERAL INVENTORY:

NAME(S): **SQUAT**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 36 50 N  
LONGITUDE: 133 28 12 W  
ELEVATION: 70 Metres

NORTHING: 6498073  
EASTING: 588879

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Stuhini Creek about 5.0 kilometres southeast of Tulsequah.

COMMODITIES: Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite      Galena              Sphalerite      Pyrite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

**STRATIGRAPHIC AGE**

Paleozoic  
Upper Triassic  
Cretaceous-Tertiary

**GROUP**

Unnamed/Unknown Group  
Stuhini

**FORMATION**

Undefined Formation  
Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

**LITHOLOGY:**

Schist  
Greenstone  
Phyllite  
Andesite  
Volcanic Breccia  
Tuff  
Felsite Dike  
Quartz Feldspar Porphyry Dike

HOSTROCK COMMENTS: Permian limestone with Triassic and older rocks intruded by feldspar porphyry, genetically related to Sloko Group volcanics.(GSC Map 1262A)

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The area is underlain by Paleozoic (Triassic and older) fine-grained, clastic sediments and intercalated volcanic rocks which are altered to greenstone, phyllite, chert, and minor limestone. These are unconformably overlain by the Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, tuff, volcanic breccia, and minor volcanoclastics.

These rocks are intruded by felsite and quartz-feldspar porphyry dykes, which range from Upper Cretaceous to Early Tertiary and are genetically related to the Sloko Group volcanics. (GSC Map 1262A)

Pyrite, chalcopyrite, sphalerite, and galena are reported to occur in a brecciated zone in the Paleozoic schists. The deposit appears to be bedded.

**BIBLIOGRAPHY**

EMPR EXPL \*1980-493  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; \*1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/09

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 063**

NATIONAL MINERAL INVENTORY: 104K7 Cu2

NAME(S): **TUN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K07W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 25 49 N  
LONGITUDE: 132 52 23 W  
ELEVATION: 1170 Metres

NORTHING: 6478580  
EASTING: 624197

LOCATION ACCURACY: Within 500M

COMMENTS: Main showing (Assessment Report 5154).

COMMODITIES: Copper Molybdenum

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Bornite	Malachite	Azurite	Molybdenite
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Chlorite	Clay	Epidote	Hematite	Siderite
	Quartz	Malachite	Azurite		
ALTERATION TYPE:	Propylitic		Silicific'n	Argillic	Oxidation
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Disseminated Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Upper Triassic  
Cretaceous-Tertiary  
Triassic

**GROUP**

Stuhini

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal  
Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
Quartz K-Feldspar Pegmatite  
Monzonite  
Quartz Feldspar Porphyry  
Diorite  
Volcanic

HOSTROCK COMMENTS: Triassic diorite overlain by Stuhini volcanics. Quartz monzonite is genetically related to Tertiary-Cretaceous Sloko Group volcanics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

Overlap Assemblage

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

Foliated quartz diorite of Lower or Middle Triassic Age are overlain by volcanics of the Upper Triassic Stuhini Group. These are intruded by quartz monzonite and monzonite, likely genetically related to the Tertiary-Cretaceous Sloko Group (GSC Map 1262A). The monzonites are intruded by a quartz feldspar porphyry and andesite dykes.

A 200 metre wide mineralized, sheared and altered zone occurs in the quartz monzonite. The shears are 15 to 120 centimetres wide and strike 030 to 050 degrees with vertical dips. Alteration minerals include chlorite, clay, epidote and quartz within gouge and siderite and hematite within calcite-quartz veins. The veins contain disseminated chalcopyrite, bornite, and minor malachite and azurite. The copper mineralization and minor molybdenite is also disseminated within the quartz monzonite and a quartz-potassium feldspar pegmatite mass.

**BIBLIOGRAPHY**

EMPR ASS RPT \*5154  
EMPR GEM 1974-350  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/27

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 064**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOPE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K02E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 08 19 N  
LONGITUDE: 132 37 20 W  
ELEVATION: 1900 Metres

NORTHING: 6446610  
EASTING: 639987

LOCATION ACCURACY: Within 500M

COMMENTS: Location of sample R73053 from gossan (Assessment Report 14363).

COMMODITIES: Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Pyrite  
ALTERATION TYPE: Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Replacement

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Cretaceous-Tertiary  
Triassic  
Cretaceous-Tertiary

**GROUP**

Sloko  
Unnamed/Unknown Group

**FORMATION**

Undefined Formation  
Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Gossan  
Rhyolite  
Quartz Monzonite  
Volcanic

HOSTROCK COMMENTS: Triassic and older rocks are intruded by quartz-monzonite related to Tertiary-Cretaceous Sloko Group volcanics(GSC MAP 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage                      Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

16.0000

Grams per tonne

Lead

0.1000

Per cent

REFERENCE: Assessment Report 14363.

**CAPSULE GEOLOGY**

Fine-grained clastic sediments and intercalated volcanics of pre-Upper Triassic Age are cut and bounded by major northeast and northwest trending faults. Foliated quartz diorite of Triassic Age and intruding biotite-hornblende quartz monzonite lie to the north. The monzonite, which is probably genetically related to the Sloko Group of Cretaceous to Tertiary Age, extends to the southwest and is fault bounded by two northeast trending faults. The southernmost northeast trending fault truncates two subparallel northwest trending faults and is flanked on the east by rhyolite of the Sloko Group.

The southern, northeast trending fault is over 15 kilometres long and has an associated extensive highly fractured, fissile and bleached alteration zone, up to 100 metres wide. Locally, small gossans (20 to 50 metres wide) occur along this fault. A sample of one of these gossans with disseminated pyrite assayed 16 grams per tonne silver and 0.1 per cent lead. A sample of a gossan, about 2 kilometres to the southeast, assayed 0.685 per cent zinc. (Assessment Report 14363).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14363  
EMPR EXPL 1986-449  
GSC MAP 6-1960; 1262A

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 407  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 362

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/20

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 065**

NATIONAL MINERAL INVENTORY:

NAME(S): **NAHLIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K16E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 49 45 N  
LONGITUDE: 132 05 30 W  
ELEVATION: 1200 Metres

NORTHING: 6524677  
EASTING: 667884

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southern flanks of Nahlin Mountain, north of the Nahlin River.

COMMODITIES: Asbestos                      Zinc

**MINERALS**

SIGNIFICANT:	Chrysotile	Pyrite	Magnetite		
ASSOCIATED:	Quartz	Carbonate			
ALTERATION:	Serpentine	Chlorite	Hematite		
ALTERATION TYPE:	Serpentin'zn	Chloritic	Quartz-Carb.	Oxidation	
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic                      Igneous-contact                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE

Permian  
Pennsylvan.-Permian  
Jurassic-Cretaceous

GROUP

Undefined Group

FORMATION

Horsefeed

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions  
Unnamed/Unknown Informal

LITHOLOGY: Serpentinized Peridotite  
Peridotite  
Serpentinite  
Quartz Diorite  
Limestone  
Dolomitic Limestone  
Argillite  
Ultramafic

HOSTROCK COMMENTS: Juro-Cretaceous quartz diorite intrude Nahlin ultramafics and Permian limestones are in fault contact with the ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Taku Plateau

TERRANE: Cache Creek

Inklin

METAMORPHIC TYPE: Contact                      Regional

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE:

**INVENTORY**

ORE ZONE: VEINLET

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1977

SAMPLE TYPE: Grab

COMMODITY

GRADE

Zinc

0.0030

Per cent

COMMENTS: Sample from quartz-carbonate veinlet.

REFERENCE: Assessment Report 7610.

**CAPSULE GEOLOGY**

The area is underlain by the Pennsylvanian to Permian Nahlin ultramafic body, which is a large belt of ultramafic bodies that parallel the southwestern side of the Atlin Horst. It forms two long, narrow prongs that converge in an acute angle at Nahlin Mountain.

The ultramafic consists of hard, tough, dark green to black peridotite. The principal variation in the body is the degree of serpentinization which is most intense along contacts and sheared or brecciated zones.

On the southern flanks of Nahlin Mountain, along the Nahlin River, faulted blocks of serpentinized peridotite are in contact with Permian Horsefeed limestone, dolomitic limestone and argillite. Locally, the peridotite contains small veinlets up to 1.5 centimetres wide of chrysotile and serpentine.



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**CAPSULE GEOLOGY**

As well, small quartz-carbonate veinlets hosting disseminated pyrite occur within the altered peridotite adjacent to a Jurassic and/or Cretaceous hornblende diorite intrusive. In 1977, a sample taken from a quartz-carbonate vein assayed 0.003 per cent zinc (Assessment Report 7610). Occasionally small veinlets of hematite are present, probably due to the oxidation of magnetite.

The peridotite is chloritized and sheared. The limestones are deeply weathered and powdery argillaceous carbonates are common on all rock surfaces.

**BIBLIOGRAPHY**

EMPR ASS RPT \*7610  
EMPR OF 1995-25  
GSC MEM 362  
GSC MAP 6-1960; 1262A  
GSC P 74-47, Fig. 2  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/24

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 066**

NATIONAL MINERAL INVENTORY:

NAME(S): **YETH CREEK ASBESTOS, PERIDOTITE PEAK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 57 31 N  
LONGITUDE: 132 34 20 W  
ELEVATION: 1400 Metres

NORTHING: 6537979  
EASTING: 639629

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located near the headwaters of Yeth Creek on the east-southeastern flanks of Peridotite Peak.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stratabound  
CLASSIFICATION: Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian			Ultramafic Intrusions

LITHOLOGY: Serpentinized Peridotite  
Peridotite  
Ultramafic

HOSTROCK COMMENTS: Permian to Pennsylvanian Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The area is underlain by the Pennsylvanian to Permian Nahlin ultramafic body which is a large belt of ultramafic bodies that parallel the southwestern side of the Atlin Horst. It forms two long, narrow prongs that converge in an acute angle at Nahlin Mountain. The longer axis of the body trends west-northwest from Nahlin Mountain to Peridotite Peak, paralleling the Nahlin fault.

The ultramafics consist of dark green to black peridotite with discrete crystals and crystal clusters of pyroxene ranging from 0.3 to 1.3 centimetres across. The principal variation in the body is the degree of serpentinization which is most intense along contacts and sheared or brecciated zones.

Locally, the highly serpentinized peridotite contains a filigree of fine chrysotile veinlets, usually less than 1 millimetre across. Thicker chrysotile veins, containing slip fibre up to 2 centimetres across is reported as commercial quality fibre by prospectors from the head of Yeth Creek. Generally, most of the asbestos occurrences host short, brittle fibre of little commercial value.

**BIBLIOGRAPHY**

EMPR OF 1995-25  
GSC MEM \*362, p. 52  
GSC MAP 6-1960; 1262A  
GSC P 74-47, Fig.2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/26

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 067**

NATIONAL MINERAL INVENTORY:

NAME(S): **WATERFALL**, GOAT, NICKEL CREEK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 56 15 N  
LONGITUDE: 132 41 46 W  
ELEVATION: 800 Metres

NORTHING: 6535377  
EASTING: 632587

LOCATION ACCURACY: Within 500M

COMMENTS: Located at the waterfall along Nickel Creek, about 1.6 kilometres from the junction of Nickel and Yeth Creeks, on the southeastern flanks of Peridotite Peak.

COMMODITIES: Silver Antimony                      Lead                      Zinc                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Arsenopyrite      Sphalerite      Galena      Chalcopyrite      Stibnite

Pyrite

ASSOCIATED: Quartz      Calcite

ALTERATION: Pyrite      Clay      Limonite      Chlorite

ALTERATION TYPE: Pyrite      Silicific'n      Propylitic      Argillic      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Massive                      Disseminated  
CLASSIFICATION: Epigenetic                      Hydrothermal                      Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Jurassic Cretaceous-Tertiary Pennsylvan.-Permian	Laberge	Inklin	Unnamed/Unknown Informal Ultramafic Intrusions

LITHOLOGY: Shale  
Siltstone  
Quartz Feldspar Porphyry  
Felsite Dike  
Biotite Hornfels  
Quartz Feldspar Porphyry Dike  
Hornblende Andesite Dike  
Peridotite  
Serpentinized Peridotite  
Ultramafic

HOSTROCK COMMENTS: Cretaceous-Tertiary feldspar porphyry intrudes the Nahlin fault adjacent to the Nahlin ultramafic body.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Taku Plateau

TERRANE: Inklin

Cache Creek

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE: Hornfels

COMMENTS: Area covers contact between Inklin sediments and Nahlin ultramafics.

**INVENTORY**

ORE ZONE: GOSSAN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver                      30.0000                      Grams per tonne

Gold                      0.2700                      Grams per tonne

COMMENTS: Sample from gossanous zone in quartz-feldspar porphyry intrusion which hosts thin quartz-sphalerite stringers.

REFERENCE: Assessment Report 10701.

**CAPSULE GEOLOGY**

The claims are situated along the Nahlin fault which dips steeply to the northeast. The Permian to Pennsylvanian Nahlin ultramafic body, comprised of peridotite and serpentinitized peridotite, lies to the north of the fault. The Lower to Middle Jurassic Laberge Group, Inklin Formation lies to the south of the Nahlin fault and comprises

## CAPSULE GEOLOGY

a thick sequence of sedimentary rocks predominantly shale and siltstone.

Upper Cretaceous to Lower Tertiary quartz-feldspar porphyry stocks and dykes intrude the Inklin sedimentary rocks. These intrusions appear to be concentrated along the Nahlin fault zone and are thought to be genetically related to the Sloko Group volcanics (GSC Map 1262A).

Clay alteration within the intrusions is variable, where intense, the rocks are soft and weather white. The porphyry is medium-grained and massive, and hosts disseminated pyrite throughout the stock and in small quartz veins within the stock. Felsite and quartz-feldspar porphyry dykes and sills, probably related to the stock, are also clay altered and contain disseminated pyrite. Contact metamorphic effects are locally evident as narrow biotite hornfels zones and pyritic zones in the Inklin sedimentary rocks.

Gossanous rocks are extensively altered quartz-feldspar porphyry. They consist of limonite, clay minerals, and chlorite.

Mineralization of the quartz-feldspar porphyry consists of disseminated pyrite. Quartz-calcite stringers in the porphyry contain trace amounts of sphalerite and galena. Arsenopyrite blebs are associated with a fine-grained, hornblende andesite dyke in Nickel Creek. A massive sulphide vein up to 15 centimetres thick is exposed in Nickel Creek at the waterfall. The sulphide vein cuts Inklin sedimentary rocks and consists primarily of pyrite, sphalerite, and chalcopyrite. Silicified Inklin rocks locally contain abundant disseminated pyrite in small altered zones.

Prospecting indicated silver and silver-gold geochemical anomalies associated in altered Inklin sedimentary rocks adjacent to the Nahlin fault and close to the quartz-feldspar porphyry intrusions. In 1982, a sample taken from a gossanous zone in the altered porphyry assayed 30.0 grams per tonne silver and 0.27 grams per tonne gold. These values are thought to be associated with small, thin quartz-sphalerite stringers in the porphyry intrusive (Assessment Report 10701).

Also in 1982, stibnite needles were observed on fracture faces within the Inklin sediments exposed on the north side of Yeth Creek.

## BIBLIOGRAPHY

EMPR EXPL \*1982-400  
EMPR ASS RPT \*10701  
GSC MEM 362  
GSC MAP 6-1960; 1262A  
GSC P 74-47, Fig. 2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/24

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 068**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRAG**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W 104K06W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 30 54 N  
LONGITUDE: 133 21 45 W  
ELEVATION: 670 Metres

NORTHING: 6487212  
EASTING: 595392

LOCATION ACCURACY: Within 500M

COMMENTS: Showing located in a steep valley in the centre of the claim block on the north side of the Sittakanay Glacier.

COMMODITIES: Copper Silver Nickel

**MINERALS**

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Pyrite Chlorite Epidote Carbonate  
ALTERATION TYPE: Pyrite Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Cretaceous-Tertiary	Stuhini	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesite  
Greenstone  
Felsic Dike  
Feldspar Porphyry Dike

HOSTROCK COMMENTS: Quartz monzonite and associated feldspar porphyry dykes are genetically related to the Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine	Plutonic Rocks
METAMORPHIC TYPE: Regional	RELATIONSHIP: Syn-mineralization Post-mineralization
	GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1979
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	0.3000 Grams per tonne
Copper	0.0230 Per cent
Nickel	0.0102 Per cent

COMMENTS: 50 metre composite chip sample.  
REFERENCE: Assessment Report \*7558.

**CAPSULE GEOLOGY**

The area is underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, volcanic breccia, tuff, agglomerate, and minor intercalated volcaniclastics. The Stuhini Group rocks are intruded by quartz-monzonite stocks and associated feldspar-porphyry dykes which range from Upper Cretaceous to Lower Tertiary in age and are genetically related to the Sloko Group volcanics (GSC Map 1262A).

On the property, the Stuhini Group volcanics have undergone lower greenschist facies metamorphism and host abundant chlorite, epidote, and minor calcite. They are well fractured and jointed and host dyke swarms which parallel the direction of jointing and faulting. The two preferred orientations are 020 to 030 degrees and 080 degrees with both sets steeply dipping.

Three types of sulphide mineralization occur on the property. The first is disseminated pyrite and pyrrhotite and very minor chalcopyrite in the monzonitic intrusives. The second type of mineraliza-

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## CAPSULE GEOLOGY

tion is local sulphide lenses of disseminated pyrite, pyrrhotite, and minor chalcopyrite in the altered volcanic host rock.

The third and most important type of occurrence is sulphide mineralization associated with intrusive bodies and swarm dykes in contact with altered volcanics. The mineralization is found in highly silicified greenstone as disseminations, as fracture and joint fillings, and in quartz veining. The sulphides include pyrite, pyrrhotite, chalcopyrite, molybdenite with minor galena, and sphalerite. A large gossan with this type of mineralization was located just east of the claims (refer to Sue, 104K 051).

In the central area of the claim block, a mineralized zone hosting pyrite, pyrrhotite, and chalcopyrite is located within altered andesite which is cut by felsic swarm dykes. The zone is approximately 100 metres long and 8 metres thick. In 1979, a 50 metre composite chip sample assayed 0.3 grams per tonne silver, 0.0225 per cent copper, and 0.0102 per cent nickel (Assessment Report 7558). The highest concentrations of sulphide minerals were found in float along the north side of the glacier. The source has not been determined but may have come from the glacier valley to the east.

## BIBLIOGRAPHY

EMPR EXPL 1979-293  
EMPR ASS RPT \*7558  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/09

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 069**

NATIONAL MINERAL INVENTORY:

NAME(S): **TATSAMENIE LIMESTONE**, SAMOTUA RIVER

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 17 29 N  
LONGITUDE: 132 08 37 W  
ELEVATION: 760 Metres

NORTHING: 6464704  
EASTING: 667434

LOCATION ACCURACY: Within 500M

COMMENTS: Samotua River showing. Others occur to the west and east.

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite Dolomite  
ASSOCIATED: Quartz  
ALTERATION: Dolomite Quartz  
ALTERATION TYPE: Silicific'n Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound Massive  
CLASSIFICATION: Sedimentary Evaporite Industrial Min.  
SHAPE: Tabular  
MODIFIER: Folded  
DIMENSION: 0700 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Undefined Group	Unnamed/Unknown Formation	

LITHOLOGY: Limestone  
Dolomitic Limestone  
Fossiliferous Limestone

HOSTROCK COMMENTS: Permian limestone.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata of the Stikinia Terrane, are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Foliated hornblende diorite of Juro-Triassic Age intrude the pre-Upper Triassic rocks.

The Permian strata consists of a 760 metre succession of limestone and dolomitic limestone, with local chert, shale and sandstone. The succession is best exposed in the cores of north trending anticlines south and east of Tatsamenie Lake. The limestone is massive to well bedded, usually fine-grained and medium grey in colour. It contains fusulinids, crinoids and shell and coral debris. Many areas of the limestone have been thermally recrystallized and silicified.

**BIBLIOGRAPHY**

EMPR ASS RPT 16726  
EMPR FIELDWORK 1985, p. 175  
GSC MAP 6-1960; 1262A  
GSC MEM 362, pp. 15,16  
EMPR PF (Reports by Lefebure, D. (1987))  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/03

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 070**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOWATUA CREEK LIMESTONE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W 104K07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 28 57 N  
LONGITUDE: 132 28 51 W  
ELEVATION: 1459 Metres

NORTHING: 6485184  
EASTING: 646876

LOCATION ACCURACY: Within 500M

COMMENTS: Small klippe of limestone located just east of Trapper Lake is tectonically related to the massive Sinwa limestone along Kowatua Creek (104K 072).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Fluorite  
COMMENTS: Petroliferous limestone.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER:	Stratabound	Stratiform	Massive
CLASSIFICATION:	Sedimentary	Syngenetic	Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Upper Triassic

**GROUP**

Undefined Group

**FORMATION**

Sinwa

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Limestone  
Chert  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The showing represents a klippe of Upper Triassic Sinwa Formation limestone resting on Lower Jurassic Laberge Group strata east of Trapper Lake. This tectonic outlier, resulting from the erosion of a thrust sheet, is part of the massive Sinwa limestone located along Kowatua Creek on the north side of the King Salmon thrust fault. The direction of movement along the King Salmon thrust fault has been from northeast to southwest and this small klippe of Sinwa limestone indicates a minimum displacement of about 16 kilometres.

The Sinwa limestone consists almost entirely of grey, usually petroliferous, white weathering limestone varying in thickness from a couple of metres to well over 600 metres. Minor interbedded chert and argillite is located near the base of the formation. The continuous band of Sinwa limestone (104K 072) extends from Kowatua Creek northwest to King Salmon Lake and across to Sinwa Mountain. The position of the Sinwa Formation limestone is unconformably overlying the Lower Jurassic Laberge Group, Takwahoni Formation due to a low angle thrust, the King Salmon thrust fault, that is localized along the base of the limestone.

The Sinwa limestone near Kowatua Creek lies immediately above the King Salmon thrust fault and is variably silicified, brecciated and contains fluorite veinlets associated with zones of intense alteration. Colourless, honey, purple and blue varieties of fluorite are present on the Tardis (104K 112).

**BIBLIOGRAPHY**

GSC MEM 248, pp. 34,35; \*362, pp. 22,23  
GSC MAP 6-1960; 931A; \*1262A  
EMPR EXPL 1982-397  
EMPR ASS RPT 10616

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/18

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 071**

NATIONAL MINERAL INVENTORY:

NAME(S): **NAHLIN MTN LIMESTONE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K16W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 55 55 N  
LONGITUDE: 132 23 14 W  
ELEVATION: 1600 Metres

NORTHING: 6535412  
EASTING: 650382

LOCATION ACCURACY: Within 500M

COMMENTS: Permian limestones extend northwest from Nahlin Mountain, subparallel to the Naplin fault into the Atlin area near the confluence of Horsefeed Creek and the Nakina River.

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Dolomite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound                      Stratiform                      Massive  
CLASSIFICATION: Sedimentary                      Syngenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Cache Creek	Horsefeed	

LITHOLOGY: Limestone  
Dolomitic Limestone

HOSTROCK COMMENTS: Permian limestone.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The best exposure for Permian limestone exposures are in the northeast corner of the Tulsequah map area where fine-grained, thick-bedded limestone outcrops in a broad west-northwest trending belt parallel with the southern edge of the Atlin Horst. This belt is an extension of a major limestone unit mapped as part of the Cache Creek Group in the Atlin map area to the north (GSC Memoir 307). It occupies the core of a greatly attenuated antiform that plunges gently towards the southeast and is overturned slightly toward the southwest. The base of the limestone is not exposed, but a partial section measured on a ridge south of Victoria Lake give a minimum thickness of about 760 metres.

Well preserved specimens of the Late Permian fusulinid "Yabeina" are abundant within the upper sections of the limestone. This suggests that the top of the Permian section coincides approximately with the top of the limestone, and that the overlying chert and slates are Permo-Triassic in age.

In 1975, these limestones were mapped as Permo-Pennsylvanian limestones and dolomitic limestones belonging to the Horsefeed Formation (GSC Paper 47-74), and the overlying chert and pelites belong to the Permo-Pennsylvanian Kedahda Formation.

**BIBLIOGRAPHY**

GSC MEM 307; \*362, pp. 15,16  
GSC MAP 6-1960; 1082A; \*1262A  
GSC P \*74-47, Fig. 2  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/18

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 072**

NATIONAL MINERAL INVENTORY:

NAME(S): **SINWA LIMESTONE**, INKLIN RIVER

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K14W 104K14E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 51 17 N  
LONGITUDE: 133 16 07 W  
ELEVATION: 1250 Metres

NORTHING: 6525167  
EASTING: 599884

LOCATION ACCURACY: Within 500M

COMMENTS: The Sinwa limestone extends southeast from Sinwa Mountain to just north of King Salmon Lake and as far as Kowatua Creek, subparallel to the Inklin River.

COMMODITIES: Limestone Bitumen

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Coal Fluorite  
COMMENTS: Petroliferous limestone.

MINERALIZATION AGE: Unknown  
ISOTOPIC AGE: 200 Ma

DATING METHOD: Fossil

MATERIAL DATED: Schleractinian corals

**DEPOSIT**

CHARACTER: Stratabound Stratiform Massive  
CLASSIFICATION: Sedimentary Syngenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Undefined Group	Sinwa	
ISOTOPIC AGE:	200 Ma		
DATING METHOD:	Fossil		
MATERIAL DATED:	Schleractinian corals		

LITHOLOGY: Limestone  
Chert  
Coal

HOSTROCK COMMENTS: Fossils within the limestone were identified as Norian in age (Late Upper Triassic); GSC Memoir 362, page 22.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

The Upper Triassic Sinwa Formation provides one of the most useful horizon markers in northwestern British Columbia. It consists almost entirely of grey, usually petroliferous, white-weathering limestone and varies in thickness from a couple of metres to more than 600 metres. It is a wide spread occurrence and forms a continuous band along the north side of the King Salmon thrust fault, extending from Sinwa Mountain southeast to Kowatua Creek, subparallel to the Inklin River.

Well-preserved Upper Triassic fauna was found and identified within the Sinwa Formation. Most of these collections were examined by the Geological Survey of Canada and were reported as Norian (Late Upper Triassic) Age. Most of the limestone contains schleractinian corals which indicates they are Triassic or younger.

In the Tulsequah area, the Sinwa limestone has served as a plane, along which extensive thrust faulting, accompanied by intense local folding has occurred. The principal fault, the King Salmon thrust fault, corresponds closely with this main belt of limestone. The direction of movement has been from northeast to southwest, and a small klippe of Sinwa Formation resting on Lower Jurassic Laberge Group strata east of Trapper Lake (Kowatua Creek 104K 070) indicates a minimum displacement of about 16 kilometres.

The massive limestone is reported to carry carbon and some bitumen. Near the base of the formation 0.6 centimetre thick interbeds of coal and chert are present on Sinwa Mountain.

Near Kowatua Creek the Sinwa limestone lies immediately above the King Salmon thrust fault and is variably silicified, brecciated, and contain veinlets of fluorite (Tardis 104K 112).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 419  
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**BIBLIOGRAPHY**

GSC MEM 248, pp. 34,35; \*362, pp. 22,23  
GSC MAP 6-1960; 931A; \*1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/30

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 073**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRIZ**, GRIZ 1-2

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 35 00 N  
LONGITUDE: 132 32 32 W  
ELEVATION: 1200 Metres

NORTHING: 6496273  
EASTING: 642887

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north side of Kowatus Creek about 15 kilometres north of Trapper Lake.

COMMODITIES: Gold                      Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite  
ASSOCIATED: Quartz              Calcite  
ALTERATION: Silica              Pyrite  
ALTERATION TYPE: Silicific'n              Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia                      Disseminated  
CLASSIFICATION: Epigenetic              Hydrothermal              Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic Cretaceous-Tertiary	Laberge	Takwahoni	Unnamed/Unknown Informal

LITHOLOGY: Quartz Feldspar Porphyry  
Feldspar Porphyry  
Quartz Breccia

HOSTROCK COMMENTS: Feldspar porphyry correlative with Tertiary-Cretaceous Sloko Group (GSC Map 1262A). Takwahoni sediments range Lower to Middle Jurassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Stikine

**INVENTORY**

ORE ZONE: TRENCH                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1981  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Silver                      1.0300              Grams per tonne  
Gold                      4.7300              Grams per tonne

COMMENTS: Chip sample from Trench 1 in silicified feldspar porphyry.  
REFERENCE: Assessment Report 9824, part 1.

**CAPSULE GEOLOGY**

An Upper Cretaceous to Lower Tertiary quartz-feldspar porphyry intrudes Lower to Middle Jurassic Laberge Group, Takwahoni sediments. The intrusives are genetically related to the Sloko Group volcanics which are limited to a northwest trending belt along the eastern edge of the Coast Mountain.

Both effusive and hypabyssal varieties of the feldspar porphyry are present. The rock varies from pink to green in colour, aphanitic to medium-grained, containing feldspar phenocrysts of varying sizes. Minor disseminated pyrite is common. Small quartz veins, commonly drusy and up to 1 centimetre wide cut the porphyry. Larger quartz veins also crosscut the porphyry. In 1981, petrographic analyses of the porphyry classified it as tracyandesitic in composition.

A large north-northwest trending fault forms the southern contact between the porphyry and the Jurassic Takwahoni sedimentary unit.

Several occurrences of galena and sphalerite are found within crosscutting quartz veins within the porphyry. On the southeast side of a main valley which cuts the claims, galena mineralization occurs in small blebs, ranging from 1 to 5 millimetres in size, within highly silicified feldspar porphyry host rock. The silica is almost black in the well mineralized areas. Rusty, calcite-sphalerite veins, quartz

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## CAPSULE GEOLOGY

veinlets and manganese staining are also associated with the mineralization.

Veinlets of galena and sphalerite, up to 8 millimetres in width, were found on the northwest bank of the main valley. Abundant pyritic and silicified zones and calcite veins are associated with the mineralization.

In the southern part of the property pyritic quartz breccia and pyritic seams are found within the porphyry.

In 1981, several chip samples were collected from trenches. Two chip samples from Trench 1 in silicified porphyry assayed 4.73 grams per tonne gold, 1.03 grams per tonne silver, and 1.3 grams per tonne gold, 1.71 grams per tonne silver, respectively (Assessment Report 9824, part 1).

Chip samples from galena-sphalerite-calcite veins and lenses in Trenches 2 and 4 assayed 0.1 grams per tonne gold, 76.46 grams per tonne silver, 1.78 per cent lead, 3.05 per cent zinc, and less than 0.1 grams per tonne gold, 115.88 grams per tonne silver, 0.48 per cent lead, 0.77 per cent zinc respectively (Assessment Report 9824, part 1).

The gold values do not appear to be associated with the galena-sphalerite mineralization but appear to be associated with the highly silicified feldspar-porphyry and with rusty breccia fragments of feldspar porphyry.

## BIBLIOGRAPHY

EMPR EXPL 1981-128  
EMPR ASS RPT \*9824,Part 1  
GSC MEM 362  
GSC MAP 6-1960; \*1262A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/30

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 422  
REPORT: RGEN0100

MINFILE NUMBER: 104K 074

NATIONAL MINERAL INVENTORY: 104K11 Au1

NAME(S): GO, GO - 1

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 42 35 N  
LONGITUDE: 133 09 49 W

NORTHING: 6509187  
EASTING: 606383

ELEVATION: 1500 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of Mount Lester Jones about 23 kilometres  
northeast of Tulsequah and 12 kilometres west of King Salmon Lake;  
mineralized shear continues on adjoining Joly-Jak claims (104K 090).

COMMODITIES: Gold Silver Lead Zinc Copper  
Antimony

**MINERALS**

SIGNIFICANT: Arsenopyrite Galena Sphalerite Pyrrhotite Stibnite

Chalcopyrite Pyrite

ASSOCIATED: Quartz

ALTERATION: Carbonate Pyrite

ALTERATION TYPE: Carbonate

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

DIMENSION: STRIKE/DIP: 110/75S

TREND/PLUNGE:

COMMENTS: Mineralized fractures or shear exposed for strike length of 1700  
metres.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Cretaceous-Tertiary	Stuhini	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesitic Flow  
Tuff  
Breccia  
Volcanic Sandstone  
Feldspar Porphyry  
Felsite  
Felsite Porphyry Dike

HOSTROCK COMMENTS: Feldspar-porphyry intrusive is thought to be correlative with the  
Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1981

SAMPLE TYPE: Chip

COMMODITY

		<u>GRADE</u>	
Silver		126.8500	Grams per tonne
Gold		4.4600	Grams per tonne
Copper		0.1800	Per cent
Lead		1.0200	Per cent
Antimony		0.4960	Per cent
Zinc		1.5000	Per cent

COMMENTS: 1.5 metre wide sample.

REFERENCE: Assessment Report 9495.

**CAPSULE GEOLOGY**

A small plug-shaped body of feldspar porphyry, which is dated as  
Upper Cretaceous to Lower Tertiary and is thought to be correlative  
with the Sloko Group volcanics, intrudes the Upper Triassic Stuhini  
Group rocks. The Stuhini Group consists mainly of andesitic to  
basaltic flows, tuffs, breccia with minor volcanic sandstone and silt-  
stone.

MINFILE NUMBER: 104K 074

## CAPSULE GEOLOGY

The felsite and porphyry intrusive and the intruded Stuhini Group rocks have undergone strong carbonate alteration and are crosscut by later carbonitized felsite dykes. Late east-west faulting cuts the intrusive and several dilatent conjugate fractures have developed which in many cases are mineralized with arsenopyrite, pyrite, pyrrhotite, chalcopyrite, galena, sphalerite, and stibnite.

The main zone of mineralization occurs in a series of fractures which strike 110 degrees and dip 75 degrees south, exposed along a northeast trending ridge for a strike length of about 1700 metres. The east extension of the veins appear to be cut off by a major east-west fault.

Mineralization in outcrop at the eastern end of the structure consists of discontinuous stringers and veins of quartz with arsenopyrite and minor pyrite, stibnite, galena, sphalerite, chalcopyrite, and pyrrhotite. The precious metal content is erratic. Sampling from trenching in 1981 returned a high of 4.46 grams per tonne gold, 126.85 grams per tonnes silver, 0.18 per cent copper, 1.02 per cent lead, 1.5 per cent zinc, and 0.496 per cent antimony. Another 3.0 metre sample returned 4.2 grams per tonne gold, 115.13 grams per tonne silver, 0.14 per cent copper, 0.63 per cent lead, and 0.12 per cent zinc (Assessment Report 9495).

## BIBLIOGRAPHY

EMPR EXPL 1981-50  
EMPR ASS RPT 9048, \*9495  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30  
Vincent, J.S., (1981): Report on the Go Claim Group, in Dynamic Oil Limited Prospectus, July 16, 1982  
EMR MP CORPFILE (Comaplex Resources International Ltd., Redfern Resources Ltd.; Dynamic Oil Limited)  
GCNL #84, May 4, #128, Jul.7, 1981; #30, Feb.12, #266, Nov.25, #246, Dec.23, 1982

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/30

CODED BY: GSB  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 075**

NATIONAL MINERAL INVENTORY:

NAME(S): **VEIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K09E 104K09W 104K08E 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 30 41 N  
LONGITUDE: 132 13 56 W  
ELEVATION: 1550 Metres

NORTHING: 6488969  
EASTING: 661234

LOCATION ACCURACY: Within 500M

COMMENTS: Area 1, northeast part of 2 kilometre diameter mineralized area.

COMMODITIES: Silver                      Gold                      Copper                      Lead                      Zinc  
                    Antimony                      Arsenic

**MINERALS**

SIGNIFICANT: Pyrite                      Arsenopyrite                      Stibnite                      Chalcopyrite                      Galena

ASSOCIATED: Sphalerite  
                    Quartz                      Calcite

ALTERATION: Clay

ALTERATION TYPE: Argillic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Massive  
CLASSIFICATION: Epigenetic                      Igneous-contact  
DIMENSION: 2000 x 2000                      Metres  
COMMENTS: Mineralized area.

Industrial Min.  
STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Laberge	Takwahoni	
Jurassic-Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Siltstone  
Sandstone  
Greywacke  
Conglomerate  
Hornfels  
Hornblende Diorite

HOSTROCK COMMENTS: Juro-Cretaceous hornblende diorite intrudes Takwahoni Formation sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP: Pre-mineralization

PHYSIOGRAPHIC AREA: Taku Plateau

GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

SAMPLE TYPE: Grab

YEAR: 1983

COMMODITY

GRADE

Silver	31.0000	Grams per tonne
Gold	5.5000	Grams per tonne
Copper	0.5600	Per cent
Lead	0.5600	Per cent
Antimony	0.1000	Per cent
Zinc	0.0700	Per cent

COMMENTS: Stibnite value is over 0.1 per cent.

REFERENCE: Assessment Report 11497.

**CAPSULE GEOLOGY**

Siltstones, sandstones, greywackes and conglomerates of the Jurassic Takwahoni Formation (Laberge Group) are intruded and locally hornfelsed by hornblende diorite stocks of Jurassic to Cretaceous Age. The sediments are cut by quartz-feldspar porphyry dykes and sills. South of the area are quartz monzonites, which are probably genetically related to the Sloko Group of Cretaceous to Tertiary Age (GSC Map 1262A).

Several mineralized quartz veins occur, mainly in hornfelsed and pyritic sediments and occasionally in diorite, within a 2 kilometre



## CAPSULE GEOLOGY

diametre area around a diorite stock. The veins contain massive arsenopyrite, stibnite, chalcopyrite, galena, and sphalerite. The veins, which vary from 2 to 50 centimetres wide and are traceable for over 150 metres, strike consistently 080 degrees with steep variable dips. Mineral zoning occurs along strike, from east to west, with arsenopyrite-stibnite and galena-chalcopyrite-sphalerite mineral assemblages, respectively. Local clay alteration occurs and black calcite veins occur near the mineralized zone. The age of the veins is likely Tertiary (one cuts a quartz-eye porphyry).

A sample of a vein from Area 1, located in the northeast part of the mineralized area, assayed 0.56 per cent copper, 0.56 per cent lead, 0.07 per cent zinc, 31.0 grams per tonne silver, 5.5 grams per tonne gold, over 1.0 per cent arsenic and over 0.1 per cent stibnite. A sample of a vein 800 metres to the southeast assayed 12.9 grams per tonne silver and over 10 grams per tonne gold and a sample of a vein 1500 metres to the west assayed 0.3 per cent copper, 87.0 grams per tonne silver, 16.0 grams per tonne gold, over 1.0 per cent arsenic and over 0.1 per cent stibnite. A sample of a vein in diorite, in the south part of the mineralized area, assayed 0.069 per cent copper, 0.145 per cent lead, 7.44 per cent zinc, 18.3 grams per tonne silver, 0.85 grams per tonne gold, over 0.36 per cent arsenic and over 0.1 per cent stibnite. (Assessment Report 11497).

## BIBLIOGRAPHY

EMPR ASS RPT \*11497  
EMPR EXPL 1983-541-542  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/18

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 076**

NATIONAL MINERAL INVENTORY:

NAME(S): **TERR**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 28 14 N  
LONGITUDE: 132 10 35 W  
ELEVATION: 1320 Metres

NORTHING: 6484560  
EASTING: 664676

LOCATION ACCURACY: Within 500M

COMMENTS: Vein 1 (Assessment Report 11265), located near the headwaters of Sheslay Creek.

COMMODITIES: Silver Molybdenum Gold Copper Lead Zinc

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Molybdenite  
Arsenopyrite Pyrrhotite Tetrahedrite  
ASSOCIATED: Quartz Graphite  
ALTERATION: Quartz Sericite Pyrite  
ALTERATION TYPE: Sericitic Silicific'n Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Laberge	Takwahoni	Unnamed/Unknown Informal
Triassic			Unnamed/Unknown Informal
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite  
Diorite  
Quartz Monzonite  
Conglomerate  
Black Shale  
Hornfels

HOSTROCK COMMENTS: Triassic granodiorite intrudes Takwahoni sediments cut by quartz monzonite genetically related to Tertiary-Cret. Sloko Group volcanics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks  
METAMORPHIC TYPE: Contact  
Stikine  
PHYSIOGRAPHIC AREA: Taku Plateau  
RELATIONSHIP:  
GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1982  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 914.0000 Grams per tonne  
Gold 0.3400 Grams per tonne

COMMENTS: 15 centimetre sample.  
REFERENCE: Assessment Report 11265.

**CAPSULE GEOLOGY**

Granodiorite of Triassic Age is unconformably overlain by conglomerate and black shale of the Jurassic Takwahoni Formation (Laberge Group). These rocks are intruded and locally hornfelsed by dioritic intrusions. These are cut by quartz monzonite, which are probably genetically related to the Sloko Group of Cretaceous to Tertiary Age (GSC Map 1262A). Leucocratic felsic dykes and fine-grained mafic dykes cut all three intrusives. Widely spaced and generally 5 to 20 centimetre wide mineralized veins, lie within minor irregular shears or fractures within the granodioritic and dioritic rocks, peripheral to the quartz monzonite intrusion. The minerals include pyrite, chalcopyrite, arsenopyrite, and minor galena, sphalerite, pyrrhotite, graphite, and tetrahedrite. The adjacent wall rock is generally altered to a rusty weathering,

**CAPSULE GEOLOGY**

bleached white quartz-sericite-pyrite rock.  
Two main mineralized areas are along both sides of a north trending "rusty" ridge. Vein 2, in the west mineralized area, assayed 914 grams per tonne silver and 0.34 grams per tonne gold across 15 centimetres (Assessment Report 11265). (See Terr 1 - 104K 108 for assay value from the east mineralized area).

**BIBLIOGRAPHY**

EMPR ASS RPT \*11265, \*12695  
EMPR EXPL 1982-392; 1984-398  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1985/07/24  
DATE REVISED: 1988/05/18

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 077**

NATIONAL MINERAL INVENTORY:

NAME(S): **THOR**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 13 49 N  
LONGITUDE: 132 22 17 W  
ELEVATION: 1950 Metres

NORTHING: 6457359  
EASTING: 654352

LOCATION ACCURACY: Within 500M  
COMMENTS: Trench 2 (Assessment Report 11963).

COMMODITIES: Silver Gold Copper

**MINERALS**

SIGNIFICANT: Pyrite Tetrahedrite Malachite Azurite  
ASSOCIATED: Quartz Chalcedony  
ALTERATION: Quartz Carbonate K-Feldspar Tourmaline Hematite  
Malachite Azurite

COMMENTS: Iron-carbonate.  
ALTERATION TYPE: Silicific'n Carbonate Potassic Tourmalin'z'n Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Felsic Phyllite  
Limestone  
Dolomite  
Greenstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Chip  
COMMODITY: Silver GRADE: 58.9000 Grams per tonne  
COMMENTS: 1.0 metre sample.  
REFERENCE: Assessment Report 11963.

**CAPSULE GEOLOGY**

The area is underlain by pre-Triassic felsic and mafic phyllites and intercalated limestone, dolomite and greenstone of the Stikine Terrane. These are cut and bounded by north-east trending faults.

Silicification within the Upper Carboniferous felsic phyllite is bounded by conjugate sets of faults. It also masks foliation within the phyllite and is controlled by bedding within the limestone and dolomite to form lens-shaped alteration zones up to 10 metres long. Iron carbonate alteration is common throughout the fault bounded package.

Quartz veins and fractures are common in the dolomite and phyllite units and contain tetrahedrite, malachite, azurite, pyrite, K-spar, hematite, and tourmaline.

A 1.0 metre chip sample from Trench 2 contained 58.9 grams per tonne silver and a subcrop sample of a chalcedony vein contained 1.35 grams per tonne gold (Assessment Report 11963). Trench 1, which is located 500 metres north-northwest of Trench 2, contains several narrow (less than 1 centimetre wide) veins with tetrahedrite, however, low gold and silver values resulted from sampling.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1992, pp. 177-188

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 429  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR ASS RPT \*11963, 12751, 14002  
EMPR EXPL 1983-540; 1984-396-397; 1985-394  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))  
EMPR OF 1993-1

DATE CODED: 1985/07/24  
DATE REVISED: 1988/04/28

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 078**

NATIONAL MINERAL INVENTORY:

NAME(S): **INLAW**, CHECK-MATE 2

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K07E 104K07W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 29 35 N  
LONGITUDE: 132 44 36 W  
ELEVATION: 1400 Metres

NORTHING: 6485815  
EASTING: 631536

LOCATION ACCURACY: Within 500M

COMMENTS: Trench location (Assessment Report 13107), located about 7 kilometres north of Tunjony Lake.

COMMODITIES: Lead Gold Silver Copper

**MINERALS**

SIGNIFICANT: Galena Chalcopyrite Pyrite Sphalerite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Calcite Malachite  
ALTERATION TYPE: Silicific'n Carbonate Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic  
SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Cretaceous-Tertiary  
Upper Triassic

**GROUP**

Sloko  
Stuhini

**FORMATION**

Undefined Formation  
Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Rhyolite Feldspar Augite Porphyry  
Tuff  
Rhyolite  
Rhyolite Porphyry Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

Overlap Assemblage

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1984

**COMMODITY**

Silver  
Gold

**GRADE**

5.4000 Grams per tonne  
6.2000 Grams per tonne

COMMENTS: 1.0 metre sample.

REFERENCE: Assessment Report 13107.

**CAPSULE GEOLOGY**

Basalt and mafic volcanoclastic rocks of the Upper Triassic Stuhini Group are cut by rhyolitic feldspar porphyry dykes and a small stock of dacitic feldspar porphyry of the Sloko Group of Tertiary to Cretaceous age. A carbonate altered zone occurs within the mafic volcanics only. Biotite-hornblende diorite of Jurassic age also occurs within the area.

Quartz veins with galena, chalcopyrite, pyrite and minor sphalerite and malachite occur mainly within rhyolite and tuff. The veins are typically 2 centimetres wide and strike easterly and dip vertical. Gold mineralization and coarse yellow pyrite is also associated with silica flooding within rhyolite.

The main area of mineralization occurs within a 7 metre wide, silicified, 035 degree striking zone within a rhyolitic feldspar-augite porphyry dyke. A 1.0 metre chip sample assayed 6.2 grams per tonne gold and 5.4 grams per tonne silver (Assessment Report 13107). Chevron Canada Resources Ltd. sampled the showing in 1984.

**BIBLIOGRAPHY**

EMPR ASS RPT \*13107, 16726, 25669

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 431  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR EXPL 1984-397  
EMPR FIELDWORK 1985, p. 183  
EMPR PF (Schroeter, T.G. (1985): Pers. Comm.; RPTS by Lefebure, D.  
(1987))  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
Chevron File

DATE CODED: 1985/09/19  
DATE REVISED: 1988/05/30

CODED BY: TGS  
REVISED BY: LDJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 079**

NATIONAL MINERAL INVENTORY: 104K1 Au1

NAME(S): **GOLDEN BEAR**, BEAR MAIN, MUDDY LAKE,  
GRIZZLY, KODIAK A, KODIAK B,  
KODIAK C, KODIAK, URSA,  
C+C, C&C, LCF,  
LIMESTONE CREEK

STATUS: Past Producer	Open Pit	Underground	MINING DIVISION: Atlin
REGIONS: British Columbia			UTM ZONE: 08 (NAD 83)
NTS MAP: 104K01W			NORTHING: 6455376
BC MAP:			EASTING: 659005
LATITUDE: 58 12 39 N			
LONGITUDE: 132 17 37 W			
ELEVATION: 1400 Metres			
LOCATION ACCURACY: Within 500M			
COMMENTS: Adit. See also Fleece Bowl (104K 087) and Totem Silica (104K 088).			

COMMODITIES: Gold Silver Copper Antimony

**MINERALS**

SIGNIFICANT: Pyrite	Gold	Scorodite	Chalcopyrite	Tetrahedrite
Hessite	Stibnite			
ASSOCIATED: Quartz	Gypsum	Arsenopyrite	Pyrrhotite	
ALTERATION: Quartz	Dolomite	Pyrite	Kaolinite	Chlorite
	Illite			
ALTERATION TYPE: Silicific'n		Carbonate	Sericitic	Argillic
MINERALIZATION AGE: Lower Jurassic				Quartz-Carb.
ISOTOPIC AGE: 204 +/- 7 Ma		DATING METHOD: Potassium/Argon		MATERIAL DATED: Sericite

**DEPOSIT**

CHARACTER: Stockwork	Breccia	Stratabound	Disseminated
CLASSIFICATION: Mesothermal	Epigenetic	Epithermal	
TYPE: E03 Carbonate-hosted	disseminated Au-Ag	H05	Epithermal Au-Ag: low sulphidation
SHAPE: Irregular			
MODIFIER: Sheared	Other		
DIMENSION: 1000 x 200 x 10	Metres	STRIKE/DIP:	TREND/PLUNGE:
COMMENTS: Age date from Fieldwork 1986. Shape modifier is breccia.			

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Permian	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Paleozoic			Stikine Assemblage

LITHOLOGY: Siliceous Limestone  
Dolomitic Limestone  
Carbonatized Tuff  
Breccia  
Listwanite  
Greenstone  
Dolomite  
Chert  
Lapilli Tuff  
Basaltic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Foliated hornblende diorite of Juro-Triassic age intrude the pre-Upper Triassic rocks. These are commonly altered to chlorite, hematite and epidote. The Mesozoic strata are overlain unconformably by flat-lying Upper Tertiary and Pleistocene plateau basalts of the Level Mountain Group. The Permian strata consists of a 760 metre succession of limestone and dolomitic limestone, with local chert, shale and sandstone. The pre-Upper Triassic rocks consist of fine-grained crystal tuff to lapilli tuff with intercalated phyllite and greenstone, and minor chert, jasper, greywacke and limestone. These are Stikine assemblage.

A major north to northwest trending fault, known as the Ophir



CAPSULE GEOLOGY

Break Zone, extends through the area for over 10 kilometres and is defined by areas of intense fracturing with abundant slickensiding, areas of carbonaceous and siliceous black siltstone and gouge, and linear quartz-iron carbonate-pyrite-fuchsite(?) (listwanites) and quartz-dolomite alteration zones. X-ray work by Schroeter on fuchsite-looking material did not confirm the existence of fuchsite (Personal Communication, Schroeter, T. 1988). The listwanites occur in the tuffs. The Ophir Break Zone is bounded on the west by the West Wall fault and on the east by the Ultramafic fault.

Mineralization consists of pyrite, trace arsenopyrite and scorodite, native gold, pyrrhotite, chalcopyrite in amygdules in lapilli and altered fuchsite-bearing(?) tuff, stibnite, tetrahedrite and hessite. Pyrite occurs as late-stage veinlets and as earlier breccia matrix filling, fragments within breccias, wispy rims on silicified limestone fragments in breccia, and local laminations in fine bleached tuff. Locally, gypsum is associated with mineralization.

One deposit, the Bear Main, and two showings, the Fleece Bowl (104K 087) and the Totem Silica (104K 088) zones, occur along the major north trending structure. The deposits are about 1.5 kilometres apart and exploration and development is progressing from the south to north deposit.

The Bear Main zone is a pod composed of silicified dolomitized limestone and brecciated and altered tuffs. The zone has been traced by drilling along a length of 1 kilometre, across a width of 10 metres and to a depth of at least 200 metres. The dolomite locally displays a quartz stockwork with resistant veinlets of quartz.

Heterolithic and monolithic breccias occur between the silicified dolomite and altered tuff. The hanging wall Bear fault cuts the tuffaceous rocks and is marked by a zone of black gouge. A thick section of ash, lapilli and crystal tuffs and mafic flows occur above the hanging wall. The lapilli tuff contains a chalcopyrite marker zone. A one metre wide dyke of black basalt (Tertiary) intrudes the mineralized zone.

Alteration minerals in the zone include quartz, dolomite and pyrite within the limestones and dolomite, kaolinite, sericite, illite, chlorite and pyrite in the metavolcanics. Age dating of sericite from the alteration zone, which gave an apparent age of 204 Ma plus or minus 7 Ma, suggests the main period of mineralization occurred in Early Jurassic (Fieldwork 1986).

Reserves calculated in 1987 for the Bear Main zone were as follows:

Category	Tonnes	Grams per tonne gold
Proven	847,140	13.60
Probable	369,190	7.54
Total	1,216,330	12.00

Mineable, diluted open pit and underground ore reserves were as follows:

Open pit	300,160	16.46
Underground	295,624	20.91
Total	595,784	18.51

Reference: North American Metals Corp. Annual Report (1987)  
The mineralization is primarily epigenetic, although supergene enrichment occurs locally. The deposits are characteristic of a low to medium temperature, low salinity, mesothermal system. Likely, mineralized solutions ascended the fault zone to an area of extensive tectonic brecciation and alteration. Intrusive activity, alteration and mineralization along the major regional fault is postulated to have occurred over a 50 million year period, from 156 to 206 million years (Jurassic age) (Schroeter, 1987).

The mine was purchased by Wheaton River Minerals on July 2, 1993 when the mine was in a shutdown mode with just 6 months reserves left to be mined and processed. Following the purchase, mine exploration and development extended the reserves of the Bear Main zone to just over 90,710 tonnes grading 16 to 22 grams per tonne gold. Mining in the Bear zone ceased in 1994.

The Golden Bear mine milled 1620 tonnes of ore in 1989, but did not ship bullion until February 1990; the production statistics were recorded in 1990. Production for the Golden Bear is reported for the years 1990 to 1994, inclusive. From a total of 612,866 tonnes mined, 1,653,379 grams of silver and 6,763,036 grams of gold were produced.

In 1993, the Grizzly zone was discovered with a drillhole which analysed 14.4 grams per tonne gold over 15.4 metres of core length (7 to 8.2 metres true width). A decline was driven during the fall of 1994 and the spring of 1995 on the Grizzly zone, approximately 400

## CAPSULE GEOLOGY

metres below the mined out Bear Main zone. The Grizzly zone is on the footwall side of a 70 metre wide, fault-bounded limestone lens. It consists of a series of anastomosing faults internal to the carbonate lens. Underground drilling was completed August 8, 1995 and the decline allowed to flood. Drill core clearly shows that best gold grades are correlated with heavily disseminated fine pyrite in a well-healed (silicified) fault breccia.

The near-surface Kodiak A zone, 3 kilometres north of the mill, contains an estimated reserve of 824,000 tonnes grading 3.3 grams per tonne gold; the Kodiak B zone contains probable geological reserves of 278,112 tonnes grading 8.6 grams per tonne gold (Information Circular 1997-1, page 20). The Kodiak C zone was reported to contain 275,758 tonnes grading 7.8 grams per tonne gold (George Cross New Letter No.114 (June 15), 1994). In 1996, a 61-hole reverse circulation drilling program further tested the East Low Grade Stockpile zone. This zone contains a previously calculated resource estimated at 2,470,000 tonnes grading 1.3 grams per tonne gold (Information Circular 1997-1, page 20).

In the fall of 1994, a new zone (Ursa) of both higher grade refractory and lower grade, potentially leachable oxide ore, was discovered north of the Kodiak A zone. Gold mineralization at Ursa occurs within 100 metres of surface on the west wall of the steeply dipping Ursa fault, in a thinly bedded graphitic limestone. Below 100 metres, the fault breccia is healed by calcite which did not allow entry of gold-bearing fluid. Massive dolomite/chert in the footwall of the fault is barren because it did not brecciate during faulting to provide open space. Gold is associated with hematite and limonite in the Ursa fault zone and is highly leachable. North American Metals geologists interpret the hematite to be primary (hypogene) and an important exploration guide because brecciation and hematite are the only visual guides to gold mineralization.

The Golden Bear mine closed in September 1994 due to exhaustion of refractory ore reserves in the Bear Main zone. Two benches were mined on the Kodiak A zone in late 1994 before work was curtailed due to bad weather. The ore is stockpiled pending formulation of an Ursa mine plan and completion of the heap leach pad (P. Wojdak, personal communication, 1995).

In 1995, with Explore B.C. Program support, North American Metals Corporation completed an extensive program of underground and surface diamond drilling on the Grizzly and Ursa zones. A total of 5606.7 metres in 33 underground holes was drilled on the Grizzly zone, which identified two significant new ore shoots. Preliminary calculations indicate the Grizzly zone to contain 152,945 tonnes grading 23.39 grams per tonne gold at a 12 grams per tonne gold cutoff. The Ursa zone received 4560.2 metres of surface diamond drilling in 30 holes which confirmed the existence, size and extent of this recently discovered zone (Explore B.C. Program 95/96 - M118, M119).

An expanded feasibility study, completed in late 1996, involving mining and milling of material from the Kodiak A and Ursa zones, estimated the recovery of 6656 kilograms of gold from 1,528,000 tonnes grading 5.1 grams per tonne gold over a six year period. Mineable heap leachable reserves in the Ursa zone are estimated at 511,000 tonnes grading 7.0 grams per tonne gold (Information Circular 1997-1, page 20).

Construction of the Kodiak heap leach pad was commissioned by Wheaton River Minerals Limited and North American Minerals Corporation in late July 1997 and ore was loaded onto the pad. Leaching began on August 6th and the first gold bars were poured on August 13th. The official opening of the heap leach mine was on September 17, 1997.

During 1997, mining and heap leaching were completed on the Kodiak A deposit (reserves estimated at 759,000 tonnes grading 3.3 grams per tonne gold), one of three deposits to be mined. A total of 360,000 tonnes of ore was crushed and put on the 528,000-tonne capacity Fleece Bowl pad for processing. The high leaching rate predicted in the feasibility study was quickly confirmed and, by the end of October, when the operation was shut down for the winter months, a total of 952 kilograms (30,600 ounces) of gold had been produced, exceeding the planned output for 1997 by 19 per cent. The average grade of the ore stacked on the leaching pad, at 3.47 grams per tonne, surpassed feasibility projections by about 16 per cent. Recovery rates exceeded 90 per cent. Another 168,000 tonnes of Kodiak A ore will be placed on this pad next June.

The Ursa deposit has proven and probable reserves of 519,400 tonnes grading 6.9 grams per tonne. Pre-stripping of the deposit continued into mid-October 1997 and the liner for the second, (1,000,000-tonne capacity Totem Creek) leach pad was installed during the third quarter and it is ready for stacking when mining and

## CAPSULE GEOLOGY

processing resumes next spring. A second processing plant will be built adjacent to this pad. Next year, the first full year of production, mining at Kodiak A and Ursa is expected to boost production to 1229 kilograms (39,500 ounces) of gold.

With the exception of the Grizzly, all the zones at Golden Bear are oxidized and exhibit many characteristics of Carlin-type, sediment-hosted micron gold deposits. Mineralization is hosted by hydrothermally brecciated and silicified dolomites. While only three deposits are included in the mine plan, others are known; the most advanced of these is the Kodiak C, which contains about 276,000 tonnes of material grading 7.8 grams per tonne gold. Kodiak B contains 183,900 tonnes grading 8.7 grams per tonne gold. The Grizzly zone contains an estimated 152,945 tonnes of refractory ore grading 20.5 grams per tonne gold. Reserves and resources are reported in Wheaton River Minerals Ltd., 1998 Annual Report.

During 1997, drilling on the higher grade Grizzly deposit extended the structure by at least 75 metres to the north. Wheaton River is evaluating the potential for heap leaching the East low grade stockpile, which it estimates to contain 200,000 tonnes of 2.9 grams per tonne gold. A feasibility study is expected during 1998. Elsewhere, trenching and drilling exploration programs tested the C+C zone along Limestone Creek (LCF) in the western part of the property.

The Kodiak A is mined out in 1998; mining begins on the Ursa and Kodiak B in 1999. All of the 1998 production came from ore stacked on the Fleece Bowl pad. Additional heap leach production will be from the Totem Creek pad.

In November 1999, Wheaton River merged with Kit Resources Ltd. Production during 1999 equalled 2227 kilograms of gold. A total of 390,434 tonnes grading 5.63 grams per tonne gold was mined from the Ursa zone pit and stacked on the Totem Creek heap-leach pad. In addition, 155,551 tonnes grading 3.10 per cent gold, previously stockpiled from the Kodiak A deposit, were also stacked on the Totem Creek pad. The Fleece Bowl leach pad contributed 57 kilograms to production. Recoveries of gold from the Totem Creek and Fleece Bowl leach facilities were 78.3 per cent and 92.4 per cent, respectively. During 1999, an eight-hole, 1200-metre drilling program tested three target areas: the northerly extension of the Ursa deposit along the projected trace of the Ursa fault, the South Zone, and the 1700-metre level below the Kodiak A zone, at the same level as the Kodiak B and Ursa deposits. Plans for the year 2000 include mining and leaching of the approximately 300,000 tonnes of ore remaining in the Ursa zone, and further leaching of about 35,000 tonnes of lower grade Kodiak A ore on the Totem Creek pad. Underground work will begin on the Kodiak B deposit, which is expected to yield about 183,900 tonnes of refractory ore grading 8.7 grams per tonne gold over the next two years.

Proven and probable reserves are 407,496 tonnes at 8.7 grams per tonne gold; inferred resources are 428,900 tonnes at 12.3 grams per tonne gold (Wheaton River Website, February 2000).

Just over 380,000 tonnes was mined in 2000, the final year in which mining occurred. Production in 2001 and 2002, estimated to total 1040 kilograms of gold, came from stockpiles and residual leaching. The mine closed in 2002.

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DATE CODED: 1985/09/05  
DATE REVISED: 1997/08/25

CODED BY: TGS  
REVISED BY: LLD

FIELD CHECK: Y  
FIELD CHECK: Y

MINFILE NUMBER: **104K 080**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUT, RAM**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 16 39 N  
LONGITUDE: 132 25 29 W  
ELEVATION: 1420 Metres

NORTHING: 6462493  
EASTING: 651020

LOCATION ACCURACY: Within 500M

COMMENTS: Location of massive sulphide pod in the north part of main silicified area (Assessment Report 16528).

COMMODITIES: Gold                      Silver                      Antimony                      Lead                      Copper  
                    Zinc                      Arsenic

**MINERALS**

SIGNIFICANT: Pyrite                      Arsenopyrite                      Stibnite                      Tetrahedrite                      Sphalerite

                    Galena                      Scorodite                      Chalcopyrite                      Boulangerite

ASSOCIATED: Quartz                      Calcite                      Tourmaline

ALTERATION: Quartz                      Malachite                      Azurite

ALTERATION TYPE: Silicific'n                      Oxidation

MINERALIZATION AGE: Unknown

ISOTOPIC AGE: 171 +/- 6 Ma                      DATING METHOD: Potassium/Argon                      MATERIAL DATED: Albitite/Whole Rock

**DEPOSIT**

CHARACTER: Vein                      Breccia                      Stratabound  
CLASSIFICATION: Replacement                      Epigenetic                      Hydrothermal                      Industrial Min.  
                    TYPE: J01 Polymetallic manto Ag-Pb-Zn                      E03                      Carbonate-hosted disseminated Au-Ag  
SHAPE: Irregular  
DIMENSION: 800 x 600                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Alteration zone.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic                                                                                     Stikine Assemblage

LITHOLOGY: Siliceous Limestone  
                    Phyllite  
                    Siltstone  
                    Tuff  
                    Albitite  
                    Breccia

HOSTROCK COMMENTS: Permian limestone succession with Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**CAPSULE GEOLOGY**

In the area southwest of Tatsamenie Lake, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikine Terrane. These rocks are intruded by plutonic rocks associated with four separate igneous events. These consist of foliated diorite of Triassic age, unfoliated albitite and monzonites of Jurassic and Late Cretaceous ages, respectively, and feldspar porphyry dykes of the Sloko Group of Eocene age. The volcanics and sediments have undergone two phases of folding, a tight isoclinal fold with a horizontal fold axis and an upright more open fold. The early isoclinal phase of folding is associated with thrust faulting, which places Upper Carboniferous felsic phyllites on Permian limestone.

The Jurassic intrusives include a sodium metasomatized variety of diorite composed of albite feldspar. The albitite sill is locally mineralized with pyrite, boulangerite and tourmaline.

The Permian limestones consist of a massive, white, thick bedded, grey weathering, recrystallized limestone unit overlain by a dark grey, thin bedded, grey weathering carbonaceous limestone unit. The upper unit contains boudins of chert and/or pyrite.

The limestones are pervasively silicified with local areas of brecciation. The breccia contains large fragments of limestone, banded limestone and phyllite in a dark matrix. Quartz veins

## CAPSULE GEOLOGY

commonly occur in the phyllites and dolomitized limestone. Disseminated pyrite is common in these rocks.

Gold mineralization is associated with silicified limestone at the top of Permian limestone, near the contact with overlying Upper Carboniferous felsic phyllites. The main altered zone, which measures about 800 by 600 metres, contains fracture-controlled and disseminated pyrite, stibnite, tetrahedrite, scorodite, malachite, azurite and minor chalcopyrite. Several samples of massive silicified limestone within the altered zone assayed over one gram per tonne gold across one metre (Assessment Report 13068).

A one metre wide massive sulphide pod contains galena, sphalerite, pyrite and arsenopyrite. A 0.25 metre sample assayed 7.0 grams per tonne gold (Assessment Report 13068). Drilling 300 metres to the southeast intersected 2.38 grams per tonne gold, 33.5 grams per tonne silver and 0.488 per cent lead over 1.58 metres. Another drill hole at the same location intersected 265 grams per tonne silver and 1 per cent lead over 1.22 metres. (Assessment Report 16528).

The mineralization likely involved hydrothermal solutions ascending along a fault zone (feeder) through the limestone and into the overlying phyllitic rocks. The mineralizing solutions may have travelled outward along stratabound breccia in the silicified and/or dolomitized limestone beds beneath the 'impermeable' contact with a minor amount of 'leakage' into the phyllites (Schroeter, 1986). This is termed a manto-type deposit. The age of mineralization may be related to the albitization event at about 171 plus or minus 6 million years (Hewgill, 1985).

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Chevron File

DATE CODED: 1985/09/01  
DATE REVISED: 1988/05/04

CODED BY: TGS  
REVISED BY: LDJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 081**

NATIONAL MINERAL INVENTORY:

NAME(S): **NIE 2 OZ NOTCH**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 17 40 N  
LONGITUDE: 132 20 01 W

NORTHING: 6464587  
EASTING: 656287

ELEVATION: 1880 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: D5 337 trench (Assessment Report 16523), located just south of Tatsamenie Lake.

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Pyrite Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

ISOTOPIC AGE: 156 +/- 5 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

**DEPOSIT**

CHARACTER: Vein Massive Disseminated

CLASSIFICATION: Epigenetic Hydrothermal

COMMENTS: Age dating: Fieldwork, 1986.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Paleozoic

Stikine Assemblage

LITHOLOGY: Hornblende Feldspar Porphyritic Dike  
Black Siltstone  
Limestone  
Tuff

HOSTROCK COMMENTS: Permian limestone succession with Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

1.7000

Grams per tonne

Gold

14.0000

Grams per tonne

COMMENTS: 0.3 metre sample.

REFERENCE: Assessment Report 12688.

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Hornblende diorite and quartz-monzonite of Juro-Triassic age intrude and are in fault contact with the pre-Upper Triassic rocks. These are commonly altered to chlorite, hematite and epidote. The Mesozoic strata are overlain unconformably by flat-lying Upper Tertiary and Pleistocene plateau basalts of the Level Mountain Group.

A major north to northwest trending fault, known as the Ophir Break Zone, extends through the area for over 10 kilometres, and is defined by areas of intense fracturing with abundant slickensiding; areas of carbonaceous and siliceous black siltstone and gouge; and linear quartz-iron carbonate-pyrite-fuchsite(?) (listwanites) and quartz-dolomite alteration zones. The listwanites occur in the tuffs.

The pre-Upper Triassic rocks consist of fine-grained crystal to lapilli tuff, phyllite, limestone, siltstone and intraformational breccia. The limestones occurs as fault slivers along the West Wall

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**CAPSULE GEOLOGY**

Fault. These are considered to be part of the Stikine Terrane Assemblage.

The Nie or "2 Oz. Notch" showing is a north trending, 60 degree east dipping quartz vein, over 1.0 metre wide, with abundant disseminated and massive pyrite and minor pyrrhotite adjacent to a hornblende feldspar porphyry dyke within siltstone and limestone. The dyke occurs along the trace of the West Wall fault. Dating of hornblende from the dyke gave an apparent age of 156 plus or minus 5 million years, suggesting mineralization may have occurred during the Upper Jurassic (Schroeter, 1987). A 0.3 metre sample assayed 14.0 grams per tonne gold and 1.7 grams per tonne silver (Assessment Report 12688).

**BIBLIOGRAPHY**

EMPR ASS RPT 10757, 11408, \*12688, 13984, \*16523, \*16726  
EMPR EXPL 1982-394; 1983-542; 1984-398; 1985-395  
EMPR FIELDWORK \*1985, pp. 175-183; 1986, pp. 103,106  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
V STOCKWATCH July 3,10, 1987  
GCNL #66,#117, 1987  
Western Investment News May, 1987  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1985/09/19  
DATE REVISED: 1988/04/29

CODED BY: TGS  
REVISED BY: LDJ

FIELD CHECK: Y  
FIELD CHECK: N



MINFILE NUMBER: **104K 082**

NATIONAL MINERAL INVENTORY:

NAME(S): **SLAM**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K01E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 14 07 N  
 LONGITUDE: 132 06 05 W  
 ELEVATION: 1670 Metres

NORTHING: 6458566  
 EASTING: 670177

LOCATION ACCURACY: Within 500M

COMMENTS: Anomalous silicified zone (Assessment Report 12775).

COMMODITIES: Gold Silver Antimony Arsenic Mercury

**MINERALS**

SIGNIFICANT: Pyrite                      Stibnite  
 ASSOCIATED: Quartz                    Calcite  
 ALTERATION: Quartz                    Calcite  
 ALTERATION TYPE: Silicific'n           Malachite  
 MINERALIZATION AGE: Unknown           Quartz-Carb.                      Oxidation

**DEPOSIT**

CHARACTER: Vein                                      Disseminated  
 CLASSIFICATION: Epigenetic                      Industrial Min.  
 TYPE: E03 Carbonate-hosted disseminated Au-Ag  
 DIMENSION: 200 x 30                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
 COMMENTS: Silicified zone.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Undefined Group	Unnamed/Unknown Formation	
Triassic	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Siliceous Limestone  
 Dolomitic Limestone  
 Breccia  
 Tuff  
 Phyllite  
 Greenstone

HOSTROCK COMMENTS: Permian limestone with Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                                      PHYSIOGRAPHIC AREA: Boundary Ranges  
 TERRANE: Stikine  
 METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                                      REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1984
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Silver		10.7000	Grams per tonne
Gold		1.3300	Grams per tonne

COMMENTS: One metre chip sample.  
 REFERENCE: Assessment Report 12775.

**CAPSULE GEOLOGY**

In the area, pre-Upper Triassic tuffs, phyllites, siltstone, greenstone and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by three igneous events, which include foliated diorite of Triassic age, unfoliated diorite of Jurassic age and feldspar porphyry basaltic dykes of the Sloko Group of Cretaceous to Tertiary age.

The Permian limestone is pervasively silicified with local areas of dolomitization and brecciation. The limestone contains irregular areas of chert and pyrite. The dolomitized limestone is often intensely stockworked by quartz and calcite veins.

Gold mineralization is associated with a northeast trending, northwest dipping silicified limestone unit, in contact with an altered tuff unit. A 200 by 30 metre, silicified, well fractured zone, contains disseminations and blebs of pyrite. The silicified

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**CAPSULE GEOLOGY**

limestone is likely fault bounded on the west.  
Several rock samples from the silicified zone assayed over 1.0 grams per tonne gold. A one metre chip sample from the zone assayed 1.33 grams per tonne gold, 10.7 grams per tonne silver, 44 grams per tonne mercury, 3600 grams per tonne arsenic and 280 grams per tonne antimony (Assessment Report 12775). A sample of silicified limestone with malachite staining, 600 metres to the west-northwest, assayed 2.4 grams per tonne gold, over 100 grams per tonne silver and over 1000 grams per tonne antimony (Assessment Report 12775).

**BIBLIOGRAPHY**

EM FIELDWORK 1998, pp. 165-178  
EMPR ASS RPT 11818, \*12775, \*16726  
EMPR EXPL 1983-536; 1984-394  
EMPR FIELDWORK 1985, pp. 175-183  
EMPR PF (Reports by Lefebure, D. (1987); Zuran, R.J. (1994):  
    Geochemical Report on the Slam Property, North American  
    Metals Corp. (14 pages))  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1985/09/19  
DATE REVISED: 1988/05/09

CODED BY: TGS  
REVISED BY: LDJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 083**

NATIONAL MINERAL INVENTORY:

NAME(S): **OUTLAW**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K10E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 32 09 N  
 LONGITUDE: 132 43 24 W  
 ELEVATION: 1850 Metres

NORTHING: 6490615  
 EASTING: 632540

LOCATION ACCURACY: Within 500M

COMMENTS: Drill hole location (Assessment Report 16310).

COMMODITIES: Gold Silver Lead Zinc Copper

**MINERALS**

SIGNIFICANT: Sphalerite Pyrite Arsenopyrite Galena Stibnite

Pyrrhotite Chalcopyrite

ASSOCIATED: Quartz Tourmaline

ALTERATION: Quartz Montmorillonite Sericite Tourmaline Silica

Pyrophyllite

ALTERATION TYPE: Argillic Sericitic Tourmalin'z'n Silicific'n Chloritic

Epidote

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Massive Disseminated  
 CLASSIFICATION: Epigenetic Hydrothermal Skarn Epithermal

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic	Laberge	Takwahoni	
Cretaceous-Tertiary	Sloko	Undefined Formation	
Triassic			Unnamed/Unknown Informal
Jurassic-Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Rhyolite Augite Feldspar Porphyry  
 Hornfels  
 Tuff  
 Diorite  
 Rhyolite  
 Limestone  
 Shale  
 Mudstone  
 Siltstone  
 Sandstone

HOSTROCK COMMENTS: Jurassic-Cretaceous hornblende diorite stock.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Stikine  
 METAMORPHIC TYPE: Contact  
 PHYSIOGRAPHIC AREA: Boundary Ranges  
 Plutonic Rocks  
 RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**CAPSULE GEOLOGY**

The occurrence area is underlain by a Jurassic-Cretaceous biotite-hornblende diorite stock which intrudes chloritic tuffs of pre-Upper Triassic age and a series of sedimentary rocks of the Takwahoni Formation of the Laberge Group. These rocks are cut by rhyolitic augite-feldspar porphyry dykes of the Sloko Group of Tertiary or Cretaceous age. Basaltic and mafic volcanoclastic rocks of the Upper Triassic Stuhini Group lie to the south.

The pre-Upper Triassic rocks are possibly a hornfelsed part of the Takwahoni Formation. Mineralization is associated with a coarse silicified stockwork zone within a hornfels. The hornfels was originally a series of shales, mudstones, siltstones, sandstones and rare conglomerate all of which have been metamorphosed by contact with the diorite. Subsequently the hornfels has been subjected to silica and chlorite-epidote alteration and local clay alteration. Montmorillonite, sericite and pyrophyllite are observed. Quartz veining is minor in the altered hornfels but common in the unaltered hornfels. Mineralization occurs as disseminated pyrite, up to 2 per cent, with traces of chalcopyrite, pyrrhotite, arsenopyrite, stibnite and sphalerite. Less commonly the fine sulphides occur as veinlets.

The alteration zone, which is located on the north side of the diorite stock, also contains two types of mineralized quartz veins.

## CAPSULE GEOLOGY

The first, are quartz veins cutting rhyolitic augite-feldspar porphyry. The vein system strikes east-west, occurs over a length of about 800 metres and contains arsenopyrite, pyrite, tourmaline and stibnite. A one metre chip sample, across a fracture zone, from Trench 3 assayed 16.4 grams per tonne silver and a one metre chip sample from Trench 5, 300 metres to the east, assayed 1.7 grams per tonne gold (Assessment Report 12659).

Three hundred metres to the east of Trench 5, drilling in the clay altered zone returned intersections of 8.3 grams per tonne gold over 0.95 metres and values of silver to 89 grams per tonne, antimony to 0.1 per cent and arsenic to 0.75 per cent (Assessment Report 16726). The gold values are associated with the clay altered porphyry dykes and the coarse, silicified stockwork in the hornfels.

The second type of mineralization contains massive pyrite-pyrrhotite-sphalerite veins with minor galena within limestone. They are up to 1.5 metres wide and contain no significant gold or silver values.

Two possible styles of mineralization occur. The first, a typical epithermal gold occurrence with clay alteration, is likely associated with the Tertiary Sloko volcanism. The second, an exoskarn and endoskarn with extensive alteration of the hornfels and diorite, is likely associated with the Jurassic diorite. (Assessment Report 16726).

## BIBLIOGRAPHY

EMPR ASS RPT 2512 p. 18, 10532, \*12654, \*16310, \*16726  
EMPR EXPL 1981-319; 1983-545  
EMPR FIELDWORK 1985, p. 182  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))  
Chevron File

DATE CODED: 1985/09/19  
DATE REVISED: 1988/05/31

CODED BY: TGS  
REVISED BY: LDJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 084**

NATIONAL MINERAL INVENTORY:

NAME(S): **HEART PEAKS, HART**

MINING DIVISION: Atlin

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104K09E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 35 19 N  
 LONGITUDE: 132 03 55 W  
 ELEVATION: 1480 Metres

NORTHING: 6497975  
 EASTING: 670579

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Top Zone (Assessment Report 12141).

COMMODITIES: Silver                      Gold                      Arsenic                      Opal                      Gemstones

**MINERALS**

SIGNIFICANT: Pyrite                      Arsenopyrite                      Ruby Silver                      Pyrargyrite                      Proustite

Opal                      Stibnite

ASSOCIATED: Quartz                      Amethyst

ALTERATION: Kaolinite                      Illite                      Opal                      Tridymite                      Jarosite

Melanterite                      Scorodite                      Pyrite                      Rozenite                      Argillic

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

Stockwork

Breccia

Disseminated

CLASSIFICATION: Epigenetic

Hydrothermal

Epithermal

Industrial Min.

DIMENSION: 2000

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Length of north-northeast trending mineralized zone.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Pliocene-Pleistocene

**GROUP**

Level Mountain

**FORMATION**

Heart Peaks

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Siliceous Trachyte  
 Rhyolite  
 Tuff  
 Polymictic Breccia  
 Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: TOP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Grab

COMMODITY

Silver

GRADE

1345.0000

Grams per tonne

Gold

2.7400

Grams per tonne

REFERENCE: Assessment Report 12141.

**CAPSULE GEOLOGY**

Trachyte, basalt and rhyolite of the Pliocene Heart Peaks Formation are conformably overlain by alkaline basalt flows of the Plio-Pleistocene Level Mountain Group. To the west, are shale, siltstone and sandstone of the Lower Jurassic Takwahoni Formation.

The Heart Peaks basalt is part of an inferred 030 degree trending line of centres which includes Mount Edziza. Locally, trachyte domes, with associated late phreatic explosion breccias and vein mineralization, lie along a suspected old north-northeast trending fracture system.

Three styles of alteration occur. Pervasive silicified zones in the trachyte and breccia are the main hosts to the mineralized veins. The silicified trachytes contain rozenite, melanterite, scorodite and jarosite. Minerals resulting from argillation and opalization include illite, kaolinite, tridymite and grey opal.

Mineralization, associated with banded and/or vuggy quartz and rare amethyst veins, occurs along a north to north-east trend and includes, from south to north for 2 kilometres, the Top, Quartz Hill, Steep, End and Mogul zones. With the exception of the Top Zone, the quartz veining is intimately associated with the phreatic explosion

## CAPSULE GEOLOGY

breccias, cutting either it or adjacent silicified trachytes. Precious metals occur in quartz veins, silicified trachytes and open spaces. Pyrite is locally abundant and arsenopyrite is rare. Minor stibnite-opal veining occurs near the Mogul Zone.

The Top Zone is a 100 by 200 metre area of intensely silicified trachyte with cross-cutting banded and vuggy quartz and minor amethyst veins. Visible ruby silver (pyrargyrite or proustite) occurs as disseminations in very fine-grained clay-layers within well-banded quartz veins up to 1 metre in width. A grab sample assayed 2.74 grams per tonne gold and 1345 grams per tonne silver (Assessment Report 12141).

The Quartz Hill Zone consists of open space filling, coarsely crystalline quartz veins within polymictic breccias and silicified trachytes. A grab sample assayed 1.4 grams per tonne gold, 502 grams per tonne silver and 0.49 per cent arsenic (Fieldwork 1984).

The Steep Zone is hosted by a pyritic, silicified explosion breccia and blocks of trachyte. Quartz veins up to 1 metre across trend north-northeast and north-northwest and exhibit platy replacement textures and cockscomb textures, with large (5 centimetres) euhedral quartz crystals. A 75 centimetre sample assayed 12.8 grams per tonne silver (Assessment Report 12141).

The Mogul Zone contains several white to black, massive to drusy quartz veins within siliceous rhyolite-trachyte breccia, which contains kaolinized trachyte, trachyte, rhyolite, shale and chert fragments, and abundant disseminated pyrite. A 24 centimetre channel sample assayed 9.9 grams per tonne gold and 17.5 grams per tonne silver (Assessment Report 9859).

The alteration and mineralization likely occurred at a very high level within an epithermal system.

## BIBLIOGRAPHY

EMPR ASS RPT 7610, 9859, 11233, \*12141, 13811  
EMPR FIELDWORK \*1984-358-364  
EMPR EXPL 1981-138; 1982-396; 1983-544; 1985-395-396  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
EMPR PF (RPTS by Lefebure, D. (1987))

DATE CODED: 1986/02/18  
DATE REVISED: 1988/05/19

CODED BY: AFW  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 085**

NATIONAL MINERAL INVENTORY: 104K11 Cu1

NAME(S): **CAP, RED CAP, MIKE,  
GOAT, DA, SLOPE,  
RIDGE, EAST CIRQUE, BIRGIE**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K11W 104K14W

UTM ZONE: 08 (NAD 83)

BC MAP:  
LATITUDE: 58 44 59 N  
LONGITUDE: 133 16 20 W  
ELEVATION: 1524 Metres

NORTHING: 6513473  
EASTING: 599977

LOCATION ACCURACY: Within 500M

COMMENTS: Located north of Red Cap Creek, about 4.8 kilometres northwest of the summit of Mount Lester Jones, part of the Red Cap property (104K 010).

COMMODITIES: Copper Molybdenum Silver Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite Molybdenite Cuprite Copper Arsenopyrite  
Galena Sphalerite Pyrite

ASSOCIATED: Quartz Calcite Pyrite  
ALTERATION: Malachite Quartz Pyrite Sericite

ALTERATION TYPE: Silicific'n Pyrite Sericitic Oxidation Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Breccia  
CLASSIFICATION: Porphyry Igneous-contact  
TYPE: L04 Porphyry Cu ± Mo ± Au  
DIMENSION: 750 x 300 Metres

STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Triassic	Stuhini	King Salmon	
Cretaceous			Coast Plutonic Complex

LITHOLOGY: Granodiorite  
Granitic Breccia  
Felsite  
Andesite Dacite Porphyry

HOSTROCK COMMENTS: Stuhini Gp. consists of undivided volcanics and pyroclastics with a local disconformity hosting sedimentary package called King Salmon Fm.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

Plutonic Rocks

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE: Hornfels

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1981

COMMODITY	GRADE
Copper	0.0500 Per cent
Molybdenum	0.0150 Per cent

COMMENTS: Indicated ore from low-grade volcanic-type porphyry deposit about 750 by 300 metres.

REFERENCE: Statement of Material Facts: Berglynn Resources, Dec. 7, 1982.

**CAPSULE GEOLOGY**

The property area is situated between the Atlin Horst to the northeast and the Stikine Arch to the south. It is located on the southern flank of a southeast plunging anticline within the northwest trending Stihini Group.

The claims are underlain by the Upper Triassic Stuhini Group volcanics and pyroclastics and by the King Salmon Formation sedimentary rocks of the Stihini Group which disconformably underlie the volcanics. The Stuhini Group rocks are intruded by Cretaceous hornblende-biotite granodiorite stocks which may be part of the Coast Plutonic Complex and feldspar-porphyry dykes which are thought to be

## CAPSULE GEOLOGY

correlative with the Sloko Group volcanics (GSC Map 1262A).

On the property, the hornfelsed volcanic rocks near the contact with the granodiorite plug are heavily pyritized, silicified, and fractured. The altered and heavily pyritized zone is about 600 metres wide, but the precise width is difficult to determine, because the granodiorite itself is heavily pyritized in the marginal parts. The volcanics and pyroclastics are highly silicified and have undergone carbonate alteration and sericitization with the addition of white mica (sericite). Veins cut these altered zones and host variable amounts of pyrite, chalcopyrite, molybdenite, galena, arsenopyrite, and sphalerite in a quartz and calcite matrix (refer to Red Cap, 104K 010).

The granodiorite intrusion is reported to host malachite, cuprite, chalcopyrite, native copper and molybdenite. In 1981, drilling in the Slope Zone, which covers a mineralized area of approximately 750 by 300 metres, intersected granodiorites, granite breccia, felsites, and andesite-dacite porphyries. The drill results indicated a large, low grade, volcanic-type porphyry deposit in the range of 0.05 per cent copper and 0.015 per cent molybdenum (Berglynn Resources, 1982).

Drilling in the Ridge Zone, on the crest of a ridge at about 1675 metres in elevation, cut a 9.2-metre section assaying 1.59 per cent copper and 59.66 grams per tonne silver. Another hole drilled in 1982 intersected a 4.6-metre zone, which contained sections with the following assays: 3.17 per cent copper, 0.27 gram per tonne gold, 169.37 grams per tonne silver; 1.15 per cent copper, 0.137 gram per tonne gold, 58.28 grams per tonne silver; and 2.68 per cent copper, 0.17 gram per tonne gold, and 140.57 grams per tonne silver. Each of these assays covered a 1.5-metre section (Assessment Report 11089).

In 1988, Omni Resources Inc. conducted 92 kilometres of airborne magnetics and VLF in the area. Omni Resources conducted geological mapping and rock, silt and soil sampling in 1989 and rock sampling in 1991.

Xplorer Gold Corp. drilled 11 holes in 1998.

## BIBLIOGRAPHY

- EM EXPL 1999-19-31
- EM INF CIRC 1999-1, pp. 9, 15
- EMPR AR 1930-121; 1931-63
- EMPR ASS RPT 3670, 8959, 9048, 9246, 10452, 11089, 11421, 17839, \*18803, 21687
- EMPR EXPL 1980-554; 1982-398; 1983-547
- EMPR GEM 1971-51; \*1972-554
- EMPR PF (Refer to Red Cap, 104K 010 for GCNL #144, 1981; #169, 1982; #120, 1983)
- EMR MP CORPFILE (Omni Resources Inc.; Berglynn Resources Inc.)
- GSC MAP 6-1960; 931A; 1262A
- GSC MEM 248, pp. 70,73; 362, p. 55
- GSC P 45-30
- Statement of Material Facts: (Wahl, H., Red Cap Property, Aug. 1982, in Berglynn Resources Inc., Dec.7, 1982)

DATE CODED: 1987/11/23  
DATE REVISED: 1988/04/26

CODED BY: GSA  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104K 086**

NATIONAL MINERAL INVENTORY:

NAME(S): **BANDIT, POST, RAM REEF,  
CLIFF, EAST**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K01E 104K01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 04 00 N  
LONGITUDE: 132 16 37 W  
ELEVATION: 2000 Metres

NORTHING: 6439373  
EASTING: 660632

LOCATION ACCURACY: Within 500M  
COMMENTS: Location of Ram Reef - fault and alteration zone (trenched).

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Pyrite Gold Chalcopyrite

ASSOCIATED: Quartz

ALTERATION: Carbonate Clay Montmorillonite Silica Pyrite

Specularite Malachite Azurite

ALTERATION TYPE: Propylitic Silicific'n Oxidation Argillic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Disseminated

CLASSIFICATION: Epigenetic Hydrothermal

DIMENSION: 1000 x 0050 Metres STRIKE/DIP: 070/80N TREND/PLUNGE:

COMMENTS: Silicified, highly altered subvertical fault zone.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic

Unnamed/Unknown Group

Undefined Formation

LITHOLOGY: Siliceous Siltstone  
Phyllite  
Greenstone  
Andesitic Tuff  
Basaltic Tuff  
Phyllitic Greenstone

HOSTROCK COMMENTS: Pre-Upper Triassic phyllites and greenstones of the Stikinia Terrane.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

14.8000 Grams per tonne

Gold

10.0000 Grams per tonne

COMMENTS: This sample lies 800 metres south of the main mineralized zone.

REFERENCE: Assessment Report 11824.

**CAPSULE GEOLOGY**

The property is underlain by a pre-Upper Triassic phyllite package consisting of siliceous siltstones to phyllitic greenstones. Unconformably overlying these rocks is a package of andesitic to basaltic tuffs.

An east-northeast trending fault defines the hangingwall of a 50 metre wide, 1000 metre long alteration-vein zone known as the Ram Reef, within the volcanic package. The footwall is loosely defined by decreasing alteration from 1) pervasive silicification with 1 to 3 per cent disseminated and veinlet pyrite to 2) pervasive propylitized volcanics with ubiquitous carbonate and montmorillonite to 3) fresh rock with minor carbonate-quartz filled fractures and minor specularite. Gold is most strongly associated with strong silicification and chalcopyrite blebs occur in propylitically altered rocks with malachite and azurite staining.

A mineralized siliceous altered zone within the Ram Reef

## CAPSULE GEOLOGY

measures about 150 metres in length and up to 50 metres wide. A 2 metre chip sample from the zone assayed 4.7 grams per tonne gold (Assessment Report 10755). Resampling of this zone in 1988, indicated that the mineralized rock within the alteration zone contains microscopically visible, fine, angular free gold (George Cross News Letter, August 31, 1988). A 0.7 metre chip sample from a trench assayed 6.75 grams per tonne gold (Assessment Report 16360). Two drillholes (1994) were collared in Stuhini Group volcanoclastics, which locally contain narrow argillite beds, and passed through the Ram Reef structure into the underlying fine-grained tuffs (still Stuhini?). Alteration is confined to the fine-grained tuffs and consists of broad zones of variable albite and silica with fine grained disseminated pyrite and, occasionally, specular hematite. No significant gold values were obtained from the Ram Reef structure (Assessment Report 23597).

Another silicified-pyritized zone lies 800 metres to the south. It lies within phyllite and iron-carbonate phyllite. Samples assayed up to 14.8 grams per tonne silver and over 10.0 grams per tonne gold (Assessment Report 11824).

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GCNL #168,#195,#196, 1988  
Chevron File

DATE CODED: 1988/04/28  
DATE REVISED: 1988/09/19

CODED BY: LDJ  
REVISED BY: LLD

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 087**

NATIONAL MINERAL INVENTORY: 104K1 Au1

NAME(S): **FLEECE BOWL**, GOLDEN BEAR, MUDDY LAKE

STATUS: Developed Prospect

MINING DIVISION: Atlin

REGIONS: British Columbia

NTS MAP: 104K01W

BC MAP:

LATITUDE: 58 13 39 N

LONGITUDE: 132 17 47 W

ELEVATION: 1800 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches. See Golden Bear (104K 079) and Totem Silica (104K 088).

UTM ZONE: 08 (NAD 83)

NORTHING: 6457224

EASTING: 658767

COMMODITIES: Gold

Silver

**MINERALS**

SIGNIFICANT: Pyrite Arsenopyrite Gold Scorodite Pyrrhotite

Chalcopyrite Tetrahedrite Hessite

ASSOCIATED: Quartz Stibnite

ALTERATION: Quartz Dolomite Pyrite Kaolinite Chlorite

Ilmenite Sericite

ALTERATION TYPE: Pyrite Quartz-Carb. Silicific'n Carbonate Sericitic

MINERALIZATION AGE: Unknown

ISOTOPIC AGE: 179 +/- 6 Ma DATING METHOD: Potassium/Argon MATERIAL DATED: Sericite

**DEPOSIT**

CHARACTER: Stockwork Breccia Stratabound Disseminated

CLASSIFICATION: Mesothermal Epigenetic Hydrothermal Epithermal

TYPE: E03 Carbonate-hosted disseminated Au-Ag

DIMENSION: 12 Metres STRIKE/DIP:

COMMENTS: Age dating, Fieldwork 1986. Shape of modifier is breccia. TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Graphitic Siliceous Siltstone  
Siliceous Limestone  
Dolomite  
Tuff  
Breccia  
Feldspar Porphyry Dike

HOSTROCK COMMENTS: Permian limestone succession with Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: FLEECE BOWL

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1994

QUANTITY: 110666 Tonnes

COMMODITY

GRADE

Gold

16.4000

Grams per tonne

COMMENTS: An indicated resource.

REFERENCE: George Cross News Letter No.84 (May 3), 1994.

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Foliated hornblende diorite of Juro-Triassic age intrude the pre-Upper Triassic rocks. These are commonly altered to chlorite, hematite and epidote. The Mesozoic strata are overlain unconformably by flat-lying Upper Tertiary and Pleistocene plateau basalts of the Level Mountain Group.

The Permian strata consists of a 760 metre succession of limestone and dolomitic limestone, with local chert, shale and sandstone. The pre-Upper Triassic rocks consist of fine-grained crystal tuff to lapilli tuff with intercalated phyllite and greenstone, and minor chert, jasper greywacke and limestone. These

## CAPSULE GEOLOGY

are considered to be part of the Stikine Terrane Assemblage.

A major north to northwest trending fault, known as the Ophir Break Zone, extends through the area for over 10 kilometres, and is defined by areas of intense with abundant slickensiding; areas of carbonaceous and siliceous black siltstone and gouge; and linear quartz-iron carbonate-pyrite-fuchsite(?) (listwanites) and quartz-dolomite alteration zones. The listwanites occur in the tuffs.

Mineralization consists of pyrite, trace arsenopyrite and scorodite, native gold, pyrrhotite, chalcopyrite in amygdules in lapilli and altered fuchsite-bearing(?) tuff, stibnite, tetrahedrite and hessite. Pyrite occurs as late-stage veinlets and as earlier breccia matrix filling, fragments within breccias, wispy rims on silicified limestone fragments in breccia, and local laminations in fine bleached tuff.

Three major deposits, the Bear Main (see 104K 079), the Fleece Bowl and the Totem Silica (see 104K 088) zones, occur along the major north trending structure. The deposits are about 1.5 kilometres apart and exploration and development is progressing from the south to north deposit.

The Fleece Bowl Zone is bound by the West Wall and Black faults. The Black Fault, ranging from 6 to 20 metres wide, occurs in a graphitic, siliceous siltstone and dips to the east. Late-stage calcite veinlets cut the rock which is locally vuggy. The hanging wall zone consists of fuchsite-bearing(?) tuff with trace arsenopyrite in quartz veinlets.

The West Wall Fault, which dips steeply to the east cuts, silicified limestone and dolomite. A 12 metre slice, with strong north-striking foliation, consists of fuchsite-bearing(?) tuff (listwanite) with quartz-carbonate veining, and breccia. Pyrite occurs as disseminations and fracture fillings. Mineralization is also associated with a sericitized feldspar porphyry dyke.

Alteration minerals in the zone include quartz, dolomite and pyrite within the limestones and dolomite, kaolinite, sericite, illite, chlorite and pyrite in the metavolcanics. Age dating of sericite from the alteration zone, which gave an apparent age of 179 plus or minus 6 million years (Schroeter, 1987), suggests the main period of mineralization occurred in Early Jurassic.

Mineralization in the Fleece Bowl Zone occurs below surface, as indicated by drilling. Indicated resources are 110,666 tonnes grading 16.4 grams per tonne gold (George Cross News Letter No.84 (May 3), 1994).

The mineralization is primarily epigenetic, although supergene enrichment occurs locally. The deposits are characteristic of a low to medium temperature, low salinity, mesothermal system. Likely, mineralized solutions ascended the fault zone to an area of extensive tectonic brecciation and alteration. Intrusive activity, alteration and mineralization along the major regional fault is postulated to have occurred over a 50 million year period, from 156 to 206 million years (Jurassic age). (Schroeter, 1987).

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- EMPR FIELDWORK 1984, pp. 352-357; \*1985, pp. 175-183; \*1986, pp. 103-109; 1992, pp. 159-188
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- EMPR MER 1987-42
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- GSC BULL 540, p. 63
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- GSC MEM 362
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- N MINER Feb.9, Mar.7, Sept.7, 1987; Apr.25, 1988; Jan.9, Mar.27,

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 453  
REPORT: RGEN0100

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V STOCKWATCH Jun. 9, Aug. 13, 1987; Mar. 11, 17, 1987; Jul. 17,  
Oct. 20, 1989  
WIN May 1987  
WWW <http://www.wheatonriver.com>;  
[http://www.infomine.com/index/properties/GOLDEN\\_BEAR\\_MINE.html](http://www.infomine.com/index/properties/GOLDEN_BEAR_MINE.html)

DATE CODED: 1988/04/27  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 088**

NATIONAL MINERAL INVENTORY: 104K1 Au1

NAME(S): **TOTEM SILICA**, GOLDEN BEAR, MUDDY LAKE

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:  
LATITUDE: 58 14 29 N  
LONGITUDE: 132 17 47 W  
ELEVATION: 1750 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Totem Silica zone. See Golden Bear (104K 079) and Fleece Bowl (104K 087).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6458770  
EASTING: 658705

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Pyrite Tetrahedrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Dolomite Pyrite Chlorite Epidote  
                  Sericite Hematite  
ALTERATION TYPE: Silicific'n Quartz-Carb. Pyrite Carbonate Sericitic  
                  Argillic  
MINERALIZATION AGE: Unknown  
ISOTOPIC AGE: 204 +/- 7 Ma DATING METHOD: Potassium/Argon MATERIAL DATED: Sericite

**DEPOSIT**

CHARACTER: Stockwork Breccia Stratabound Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal  
                  TYPE: E03 Carbonate-hosted disseminated Au-Ag  
SHAPE: Irregular  
MODIFIER: Folded Other  
DIMENSION: 1100 x 200 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Silicified zone; age dating, Fieldwork, 1986. Shape modifier is breccia.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikinie Assemblage

LITHOLOGY: Siliceous Limestone  
Dolomite  
Tuff  
Carbonaceous Siltstone  
Greenstone  
Siliceous Tuff

HOSTROCK COMMENTS: Permian limestone succession with Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikinie  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE:

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Foliated hornblende diorite of Juro-Triassic age intrude the pre-Upper Triassic rocks. These are commonly altered to chlorite, hematite and epidote. The Mesozoic strata are overlain unconformably by flat-lying Upper Tertiary and Pleistocene plateau basalts of the Level Mountain Group. The Permian strata consists of a 760 metre succession of limestone and dolomitic limestone, with local chert, shale and sandstone. The pre-Upper Triassic rocks consist of fine-grained crystal tuff to lapilli tuff with intercalated phyllite and greenstone, and minor chert, jasper greywacke and limestone. These are considered to be part of the Stikinie Terrane. A major north to northwest trend fault, known as the Ophir Break Zone, extends through the area for over 10 kilometres, and is defined by areas of intense fracturing with abundant slickensiding; areas of carbonaceous and siliceous black siltstone and gouge; and linear quartz-iron carbonate-pyrite-fuchsite(?) (listwanites) and quartz-dolomite alteration zones. The listwanites occur in the

## CAPSULE GEOLOGY

tuffs.

The Bear Main (see 104K 079), the Fleece Bowl (see 104K 087) and the Totem Silica zones, occur along the major north trending structure.

The Totem Silica zone is a 200 by 1100 metre area of intense silicification within well-bedded, locally intensely folded limestones and dolomite. The rocks occupy the fault-bounded core of a north-trending anticline and have local, stratabound breccia zones. Late-stage northeast trending cross-fracturing is prominent and quartz-boudinage is well developed in the limestone. Pyrite occurs as disseminations in the silicified limestone and as rims around the breccia fragments. Quartz stockworks, mineralized with tetrahedrite, occur in silicified dolomite.

On the west side of the zone, a north trending, east dipping fault, separates the silicified limestone with interbedded fuchsite-bearing(?) tuff and carbonaceous siltstone. The hangingwall section consists of foliated hornblende tuff, chloritic tuff and fine-grained greenstone with hematitic fractures. Intruding the rocks on the east, is a foliated hornblende diorite, which are cut by hornblende-feldspar porphyry dykes. These dykes have been altered to epidote, chlorite and clay minerals.

Age dating of sericite from sericitic tuff, which gave an apparent age of 204 plus or minus 7 million years (Schroeter, 1987), suggests the period of mineralization occurred in Early Jurassic.

The mineralization is primarily epigenetic, although supergene enrichment occurs locally. The deposits are characteristic of a low to medium temperature, low salinity, mesothermal system. Likely, mineralized solutions ascended the fault zone to an area of extensive tectonic brecciation and alteration. Intrusive activity, alteration and mineralization along the major regional fault is postulated to have occurred over a 50 million year period, from 156 to 206 million years (Jurassic Age). (Schroeter, 1987).

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EMPR FIELDWORK 1984, pp. 352-357; \*1985, pp. 175-183; \*1986, pp. 103-109; 1992, pp. 159-188  
EMPR OF 1993-1; 1993-11  
EMPR PF (RPTS by Lefebure, D. (1986) Property Examination of Golden Bear; Schroeter, T. (1986) Notes on Muddy Lake Gold Deposit - MEG Meeting Jan. 15, 1986; \*Tittley, E.D. (1987) Geology and Mineralization of the Golden Bear Deposit - CIM District 6 Meeting, Oct. 1987, Vancouver; Annual Reports 1986, 1987 and News Releases - North American Metals Corp.; Snap Shot Reviews - Cordilleran Roundup, Feb. 4, 1988; RPTS by Lefebure, D. (1987))  
GSC BULL 540, p. 63  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
CIM BULL Vol. 80, No. 904, Aug. 1987, p. 30  
GCNL #50, 1988  
N MINER Mar.7, Sept.7, 1987; Apr.25, 1988  
WWW <http://www.wheatonriver.com>;  
[http://www.infomine.com/index/properties/GOLDEN\\_BEAR\\_MINE.html](http://www.infomine.com/index/properties/GOLDEN_BEAR_MINE.html)

DATE CODED: 1988/04/27  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 089**

NATIONAL MINERAL INVENTORY: 104K13 Pb1

NAME(S): **OYA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 48 44 N  
LONGITUDE: 133 36 43 W  
ELEVATION: 1220 Metres

NORTHING: 6519974  
EASTING: 580177

LOCATION ACCURACY: Within 500M

COMMENTS: Located 2 kilometres south-southeast of Mt. Stapler inline with Mt. Eaton.

COMMODITIES: Gold                      Silver                      Lead                      Zinc                      Copper  
                  Arsenic                      Sulphur

**MINERALS**

SIGNIFICANT: Arsenopyrite      Galena              Sphalerite              Chalcopyrite              Pyrite

Sulphur

ASSOCIATED: Sulphur

Malachite

ALTERATION: Malachite

Muscovite

Chlorite

Quartz

Pyrite

ALTERATION TYPE: Pyrite

Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

Breccia

Massive

Disseminated

CLASSIFICATION: Replacement

Volcanogenic

Epigenetic

Industrial Min.

SHAPE: Tabular

DIMENSION: 10

Metres

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Permian-Triassic

Permian

Cretaceous-Tertiary

**GROUP**

Unnamed/Unknown Group

Undefined Group

**FORMATION**

Undefined Formation

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Limestone

Breccia

Quartz Muscovite Chlorite Schist

Quartz Monzonite

**HOSTROCK COMMENTS:**

Permian limestone with Triassic and older rocks intruded by quartz monzonite genetically related to Sloko Group volcanics (GSC Map 1262A)

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

TERRANE: Nisling

METAMORPHIC TYPE: Regional

Plutonic Rocks

RELATIONSHIP: Syn-mineralization  
Post-mineralization

PHYSIOGRAPHIC AREA: Boundary Ranges

GRADE: Greenschist

**INVENTORY**

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

2200.7500

Grams per tonne

Arsenic

7.1000

Per cent

Gold

20.9000

Grams per tonne

Copper

0.1600

Per cent

Lead

16.6000

Per cent

Zinc

11.6500

Per cent

COMMENTS: Sample from 20 centimetre wide sulphide lens in limestone.

REFERENCE: Assessment Report 9007.

**CAPSULE GEOLOGY**

The area is underlain by a Paleozoic to Lower Triassic volcano-sedimentary belt which extends north-northwest and consists mainly of andesitic to felsic flows, tuffs, breccia, and minor sedimentary limestone, chert, and siltstone. These are intruded by a Tertiary-Cretaceous quartz monzonite pluton which is thought to be correlative with the Sloko Group volcanics. The volcano-sedimentary rocks have undergone regional greenschist facies metamorphism.

On the property the rocks are divided into two packages, one



## CAPSULE GEOLOGY

dominated by andesitic sediments and tuffs with prominent limestone intervals and the other dominated by felsic volcanic rocks mixed with volcanic-cherty-carbonate sediments. Massive and disseminated volcanogenic sulphides occur in both packages.

The property hosts one known zone of mineralization. Immediately below the glacier is a thick limestone unit which contains sphalerite-galena-pyrite-arsenopyrite-chert lenses up to 20 centimetres wide and 10 to 15 metres long which parallel the bedding. In 1981, two samples from this sulphide lens returned 20.9 grams per tonne gold, 2200 grams per tonne silver, 0.16 per cent copper, 16.6 per cent lead, 11.65 per cent zinc, 7.1 per cent arsenic, and 24 grams per tonne gold, 1887 grams per tonne silver, 0.13 per cent copper, 13.6 per cent lead, 9.85 per cent zinc, and 4.75 per cent arsenic, respectively (Assessment Report 9007).

Near the massive sulphides, several breccia lenses, up to 30 metres in length, occur. They consist of angular limestone clasts surrounded and partly replaced by pyrite-sphalerite-galena matrix. The breccias are thought to be the result of sulphide remobilization during deformation. Due west of the sulphide showing, the limestone is seamed with a stockwork of native sulphur veins and larger, malachite stained cherty veins.

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GSC MAP 6-1960; 931A; 1262A  
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GSC P 45-30  
GCNL #173, 1980; #84, May 4, 1981

DATE CODED: 1988/04/28  
DATE REVISED: 1988/04/28

CODED BY: LLC  
REVISED BY: LLC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 090**

NATIONAL MINERAL INVENTORY: 104K11 Au1

NAME(S): **JOLY, JAK**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 42 46 N  
LONGITUDE: 133 08 31 W  
ELEVATION: 1370 Metres

NORTHING: 6509562  
EASTING: 607629

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southeast flank of Mount Lester Jones near the headwaters of Jak Creek, about 26 kilometres northeast of Tulsequah; mineralized shear is a continuation of fault structures on Go claims (104K 075).

COMMODITIES: Gold Silver Zinc Lead Antimony  
Copper

**MINERALS**

SIGNIFICANT: Arsenopyrite Sphalerite Galena Stibnite Chalcopyrite  
Pyrrhotite Pyrite  
ASSOCIATED: Quartz Calcite  
ALTERATION: Carbonate Pyrite  
ALTERATION TYPE: Carbonate Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
COMMENTS: Mineralized fractures strike 090 or 130 degrees.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Andesite  
Porphyritic Andesite  
Volcanic Flow  
Tuff  
Volcanic Breccia  
Limy Siltstone  
Quartz Monzonite

HOSTROCK COMMENTS: Quartz-monzonite stock thought to be genetically related to the Sloko Group volcanics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact Regional  
PLUTONIC ROCKS: Plutonic Rocks  
RELATIONSHIP: Syn-mineralization Post-mineralization  
PHYSIOGRAPHIC AREA: Boundary Ranges  
GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1980	
SAMPLE TYPE: Chip		
COMMODITY	GRADE	
Silver	579.4000	Grams per tonne
Gold	17.8000	Grams per tonne
Copper	0.4200	Per cent
Lead	6.2300	Per cent
Antimony	2.5300	Per cent
Zinc	2.5500	Per cent

COMMENTS: Sample from sulphide rich vein in Lower Jak Creek.  
REFERENCE: Assessment Report 9048.

**CAPSULE GEOLOGY**

The claims are underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, tuffs, breccia and agglomerate with minor volcanic grey mudstone and slightly limy siltstone. On the property these units are generally hornfelsed and locally contain ellipsoidal patches up to 2 centimetres across of

## CAPSULE GEOLOGY

medium to coarse-grained calcite with abundant patches of pyrite and sphalerite.

To the west, a small Tertiary-Cretaceous quartz monzonite stock intrudes the Stuhini Group volcanics. It is thought to be correlative to the Sloko Group volcanics (GSC Map 1262A).

Bedded rocks on the property strike between 120 to 135 degrees and dip 40 to 45 degrees southwest. The rocks are strongly fractured with two major, steeply dipping sets, one striking 090 degrees and the other striking between 130 to 150 degrees.

Near the headwaters of Joly Creek, there is a broad zone of carbonate alteration which hosts many quartz-carbonate veins averaging 5 to 10 centimetres across (maximum 30 centimetres) with a spacing of every few metres. The veins are fracture fillings in the 090 degree fracture set between elevations 1000 to 1350 metres.

Veins at the headwaters of Jak Creek, between elevation 975 and 1040 metres, infill mainly the 130 degree fracture set within strongly altered porphyritic andesite.

The fracture filling veins host patches and lenses of sulphides in a gangue of quartz and calcite. The sulphides, in order of decreasing abundance, consist of pyrite, arsenopyrite, sphalerite, with minor galena, stibnite, pyrrhotite, and chalcopyrite. In 1980, a sample from an arsenopyrite-sphalerite-pyrite-galena vein returned 1.7 grams per tonne gold, 102.89 grams per tonne silver, 1.9 per cent lead, 8.3 per cent zinc, and 7.5 per cent arsenic. Another sample from the lower Jak Creek showing assayed 17.8 grams per tonne gold, 579.4 grams per tonne silver, 6.23 per cent lead, 2.55 per cent zinc, 0.65 per cent arsenic, 0.42 per cent copper, and 2.53 per cent antimony (Assessment Report 9048).

There is a major shear with associated intense fracturing in the lower Jak Creek area. The shear is associated with strong pyritic alteration and hosts pyrite veins, averaging 1 to 2 centimetres in width, containing minor associated sphalerite, stibnite, chalcopyrite, and galena. This mineralization is thought to be the eastern extension of the mineralized shear and/or fracture system, located on the Go claims (104K 075).

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GSC P 45-30  
GCNL #173, 1980; #13, Jan., #84, May4, 1981

DATE CODED: 1988/05/02  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 091**

NATIONAL MINERAL INVENTORY:

NAME(S): **MISTY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 16 02 N  
LONGITUDE: 132 19 20 W  
ELEVATION: 1940 Metres

NORTHING: 6461584  
EASTING: 657075

LOCATION ACCURACY: Within 500M  
COMMENTS: Showing (Assessment Report 11408).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz Carbonate Fuchsite  
ALTERATION: Carbonate  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Tuff  
Limestone

HOSTROCK COMMENTS: Permian limestone succession with intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1984  
SAMPLE TYPE: Grab  
COMMODITY Gold 10.0000 Grams per tonne  
REFERENCE: Assessment Report 11408.

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Hornblende diorite and quartz-monzonite of Juro-Triassic age intrude the pre-Upper Triassic rocks. These are commonly altered to chlorite, hematite and epidote. The Mesozoic strata are overlain unconformably by flat-lying Upper Tertiary and Pleistocene plateau basalts of the Level Mountain Group.

A major north to northwest trending fault, known as the Ophir Break Zone, extends through the area for over 10 kilometres, and is defined by areas of intense fracturing with abundant slickensiding; areas of carbonaceous and siliceous black siltstone and gouge; and linear quartz-iron carbonate-pyrite and quartz-dolomite alteration zones.

The pre-Upper Triassic rocks consist of fine-grained crystal to lapilli tuff, phyllite, limestone, siltstone and intraformational breccia. These are considered to be part of the Stikinia Terrane.

Minor gold mineralization, associated with pyrite, occurs within tuff near the West Wall fault. A sample assayed over 10.0 grams per tonne gold (Assessment Report 11408).

**BIBLIOGRAPHY**

EMPR ASS RPT 10757, 11408, 12688, 13984, \*16523, \*16726  
EMPR EXPL 1982-394; 1983-542; 1984-398; 1985-395

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**BIBLIOGRAPHY**

EMPR FIELDWORK 1985, pp. 175-183  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
V STOCKWATCH July 3,10, 1987  
GCNL #66,#117, 1987  
Western Investment News May, 1987

DATE CODED: 1988/05/02  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 092**

NATIONAL MINERAL INVENTORY:

NAME(S): **NIE 3**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 18 11 N  
LONGITUDE: 132 20 20 W  
ELEVATION: 1550 Metres

NORTHING: 6465533  
EASTING: 655940

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Zinc

**MINERALS**

SIGNIFICANT: Sphalerite Pyrite  
ASSOCIATED: Calcite Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal  
SHAPE: Irregular  
MODIFIER: Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Carbonaceous Graphitic Siltstone  
Limestone  
Tuff  
Feldspar Porphyry Dike

HOSTROCK COMMENTS: Triassic and older rocks contain intercalated, metamorphosed volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

In the Tatsamenie Lake area, intensely folded and regionally metamorphosed Permian, Triassic and older strata are separated from less folded and less metamorphosed Mesozoic sedimentary and volcanic rocks by a pre-Upper Triassic unconformity. Hornblende diorite and quartz-monzonite of Juro-Triassic age intrude and are in fault contact with the pre-Upper Triassic rocks. These are commonly altered to chlorite, hematite and epidote. The Mesozoic strata are overlain unconformably by flat-lying Upper Tertiary and Pleistocene plateau basalts of the Level Mountain Group.

A major north to northwest trending fault, known as the Ophir Break Zone, extends through the area for over 10 kilometres, and is defined by areas of intense fracturing and abundant slickensiding; areas of carbonaceous and siliceous black siltstone and gouge; and linear quartz-iron carbonate-pyrite quartz-dolomite alteration zones.

The pre-Upper Triassic rocks consist of fine-grained crystal to lapilli tuff, phyllite, limestone, siltstone and intraformational breccia. The limestones occur as fault slivers along the West Wall Fault. These are considered to be part of the Stikine Terrane Assemblage.

A drill hole (N-38) intersected a thick section of black carbonaceous, graphitic siltstones interbedded with gray limestone. Tuff and altered feldspar porphyry dyke rocks also occur in the hole.

Mineralization consists of disseminations, blebs and stringers of pyrite and sphalerite associated with calcite and quartz veins. A 1.5 metre sample of drill core assayed 0.37 per cent zinc. The hole averaged 0.04 per cent zinc over 84 metres. (Assessment Report 16523).

**BIBLIOGRAPHY**

EMPR ASS RPT 12688, \*16523, \*16726  
EMPR EXPL 1984-398

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REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR FIELDWORK 1985, pp. 175-183; 1986, pp. 103,106  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
V STOCKWATCH July 3,10, 1987  
GCNL #66,#117, 1987  
Western Investment News May, 1987

DATE CODED: 1988/05/03  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 093**

NATIONAL MINERAL INVENTORY:

NAME(S): **NIE 8**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 22 30 N  
LONGITUDE: 132 17 04 W  
ELEVATION: 1050 Metres

NORTHING: 6473667  
EASTING: 658806

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location; Assessment Report 13983.

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Diorite  
Tuff

HOSTROCK COMMENTS: Triassic and older intercalated volcanics and sediments are intruded by Triassic foliated diorite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Taku Plateau

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1985
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Gold	13.7000 Grams per tonne

REFERENCE: Assessment Report 13983.

**CAPSULE GEOLOGY**

Pre-Upper Triassic intermediate to mafic tuffs are intruded by Triassic foliated diorite. The rocks are cut by the Ultramafic (Highway) Fault. Within the diorite, quartz veins, 10 to 20 centimetres wide and several metres long, contain pyrite and chalcopyrite. A sample assayed 13.7 grams per tonne gold and another assayed 53.0 grams per tonne silver (Assessment Report 13983).

**BIBLIOGRAPHY**

EMPR ASS RPT 10758, 11964, 12688, \*13983, 16726  
EMPR EXPL 1982-394; 1983-543; 1984-398; 1985-394-395  
EMPR FIELDWORK 1985, pp. 175-183; 1992, pp. 177-188  
EMPR OF 1993-1  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/03  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:



MINFILE NUMBER: **104K 094**

NATIONAL MINERAL INVENTORY:

NAME(S): **MT. MANVILLE** GOAT

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 42 29 N  
LONGITUDE: 133 30 07 W  
ELEVATION: 914 Metres

NORTHING: 6508514  
EASTING: 586790

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north side of the Taku River Valley, east of the peak of Mt. Manville.

COMMODITIES: Zinc                      Copper                      Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Pyrite  
ALTERATION: Sericite              Carbonate  
ALTERATION TYPE: Sericitic              Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Volcanogenic              Syngenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Rhyolite  
Rhyolite Tuff  
Tuff  
Andesitic Tuff  
Graphitic Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Copper		0.0060	Per cent
Lead		0.0010	Per cent
Zinc		0.0166	Per cent

COMMENTS: Sample taken from disseminated mineralization in rhyolite.  
REFERENCE: Assessment Report 11786.

**CAPSULE GEOLOGY**

The property is underlain by Upper Triassic Stuhini Group rocks comprised mainly of interbedded rhyolitic tuffs, tuffs and breccias of andesitic composition with minor graphitic argillite, volcanic sandstone and subvolcanic intrusive andesite. These units strike about 230 degrees with near vertical dips.

Minor amounts of disseminated chalcopyrite and sphalerite were found in the rhyolitic rocks along the western edge of the claim. The rhyolitic rocks also contained some sericite and carbonate and in places were described as schistose. The andesitic rocks to the east were calcareous and the argillaceous rocks contained graphitic material and minor pyrite.

In 1983, a sample taken from the disseminated mineralization in the rhyolite assayed 0.0166 per cent zinc, trace lead, and 0.006 per cent copper (Assessment Report 11786).

**BIBLIOGRAPHY**

EMPR EXPL 1982, pp. 399,400; \*1983, p. 548  
EMPR ASS RPT \*11181, \*11786  
GSC MEM 248, p. 55; 362  
GSC MAP 6-1960; 931A; 1262A

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**BIBLIOGRAPHY**

GSC P 45-30

DATE CODED: 1988/05/04  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 095**

NATIONAL MINERAL INVENTORY:

NAME(S): **WY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 43 28 N  
LONGITUDE: 133 38 16 W  
ELEVATION: 460 Metres

NORTHING: 6510171  
EASTING: 578884

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the eastern flank of Whitewater Mountain about 2.5 kilometres north of the Polaris-Taku townsite.

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Unknown  
COMMENTS: Likely, sulphide mineralogy consists of sphalerite, galena, chalcopyrite, and pyrite.

ASSOCIATED: Quartz Carbonate

ALTERATION: Quartz Mica Actinolite Chlorite

ALTERATION TYPE: Quartz-Carb. Sericitic Chloritic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Undefined Formation	
Upper Triassic	Stuhini	Undefined Formation	
Unknown			Coast Plutonic Complex

LITHOLOGY: Quartz Carbonate Vein  
Quartz Muscovite Schist  
Quartz Chlorite Actinolite Schist  
Amphibolite  
Quartz Feldspar Chlorite Gneiss  
Syenite Dike  
Hornblende Diorite  
Listwanite

HOSTROCK COMMENTS: Intercalated, metamorphosed volcanics and sediments contain Triassic to older rock units with the Paleozoic Era.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

6.3000

Grams per tonne

Gold

0.6900

Grams per tonne

COMMENTS: Quartz-carbonate sample from main shear zone.

REFERENCE: Assessment Report 9068.

**CAPSULE GEOLOGY**

Most of the property is underlain by Paleozoic (Tertiary or older) gneissic rocks which include coarse-grained quartz-feldspar-chlorite-actinolite schist, quartz-muscovite schist, black to grey quartz-muscovite schist, amphibolite, and biotite and quartz-feldspar-chlorite gneiss.

A north trending dyke of fine-grained, altered syenite occupies the centre of the property. Smaller parallel dykes crosscut the gneisses. These are of probable Upper Cretaceous to Lower Tertiary in age and are related to a small hornblende diorite stock which forms the peak of Whitewater Mountain. The intrusives may be part of the Coast Plutonic Complex.

A fault bounded wedge of metamorphosed andesitic tuffs belonging

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## CAPSULE GEOLOGY

to the Upper Triassic Stuhini Group, continues into the southern end of the property from the Polaris-Taku area.

A north trending strand of the Tulsequah Fault System traverses the claims. This fault zone consists of several parallel shears along which the syenite dyke was intruded. Within the shears, coarse-grained actinolite, probably a meta-serpentine or listwanite occurs. A quartz-carbonate vein about 2.0 metres wide and 500 metres long strikes parallel to this zone.

In 1980, samples were taken from the quartz-carbonate vein in the main shear zone. One sample returned 0.0015 grams per tonne gold, 0.7 grams per tonne silver, 0.0132 per cent copper, 0.007 per cent zinc, and another returned 0.001 grams per tonne gold, 0.5 grams per tonne silver, 0.005 per cent copper, and 0.007 per cent zinc. A loose quartz-carbonate sample taken from within the shear zone assayed 0.69 grams per tonne gold, 6.3 grams per tonne silver, 0.005 per cent copper, and 0.0096 per cent zinc (Assessment Report 9068).

## BIBLIOGRAPHY

EMPR EXPL \*1980-495,496  
EMPR ASS RPT \*9068  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; 1262A  
GSC P 45-30  
GSC SUM RPT 1932A, pp. 15-28  
GCNL #173, 1980

DATE CODED: 1988/05/04  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 096**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPRING**, RETO

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 34 04 N  
LONGITUDE: 133 29 14 W  
ELEVATION: 915 Metres

NORTHING: 6492917  
EASTING: 587995

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north bank of the Sittakanay River about 2.0 kilometres west of Sittakanay Mountain and 10 kilometres south-southeast of Tulsequah.

COMMODITIES: Silver                      Zinc                      Copper                      Gold                      Lead

**MINERALS**

SIGNIFICANT: Pyrrhotite      Sphalerite      Chalcopyrite      Galena      Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic  
COMMENTS: Mineralization occurs in crosscutting fractures, as veins and lenses.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Andesitic Volcanic  
Andesite  
Rhyolite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP:                      GRADE:

**INVENTORY**

ORE ZONE: LENS                      REPORT ON: N

<u>CATEGORY:</u>	Assay/analysis	<u>YEAR:</u>	1980
<u>SAMPLE TYPE:</u>	Grab		
<u>COMMODITY</u>		<u>GRADE</u>	
Silver		356.6000	Grams per tonne
Gold		0.1700	Grams per tonne
Copper		0.1200	Per cent
Zinc		10.3000	Per cent

COMMENTS: Grab sample from sulphide lens.  
REFERENCE: Assessment Report 9106.

**CAPSULE GEOLOGY**

The claim area is underlain by Upper Triassic Stuhini Group volcanics comprised mainly of andesitic to basaltic flows, intermediate tuffs, rhyolite and agglomerate. The Stuhini Group unconformably overlies Paleozoic metasediments and volcanics. Also, these Upper Triassic volcanics are intruded by a quartz monzonite stock and associated feldspar porphyry dykes which are genetically related to the Tertiary-Cretaceous Sloko Group volcanics (GSC Map 1262A).

In 1980, prospecting on the claims located an area of heavy pyrrhotite mineralization with lesser amounts of pyrite, chalcopyrite, sphalerite, and galena. The mineralization occurs mainly within crosscutting fractures, as veins and lenses within the andesitic to intermediate volcanic rocks. A grab sample in 1980, from a sulphide lens assayed 0.17 grams per tonne gold, 356.6 grams per tonne silver, 10.3 per cent zinc, and 0.12 per cent copper. Other samples returned trace gold, 96 grams per tonne silver, 4.11 per cent zinc, and 0.08 per cent copper, and trace gold, 109.7 grams per tonne silver, 0.06 per cent zinc, 0.1 per cent lead, and 0.02 per cent copper, respectively (Assessment Report 9106).

**BIBLIOGRAPHY**

EMPR EXPL \*1980-492, Fig. E-1

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**BIBLIOGRAPHY**

EMPR ASS RPT \*9106  
GSC MEM 248; 362  
GSC MAP 6-1960; 931A; \*1262A

DATE CODED: 1988/05/05  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 097**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAM, TUT**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 16 59 N  
LONGITUDE: 132 25 07 W  
ELEVATION: 1340 Metres

NORTHING: 6463125  
EASTING: 651355

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Trench 2, which is on Tut claim (Assessment Report 13068).

COMMODITIES: Gold Antimony Copper

**MINERALS**

SIGNIFICANT: Pyrite Stibnite Arsenopyrite Tetrahedrite Chalcopyrite

ASSOCIATED: Quartz

ALTERATION: Malachite Azurite

COMMENTS: Iron-carbonate.

ALTERATION TYPE: Silicific'n Carbonate Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Dolomitic Limestone  
Limestone  
Carbonaceous Limestone  
Phyllite  
Tuff

HOSTROCK COMMENTS: Permian limestone succession with Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1984  
SAMPLE TYPE: Chip  
COMMODITY: Gold GRADE: 3.9000 Grams per tonne

COMMENTS: 1.1 metre sample.  
REFERENCE: Assessment Report 13068.

**CAPSULE GEOLOGY**

In the area southwest of Tatsamenie Lake, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic age, unfoliated albitite and quartz monzonite of Jurassic and Late Cretaceous ages, respectively, and feldspar porphyry basaltic dykes of the Sloko Group of Eocene age. The volcanics and sediments have undergone two phases of folding, a tight isoclinal fold with a horizontal fold axis and an upright more open fold. The early isoclinal phase of folding is associated with thrust faulting, which places Upper Carboniferous felsic phyllites on Permian limestone.

The Permian limestones consists of a massive, white, thick bedded, grey weathering, recrystallized limestone unit overlain by a dark grey, thin bedded, grey weathering carbonaceous limestone unit. The upper unit contains quartz veins, up to one metre wide, with disseminated pyrite, arsenopyrite, malachite, azurite and minor tetrahedrite and chalcopyrite.

A 900 metre long, 100 to 150 metre wide belt of dolomitized

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**CAPSULE GEOLOGY**

limestone, with areas of silicification, lies between strong east-northeast trending faults. This unit also contains areas of iron carbonate alteration and quartz veins with pyrite, stibnite and arsenopyrite. A 1.1 metre sample from a trench assayed 3.9 grams per tonne gold (Assessment Report 13068). An assay of an earlier sample gave 5.25 grams per tonne gold (Assessment Report 10760).  
(See Tut - 104K 080).

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1985, pp. 175-183; 1986, pp. 103  
EMPR ASS RPT 10159, 10760, \*13068, 16528, \*16726  
EMPR EXPL 1981-220; 1982-395; 1984-399  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
Chevron File

DATE CODED: 1988/05/04  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:



MINFILE NUMBER: **104K 098**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOT**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 18 35 N  
LONGITUDE: 132 26 02 W  
ELEVATION: 1080 Metres

NORTHING: 6466059  
EASTING: 650346

LOCATION ACCURACY: Within 500M  
COMMENTS: Trench 2 (Assessment Report 16528).

COMMODITIES: Gold Silver Copper Antimony Arsenic

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Stibnite Scorodite Tetrahedrite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite Calcite Malachite Azurite  
ALTERATION TYPE: Silicific'n Oxidation Chloritic Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic Stikine Assemblage

LITHOLOGY: Siliceous Siltstone  
Siliceous Phyllite  
Dolomitic Limestone  
Volcanic  
Carbonaceous Limestone

HOSTROCK COMMENTS: Permian limestone succession with Triassic and older intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1984  
SAMPLE TYPE: Chip  
COMMODITY Gold GRADE 3.4000 Grams per tonne

COMMENTS: 2.42 metre sample.  
REFERENCE: Assessment Report 13068.

**CAPSULE GEOLOGY**

In the area northwest of Tatsamenie Lake, pre-Upper Triassic tuffs, phyllites, siltstones and limestones are underlain by Permian limestones of the Stikine Terrane. These rocks are intruded by three igneous events, which include foliated diorite of Triassic age, unfoliated albitite and quartz monzonites of Jurassic and Late Cretaceous ages, respectively, and feldspar porphyry basaltic dykes of the Sloko Group of Eocene age. The volcanics and sediments have undergone two phases of folding, a tight isoclinal fold with a horizontal fold axis and an upright more open fold. The early isoclinal phase of folding is associated with thrust faulting, which places Upper Carboniferous felsic phyllites on Permian limestone. The Permian limestones are a dark grey, thin bedded, grey weathering carbonaceous unit. The overlying Upper Carboniferous phyllites contain interbedded siliceous siltstone and buff weathering limestone. These are overlain by intermediate to mafic volcanics. The siltstones are pervasively silicified and commonly quartz veined. Mineralization consisting of pyrite, chalcopyrite, stibnite and scorodite occurs near a north trending fault. A 2.42 metre sample from a trench across a shear zone assayed 3.4 grams per tonne gold (Assessment Report 13068). A sample of chalcopyrite stringers

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**CAPSULE GEOLOGY**

cutting phyllite assayed 0.3 per cent copper (Assessment Report 11779). A drill hole across the zone intersected 3.81 grams per tonne gold over 2.26 metres and an arsenic value of 1.0 per cent over 0.76 metres (Assessment Report 16528).

Tetrahedrite, stibnite, malachite and azurite also occur in veins within phyllites and dolomitic limestone. A sample, 500 metres northwest of the trench, assayed 93.0 grams per tonne silver and over 0.1 per cent antimony (Assessment Report 11779).

**BIBLIOGRAPHY**

EMPR FIELDWORK 1985, pp. 175-183; 1986, pp. 103; 1992, pp. 159-188  
EMPR ASS RPT \*11779, \*13068, \*16528, \*16726  
EMPR EXPL 1983-544; 1984-399  
EMPR OF 1993-1; 1993-11  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
V STOCKWATCH Aug. 19, 1987  
GCNL #159, 1987

DATE CODED: 1988/05/04  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 099**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGHLINER**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K01W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 06 14 N  
 LONGITUDE: 132 13 49 W  
 ELEVATION: 1280 Metres

NORTHING: 6443627  
 EASTING: 663214

LOCATION ACCURACY: Within 500M  
 COMMENTS: Sample location (Assessment Report 11821).

COMMODITIES: Silver                      Copper                      Arsenic                      Antimony

**MINERALS**

SIGNIFICANT: Pyrite                      Chalcopyrite                      Arsenopyrite                      Stibnite                      Chalcanthite

COMMENTS: Last four minerals are probable.

ASSOCIATED: Quartz                      Calcite                      Chalcedony

ALTERATION: Quartz                      Calcite

COMMENTS: Iron-carbonate.

ALTERATION TYPE: Quartz-Carb.                      Carbonate

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia  
 CLASSIFICATION: Epigenetic                      Industrial Min.  
 TYPE: H                      EPITHERMAL

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Siltstone  
 Pyrite Chert  
 Rhyolite Dike

HOSTROCK COMMENTS: Triassic and older intercalated, metamorphosed volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1983

SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	39.0000	Grams per tonne
Arsenic	1.0000	Per cent
Antimony	0.1000	Per cent

COMMENTS: Arsenic and antimony are higher than stated values in per cent.

REFERENCE: Assessment Report 11821.

**CAPSULE GEOLOGY**

In the area pre-Upper Triassic rocks, consisting of interlayered tuffs, phyllites, siltstones and limestones, are underlain by Permian limestones of the Stikinia Terrane. A north-northeast trending fault separates these rocks from foliated diorite of Triassic Age, to the east. The volcanics and sediments, which strike 120 to 128 degrees and dip 35 to 55 degrees west, are intruded by rhyolitic dykes.

A 10 to 30 centimetre mineralized breccia zone, with associated chalcidony and iron carbonate veins, occurs at the lower contact of a dyke. Mineralization includes pyrite, chalcopyrite and possibly arsenopyrite, stibnite, chalcanthite and melanterite. A sample assayed 39.0 grams per tonne silver, over 1.0 per cent arsenic and over 0.1 per cent antimony (Assessment Report 11821).

**BIBLIOGRAPHY**

EMPR ASS RPT \*11821  
 EMPR EXPL 1983-537

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC MAP 6-1960; 1262A  
GSC MEM 362  
Chevron File

DATE CODED: 1988/05/05  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 100**

NATIONAL MINERAL INVENTORY:

NAME(S): **ORO 4**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 07 50 N  
LONGITUDE: 132 13 22 W  
ELEVATION: 1610 Metres

NORTHING: 6446612  
EASTING: 663533

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 13251).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Quartz Carbonate Hematite  
ALTERATION TYPE: Quartz-Carb. Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Tuff  
Gossan  
Tuffaceous Breccia  
Andesitic Volcanic

HOSTROCK COMMENTS: Triassic and older rocks consist of intercalated volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE  
REPORT ON: N  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Gold  
GRADE: 2.2600  
REFERENCE: Assessment Report 13251.  
YEAR: 1984  
Grams per tonne

**CAPSULE GEOLOGY**

In the area pre-Upper Triassic rocks, consisting of interlayered tuffs, tuff breccias and andesitic flows, are underlain by Permian limestones of the Stikinia Terrane. A north-northeast trending fault separates these rocks from foliated diorite of Triassic Age, to the east. The volcanics and sediments have a northwest strike and dip 15 to 17 degrees northeast. The tuffs are fine-grained, silicified and contain abundant disseminated pyrite. The andesitic flows are generally, medium-grained and metamorphosed to greenschist facies. Quartz-carbonated veins cut the rocks and shear zones weather to orange-brown gossans. A sample of pyritized tuff, adjacent to a shear zone with hematite, assayed 2.26 grams per tonne gold (Assessment Report 13251).

**BIBLIOGRAPHY**

EMPR ASS RPT \*13251  
EMPR EXPL 1984-395  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/06  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 101**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAN 3, ORO 3**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 10 44 N  
LONGITUDE: 132 16 08 W  
ELEVATION: 1860 Metres

NORTHING: 6451880  
EASTING: 660601

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 13840).

COMMODITIES: Copper                      Arsenic

**MINERALS**

SIGNIFICANT: Pyrite                      Chalcopyrite                      Malachite  
ASSOCIATED: Quartz  
ALTERATION: Ankerite                      Hematite                      Pyrite                      Malachite  
ALTERATION TYPE: Quartz-Carb.                      Silicific'n                      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Replacement                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Paleozoic	Stuhini	Unnamed/Unknown Formation	Stikine Assemblage

LITHOLOGY: Argillite  
Greenstone  
Siliceous Limestone  
Diorite  
Gossan

HOSTROCK COMMENTS: Intercalated, metamorphosed Triassic and older rocks are intruded by a diorite stock.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1986  
SAMPLE TYPE: Chip  
COMMODITY: Copper                      GRADE                      Per cent  
10.0000

COMMENTS: Three metre sample.  
REFERENCE: Assessment Report 15894.

**CAPSULE GEOLOGY**

The area south of Bearskin Lake (Muddy Lake) is predominantly underlain by pre-Upper Triassic volcaniclastics, tuffs, tuffaceous breccias, argillites and minor limestone of the Stikinia Terrane. These are intruded by several small structurally controlled stocks of hornblende diorite to augite porphyry of Upper Triassic Stuhini Group. The rocks are regionally metamorphosed to lower greenschist facies. Faults, with shear directions of 018 to 027 degrees, occur in the area.

Gossans, containing ankerite, hematite, pyrite and sometimes chalcopyrite and malachite, occur within the stratified rocks and sometimes adjacent to faults and diorite stocks.

A sample of altered rock near argillaceous sediments and greenstone assayed 1.0 per cent arsenic (Assessment Report 13840). A nearby 3 metre chip sample from silicified limestones apparently assayed 10 per cent copper (Assessment Report 15894).

**BIBLIOGRAPHY**

EMPR ASS RPT 11820, 13840, \*15894  
EMPR EXPL 1983-539; 1985-393

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR FIELDWORK 1985, pp. 175-183; 1992, pp. 177-188  
EMPR OF 1993-1  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/06  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 102**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAN 4**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 10 40 N  
LONGITUDE: 132 17 53 W  
ELEVATION: 1625 Metres

NORTHING: 6451687  
EASTING: 658891

LOCATION ACCURACY: Within 500M  
COMMENTS: Sample location (Assessment Report 11820).

COMMODITIES: Silver                      Copper

**MINERALS**

SIGNIFICANT: Pyrite                      Chalcopyrite  
ASSOCIATED: Quartz                      Carbonate  
ALTERATION: Quartz                      Carbonate  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Stikine Assemblage
Paleozoic			

LITHOLOGY: Diorite  
Hornblende Diorite

HOSTROCK COMMENTS: Hornblende-diorite stock.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1983  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      19.5000                      Grams per tonne  
REFERENCE: Assessment Report 11820.

**CAPSULE GEOLOGY**

The area south of Bearskin Lake (Muddy Lake) is predominantly underlain by pre-Upper Triassic volcanoclastics, tuffs, tuffaceous breccias, argillites and minor limestone of the Stikinia Terrane. These are intruded by several small structurally controlled stocks of hornblende diorite to augite porphyry of Upper Triassic Stuhini Group. The rocks are regionally metamorphosed to lower greenschist facies. Faults, with shear directions of 018 to 027 degrees, occur in the area.

A diorite stock contains several quartz-carbonate veins, 5 to 35 centimetres wide, with pyrite and chalcopyrite. A sample assayed 19.5 grams per tonne silver (Assessment Report 11820).

**BIBLIOGRAPHY**

EMPR ASS RPT \*11820, 13840, \*15894  
EMPR EXPL 1983-539; 1985-393  
EMPR FIELDWORK 1985, pp. 175-183; 1992, pp. 177-188  
EMPR OF 1993-1  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/06  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:



MINFILE NUMBER: **104K 103**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 11 13 N  
LONGITUDE: 132 17 35 W  
ELEVATION: 1210 Metres

NORTHING: 6452719  
EASTING: 659144

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location near altered zone (Assessment Report 15894).

COMMODITIES: Copper Silver Gold

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite Bornite Malachite  
ASSOCIATED: Quartz  
ALTERATION: Ankerite Hematite Malachite Carbonate  
COMMENTS: Iron-carbonate.  
ALTERATION TYPE: Quartz-Carb. Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Paleozoic

Stikine Assemblage

LITHOLOGY: Quartz Iron Carbonate Gossan  
Argillite  
Greenstone

HOSTROCK COMMENTS: Triassic and older rocks consist of intercalated metamorphosed volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

0.9000

Grams per tonne

Copper

10.0000

Per cent

COMMENTS: Three metre chip sample.

REFERENCE: Assessment Report 15894.

**CAPSULE GEOLOGY**

The area south of Bearskin Lake (Muddy Lake) is predominantly underlain by pre-Upper Triassic volcanoclastics, tuffs, tuffaceous breccias, argillites and minor limestone of the Stikinia Terrane. These are intruded by several small structurally controlled stocks of hornblende diorite to augite porphyry of Late Upper Triassic Stuhini Group. The rocks are regionally metamorphosed to lower greenschist facies. Faults, with shear directions of 018 to 027 degrees, occur in the area.

Quartz-iron carbonate gossan zones, adjacent to a northwest trending fault, contain ankerite, hematite, pyrite and sometimes chalcopyrite, bornite and malachite as blebs, fracture fillings and disseminations. A 3 metre chip sample apparently assayed 10 per cent copper and 0.9 grams per tonne gold (Assessment Report 15894). A previous sample, 500 metres to the east, assayed 9.8 grams per tonne silver and 3.0 grams per tonne gold (Assessment Report 13840).

**BIBLIOGRAPHY**

EMPR ASS RPT 13840, \*15894  
EMPR EXPL 1985-393  
EMPR FIELDWORK 1985, pp. 175-183; 1992, pp. 177-188

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR OF 1993-1  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/06  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 104**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAKER, IVER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 15 53 N  
LONGITUDE: 132 02 44 W  
ELEVATION: 1320 Metres

NORTHING: 6461985  
EASTING: 673310

LOCATION ACCURACY: Within 500M  
COMMENTS: Sample location (Assessment Report 12975).

COMMODITIES: Gold                      Arsenic                      Antimony

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Hematite              Calcite              Carbonate  
COMMENTS: Iron carbonate.  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Epigenetic              Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Tuff  
Limestone  
Greenstone  
Phyllite

HOSTROCK COMMENTS: Triassic and older rocks include intercalated, metamorphosed volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Arsenic	1.0000      Per cent
Gold	2.7000      Grams per tonne
Antimony	0.0200      Per cent

REFERENCE: Assessment Report 12975.

**CAPSULE GEOLOGY**

In the area, pre-Upper Triassic tuffs, phyllites, siltstone, greenstone and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic Age, unfoliated diorite of Jurassic Age and quartz feldspar porphyry, which is probably genetically related to the Sloko Group of Cretaceous to Tertiary Age. The volcanics and sediments are separated by a northeast trending fault from sandstone, conglomerate and minor shale of the Jurassic Takwahoni Formation (Laberge Group). These rocks are overlain by flat lying basalt flows of the Miocene Level Mountain Group.

The tuffs, greenstones and phyllites are quartz-iron carbonate altered, and contain quartz veins and disseminated pyrite. A sample of altered tuff, adjacent to limestone assayed 2.7 grams per tonne gold, over 1.0 per cent arsenic and 0.02 per cent antimony (Assessment Report 12975).

**BIBLIOGRAPHY**

EMPR ASS RPT 11816, \*12975

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR EXPL 1983-541; 1984-397  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
Chevron File

DATE CODED: 1988/05/10  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 105**

NATIONAL MINERAL INVENTORY:

NAME(S): **GIVER, IVER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 16 36 N  
LONGITUDE: 132 02 36 W  
ELEVATION: 1260 Metres

NORTHING: 6463320  
EASTING: 673382

LOCATION ACCURACY: Within 500M  
COMMENTS: Sample location (Assessment Report 12975).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Hematite Calcite Carbonate  
COMMENTS: Iron carbonate.  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Triassic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

**LITHOLOGY:**

Tuff  
Limestone  
Greenstone  
Phyllite

HOSTROCK COMMENTS: Triassic and older rocks include intercalated, metamorphosed volcanics and sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Taku Plateau

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1984

**COMMODITY**

Gold

**GRADE**

7.3000

Grams per tonne

REFERENCE: Assessment Report 12975.

**CAPSULE GEOLOGY**

In the area, pre-Upper Triassic tuffs, phyllites, siltstone, greenstone and limestones are underlain by Permian limestones of the Stikinia Terrane. These rocks are intruded by plutonic rocks associated with three separate igneous events. These consist of foliated diorite of Triassic Age, unfoliated diorite of Jurassic Age and quartz feldspar porphyry, which is probably genetically related to the Sloko Group of Cretaceous to Tertiary Age. The volcanics and sediments are separated by a northeast trending fault from sandstone, conglomerate and minor shale of the Jurassic Takwahoni Formation (Laberge Group). These rocks are overlain by flat lying basalt flows of the Miocene Level Mountain Group.

The tuffs, greenstones and phyllites are quartz-iron carbonate altered, and contain quartz veins and disseminated pyrite. A sample of tuff assayed 7.3 grams per tonne gold (Assessment Report 12975).

**BIBLIOGRAPHY**

EMPR ASS RPT 11816, \*12975  
EMPR EXPL 1983-541; 1984-397  
GSC MAP 6-1960; 1262A  
GSC MEM 362

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**BIBLIOGRAPHY**

Chevron File

DATE CODED: 1988/05/10  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 106**

NATIONAL MINERAL INVENTORY:

NAME(S): **VAL 3**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 26 35 N  
LONGITUDE: 132 18 55 W  
ELEVATION: 1750 Metres

NORTHING: 6481168  
EASTING: 656701

LOCATION ACCURACY: Within 500M

COMMENTS: Molybdenum vein (Assessment Report 8962).

COMMODITIES: Molybdenum                  Copper

**MINERALS**

SIGNIFICANT:	Molybdenite	Pyrite	Malachite	Chalcopyrite
ASSOCIATED:	Quartz	Feldspar		
ALTERATION:	Sericite	Clay	Chlorite	Malachite
COMMENTS:	Iron-oxide.			
ALTERATION TYPE:	Sericitic	Argillic	Chloritic	Oxidation
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER: Vein                                  Stockwork  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Biotite Hornblende Quartz Monzonite  
Quartz Feldspar Porphyry  
Quartz Porphyry Dike  
Monzonite Porphyry Dike

HOSTROCK COMMENTS: Quartz monzonite likely related to Upper Cretaceous-Lower Tertiary Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                                  PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Plutonic Rocks                                  Stikine

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1980
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Copper	0.0250      Per cent
Molybdenum	0.0200      Per cent
COMMENTS: 6.1 metre sample.	
REFERENCE: Assessment Report 8962.	

**CAPSULE GEOLOGY**

The area is underlain by quartz monzonite and quartz feldspar porphyry, which are probably genetically related to the Cretaceous to Tertiary Sloko Group. These rocks are cut by quartz-eye porphyry and monzonite porphyry dykes. Northwest trending structures control alteration, quartz veining and mineralization. The quartz monzonite, consisting mainly of hornblende, biotite and feldspar, sometimes has zones of sericite-clay-chlorite-iron oxide alteration. An area of pyritization contains minor molybdenite, malachite and rare chalcopyrite. A 6.1 metre chip sample assayed 0.02 per cent molybdenum and 0.025 per cent copper. (Assessment Report 8962).

**BIBLIOGRAPHY**

EMPR ASS RPT \*8962  
EMPR EXPL 1980-490-491  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/17  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 107**

NATIONAL MINERAL INVENTORY: 104K10 Cu2

NAME(S): **BARB**, BARB 3-4, KS

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10W 104K15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 45 00 N  
LONGITUDE: 132 53 49 W  
ELEVATION: 1220 Metres

NORTHING: 6514125  
EASTING: 621687

LOCATION ACCURACY: Within 500M

COMMENTS: Located north of King Salmon Lake, along the north side of the King Salmon thrust fault.

COMMODITIES: Gold                      Arsenic                      Antimony                      Silver

**MINERALS**

SIGNIFICANT: Magnetite              Chalcopyrite              Galena              Pyrite  
ASSOCIATED: Calcite              Quartz  
ALTERATION: Calcite              Epidote              Diopside              Tremolite              Goethite  
                 Hematite  
ALTERATION TYPE: Skarn                      Silicific'n                      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Podiform                      Massive  
CLASSIFICATION: Igneous-contact              Skarn                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Undefined Group	Sinwa	
Upper Triassic	Stuhini	King Salmon	
Jurassic-Cretaceous			Coast Plutonic Complex
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Limestone  
Magnetite Skarn  
Epidote Diopside Calcite Skarn  
Quartz Diorite  
Porphyry Dike  
Andesitic Volcanic  
Sediment/Sedimentary  
Volcaniclastic

HOSTROCK COMMENTS: Quartz diorite may be part of Coast Plutonics and Tertiary-Cretaceous porphyry dykes are likely related to Sloko Group (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Taku Plateau

TERRANE: Stikine

Cache Creek

METAMORPHIC TYPE: Contact              Regional

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE:

**INVENTORY**

ORE ZONE: SKARN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1980

COMMODITY	GRADE	
Silver	0.1000	Grams per tonne
Arsenic	0.0070	Per cent
Gold	0.7000	Grams per tonne
Antimony	0.0010	Per cent

COMMENTS: Sample from magnetite skarn.

REFERENCE: Assessment Report 9541.

**CAPSULE GEOLOGY**

The area is underlain by the Upper Triassic Stuhini Group, King Salmon Formation which is comprised of a mixed assemblage of sediments, volcanics, volcaniclastics and minor limestone. On the northeast part of the property, the Upper Triassic Sinwa Formation limestone is found along the northeast dipping King Salmon thrust fault. These rocks are intruded by intermediate composition Jurassic and/or Cretaceous plutons which may be part of the Coast Plutonic Complex, and younger porphyritic dykes, possibly Tertiary in age.



## CAPSULE GEOLOGY

Chalcopyrite mineralization occurs within a breccia zone in the King Salmon Formation rocks adjacent to a small quartz diorite stock. This mineralization hosts copper and silver values as described in B.W.M. (104K 011).

Mineralization also occurs within the Upper Triassic Sinwa Formation limestone, in the northwest part of the property, which is comprised of thick-bedded, white to grey recrystallized limestone. Within it are narrow bands of dark grey, carbonaceous limestone and narrow chert beds. Beds of interformational breccia are less than 0.5 metres in thickness.

At or near the quartz diorite intrusive contacts, the Sinwa limestone is partly silicified or altered to a brown weathering dolomite. In places, a weak pale green skarn, containing epidote, diopside, and calcite, with minor disseminated and lesser veinlets of pyrite, have developed. Massive magnetite lenses, up to 25 metres, have developed in the limestone near the intrusive contact. Within the magnetite zones, fine needles of black and rarely white tremolite are common, as well as, blebs of fine crystalline pyrite and trace chalcopyrite. Some zones are totally altered to goethite and hematite. Magnetite stringers are present within the silicified limestone near the King Salmon thrust fault. Trace galena and chalcopyrite are also present in the skarn type rocks.

In 1980, rock samples of the silicified limestone with magnetite carried up to 0.7 grams per tonne gold, as well as, associated arsenic and antimony (Assessment Report 9541).

## BIBLIOGRAPHY

EMPR AR 1950-75,76  
EMPR GEM 1971-51  
EMPR ASS RPT 586, 1171, 3208, \*9541, \*11107, \*11508, 12144  
EMPR EXPL 1981-59; \*1983-545  
GSC MEM 362, p. 55  
GSC MAP 6-1960; 1262A  
Chevron File

DATE CODED: 1988/05/18  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 108**

NATIONAL MINERAL INVENTORY:

NAME(S): **TERR 1**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K08E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 28 03 N  
 LONGITUDE: 132 09 28 W  
 ELEVATION: 1100 Metres

NORTHING: 6484266  
 EASTING: 665775

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 12695).

COMMODITIES: Gold Silver Copper Lead Zinc

**MINERALS**

SIGNIFICANT:	Arsenopyrite	Pyrite	Chalcopyrite	Galena	Sphalerite
	Tetrahedrite				
ASSOCIATED:	Quartz	Graphite			
ALTERATION:	Quartz	Sericite	Pyrite		
ALTERATION TYPE:	Sericitic		Silicific'n	Pyrite	
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
 CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Laberge	Takwahoni	
Triassic			Unnamed/Unknown Informal
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite  
 Diorite  
 Quartz Monzonite  
 Conglomerate  
 Black Shale  
 Hornfels

HOSTROCK COMMENTS: Jurassic diorite and Tertiary-Cretaceous quartz monzonite intrude Takwahoni sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Plutonic Rocks  
 METAMORPHIC TYPE: Contact

Stikine  
 RELATIONSHIP:

PHYSIOGRAPHIC AREA: Taku Plateau

GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Chip	
COMMODITY	<u>GRADE</u>
Silver	86.7000 Grams per tonne
Gold	12.1000 Grams per tonne
COMMENTS: 20 centimetre sample.	
REFERENCE: Assessment Report 12695.	

**CAPSULE GEOLOGY**

Granodiorite of Triassic Age is unconformably overlain by conglomerate and black shale of the Jurassic Takwahoni Formation (Laberge Group). These rocks are intruded and locally hornfelsed by dioritic intrusions. These are cut by quartz monzonite, which are probably genetically related to the Sloko Group of Cretaceous to Tertiary Age. Leucocratic felsic dykes and fine-grained mafic dykes cut all three intrusives.

Widely spaced and generally 5 to 20 centimetre wide mineralized veins, lie within minor irregular shears or fractures within the granodioritic and dioritic rocks, peripheral to the quartz monzonite intrusion. The minerals include pyrite, chalcopyrite, arsenopyrite and minor galena, sphalerite, pyrrhotite, graphite and tetrahedrite. The adjacent wall rock is generally altered to a rusty weathering, bleached white quartz-sericite-pyrite rock.

Two main mineralized areas are along both sides of a north

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RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

trending "rusty" ridge. In the east mineralized area, a sample from a 20 centimetre vein with arsenopyrite and pyrite assayed 12.1 grams per tonne gold and 86.7 grams per tonne silver (Assessment Report 12695). (See Terr - 104K 076 for assay value from the west mineralized area).

**BIBLIOGRAPHY**

EMPR ASS RPT \*11265, \*12695  
EMPR EXPL 1982-392; 1984-398  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/18  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 492  
REPORT: RGEN0100

MINFILE NUMBER: **104K 109**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHITING RIVER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K03E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 11 35 N  
LONGITUDE: 133 01 43 W  
ELEVATION: 1000 Metres

NORTHING: 6451899  
EASTING: 615889

LOCATION ACCURACY: Within 5 KM

COMMENTS: About 18.0 kilometres northwest of Whiting Lake (Assessment Report 4628).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Cretaceous-Tertiary

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite

HOSTROCK COMMENTS: Quartz monzonite likely genetically related to the Cretaceous to Tertiary Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

Quartz monzonite, which is likely genetically related to the Sloko Group of Cretaceous to Tertiary Age, irregularly intrudes granodiorite of the Coast Plutonic Complex. Minor chalcopyrite occurs in quartz veins within the quartz monzonite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*4628  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
Placer Dome File

DATE CODED: 1988/05/20  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 109**

MINFILE NUMBER: **104K 110**

NATIONAL MINERAL INVENTORY:

NAME(S): **FULL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K07W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 19 58 N  
LONGITUDE: 132 50 35 W  
ELEVATION: 1340 Metres

NORTHING: 6467784  
EASTING: 626297

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 14367).

COMMODITIES: Copper Silver Lead Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Galena Sphalerite Malachite

Azurite

COMMENTS: Galena and sphalerite mineralization found in float samples to the north.

ASSOCIATED: Quartz

ALTERATION: Malachite Azurite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary	Sloko	Undefined Formation	Unnamed/Unknown Informal
Triassic			Unnamed/Unknown Informal
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Basalt Dike  
Diorite  
Quartz Feldspar Porphyry Dike  
Rhyolitic Volcanic

HOSTROCK COMMENTS: Triassic diorite; Tertiary-Cretaceous feldspar porphyry is genetically related to the Sloko Group volcanics (GSC Map 1262A).

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

5.6000

Grams per tonne

Copper

0.2640

Per cent

REFERENCE: Assessment Report 14367.

**CAPSULE GEOLOGY**

A major northwest trending fault zone separates rhyolite and dacite of the Sloko Group of Cretaceous to Tertiary Age to the northeast and biotite-hornblende quartz monzonite, which is likely genetically related to the Sloko Group, to the southwest. These rocks intrude foliated diorite of Triassic Age. Quartz feldspar porphyry dykes cut the rocks and pyrite is commonly disseminated in all the rocks. Basalt dykes cut the diorite and contain quartz veins mineralized with minor pyrite, chalcopyrite, malachite and azurite.

A sample of a mineralized quartz vein in a basalt dyke assayed 0.264 per cent copper and 5.6 grams per tonne silver. About 2 kilometres to the northeast, several float samples of foliated diorite contained quartz veins with galena, pyrite, sphalerite and chalcopyrite. One sample assayed 2.33 per cent lead, 383 grams per tonne silver, 1.2 per cent zinc and 0.85 per cent copper. (Assessment Report 14367).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 494  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR ASS RPT \*14367  
EMPR EXPL 1986-450  
GSC MAP 6-1960; 1262A  
GSC MEM 362

DATE CODED: 1988/05/20  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 111**

NATIONAL MINERAL INVENTORY:

NAME(S): **HO**, HUM, GOAT

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K15E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 54 29 N  
LONGITUDE: 132 39 04 W  
ELEVATION: 1100 Metres

NORTHING: 6532189  
EASTING: 635291

LOCATION ACCURACY: Within 500M

COMMENTS: Located just south of Yeth Creek along a small northerly flowing unnamed creek.

COMMODITIES: Antimony                      Gold                      Arsenic

**MINERALS**

SIGNIFICANT:	Pyrrhotite	Stibnite	Pyrite		
ASSOCIATED:	Quartz				
ALTERATION:	Pyrite	Clay	Hematite	Carbonate	
ALTERATION TYPE:	Pyrite		Silicific'n	Argillic	Carbonate
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic                      Hydrothermal                      Industrial Min.  
TYPE: H                      EPITHERMAL

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Jurassic	Laberge	Inklin	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Shale  
Siltstone  
Greywacke  
Hornfels  
Quartz Feldspar Porphyry  
Quartz Feldspar Porphyry Dike  
Rhyolite Dike

HOSTROCK COMMENTS: Rhyolite & quartz-feldspar porphyry dykes probably genetically related to Upper Cretaceous to Lower Tertiary Sloko Group volc.(GSC Map 1262A)

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Inklin  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1984  
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Arsenic	0.1200	Per cent
Gold	0.2850	Grams per tonne
Antimony	0.1000	Per cent

COMMENTS: Sample from quartz veining in the Inklin sediments returned greater than 0.1 per cent stibnite.  
REFERENCE: Assessment Report 12797.

**CAPSULE GEOLOGY**

The area south of Yeth Creek is underlain by Lower to Middle Jurassic Laberge Group, Inklin Formation comprised of a thick, sedimentary sequence predominantly shale, siltstone, and greywacke. The Inklin sediments outcrop south of the Nahlin fault which approximates the boundary between the Inklin Terrane to the south and the Cache Creek Terrane to the north. The sediments have been intruded by a number of rhyolite and feldspar-porphyry dykes which are thought to be genetically related to the Upper Cretaceous to Lower Tertiary Sloko Group volcanics (GSC Map 1262A).

The Inklin sediments are well bedded and consist of uniform siltstone, shales, and greywackes. Some hornfelsed sediments occur near the intrusive margins and show disseminated pyrrhotite and pyrite

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## CAPSULE GEOLOGY

which weathers rusty brown. Fault bounded areas in the sediments show slight hematitic alteration and intense carbonate and clay alteration.

Rhyolite and feldspar porphyry dykes intrude the sediments and show pyritization near the contacts and within the dyke itself. The dykes range from 0.6 to 4.5 metres in thickness. Some are associated with siliceous breccias.

Pyrite mineralization occurs within quartz veins which crosscut the sediments.

In 1984, one rock sample from quartz veining in the Inklin sediments along a north flowing tributary of Yeth Creek assayed 0.285 grams per tonne gold, 0.12 per cent arsenic and greater than 0.1 per cent antimony. Two other rock samples taken within the Inklin sediments to the west, assayed 0.9 grams per tonne gold and 0.325 grams per tonne gold, respectively (Assessment Report 12797).

In 1982, stibnite needles were found on fracture faces within the Inklin sediments exposed on the north side of Yeth Creek (refer to Waterfall, Goat 104K 067). The presence of stibnite within the sediments probably accounts for the anomalous antimony.

## BIBLIOGRAPHY

EMPR EXPL 1984-399  
EMPR ASS RPT 12797  
GSC MEM 362  
GSC MAP 6-1960; 1262A  
GSC P 74-47, Fig. 2  
Chevron File

DATE CODED: 1988/05/26  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:



MINFILE NUMBER: **104K 112**

NATIONAL MINERAL INVENTORY:

NAME(S): **TARDIS**, PETRO, KOWATUA CREEK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 39 04 N  
LONGITUDE: 132 33 33 W  
ELEVATION: 1500 Metres

NORTHING: 6503781  
EASTING: 641628

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 2.5 kilometres north of Oneway Lake, or approximately 20 kilometres north of Trapper Lake.

COMMODITIES: Fluorite

**MINERALS**

SIGNIFICANT: Fluorite Pyrite  
COMMENTS: Fluorite veins are hosted by limestone.

ALTERATION: Clay Carbonate

ALTERATION TYPE: Silicific'n Argillic Carbonate

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stratabound Stratiform  
CLASSIFICATION: Epigenetic Hydrothermal Industrial Min.  
DIMENSION: STRIKE/DIP: 315/45N  
COMMENTS: King Salmon thrust fault strikes west-northwest and dip 45 degrees northeast.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Undefined Group	Sinwa	
Jurassic	Laberge	Takwahoni	

LITHOLOGY: Limestone  
Siliceous Limestone  
Brecciated Limestone  
Calcareous Limestone

HOSTROCK COMMENTS: King Salmon thrust fault separates Lower-Middle Jurassic Takwahoni sediments from the Upper Triassic Sinwa Formation.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Stikine Cache Creek  
COMMENTS: King Salmon thrust fault separates the Stikinia and Cache Ck terranes.

**INVENTORY**

ORE ZONE: VEINLETS REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1982  
SAMPLE TYPE: Grab  
COMMODITY: Fluorite GRADE: 1.0000 Per cent  
COMMENTS: Fluorite veinlets contain greater than 1.0 per cent fluorine.  
REFERENCE: Assessment Report 10616.

**CAPSULE GEOLOGY**

The area is astride the King Salmon thrust fault which strikes west-northwest and dips approximately 45 degrees to the northeast. Upper Triassic Sinwa Formation limestone is interpreted to have been thrust from the northeast over the Lower Jurassic Laberge Group, Takwahoni Formation. Structurally conformable on the Sinwa Formation is the Jurassic Inklin Formation sediments.

The Jurassic sedimentary rocks both above and below the thrust fault have a prominent northwest strike. A younger, post-Jurassic system of north to northeast fractures and small faults disrupts all units. Silicification, clay alteration, carbonitization, and fluoritization are locally concentrated along the King Salmon thrust fault at intersections with the north to northeast structures.

The Sinwa Formation lies immediately above the King Salmon thrust fault. The Sinwa limestone is divided into two mappable units. The lower unit is variably silicified and brecciated and contains fluorite veinlets associated with zones of intense alteration. Colourless,

**CAPSULE GEOLOGY**

honey, purple, and blue varieties of fluorite are present.  
The upper unit is calcareous and contains an abundant white fibrous mineral of unknown identity as well as numerous sinkholes.  
Alteration is restricted mainly to the lower Sinwa limestone unit. Silicification is the most common, with carbonitization and fluoritization less common. A sample collected in 1982 from fluorite veinlets within the limestone assayed greater than 1.0 per cent fluoine. Some anomalous antimony and mercury values are associated with the fluorite mineralization. The only sulphide present on the property was minor disseminated pyrite.

**BIBLIOGRAPHY**

EMPR EXPL \*1982-397  
EMPR ASS RPT \*10616  
GSC MEM 362  
GSC MAP 6-1960; 1262A  
EMPR OF 1992-16  
Chevron File

DATE CODED: 1988/05/26  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 113**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROD**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 21 54 N  
LONGITUDE: 132 32 40 W  
ELEVATION: 1850 Metres

NORTHING: 6471969  
EASTING: 643646

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location (Assessment Report 11819).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Arsenopyrite Tetrahedrite  
ASSOCIATED: Quartz  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive  
CLASSIFICATION: Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Cretaceous-Tertiary  
Triassic

**GROUP**

Sloko

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Basalt  
Rhyolite  
Diorite

HOSTROCK COMMENTS: Sloko Group volcanics overlie Jurassic foliated diorite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Overlap Assemblage

Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The area lies on the eastern margin of the Coast Range Batholith and on the northwestern margin of part of the Stikinia Terrane. The pre-Upper Triassic Stikinia assemblage comprises a siltstone, a phyllite and a breccia/conglomerate unit. The intrusive rocks are weakly foliated diorites, of Lower or Middle Triassic Age. Overlying the sediments and intrusives are rhyolite and basalt of the Sloko Group of Cretaceous to Tertiary Age.

A zone of intense silicification within Sloko basalt contains gold values up to 3.0 grams per tonne (Assessment Report 11819). Elsewhere in the area (no location available), massive arsenopyrite (tetrahedrite?) veins within the Sloko volcanics contain gold values up to 10.3 grams per tonne.

**BIBLIOGRAPHY**

EMPR ASS RPT \*11819  
EMPR EXPL 1983-540  
GSC MAP 6-1960; 1262A  
GSC MEM 362  
Chevron File

DATE CODED: 1988/05/30  
DATE REVISED: / /

CODED BY: LDJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 114**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRIZ 3**, GRIZ

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K10E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 36 37 N  
 LONGITUDE: 132 35 31 W  
 ELEVATION: 1480 Metres

NORTHING: 6499168  
 EASTING: 639890

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 17 kilometres north of Trapper Lake, part of the Griz property (104K 073).

COMMODITIES: Silver                      Lead                      Zinc                      Gold

**MINERALS**

SIGNIFICANT: Galena                      Sphalerite                      Arsenopyrite                      Pyrite

ASSOCIATED: Quartz                      Calcite                      Chalcedony

ALTERATION: Limonite                      Carbonate                      Pyrite                      Silica

COMMENTS: Manganese staining.

ALTERATION TYPE: Silicific'n                      Carbonate                      Pyrite                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Epigenetic                      Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Laberge	Takwahoni	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Quartz Feldspar Porphyry  
 Feldspar Porphyry

HOSTROCK COMMENTS: Feldspar porphyry intrusions likely related to Tertiary-Cretaceous Sloko Group. Takwahoni sediments range Lower to Middle Jurassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Taku Plateau

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP: Syn-mineralization  
 Post-mineralization

GRADE:

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Chip

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	581.8200	Grams per tonne
Gold	0.5490	Grams per tonne
Lead	8.2900	Per cent
Zinc	6.7200	Per cent

COMMENTS: Chip sample taken across galena-sphalerite vein in quartz-feldspar porphyry.

REFERENCE: Assessment Report 9824, part 2.

**CAPSULE GEOLOGY**

An Upper Cretaceous to Lower Tertiary quartz-feldspar porphyry intrudes Lower to Middle Jurassic Laberge Group Takwahoni sediments. The intrusives are genetically related to the Sloko Group volcanics which are limited to a northwest trending belt along the eastern edge of the Coast Mountains.

Almost the entire property is underlain by the Upper Cretaceous to Late Tertiary quartz-feldspar porphyry body which is extremely variable in composition. It is fine-grained to aphanitic, porphyritic with mainly plagioclase phenocrysts and less commonly quartz phenocrysts. It varies from pink to grey to green and hosts disseminated pyrite. A petrographic analysis in 1981 indicated the porphyry to be of trachyandesitic composition.

Fine-grained diabase dykes cut the porphyry, sometimes hosting minor pyrite.

The southwest part of the intrusion is in fault contact with a

## CAPSULE GEOLOGY

chert pebble conglomerate and black shales of the Middle to Lower Jurassic Takwahoni Formation. This major fault trends northwest and truncates the southwestern edge of the porphyry intrusive.

Six mineralized zones have been outlined that contain veins of galena-sphalerite mineralization. The zones are defined by altered, recessive areas containing mineralized veins, between relatively unaltered walls of quartz feldspar porphyry. The zones appear to be offset by a left-lateral fault.

Each zone contains at least one larger vein on the hangingwall side and often another vein on the footwall side. Smaller veins and veinlets, ranging from a few millimetres to 10 centimetres, cut the very altered quartz-feldspar porphyry that lies in the centre of the zone. The galena-sphalerite mineralization occurs as bands and disseminations within the veins. Minor pyrite and arsenopyrite are also present, as well as barren calcite veinlets.

The altered feldspar porphyry exhibits extensive manganese and limonite staining with carbonate alteration. The veins themselves, are silicified and host abundant limonite and carbonate. Several stages of deformation have occurred which include an early stage of brecciation and mylonitization followed by several periods of fracturing and veining. A petrographic analysis outlined the following events: 1) early quartz veining and silicification with the introduction of ore minerals; 2) calcite veinlets remobilized some of the ore minerals; 3) late chalcedony veinlets and some brecciation and fracturing resulted in an almost cataclastic fabric; 4) late stage fracturing offset the stage 3 structures.

In 1981, chip samples taken across sphalerite-galena vein mineralization returned anomalous gold and silver values. One sample assayed 0.549 grams per tonne gold, 581.82 grams per tonne silver, 8.29 per cent lead, and 6.72 per cent zinc. Others assayed 0.34 grams per tonne gold, 205 grams per tonne silver, 3.46 per cent lead, 4.19 per cent zinc and 6.65 grams per tonne gold, 50.06 grams per tonne silver, 0.54 per cent lead, and 1.22 per cent zinc. Initial grab samples from the showing assayed 501.2 grams per tonne silver, 5.64 per cent lead, and 6.72 per cent zinc (Assessment Report 9824, part 2).

## BIBLIOGRAPHY

EMPR EXPL 1981-128  
EMPR ASS RPT \*9824, Part 2  
GSC MEM 362  
GSC MAP 6-1960; \*1262A

DATE CODED: 1988/05/30  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 115**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMU**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104K10E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 36 53 N  
 LONGITUDE: 132 34 59 W  
 ELEVATION: 1420 Metres

NORTHING: 6499681  
 EASTING: 640388

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 2 kilometres south of Oneway Lake or about 17 kilometres north-northeast of Trapper Lake.

COMMODITIES: Silver                      Lead                      Zinc                      Gold                      Antimony  
                   Copper                      Arsenic

**MINERALS**

SIGNIFICANT: Galena                      Sphalerite                      Pyrite

ASSOCIATED: Quartz                      Chalcedony

COMMENTS: Quartz-chalcedony veins.

ALTERATION: Chlorite                      Clay                      Pyrite                      Carbonate

COMMENTS: Iron-carbonate.

ALTERATION TYPE: Carbonate                      Silicific'n                      Chloritic

Argillic                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
 CLASSIFICATION: Epigenetic                      Hydrothermal                      Igneous-contact                      Industrial Min.  
 SHAPE: Regular  
 MODIFIER: Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Laberge	Takwahoni	
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
 Quartz Feldspar Porphyry Dike  
 Siltstone  
 Shale

HOSTROCK COMMENTS: Feldspar porphyry intrusions likely related to Tertiary-Cretaceous Sloko Group. Tahwahoni sediments range Lower to Middle Jurassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Stikine

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: VEIN                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1982

SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	17.0000	Grams per tonne
Gold	0.6750	Grams per tonne
Copper	0.0070	Per cent
Lead	0.2600	Per cent
Antimony	0.0070	Per cent
Zinc	0.0680	Per cent

COMMENTS: Grab sample from narrow quartz-chalcedony vein assayed greater than 1.0 per cent arsenic.

REFERENCE: Assessment Report 11108.

**CAPSULE GEOLOGY**

The area is located south of the King Salmon thrust fault within Upper Cretaceous to Lower Tertiary quartz monzonite and quartz-feldspar porphyry intrusions, and Lower to Middle Jurassic Laberge Group sediments of the Takwahoni Formation. The intrusions are thought to be genetically related to the Sloko Group volcanics (GSC Map 1262A). The Jurassic Takwahoni sediments are situated to the north and south of a wedge of Tertiary felsic intrusive rocks.

The Takwahoni shales and siltstones are confined to the northern part of the claim and are thinly-bedded, fresh and brown in colour.

## CAPSULE GEOLOGY

Contacts between the intrusion and sediments are difficult to establish due to intensive fracturing and alteration. Contacts between these two units may be transitional along faults.

Cretaceous-Tertiary quartz monzonite occurs throughout most of the claim area. It is generally fresh and often contains euhedral biotite and hornblende phenocrysts, and feldspar phenocrysts ranging up to 0.5 centimetre in length. A Cretaceous-Tertiary quartz-feldspar porphyry dyke cuts through the central claim area and is comprised of a dense, often quartz-carbonate altered rock hosting disseminated pyrite.

The quartz monzonite is slightly clay-chlorite altered. The strongest alteration is confined mainly to fault zones which show extensive iron-carbonate alteration and recessive weathering. Quartz-chalcedony and carbonate veins are mostly confined to fault zones. These veins occur irregularly and are up to 12 centimetres wide, crosscutting all rock types. Pyrite blebs and disseminations with traces of galena and sphalerite are common in some of the quartz veins.

Anomalous gold, silver, lead, and zinc values are restricted to quartz-chalcedony veins which host pyrite, sphalerite, and galena. The veins are found only in fault zones within or near the intrusion.

In 1982, rock samples collected from mineralized quartz-chalcedony veins assayed 0.675 grams per tonne gold, 17.0 grams per tonne silver, 0.26 per cent lead, 0.068 per cent zinc, 0.007 per cent antimony, 0.007 per cent copper, and greater than 1.0 per cent arsenic, and 0.001 grams per tonne gold, 0.2 grams per tonne silver, 0.0002 per cent lead, 0.034 per cent zinc, 0.002 per cent antimony, 0.006 per cent copper, and 0.015 per cent arsenic, respectively (Assessment Report 11108).

## BIBLIOGRAPHY

EMPR EXPL \*1982-396,397  
EMPR ASS RPT \*11108  
GSC MEM 362  
GSC MAP 6-1960; \*1262A  
Chevron File

DATE CODED: 1988/05/30  
DATE REVISED: / /

CODED BY: LLC  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104K 116**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAMP CREEK, THORN, DAISY,  
INK, CHECK-MATE, STUART**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 32 59 N  
LONGITUDE: 132 47 41 W  
ELEVATION: 720 Metres

NORTHING: 6492022  
EASTING: 628334

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of mineralized shear zone (Assessment Report 15897). See also Thorn (104K 031) and Drill Creek (104K 018).

COMMODITIES: Silver Gold Copper Antimony

**MINERALS**

SIGNIFICANT: Pyrite Tetrahedrite Enargite Stibnite  
ASSOCIATED: Quartz  
ALTERATION: Sericite Epidote Saussurite Muscovite Jarosite  
Kaolinite Hematite Carbonate

COMMENTS: Limonite-staining.  
ALTERATION TYPE: Silicific'n Pyrite Sericitic Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal  
DIMENSION: 0060 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Width of shear zone.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary	Sloko	Undefined Formation	
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Quartz Feldspar Porphyry  
Breccia  
Porphyritic Andesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Overlap Assemblage Stikine

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1987  
SAMPLE TYPE: Grab  
COMMODITY  
Silver 336.0000 Grams per tonne  
Gold 6.9000 Grams per tonne  
COMMENTS: Maximum assays reported.  
REFERENCE: Assessment Report 15897.

**CAPSULE GEOLOGY**

A northwest trending, 1830 by 1340 metre intrusive-extrusive acidic complex of the Tertiary Sloko Group Age is cored by quartz feldspar porphyry and includes plagioclase porphyry, felsite and breccia. The complex appears to have intruded the contact between pre-Upper Triassic metasediments and volcanics, and porphyritic andesite, rhyolite and tuff of the Upper Triassic Stuhini Group.

The acid complex, its few satellites and peripheral rocks are extensively pyritized, hydrothermally altered and locally mineralized. Alteration minerals include sericite, epidote, saussurite, muscovite, jarosite, kaolinite, hematite, and carbonate minerals.

Mineralized shear zones in the intrusion contain tetrahedrite, enargite, pyrite, and stibnite, which occur as disseminations and in narrow quartz veins.

The Camp Creek Zone is a prominent, siliceous shear zone, striking northeast along the northern wall of Camp Creek. The 60 metre wide zone extends discontinuously over the width of the



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## CAPSULE GEOLOGY

intrusive complex. Parallel but shorter and narrower zones occur on the south side of Camp Creek. Hydrothermal alteration, visible as limonitic staining, silicification and bleaching of the intrusion, envelopes all zones.

Within the main zone, two parallel 1 to 10 metre wide bands of mineralization contain irregular pods of pyrite, tetrahedrite and minor enargite and stibnite. Sampling returned silver assays to 336 grams per tonne and gold assays to 6.9 grams per tonne gold (Assessment Report 15897).

Inland Recovery Group Ltd. owned and American Reserve Mining Corp. operated the property in 1987. Golden Rule Resources Ltd. sampled and mapped the area property in 1991. In 1998, Kohima Pacific Gold Corp. and Almaden Resources Corp. mapped and sampled the property. Rimfire Minerals Corporation optioned the property in February 2000.

See also Thorn (104K 031) and Drill Creek (104K 018).

## BIBLIOGRAPHY

EMPR AR 1963-6; 1964-11; 1965-17  
EMPR ASS RPT 2512, 10243, 11923, \*15897, 21968, 23612, 25725  
EMPR EXPL 1981-242; 1983-546  
EMPR OF 1998-8-E, pp. 1-25  
GSC MAP 6-1960; 1262A  
GSC MEM 362-56  
GCNL #57, #139, 1986  
WWW <http://www.rimfire.bc.ca>

DATE CODED: 1988/05/31  
DATE REVISED: 2000/04/06

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104K 117**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAPLE LEAF**, GLACIER LIGHT

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 55 11 N  
LONGITUDE: 133 51 52 W  
ELEVATION: 1050 Metres

NORTHING: 6531668  
EASTING: 565390

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located along a south facing cliff face, one kilometre north of Lake Nolake.

COMMODITIES: Zinc                      Lead                      Copper                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Chalcopyrite  
COMMENTS: Massive sulphide mineralization observed in morainal material and on cliff face.

ASSOCIATED: Quartz      Pyrite  
ALTERATION: Sericite      Quartz      Pyrite      Carbonate      Fuchsite

COMMENTS: Minor carbonate and listwanite alteration occur in separate  
ALTERATION TYPE: Sericitic      Silicific'n      Carbonate

MINERALIZATION AGE: Middle Jurassic

ISOTOPIC AGE: 170 Ma                      DATING METHOD: Argon/Argon                      MATERIAL DATED: Sericite

**DEPOSIT**

CHARACTER: Stratiform                      Vein  
CLASSIFICATION: Volcanogenic                      Epigenetic

SHAPE: Irregular

MODIFIER: Faulted

DIMENSION: 1500 x 1000                      Metres                      STRIKE/DIP: 350/90                      TREND/PLUNGE:

COMMENTS: Main showing may consist of up to three tabular, stratiform bodies disrupted by faulting.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                                                Boundary Ranges Metamor. Suite

LITHOLOGY: Quartz Feldspar Biotite Schist  
Chlorite Actinolite Schist  
Pelitic Schist  
Quartzite  
Psammitic Schist

HOSTROCK COMMENTS: Correlation of host rock with the Boundary Range Suite is tentative. Rocks are undated but likely Mid-Upper Paleozoic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine                      Nisling

COMMENTS: Terrane affinity uncertain. High greenschist to low amphibolite grade.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1990
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	115.2000      Grams per tonne
Gold	2.0571      Grams per tonne
Copper	0.1700      Per cent
Lead	5.1200      Per cent
Zinc	6.9000      Per cent

COMMENTS: Average of chip sampling of 18 float blocks.

REFERENCE: Press Release 1990, American Bullion Minerals Ltd.

**CAPSULE GEOLOGY**

The Maple Leaf prospect consists of two striking color anomalies, corresponding to areas of intense bleaching and quartz-sericite alteration, zinc-copper-gold anomalies, and local areas of massive sulphide mineralization. Host rocks are structurally complex, greenschist to amphibolite facies rocks, quartzo-feldspathic, pelitic and mafic composition. They are tentatively correlated with

## CAPSULE GEOLOGY

the Late Paleozoic Boundary Ranges metamorphic suite. Dominant structural trends (compositional layering, foliation, folds and faults) are north northwest, overprinted by late brittle east northeast-trending shears, and dykes associated with the nearby Eocene Sloko Group. Alteration is most intense along an east northeast-trending cliff face associated with one of these late faults, with alteration extending in three bands to the north northwest.

The area had no prior record of mineral investigation until staked by American Bullion in 1990, with follow-up geochemical and geophysical work in 1991. American Bullion Minerals Ltd. press release, 1990. Assay values range to 5.0 g/t gold, 129.6 g/t silver, 11.25% zinc, 8.22% lead, .15% copper. These high values are obtained from float blocks in a moraine constructed along the top of the cliff face. Similar values have not been obtained for in-place samples. The area is modelled by American Bullion as a large kuroko type volcanogenic massive sulphide system analogous to the nearby Tulsequah Chief deposit.

Within a few kilometres of the main showing, other alteration and mineralization include carbonate altered metapsaminitic and mafic schist listwanite altered talc-tremolite schist, quartz-pyrite veins in quartz-feldspar-mica schist, and clay\sericite\pyrite alteration associated with shears and late felsic dykes in all lithologies.

## BIBLIOGRAPHY

EMPR EXPL 1991, pp. 133-142  
EMPR ASS RPT 21844  
EMPR OF 1999-2  
EMPR PF (\*Press Release 1990 by American Bullion Minerals Ltd.)

DATE CODED: 1992/03/27  
DATE REVISED: / /

CODED BY: MTS  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 118**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIZZ**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 50 53 N  
LONGITUDE: 133 53 09 W  
ELEVATION: 600 Metres

NORTHING: 6523668  
EASTING: 564291

LOCATION ACCURACY: Within 1 KM

COMMENTS: Red weathering medial moraine or landslide deposit on glacier at mouth of cirque north of Nelles Peak.

COMMODITIES: Gold Silver Lead Zinc

**MINERALS**

SIGNIFICANT: Sphalerite Galena Pyrite  
COMMENTS: Disseminated and stockwork mineralization.

ASSOCIATED: Quartz Pyrite  
ALTERATION: Quartz Pyrite Sericite Carbonate

ALTERATION TYPE: Pyrite  
MINERALIZATION AGE: Eocene

**DEPOSIT**

CHARACTER: Stockwork  
CLASSIFICATION: Epigenetic  
SHAPE: Irregular  
COMMENTS: Host felsic shallow intrusive rocks may be Early Tertiary.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene			Unnamed/Unknown Informal
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Fine Grained Felsite  
Marble  
Andesite Breccia

HOSTROCK COMMENTS: Neither hosts are dated but No. 1 is post Sloko Group (thus Eocene or younger) and other is likely Paleozoic based on regional correlations.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine Nisling  
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist Amphibolite

COMMENTS: Host rocks post date regional metamorphism.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1990
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Gold	27.4290	Grams per tonne	
Silver	49.7100	Grams per tonne	
Zinc	4.1000	Per cent	

COMMENTS: Average of sampling of 12 large float blocks.  
REFERENCE: American Bullion Press Release 1990.

**CAPSULE GEOLOGY**

The Rizz showing consists primarily of an ice-cored mound (landslide deposit) of sulphide-enriched felsite boulders. The deposit is located at the mouth of a cirque north of Nelles Peak, south of the mound, bedrock consists of green to black, epidote/chlorite altered rocks of the Eocene Sloko Group. The Sloko Group is intruded by felsite bodies (dykes and large pads) which are relatively fine-grained and homogeneous. Rocks of this nature host the sulphide mineralization. An east northeast-trending fault truncates the Sloko Group at the north end of the cirque, bringing it in contact with highly deformed rocks of the Paleozoic Nisling or Boundary Ranges Suite. These in turn are intruded by Cretaceous Coast Ranges hornblende granodiorite. Minor alteration and disseminated pyrite and galena mineralization of schist and

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 509  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

intrusive rocks along the fault are observed, however the source of the mineralized landslide deposit has not been pinpointed. Assays of grab samples range to 27.43 g/t gold and 15.9 % zinc. Another locality in high grade schist and gneiss, one kilometre to the west northwest of the boulder train, consists of galena and sphalerite layers in laminate white marble, with assays to 3.43 g/t gold, 562.29 g/t silver, 8.25% lead and 7.3% zinc. These are also talus blocks, and the source of mineralized float has not been identified.

**BIBLIOGRAPHY**

EMPR ASS RPT 21845  
EMPR EXPL 1992 - in press  
EMPR PF - Press Release 1990, American Bullion Minerals Ltd.

DATE CODED: 1992/04/10  
DATE REVISED: / /

CODED BY: MTS  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 119**

NATIONAL MINERAL INVENTORY:

NAME(S): **MUSE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 09 54 N  
LONGITUDE: 132 16 49 W  
ELEVATION: Metres

NORTHING: 6450307  
EASTING: 659994

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ALTERATION: Chlorite Epidote  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic  
Paleozoic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Stikine Assemblage

LITHOLOGY: Mafic Tuff  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**CAPSULE GEOLOGY**

Strongly fractured and chloritized mafic volcanics with up to two per cent disseminated pyrite and chalcopyrite; associated with north trending shears; possible evidence of porphyry system.  
Grab sample assayed 0.32 per cent copper.

**BIBLIOGRAPHY**

EMPR OF 1993-1  
EMPR FIELDWORK 1992, pp. 159-188

DATE CODED: 1993/03/15  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 120**

NATIONAL MINERAL INVENTORY:

NAME(S): **BARRON**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 16 51 N  
LONGITUDE: 132 17 50 W  
ELEVATION: Metres

NORTHING: 6463157  
EASTING: 658480

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ALTERATION: Quartz              Chlorite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform                      Massive  
CLASSIFICATION: Epigenetic              Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous			Stikine Assemblage

LITHOLOGY: Mafic Tuff  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization              GRADE: Greenschist

**CAPSULE GEOLOGY**

Strongly sheared, silicified and pyritized diorite and mafic volcanics are cut by a north trending fault; locally pods of semimassive pyrite, pyrrhotite and chalcopyrite occur within the shear zone.

A grab sample assayed 1.48 per cent copper, 6.0 parts per million silver. Gold assay not available due to high pyrrhotite content of sample.

**BIBLIOGRAPHY**

EMPR OF 1993-1  
EMPR FIELDWORK 1992, pp. 159-176

DATE CODED: 1993/03/15  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 121**

NATIONAL MINERAL INVENTORY:

NAME(S): **DB**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 05 43 N  
LONGITUDE: 132 14 14 W  
ELEVATION: Metres

NORTHING: 6442652  
EASTING: 662844

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ALTERATION: Epidote Chlorite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic  
Paleozoic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Stikine Assemblage

LITHOLOGY: Mafic Flow  
Tuff

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**CAPSULE GEOLOGY**

Aphanitic mafic volcanics are cut by fractures with  
chalcopyrite-pyrite-epidote and malachite coatings.  
A grab sample assayed 1.24 per cent copper.

**BIBLIOGRAPHY**

EMPR OF 1993-1  
EMPR FIELDWORK 1992, pp. 159-188

DATE CODED: 1993/03/15  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N



MINFILE NUMBER: **104K 122**

NATIONAL MINERAL INVENTORY:

NAME(S): **HONK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 18 09 N  
LONGITUDE: 132 17 15 W  
ELEVATION: Metres

NORTHING: 6465591  
EASTING: 658953

LOCATION ACCURACY: Within 500M  
COMMENTS: Trench.

COMMODITIES: Gold                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Pyrite              Chalcopyrite              Gold  
ASSOCIATED: Quartz  
ALTERATION: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Epigenetic              Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Mafic Volcanic  
Pyroxenite  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization              GRADE: Greenschist

**CAPSULE GEOLOGY**

Sheared, silicified mafic and ultramafic rocks are cut by pyrite-quartz-chalcopyrite veins less than 10 centimetres wide along a north-trending splay of the Ophir break. Ultramafic rocks are believed to be Late Triassic; mafic volcanics may be Carboniferous. A grab sample assayed 3980 parts per billion gold, 59.0 parts per million silver, and 1.64 per cent copper.

**BIBLIOGRAPHY**

EMPR OF 1993-1; 1993-11  
EMPR FIELDWORK 1992, pp. 159-188  
EMPR ASS RPT (by Homestake/NAM?)

DATE CODED: 1993/03/15  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 123**

NATIONAL MINERAL INVENTORY:

NAME(S): **RO**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 08 10 N  
LONGITUDE: 132 12 52 W  
ELEVATION: Metres

NORTHING: 6447251  
EASTING: 663998

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Pyrite  
ALTERATION: Quartz Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Mafic Tuff  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**CAPSULE GEOLOGY**

A quartz vein 0.5 metres wide with chalcopyrite occurs in quartz-iron carbonate altered tuffs and argillaceous sediments. Grab sample assayed 0.26 per cent copper.

**BIBLIOGRAPHY**

EMPF OF 1993-1  
EMPR FIELDWORK 1992, pp. 159-188

DATE CODED: 1993/03/15  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 124**

NATIONAL MINERAL INVENTORY:

NAME(S): **JON**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 06 28 N  
LONGITUDE: 132 14 37 W  
ELEVATION: Metres

NORTHING: 6444027  
EASTING: 662410

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold      Tetrahedrite      Arsenopyrite  
ASSOCIATED: Pyrite  
ALTERATION: Quartz      Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic      Hydrothermal      Epithermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Mafic Tuff

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional      RELATIONSHIP: Pre-mineralization      GRADE: Greenschist

**CAPSULE GEOLOGY**

Banded quartz-carbonate veins with pyrite, tetrahedrite and arsenopyrite occur in an extensive zone of strongly iron-carbonate altered tuffs.  
Grab sample assayed 1170 parts per billion gold, 0.84 per cent arsenic.

**BIBLIOGRAPHY**

EMPR OF 1993-1  
EMPR FIELDWORK 1992, pp. 159-188

DATE CODED: 1993/03/15  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 125**

NATIONAL MINERAL INVENTORY:

NAME(S): **DOT**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 12 02 N  
LONGITUDE: 132 20 09 W  
ELEVATION: Metres

NORTHING: 6454134  
EASTING: 656570

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Pyrite Quartz  
ALTERATION: Chlorite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Stikine Assemblage

LITHOLOGY: Mafic Tuff  
Flow

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**CAPSULE GEOLOGY**

A quartz vein up to 0.6 metres wide in a strongly fractured mafic tuffs has up to five per cent pyrite, with lesser chalcopyrite. Grab sample assayed 1.12 per cent copper.

**BIBLIOGRAPHY**

EMPR OF 1993-1  
EMPR FIELDWORK 1992, pp. 159-188

DATE CODED: 1993/03/15  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 126**

NATIONAL MINERAL INVENTORY:

NAME(S): **STOKER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 50 58 N  
LONGITUDE: 133 33 49 W  
ELEVATION: 1166 Metres

NORTHING: 6524177  
EASTING: 582880

LOCATION ACCURACY: Within 500M

COMMENTS: Occurrence lies 1.5 kilometres west of Mt. Sparling and 12 kilometres north of confluence of Shazah Creek and Tulsequah River, on the west side of the creek.

COMMODITIES: Copper                      Lead                      Zinc                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Galena  
ASSOCIATED: Pyrite  
ALTERATION: Malachite      Azurite  
ALTERATION TYPE: Silicific'n      Skarn      Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Massive                      Disseminated                      Stockwork  
CLASSIFICATION: Skarn  
SHAPE: Tabular  
DIMENSION: 100 x 60                      Metres                      STRIKE/DIP: 290/78N                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK:

LITHOLOGY:

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**CAPSULE GEOLOGY**

One kilometre west of Mount Sparling on the west side of the creek valley, Lower Paleozoic volcanic and sedimentary rocks with Limy sections have been intruded by hornblende and biotite monzonites possibly related to Eocene Sloko volcanism. Sloko volcanic successions unconformably overlie the Paleozoic rocks in this area. Stuhini flows and tuffs are found in faulted contact with older Paleozoic volcanics and sediments.

The Stoker occurrence is underlain by Paleozoic volcanics and sediments with limestone interbeds. These have been regionally metamorphosed to greenschist facies and the limestone has been highly recrystallized. Peripheral to and locally within a six metre wide limestone bed skarn mineralization occurs. Mineralization occurs over a surface area of at least 100 metres by 60 metres before disappearing under talus in three directions. The mineralogy of the showing consists of massive to disseminated galena, sphalerite, chalcopyrite and pyrite. The north margin of the limestone bed is a 40 centimetre wide band of solid copper-zinc-lead mineralization.

Bedding in the area is oriented with a strike to 290 and a dip of 78 degrees north.

Rock samples from the Stoker showing analysed up to 35.5 grams per tonne silver, 0.48 per cent copper, > 1 per cent lead and 0.98 per cent zinc (Assessment Report 24616).

**BIBLIOGRAPHY**

EMPR FIELDWORK 1993, pp.  
EMPR OF 1994-  
EMPR ASS RPT 24616

DATE CODED: 1993/10/13  
DATE REVISED: / /

CODED BY: SD  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 127**

NATIONAL MINERAL INVENTORY:

NAME(S): **GREEN HAM**, KHA 41-7, MMI 41-5

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K11E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 35 19 N  
LONGITUDE: 133 29 51 W  
ELEVATION: 1073 Metres

NORTHING: 6495223  
EASTING: 587345

LOCATION ACCURACY: Within 500M

COMMENTS: Occurrence lies 5 kilometres southeast of the confluence of Stuhini Creek with Taku River.

COMMODITIES: Copper

Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Sphalerite

ASSOCIATED: Pyrite Pyrrhotite

ALTERATION TYPE: Pyrite Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive  
CLASSIFICATION: Epigenetic

Disseminated  
Volcanogenic

**HOST ROCK**

DOMINANT HOSTROCK:

LITHOLOGY:

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Post-mineralization

GRADE: Greenschist

**CAPSULE GEOLOGY**

The area is underlain by Paleozoic Mt. Eaton Formation chert, tuff, tuffaceous sediments and argillite. These rocks have been intruded by Eocene hornblende-biotite quartz-diorite, and gabbro. Mineralization was found in glacial float and moraine debris. Rusty weathering black argillite contain disseminated to massive pyrite, pyrrhotite and chalcopyrite with minor amounts of sphalerite. The head of the cirque (to the southwest) and rusty weathering but was inaccessible due to topographic constraints. It is assumed that this is the source of the mineralized debris.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1993, pp.  
EMPR OF 1994-

DATE CODED: 1993/10/13  
DATE REVISED: 1993/10/13

CODED BY: SD  
REVISED BY: SD

FIELD CHECK: Y  
FIELD CHECK: Y

MINFILE NUMBER: **104K 128**

NATIONAL MINERAL INVENTORY:

NAME(S): **GISEL**, KHA 31-1

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 45 30 N  
LONGITUDE: 133 56 16 W  
ELEVATION: 640 Metres

NORTHING: 6513630  
EASTING: 561453

LOCATION ACCURACY: Within 500M

COMMENTS: About 60 metres from Canada-USA boundary; about 6 kilometres northwest of Devil's Paw mountain.

COMMODITIES: Copper Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite Chalcopyrite

COMMENTS: Minor amounts.

ASSOCIATED: Pyrite

ALTERATION TYPE: Pyrite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated

CLASSIFICATION: Syngenetic Porphyry

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Eocene

**GROUP**

Sloko

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Hornblende Biotite Granodiorite

HOSTROCK COMMENTS: Eocene granodiorite intrudes slightly younger Sloko volcanic flows of the Opposor Formation.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

TERRANE: Nisling

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

Undivided Metamorphic Assembl.

RELATIONSHIP: Post-mineralization

GRADE:

**CAPSULE GEOLOGY**

The area is underlain by Nisling Terrane undivided metamorphic schists and gneisses. These are locally unconformably covered by Sloko Group volcanics (primarily Opposor Formation flows and tuffs) and intruded by Cretaceous to Tertiary granodiorite quartz-diorite and lesser monzonite.

Pyrite, chalcopyrite and molybdenite mineralization is found disseminated in essentially unaltered granodiorite. Mineralized samples were collected from talus on the glacier which is assumed just below the occurrence location. Steep terrain restricted any further investigation.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1993-  
EMPR OF 1994-

DATE CODED: 1993/10/13  
DATE REVISED: 1993/10/13

CODED BY: SD  
REVISED BY: SD

FIELD CHECK: Y  
FIELD CHECK: Y

MINFILE NUMBER: **104K 129**

NATIONAL MINERAL INVENTORY:

NAME(S): **ONO**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 46 53 N  
LONGITUDE: 133 36 39 W  
ELEVATION: 183 Metres

NORTHING: 6516543  
EASTING: 580313

LOCATION ACCURACY: Within 500M

COMMENTS: Located six kilometres south-southeast of Mt. Stapler on the north side of Shazah Creek and three to four kilometres up Shazah Creek from its confluence with the Tulsequah River.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Pyrrhotite  
ALTERATION: Malachite Chlorite Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound Massive  
CLASSIFICATION: Volcanogenic Syngenetic  
DIMENSION:  
COMMENTS: Attitude of foliation. STRIKE/DIP: 352/30 TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK:

LITHOLOGY:

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Nisling  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Post-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

The area is underlain by a Paleozoic to Lower Triassic volcano-sedimentary belt which extends north-northwest and consists mainly of andesitic to felsic flows, tuffs, breccia, and minor sedimentary limestone, chert, and siltstone. These are intruded by a Tertiary-Cretaceous quartz monzonite pluton which is thought to be correlative with the Sloko Group volcanics. The volcano-sedimentary rocks have undergone regional greenschist facies metamorphism.

On the property the rocks are divided into two packages, one dominated by andesitic sediments and tuffs with prominent limestone intervals and the other dominated by felsic volcanic rocks mixed with volcanogenic sulphides occur in both packages.

The southwest part of the property is underlain by meta-rhyolites which consists of pale green, foliated and well lineated quartz-muscovite-chlorite schists with pyrite lenses up to 2 centimetre thick and 2 metres long. These lenses parallel the bedding. Well developed isoclinal folds are developed in the limestone units.

In the south part of the property, massive rhyolite and dacite predominated with minor welded tuffs.

Massive sulphide zone, about 30 centimetres wide, occurs in banded and brecciated rhyolite along Shazah Creek. Sulphides consists mainly of pyrrhotite with scattered patches of chalcopyrite. In 1981, a sample returned 0.069 grams per tonne gold, 1.37 grams per tonne silver, 0.24 per cent copper, 0.01 per cent lead, and 0.01 per cent zinc (Assessment Report 9007).

Near the contact with the monzonitic intrusive, bedded rhyolites are heavily pyritized.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1993, pp.  
EMPR OF 1994-  
EMPR EXPL 1980-496,497; 1981-137  
EMPR ASS RPT \*9007, 9857  
GSC MEM \*248, pp. 63,70; 362  
GSC MAP 6-1960; 931A; 1262A



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 521  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC P 45-30  
GCNL #173, 1980; #84, May 4, 1981

DATE CODED: 1993/10/13  
DATE REVISED: / /

CODED BY: SD  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104K 130**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHEF**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104K13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 58 50 55 N  
LONGITUDE: 133 35 40 W  
ELEVATION: 1090 Metres

NORTHING: 6524046  
EASTING: 581103

LOCATION ACCURACY: Within 500M

COMMENTS: Occurrence lies 12 kilometres north of confluence of Shazah  
Creek and Tulsequah River, 3 kilometres west of Mt. Sparling; on east  
side of cirque.

COMMODITIES: Copper Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Sphalerite Pyrrhotite  
ASSOCIATED: Pyrite Pyrrhotite  
ALTERATION: Malachite Azurite  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive Disseminated  
CLASSIFICATION: Epigenetic Porphyry  
SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK:

LITHOLOGY:

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: Syn-mineralization GRADE: Greenschist  
Hornfels

**CAPSULE GEOLOGY**

The area containing and surrounding the chef mineral showings consists of Laberge Group finely bedded sediments (locally graphitic argillite to wackes) and lesser volcanic sediments, Paleozoic tuffs, flows and sediments and Stuhini flows, tuffs, and sediments. The area is overlain by Sloko volcanic rocks (flow, tuff, debris, flows) and intruded by Sloko felsic to intermediate dykes and other possibly related Eocene plutonic monzonites and quartz monzonites.

Several mineralized zones/outcrops exists within the cirque that contains the chef showing. Only a rapid preliminary examination of the cirque has been completed during a regional mapping program in 1993. Copper-lead-zinc mineralization occurs on both sides of the icefall at the head of the cirque and south along each side was seen outcrop and in highly mineralized float boulders on the lower section of ice. Pyrite, pyrrhotite, chalcopyrite, galena, and sphalerite (with malachite and azurite oxidation minerals) occur massively or as disseminations within silicified and/or clay altered tuff and sediments.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1993, pp.  
EMPR OF 1994-

DATE CODED: 1993/10/13  
DATE REVISED: / /

CODED BY: SD  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104M 001**

NATIONAL MINERAL INVENTORY: 104M15 Pb1

NAME(S): **GRIDIRON**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:  
LATITUDE: 59 55 56 N  
LONGITUDE: 134 56 22 W  
ELEVATION: 666 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: From Assessment Report 6882, Figure 2.

Underground

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6643865  
EASTING: 503385

COMMODITIES: Silver Gold Lead Arsenic Zinc

**MINERALS**

SIGNIFICANT: Galena Tetrahedrite Arsenopyrite Pyrite Sphalerite  
COMMENTS: Approximately 6 to 8 per cent sulphides in quartz vein.  
ASSOCIATED: Quartz Talc  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Irregular  
MODIFIER: Sheared  
DIMENSION: Metres STRIKE/DIP: 290/50N TREND/PLUNGE:  
COMMENTS: Attitude of 0.2 metre wide vein.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Chlorite Feldspar Gneiss  
Schist  
Marble  
Hornfels Feldspar Porphyry

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: Pre-mineralization GRADE: Greenschist  
Post-mineralization  
COMMENTS: Borders the Coast Crystalline and Intermontane belts.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1982  
SAMPLE TYPE: Rock  
COMMODITY GRADE  
Silver 315.0000 Grams per tonne  
Arsenic 1.3400 Per cent  
Gold 3.2000 Grams per tonne  
Lead 2.0500 Per cent  
REFERENCE: Assessment Report 10425.

**CAPSULE GEOLOGY**

The Gridiron adit is located about 9 metres above the western shore of Bennett Lake on a west-trending shear zone.

The shear zone occurs in the Devonian to Permian and older Boundary Ranges Metamorphic Suite near the contact margins of the Coast Plutonic Complex and the Intermontane Belt. These rocks comprise chlorite feldspar gneiss, schist, marble and hornfels feldspar porphyry. The east-west adit follows a crushed zone of quartz and talcose matter carrying several per cent galena, tetrahedrite, arsenopyrite, pyrite and minor sphalerite.

A clearly defined quartz vein, about 0.2 metres wide, near the adit portal was reported (1901) to carry high gold and silver values. In 1901, 68 tonnes of ore were mined producing 2,582 grams of silver

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**CAPSULE GEOLOGY**

and 156 grams of gold. A sample of the quartz vein taken in 1982 assayed 3.2 grams per tonne gold, 315 grams per tonne silver, 2.05 per cent lead and 1.34 per cent arsenic (Assessment Report 10425).

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EMPR FIELDWORK 1985, pp. 185-190; 1987, pp. 217-231; 1990, pp. 139-144, 153-162  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JNR

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 002**

NATIONAL MINERAL INVENTORY: 104M15 Ag2

NAME(S): **SILVER QUEEN**, PAVEY 2, SOUTH ADIT,  
RUBY SILVER, NET, DICK 1-40,  
OLD 1-6

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:  
LATITUDE: 59 54 04 N  
LONGITUDE: 134 55 52 W  
ELEVATION: 1220 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Adit (Assessment Report 6882, Figure 2).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6640400  
EASTING: 503854

COMMODITIES: Gold Copper Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Arsenopyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary Paleozoic			Coast Plutonic Complex Boundary Ranges Metamor. Suite

LITHOLOGY: Feldspar Biotite Quartz Monzonite  
Quartz Porphyry Dike  
Phyllite  
Marble  
Schist

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks  
METAMORPHIC TYPE: Contact  
COMMENTS: At the contact between the Intermontane & Coast Crystalline belts.

PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Stikine  
GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1990  
SAMPLE TYPE: Grab  
COMMODITY: Gold GRADE: 14.8000 Grams per tonne  
COMMENTS: Grab sample of quartz-arsenopyrite vein above the adit.  
REFERENCE: Assessment Report 19186.

**CAPSULE GEOLOGY**

The Silver Queen showing is located on the Pavey 2 claim, on the east side of Bennett Lake approximately half way between Pennington and Bennett.

Two claims were staked around 1913 near Pavey. The Silver Queen and Ruby Silver claims were reported to overly high grade silver mineralization. A 300-metre long adit was driven in 1916-1917 to intersect the ruby silver ore deposit. Some ore was reportedly shipped in 1916, but there is no record of the tonnage. In 1933, the Alaska Juneau Gold Mining Company carried out exploration work on the Silver Queen Group. The claims were held as the Dick 1-40 and Old 1-6 claims in 1970 by the Premier Mining Company who carried out an aeromagnetic survey. In 1971, Premier did geological mapping and trenching on the Old 5 and Dick 6 claims.

From 1981-1986 Du Pont held the Gaug claims over the area presently covered by the Pavey 1-4 claims. During 1982 and 1983 Du

## CAPSULE GEOLOGY

Pont completed geological and geochemical surveys on the upland plateau and over a steep rocky gully. In 1983 Texaco Canada staked the Ben 1-4 claims and performed geological geophysical and geochemical surveys. Prospecting in 1987 located veins above the adit. In 1988, Mapping and prospecting was conducted by Lodestar on the LQ claim 12 samples were collected. In 1990, Lodestar Explorations Inc. tested the showings on the Pavey property and the Skarn (104M 085) and Cowboy (104M 086) showings were discovered.

The adit was driven in porphyritic feldspar biotite quartz monzonite of the Cretaceous to Tertiary Coast Plutonic Complex at its contact with phyllites, marbles and schists of the Devonian to Permian and older Boundary Ranges Metamorphic Suite.

Pyrite, chalcopyrite and malachite occur in material below an old aerial tramway constructed below the adit portal. No significant silver mineralization was observed in or near the adit.

A quartz-arsenopyrite vein occurs in a quartz eye porphyry dike above the adit. A grab sample assayed 14.8 grams per tonne gold (Assessment Report 19186).

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EMPR BULL 105  
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EMPR FIELDWORK 1987, pp. 217-231; 1990, pp. 139-144, 153-159  
EMPR GEM 1970-23; 1971-53  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
CMJ Oct 15, 1916, p. 489

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/05

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 003**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN 1**, BEN CREEK, B-1,  
B-2, PAVEY, STIBNITE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 48 N  
LONGITUDE: 134 52 07 W  
ELEVATION: 1480 Metres

NORTHING: 6641767  
EASTING: 507348

LOCATION ACCURACY: Within 500M  
COMMENTS: B-1 and B-2 trenches (Assessment Report 12554).

COMMODITIES: Silver                      Gold                      Lead                      Zinc                      Antimony

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Stibnite              Arsenopyrite              Pyrite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound              Disseminated              Vein

CLASSIFICATION: Hydrothermal              Epigenetic

TYPE: I05      Polymetallic veins      Ag-Pb-Zn±Au

DIMENSION: 20 x 1      Metres

STRIKE/DIP:                      TREND/PLUNGE:

COMMENTS: Dimensions of sulphide zone.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Schist  
Gneiss

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

108.1000

Grams per tonne

Gold

0.3200

Grams per tonne

COMMENTS: Across 0.96 metres.

REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

At the Ben 1 showing on the Pavey property, 2 trenches expose stratabound disseminated sulphides near Pavey, 60 kilometres south of Whitehorse.

The Pavey property (104M 002, 104M 028, 104M 038-47) covers gold and silver mineralization in shears and quartz veins related to several strong north and northwesterly trending faults. Du Pont held the Gaug claims over the area presently covered by the Pavey 1-4 claims from 1981 to 1986. During 1982 and 1983 Du Pont and Texaco completed geological and geochemical surveys. They located several old adits in a gully. In 1983, Texaco Canada staked the Ben 1-4 claims and performed geological geophysical and geochemical surveys. In 1990, Lodestar Explorations Inc. tested the showings on the Pavey property and the Skarn (104M 085) and Cowboy (104M 086) showings were discovered.

The claims are underlain by layered sedimentary, volcanic and metamorphic rocks intruded by granitic bodies and porphyry dikes. The Ben fault is a northwest trending structure that cuts argillites and metamorphic rocks in the area.

The showing comprises sulphides hosted in schist of the Devonian to Permian and older Boundary Ranges Metamorphic Suite. The

## CAPSULE GEOLOGY

metamorphic rocks constitute a fault-bounded zone about 1.0 kilometre wide, with Lower Jurassic(?) volcanics to the west and Upper Triassic Stuhini Group volcanics to the east.

The sulphide-bearing zone is about 1 metre wide and parallels the foliation between a shear zone and linear trend of irregularly-shaped quartz boudins. The zone is traceable along strike for 20 metres, with both ends covered with till. Sulphides include galena, sphalerite, stibnite, arsenopyrite, pyrite, and pyrrhotite.

A chip sample across 0.96 metres of the mineralized zone assayed 108.1 grams per tonne silver and 0.32 gram per tonne gold (Assessment Report 12554). In 1991, a trench sample (99109), from arsenopyrite-stibnite-galena veins, 1.5 to 10 centimetres wide, assayed 1.47 grams per tonne gold over 2.0 metres (Assessment Report 20581).

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EMPR FIELDWORK \*1985, pp. 187-188; 1987, pp. 217-231; 1990, pp. 139-144, 153-159  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104M 004**

NATIONAL MINERAL INVENTORY: 104M16 Pb1

NAME(S): **TUTSHI LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M16W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 09 N  
LONGITUDE: 134 25 26 W  
ELEVATION: 715 Metres

NORTHING: 6646261  
EASTING: 532180

LOCATION ACCURACY: Within 1 KM

COMMENTS: Adit (Geological Survey of Canada Map 19-1957).

COMMODITIES: Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Sphalerite

COMMENTS: Probable minerals.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown

CLASSIFICATION: Unknown

TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic			Peninsula Mtn. Volcanic Suite

LITHOLOGY: Dacite  
Andesite

HOSTROCK COMMENTS: The informally named Peninsula Mountain Volcanic Suite is Middle to Upper Triassic(?).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

Overlap Assemblage

COMMENTS: Volcanics between Stikinia terrane (west) and Inklin overlap (east).

**CAPSULE GEOLOGY**

A lead-zinc showing with an adit is found on the north shore of Tutshi Lake.

The showing is apparently located in dacites and andesites of the Middle to Upper Triassic(?) Peninsula Mountain volcano-sedimentary suite. Portions of this suite are now known to belong to the Upper Cretaceous Windy-Table Suite.

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EMPR FIELDWORK 1990, pp. 139-144, 153-159  
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GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
CJES Vol. 21, 1983, pp. 554-558  
Bultman, 1979

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: SED

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 005**

NATIONAL MINERAL INVENTORY: 104M9 Sb1

NAME(S): LAKEFRONT, ANTIMONY

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 39 N  
LONGITUDE: 134 16 01 W  
ELEVATION: 656 Metres

NORTHING: 6623148  
EASTING: 541203

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Antimony                      Lead

**MINERALS**

SIGNIFICANT: Stibnite                      Galena

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                              Stratabound  
CLASSIFICATION: Epigenetic                      Hydrothermal  
TYPE: I09              Stibnite veins and disseminations

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Undefined Formation	

LITHOLOGY: Brecciated Shale  
Shale  
Clay

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inklin

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Grab

COMMODITY

GRADE  
6.4800              Per cent

Antimony

COMMENTS: Grab sample from main vein.

REFERENCE: Open File 1989-13.

**CAPSULE GEOLOGY**

The Lakefront showing is located on the western shore of Tagish Lake.

Concordant to discordant veins are enclosed by stratified (almost flat lying) rocks which consist mainly of the dark, finely textured, clay-shale members of the Lower Jurassic Laberge Group.

The main vein is from 0.3 to 1.2 metres in thickness and is composed chiefly of quartz and stibnite, with some galena and varying amounts of brecciated shale.

**BIBLIOGRAPHY**

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EMPR FIELDWORK \*1985, pp. 184,188; 1988, pp. 293-310; 1990, pp. 139-144, 153-159  
EMPR OF \*1989-13  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 218A; 711; 1418A; 1426  
GSC MEM \*37, pp. 116,117  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27; 78-01A pp. 69-70; 91-01A pp. 147-153; 92-01A pp. 54; 1911 pp. 27-58  
GSC SUM RPT 1906 pp. 26-32; 1910,

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: SED

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 006**

NATIONAL MINERAL INVENTORY: 104M9 Au1

NAME(S): **SPOKANE**, GOLD CUP, BIRDIE,  
LAWSON, LAWSON, TONYA 1-4,  
MOHAWK, EDWIN, BLACKSMITH,  
PETER, INCLINE, NORM,  
SEPHIL

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104M09W  
BC MAP:  
LATITUDE: 59 32 14 N  
LONGITUDE: 134 27 07 W  
ELEVATION: 1050 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Peter and Blacksmith adits (Assessment Report 5910).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6600002  
EASTING: 530995

COMMODITIES: Gold Silver Zinc Lead Copper

**MINERALS**

SIGNIFICANT: Pyrite Gold Galena Sphalerite Chalcopyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Tabular  
MODIFIER: Fractured Other  
DIMENSION: 920 x 460 x 1 Metres STRIKE/DIP: 100/80N TREND/PLUNGE:  
COMMENTS: One metre wide vein traced intermittently over 920 metre length and  
460 metre vertical distance.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Schistose Gneiss  
Actinolite Schist  
Amphibolite  
Feldspar Porphyry Dike  
Andesite Dike

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist Amphibolite  
COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE: LAWSON REPORT ON: Y  
CATEGORY: Inferred YEAR: 1991  
QUANTITY: 77216 Tonnes  
COMMODITY: Gold GRADE: 5.8300 Grams per tonne  
COMMENTS: Area above 1035 metres elevation between the Blacksmith and Incline adits.  
REFERENCE: Assessment Report 21816.

**CAPSULE GEOLOGY**

The Spokane prospect is located on the west side of Big Horn Creek, 43 kilometres west of Atlin. Fred Lawson prospected the Big Horn Creek area in the early 1900s and the Spokane Group, comprising the Spokane, Mohawk and Edwin claims, was staked. In 1921-1935, open cuts and 3 drifts (Peter, Blacksmith and Incline) were completed. Norgold bonded the property in 1933. In 1934, Bobjo Mines Ltd. assumed management of the property. In 1975, Lobell Mines Ltd. conducted a geological examination and sampling program. In 1981, Silver Ice Mines Ltd.

## CAPSULE GEOLOGY

conducted prospecting and sampling. Geochemical surveys and sampling were conducted in 1991.

The area is underlain by schistose gneisses (actinolite schist?) and amphibolites of the Devonian to Permian and older Boundary Ranges Metamorphic Suite intruded by andesite and feldspar porphyry dikes.

The Lawsan vein, a gold-bearing quartz sulphide vein, has been traced intermittently over a horizontal length of 920 metres and a vertical distance of 460 metres. The vein averages 1.1 metres in width, striking 100 degrees and dipping 70 to 85 degrees north. Mineralization consists of pyrite, minor chalcopyrite, galena, sphalerite and native gold. The vein is confined to a narrow, persistent fissure zone which cuts the sequence of schistose gneisses and amphibolites at right angles. Coarse, pitted and comblike textures in the quartz suggest open-space filling. Feldspar porphyry dikes cut the Lawsan vein. Sulphide mineralization in the vein appears to be localized along intersections with oblique fracture zones. Gold correlates well with pyrite which is more abundant than other sulphides. Gold values increase with increasing elevation; the highest gold values came from the upper drifts.

Two channel samples across 0.75 metres in the upper adit, the Incline, averaged 23.31 grams per tonne gold and 6.17 grams per tonne silver (Minister of Mines Annual Report 1933, page 80). At about 1220 metres elevation, a north-south fault cuts the vein, displacing it 75 metres horizontally.

The average weighted grade from sampling in 1991 in the Incline drift was 6.86 grams per tonne gold across 1 metre (Assessment Report 21816). Results in 1991 indicate a limited tonnage potential for ore grade material above 1035 metres elevation, between the Blacksmith and Incline adits. Indicated probable geologic reserves are 77,216 tonnes grading 5.83 grams per tonne gold (based on 1 metre average width) (Assessment Report 21816).

## BIBLIOGRAPHY

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- EMPR ASS RPT \*5910, \*10069, \*21816
- EMPR BULL 105
- EMPR EXPL 1976-E195; 1981-194
- EMPR FIELDWORK \*1985, p. 187; 1988, pp. 293-310; 1990, pp. 139-144, 153-159
- EMPR OF 1989-13
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37, p. 99
- GSC OF 427, 2225 p. 42
- GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: SED

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 007**

NATIONAL MINERAL INVENTORY: 104M9 Au2

NAME(S): **BIGHORN, BIG HORN, LITTLE BEAR, GOLD BIRD, LUCKY JACK, TYEE, BERTHA, LITTLE, NORTH**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09W  
BC MAP:  
LATITUDE: 59 31 29 N  
LONGITUDE: 134 28 37 W  
ELEVATION: 1097 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Adits (National Mineral Inventory Card 104M9 Au2).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6598599  
EASTING: 529592

COMMODITIES: Gold Silver Lead Copper

**MINERALS**

SIGNIFICANT: Galena Chalcopyrite Gold Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic Boundary Ranges Metamor. Suite

LITHOLOGY: Amphibole Gneiss  
Feldspar Porphyritic Dike  
Actinolite Schist

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist Amphibolite

COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE: VEINS REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1933  
SAMPLE TYPE: Channel  
COMMODITY GRADE  
Silver 13.7100 Grams per tonne  
Gold 44.5600 Grams per tonne

COMMENTS: Channel sample composite across various widths of veins at 1.5 metre intervals taken west of the Little tunnel portal.

REFERENCE: Minister of Mines Annual Report 1933, page 80.

**CAPSULE GEOLOGY**

The Bighorn showing is located on the west side of Bighorn Creek just downstream from the junction with Chicken Creek.

The property was staked in 1898. The Big Horn Group, consisting of the Big Horn, Little Bear, Gold Bird, Lucky Jack, Tyee and Bertha claims, was staked in 1909 by F. Lawson and Assoc. In about 1910, a one-stamp mill was installed and small scale development occurred for several years. Two adits, the North and the Little, were driven for 17 and 9 metres respectively. Some open cuts and trenches also occur in the area.

Actinolite schist of the Devonian to Permian and older Boundary Ranges Metamorphic Suite is exposed on the upper slopes and dike-like feldspar porphyry is exposed in a narrow band along the lower slopes.

The lens-shaped veins primarily occur in a shear zone and are almost always conformable to the foliation of the hostrocks. The lenses, 5 to 61 centimetres wide and up to 61 metres long, are divisible into two groups formed at different times. The older veins are badly broken, faulted and almost barren. It appears that gold

## CAPSULE GEOLOGY

occurs in significant amounts only in younger veins. Mineralization consists of quartz, pyrite, galena and chalcopyrite with occasional free gold. A recovery of over \$2000 was reportedly from small tonnages of selected ore mined at the tunnels several years before 1933.

The Bighorn mine is located along a secondary or tertiary splay of the Llewellyn Fault zone. Samples of the fluid inclusions show that the fluid was more saline but less CO<sub>2</sub> bearing than usual gold producing fluids but quite hot (250+C.) as expected, for mesothermal veins.

A channel sample composite, across 35, 20.3, 22.9 and 35 centimetre vein widths at 1.5 metre intervals, west of the Little tunnel portal assayed 44.56 grams per tonne gold and 13.71 grams per tonne silver (Minister of Mines Annual Report 1933, page 80).

## BIBLIOGRAPHY

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- EMPR BULL 105
- EMPR FIELDWORK 1985, pp. 185-189; \*1988, pp. 293-310; 1990, pp. 139-144, 153-159
- EMPR OF 1989-13
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 218A; 711; 1418A; 1426
- GSC MEM \*37, pp. 96-99
- GSC OF 427, 2225 p. 42
- GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/23

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 008**

NATIONAL MINERAL INVENTORY: 104M8 Ag1

NAME(S): **RUPERT, OCCURRENCE I, SILVER KING 1-2 (L. 1268-1269),  
 ICE 1-2, FEE, ANNEX (L. 1274),  
 GOLD BOTTOM (L. 1273), SILVER TIP (L. 1271), ENSIGN (L. 1267),  
 INDEX (L. 1266), BLUE JACKET (L. 1265), TAKU ARM**

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104M08W  
 BC MAP:  
 LATITUDE: 59 28 06 N  
 LONGITUDE: 134 19 18 W  
 ELEVATION: 1280 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS: Occurrence I (Assessment Report 19827).

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6592399  
 EASTING: 538441

COMMODITIES: Silver                      Gold                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Galena              Pyrite              Sphalerite              Chalcopyrite              Gold  
 ASSOCIATED: Arsenopyrite  
 QUARTZ  
 ALTERATION: Limonite              Malachite              Azurite              Chlorite  
 ALTERATION TYPE: Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Shear                      Disseminated  
 CLASSIFICATION: Hydrothermal              Epigenetic  
 TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Hornblende Gneiss  
 Pelitic Schist  
 Granodiorite  
 Felsic Dike  
 Rhyolite Dike  
 Dacite Dike

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
 TERRANE: Stikine  
 METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1980
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	237.6000      Grams per tonne
Copper	0.0100      Per cent
Lead	0.2600      Per cent
Zinc	0.3200      Per cent

COMMENTS: Chip sample 0.8 metres wide from vein No. 3.  
 REFERENCE: Assessment Report 8384.

**CAPSULE GEOLOGY**

The Rupert showings (veins 1-5), 35 kilometres southwest of Atlin, occur at elevations from 1175 to 1550 metres on the west side of Taku Arm, northeast of White Moose Mountain and below the Fee Glacier.

The showings were probably discovered at around the turn of the century. Trenching, reported in 1913, located 5 mineralized quartz veins. The Fee Group was staked to cover these showings in 1979 by United Keno Hill Mines Limited and they conducted extensive geological and geochemical surveys. In 1986, Rise Resources optioned the Ice 1 claim and the 10 crown grants comprising the Rupert Group. Rise Resources confirmed the soil anomalies discovered by United Keno

## CAPSULE GEOLOGY

Hill Mines Ltd. Placer Dome optioned the property in 1989 and conducted mapping, geochemical sampling and geophysical surveys.

The region is at the eastern margin of the Coast Plutonic Complex adjacent to the Intermontane Belt. The Intermontane Belt is represented by strata of the Laberge and Stuhini groups. These link Mississippian and older Nisling Terrane units to the west with oceanic rocks of the Cache Creek Terrane.

Nisling Terrane rocks consist of Nisling Assemblage metamorphic rocks. Sedimentary and volcanic rocks of the Upper Triassic Stuhini Group are exposed on the margin of the Whitehorse Trough synclinorium. The center of the trough is dominated by Lower Jurassic Laberge Group greywackes, siltstones, shales and conglomerates.

The area is underlain by the Devonian to Permian and older Boundary Ranges Metamorphic Suite and Early Jurassic Hale Mountain granodiorite. Cretaceous or younger rhyolite, andesite and basalt dikes intrude the older units (Sloko Group?). The Llewellyn fault is 10 kilometres to the northeast.

Narrow discontinuous quartz veins are hosted in pelitic schists, gneisses and granodiorites. The veins are up to 1 metre wide in shear zones and up to 3 metres wide in the granodiorite. Sulphide content is highly variable, usually less than 1 per cent. The veins often pinch out into barren shear zones and several are en echelon. The veins strike from 020 to 166 degrees and dip 50 to 80 degrees west. The veins consist of massive white, locally vuggy quartz with massive to disseminated galena, pyrite, sphalerite and minor arsenopyrite and chalcopyrite. Weathered portions contain azurite, malachite and limonite. Particles of native gold have also been reported and the best samples are believed to be from vein 4.

Intermediate to felsic dikes are spatially related to mineralized quartz veins. The veins are mesothermal to epithermal in style. Chloritized alteration haloes and iron-staining occurs adjacent to the veins from 1 to 5 metres into the wallrock. Rhyolite-dacite dikes often have argillic alteration where adjacent to or cut by quartz veins.

The lowest vein (No. 1), at about 1175 metres elevation, outcrops in a gulch, strikes about 100 degrees and is 0.6 to 0.9 metres wide. Above the No. 1 vein, at about 1265 metres elevation, the No. 2 vein, 1.8 to 2.4 metres wide, strikes 107 degrees and is nearly vertical. The No. 3 vein, at 1286 metres elevation, is 0.6 to 0.9 metres wide and parallels the No. 2 vein. The No. 4 vein, 0.1 to 0.3 metres thick, occurs at 1465 metres elevation. At 1570 metres elevation, the No. 5 vein is 1.2 metres wide.

Veins 1 to 4 can be traced for several hundred feet with persistent strikes and widths. A number of old blast pits are located in the area of mineralization.

A grab sample from vein 2 assayed 4.11 grams per tonne gold, 53.83 grams per tonne silver, 11.77 per cent lead, 0.60 per cent zinc and 0.01 per cent copper (Assessment Report 8384). A 0.8 metre wide chip sample across vein 3 assayed trace gold, 237.6 grams per tonne silver, 0.26 per cent lead, 0.32 per cent zinc and 0.01 per cent copper (Assessment Report 8384). Samples taken of white quartz veins with bands and disseminations of galena and pyrite assayed up to 0.510 gram per tonne gold (343967) and 8 grams per tonne silver (343970) (Assessment Report 19827).

## BIBLIOGRAPHY

- EMPR AR 1918-93; \*1933-81,82
- EMPR ASS RPT \*8384, \*10945, 19827
- EMPR BULL 105
- EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR OF \*1990-4
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM \*37, pp. 94-96
- GSC OF 427; 2225 p. 42; 2694
- GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58
- Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/14

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104M 009**

NATIONAL MINERAL INVENTORY: 104M8 Au1

NAME(S): **WHITE MOOSE-NORTH (L. 1279)**, OCCURRENCE A, ICE 2,  
RICE, FEE, PANSY,  
ROSE, BUTTERCUP, CALDER,  
PRIMROSE, DAISY, MERRY,  
DAFFODIL

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:  
LATITUDE: 59 29 01 N  
LONGITUDE: 134 17 27 W  
ELEVATION: 670 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence A (Assessment Report 19827).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6594119  
EASTING: 540170

COMMODITIES: Copper                      Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite    Bornite            Galena            Sphalerite  
COMMENTS: Also possibly tetrahedrite.  
ASSOCIATED: Quartz  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I05    Polymetallic veins    Ag-Pb-Zn±Au  
DIMENSION:                      Metres                      STRIKE/DIP: 140/50N                      TREND/PLUNGE:  
COMMENTS: Attitude of the vein, 0.45 to 1.2 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Amphibolitic Gneiss  
Schist

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist  
Amphibolite  
COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE: VEIN                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1980  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      0.3400                      Grams per tonne  
Copper                      0.0900                      Per cent  
Lead                      0.1300                      Per cent  
Zinc                      0.0900                      Per cent  
COMMENTS: Vein 17 centimetres wide with 5 per cent sulphides. Also trace gold reported.  
REFERENCE: Assessment Report 8384.

**CAPSULE GEOLOGY**

The White Moose-North showing is located on the west shore of Taku Arm south of Buchan Creek. The area is underlain by amphibolitic gneiss and schist of the Devonian to Permian and older Boundary Ranges Metamorphic Suite. An adit on the lakeshore was driven on the White Moose North vein containing chalcopyrite, bornite, galena and minor sphalerite and malachite (and possibly tetrahedrite). The vein strikes 140 degrees and dips 40 to 60 degrees northeast. The massive, white, locally vuggy quartz vein is 0.45 to 1.2 metres wide. Blocks of

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**CAPSULE GEOLOGY**

quartz containing up to 8 per cent sulphides occur in the dump.

A mineralized vein up to 12 centimetres in width occurs above the workings.

South of the adit a vein, 17 centimetres wide with 5 per cent sulphides, assayed trace gold, 0.34 grams per tonne silver, 0.13 per cent lead, 0.09 per cent zinc and 0.09 per cent copper (Assessment Report 8384).

**BIBLIOGRAPHY**

EMPR AR 1901-985; 1904-81; 1918-93; \*1933-82  
EMPR ASS RPT \*8384, \*19827  
EMPR BULL 105  
EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; \*94A; 711; 218A; 1418A; 1426  
GSC MEM \*37, pp. 93,94  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/24

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 010**

NATIONAL MINERAL INVENTORY: 104M8 Au1

NAME(S): **WHITE MOOSE-SOUTH (L. 12)**, OCCURRENCE E, FEE,  
ICE 2

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:  
LATITUDE: 59 28 06 N  
LONGITUDE: 134 17 11 W  
ELEVATION: 720 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence E (Assessment Report 19827).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6592420  
EASTING: 540440

COMMODITIES: Silver                      Lead                      Copper

**MINERALS**

SIGNIFICANT: Galena              Chalcopyrite      Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal      Epigenetic  
TYPE: I05      Polymetallic veins      Ag-Pb-Zn±Au  
DIMENSION: 3                      Metres  
COMMENTS: The vein is 1.8 to 3 metres wide.

STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite
Lower Jurassic			Hale Mountain Granodiorite

LITHOLOGY: Pelitic Schist  
Granodiorite

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Stikine                      Nisling  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist  
Amphibolite

COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1980
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		53.1400	Grams per tonne
Copper		0.0100	Per cent
Lead		0.1300	Per cent

COMMENTS: Trace gold was reported with the assay.  
REFERENCE: Assessment Report 8384.

**CAPSULE GEOLOGY**

The White Moose-South showing is located on the west shore of Taku Arm, about 2.25 kilometres south of the mouth of Buchan Creek. Quartz veining occurs in pelitic schists of the Devonian to Permian Boundary Ranges Metamorphics near the contact with Early Jurassic Hale Mountain Granodiorite. Foliation in the schist strikes east-southeast and dips moderately south. The White Moose South vein is 1.8 to 3 metres wide and dips 50 to 70 degrees southwest. The vein contains disseminated galena and chalcopyrite. A collapsed adit and dump occur at the location of the showing. Quartz vein material from the dump contains disseminated pyrite and hostrock fragments with pyrite blebs up to 6 millimetres across. A sample of the latter assayed trace gold, 53.14 grams per tonne silver, 0.13 per cent lead and 0.01 per cent copper (Assessment Report 8384).

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**BIBLIOGRAPHY**

EMPR ASS RPT \*8384, \*19827  
EMPR BULL 105  
EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp.  
139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of  
104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MEM 37  
GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;  
91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/14

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 011**

NATIONAL MINERAL INVENTORY: 104M8 Ag2

NAME(S): **BEN-MY-CHREE**, BEN MCHREE, STEEP

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:

Underground

MINING DIVISION: Atlin

LATITUDE: 59 25 54 N  
LONGITUDE: 134 27 57 W  
ELEVATION: 1829 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

UTM ZONE: 08 (NAD 83)

NORTHING: 6588242  
EASTING: 530304

COMMODITIES: Silver Gold Copper Lead Zinc

**MINERALS**

SIGNIFICANT: Galena Chalcopyrite Pyrite  
ASSOCIATED: Quartz Calcite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Cretaceous Unnamed/Unknown Informal

LITHOLOGY: Diorite  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1985

COMMODITY	GRADE	
Silver	450.0000	Grams per tonne
Gold	11.0000	Grams per tonne
Copper	0.1400	Per cent
Lead	4.2500	Per cent
Zinc	0.0370	Per cent

REFERENCE: Fieldwork 1985, pages 184,187.

**CAPSULE GEOLOGY**

At Ben-My-Chree, Cretaceous foliated diorites host quartz and quartz-calcite veins. The veins contain up to 4 per cent chalcopyrite, galena and pyrite.

About 7 tonnes of ore, from which 93 grams of gold and 31,103 grams of silver were recovered, was shipped in 1911. A grab sample taken in 1985 with 4 per cent galena and pyrite assayed 11 grams per tonne gold, 450 grams per tonne silver, 0.14 per cent copper, 4.25 per cent lead and 0.037 per cent zinc (Fieldwork 1985, pages 184, 187).

**BIBLIOGRAPHY**

EMPR AR 1911-55,60,284; 1912-61; 1913-72; 1915-64  
EMPR ASS RPT \*9133  
EMPR BULL 105  
EMPR FIELDWORK \*1985, pp. 184,187; 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 542  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: TGS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 012**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHITE MOOSE-SHAFT (L. 3282)**, OCCURRENCE C, OCCURRENCE D,  
ICE 2, FEE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:  
LATITUDE: 59 28 44 N  
LONGITUDE: 134 17 20 W  
ELEVATION: 700 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence C, 600 metres south of the White Moose-North vein adit  
(104M 009), 180 metres north of the stream (Assessment Report 19827).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6593594  
EASTING: 540286

COMMODITIES: Gold Silver Lead Copper

**MINERALS**

SIGNIFICANT: Galena Pyrite Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite
Lower Jurassic			Hale Mountain Granodiorite

LITHOLOGY: Pelitic Schist  
Rhyolite Dike  
Granodiorite

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist Amphibolite

COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1980
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Silver		27.4300	Grams per tonne
Gold		2.0600	Grams per tonne
Copper		0.0100	Per cent
Lead		2.4500	Per cent

REFERENCE: Assessment Report 8384.

**CAPSULE GEOLOGY**

The White Moose-Shaft showing, located on the west side of Taku Arm, is 600 metres south of the White Moose-North adit (104M 009).

The area is underlain by the Devonian to Permian an older Boundary Ranges Metamorphic Suite cut by a northwest trending rhyolitic dike. The contact with the Early Jurassic Hale Mountain Granodiorite is just to south.

The showing comprises two shafts, 35 metres apart. A 40 centimetre wide quartz vein on the side of one of the shafts appears to follow the rhyolite-schist contact.

A 27 centimetre chip sample across the vein contained 5 to 10 per cent fine-grained galena, 4 per cent pyrite, and minor chalcopyrite and malachite. This sample assayed 2.06 grams per tonne gold, 27.43 grams per tonne silver, 2.45 per cent lead and 0.01 per cent copper (Assessment Report 8384).

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**CAPSULE GEOLOGY**

At Occurrence D, about 300 metres to the southeast, a 60 metre long trench and collapsed adit occur. No vein was exposed in outcrop but quartz float with minor malachite, pyrite, and galena was observed (Assessment Report 8384).

**BIBLIOGRAPHY**

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EMPR ASS RPT \*8384, \*19827  
EMPR BULL 105  
EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/24

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104M 013**

NATIONAL MINERAL INVENTORY: 104M9 Au3

NAME(S): **HAPPY SULLIVAN, CRACKERJACK (L. 3286), GOLD HILL (L. 3287),  
GOLD BULLION (L. 3288), HAPPY**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M09E  
BC MAP:  
LATITUDE: 59 30 44 N  
LONGITUDE: 134 13 06 W  
ELEVATION: 1125 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Trenches at boundary between Lots 3286 and 3287 (Assessment Report 7923).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6597351  
EASTING: 544239

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold Electrum Arsenopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation  
SHAPE: Tabular  
MODIFIER: Fractured Sheared  
DIMENSION: 3000 x 24 Metres  
COMMENTS: The veins are up to 0.9 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE Lower Jurassic      GROUP Laberge      FORMATION Undefined Formation      IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greywacke  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis      YEAR: 1933  
SAMPLE TYPE: Grab  
COMMODITY      GRADE  
Silver      226.2000      Grams per tonne  
Gold      323.6000      Grams per tonne

COMMENTS: Grab sample from the dump on the west side of the adit portal.

REFERENCE: Minister of Mines Annual Report 1933, page 81.

**CAPSULE GEOLOGY**

The area of the Happy Sullivan showing is underlain by north to northwest trending, moderately to steeply east dipping Lower Jurassic Laberge Group greywacke and argillite.

A north to northwest trending silicified shear zone, at least 24 metres wide and 3 kilometres long, occurs on the north side of Hope Creek and dips vertically to steeply west. The shear zone contains vuggy quartz veins up to 0.9 metres wide with up to 10 per cent disseminated arsenopyrite, pyrite, electrum and gold, commonly in dendritic habit.

A cross section of the metre and a half wide sub vertical vein is, from west to east: 1/2 metre pyritic greywacke is followed by colloidal to amorphous quartz with dendritic crystals of gold often coated in calcite; this is followed by 5 to 8 centimetre zone of quartz and adularia? with 5 per cent disseminated sulphides, primarily pyrite; next a relatively massive fractured quartz, and then a second quartz vein 90 centimetres wide with 5 to 10 per cent arsenopyrite. The eastern edge is sheared.

The mineralization has been explored by an upper and lower adit

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**CAPSULE GEOLOGY**

and several trenches. A grab sample from a quartz dump on the west side of the upper adit assayed 323.6 grams per tonne gold and 226.2 grams per tonne silver (Minister of Mines Annual Report 1933, page 81).

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EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR OF \*1990-4  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
GCNL #143,#201, 1977; #6,#180,#237, 1980; #80, 1981; #171, 1983; #180,#223,#234, 1984; #32,#85, 1985  
IPDM Nov/Dec 1984; Feb/Mar 1985  
N MINER Aug 7, 1975; May 21, 1981; May 13, 1982  
V STOCKWATCH Dec. 3, 1987

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/24

CODED BY: GSB  
REVISED BY: TGS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 014**

NATIONAL MINERAL INVENTORY: 104M8 Au2

NAME(S): **ENGINEER**, ENGINEER MINE, ENGINEER 1 (L. 19),  
NORTHERN PARTNERSHIP 1(L. 918), NORTHERN PARTNERSHIP 2(L. 20), NORTHERN PARTNERSHIP 4(L. 209),  
NORTHERN PARTNERSHIP 5(L. 972), MICKEY (L. 967), DAISY (L. 970),  
BOULDER, DOUBLE DECKER

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104M08E  
BC MAP:

Underground

MINING DIVISION: Atlin

LATITUDE: 59 29 14 N  
LONGITUDE: 134 14 06 W  
ELEVATION: 833 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6594556  
EASTING: 543328

LOCATION ACCURACY: Within 500M

COMMENTS: Two main vein systems have been mined; the Engineer and Double  
Decker veins.

COMMODITIES: Gold

Silver

Antimony

Tellurium

### MINERALS

SIGNIFICANT: Gold Berthierite Telluride Pyrite Chalcopyrite

Tetrahedrite

COMMENTS: Visible gold with minor metallic mineralization.

ASSOCIATED: Quartz Calcite

ALTERATION: Mariposite

MINERALIZATION AGE: Unknown

### DEPOSIT

CHARACTER: Vein Discordant

CLASSIFICATION: Epithermal Epigenetic

TYPE: H05 Epithermal Au-Ag: low sulphidation

SHAPE: Regular

COMMENTS: There are numerous veins in the deposit, less than 2 metres wide.

### HOST ROCK

DOMINANT HOSTROCK: Sedimentary

### STRATIGRAPHIC AGE

Lower Jurassic

### GROUP

Laberge

### FORMATION

Undefined Formation

### IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Bedded Greywacke  
Banded Siltstone  
Banded Shale

### GEOLOGICAL SETTING

TECTONIC BELT: Intermontane  
TERRANE: Inklin

PHYSIOGRAPHIC AREA: Teslin Plateau

### INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Indicated  
QUANTITY: 20000 Tonnes

YEAR: 1993

COMMODITY

Gold

GRADE

34.0000

Grams per tonne

COMMENTS: Estimated reserves.

REFERENCE: Information Circular 1994-1, page 19.

### CAPSULE GEOLOGY

The Engineer mine is located on the east side of Tagish Lake about 15 kilometres south of Graham Inlet and 30 kilometres west of Atlin. The property was discovered in 1899 and operated for 3 years. Underground work and production then took place from 1910 to 1918, from 1922 to 1928, during the summer only from 1929 to 1930, and hand mined from 1932 to 1934. Minor production (stockpile?) is recorded for 1944-1946, 1949 and 1952. Sporadic work occurred in 1948, 1952, 1962, 1982-1983 and in 1987 (by Total Erickson).

The mine is associated with several vertical, northeast-southwest striking quartz-calcite veins hosted in well bedded sediments of the Lower Jurassic Laberge Group. Shale, siltstone, and greywacke show excellent graded bedding, load casts, flame structures and contain rare ammonites and other fossil debris. Regional bedding strikes northwest-southeast and dips moderately northeast. Isoclinal folds are orientated northwest-southeast parallel to the main shear zones which run through the property. The veins are perpendicular to these structures and discordant to bedding. A second phase of

## CAPSULE GEOLOGY

buckling occurred perpendicular to the first phase. "Quartz hubs" or zones of massive bull quartz occur where the ore-producing veins intersect the shear zones, although these "hubs" are barren.

The Engineer mine quartz veins are narrow, less than 2 metres wide, but have consistent orientations. Ore grades however, are very sporadic ranging from trace to 50 grams per tonne gold. Native gold is the main metallic mineral and occurs in pockets. Minor pyrite, tetrahedrite, chalcopyrite, mariposite, antimony, berthierite, and tellurides are also reported. Veins are very vuggy with many open space textures which exhibit very "clean" contacts with the host rock and commonly graphitic banding. The Double Decker and Engineer veins lie to the southwest of the shear zone and the Boulder vein lies to the northeast. The Engineer and Double Decker veins have been most extensively developed.

The Engineer Mine is considered to be a transitional epi-meso thermal deposit (Bulletin 105, pages 168-167). Features that support this transitional classification include a lower than usual silver/gold

ration (.5 to 1- typical of mesothermal values) combined with depositional features indicative of open space filling and episodic filling and other shallow features. The ore grade vein material shows vuggy and drusy mmm long quartz crystals ranging from green to blue to brown, and abundant cockscomb and colloform textures in successive layers

quartz and calcite coating country rock fragments and vein material.

Estimated reserves at the Engineer mine are 20,000 tonnes grading 34 grams per tonne gold (Information Circular 1994-1, page 19).

Ampex Mining, under an agreement with Winslow Gold Corporation, mined and milled approximately 345 tonnes of vein material from stopes on the Engineer and Double Decker veins during a bulk sampling program. Ampex installed tracks and mobilized equipment to improve mining efficiency. A further program of exploration, limited milling of material from near-surface veins and preparation for dewatering the lower levels on the Engineer vein is planned. The company hopes to bring the 27,500 to 45,300 tonnes of indicated reserves into the proven reserves category (Information Circular 1995-9, page 17).

In 1995, Ampex Mining carried out a program of test milling and underground rehabilitation and sampling with support from the Explore B.C. Program with a view of upgrading indicated reserves to the proven reserves category. Results of this program were not conclusive but encouraging and further sampling and dewatering of lower levels is planned (Explore B.C. Program 95/96 - M30).

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512; 1915-64; 1916-46,438; 1917-80; \*1918-90; 1919-91; 1922-91;  
1923-90; 1924-77; \*1925-113,355; 1926-106; 1927-112,480; 1928-123;  
1929-120,505; 1930-132; 1932-65; \*1933-73; 1934-B35; 1944-40;  
1945-43,61; 1946-60; 1948-60; 1952-39  
EMPR ASS RPT 7923, \*9049, 10511, 17253  
EMPR BULL 1, p. 24; \*3, p.8; 105  
EMPR EXPL \*1987-A12,A42,B83-87  
EMPR Explore B.C. Program 95/96 - M30  
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EMPR OF \*1990-4; 1994-1  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Claim map  
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EMR MP CORPFILE (Engineer Gold Mines)  
EMR MIN BR OTTAWA RPT. 763, Invest. 609  
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GSC MAP 19-1957; 94A; 218A; 711; 1418A; 1426  
GSC MEM \*37, pp. 74-89  
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GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;  
91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58; 1930A, p. 11  
CMJ Oct. 15, 1916, p. 489  
GCNL Mar.1, June 24, July 8, 1975; #166, #242, 1980; #5, 1982

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 549  
REPORT: RGEN0100

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WWW [http://www.infomine.com/index/properties/ENGINEER\\_MINE.html](http://www.infomine.com/index/properties/ENGINEER_MINE.html)  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/30

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 015**

NATIONAL MINERAL INVENTORY: 104M8 Au3

NAME(S): **KIRKLAND**, KIRTLAND, JERSEY LILY,  
ENGINEER

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 28 44 N  
LONGITUDE: 134 14 26 W  
ELEVATION: Metres

NORTHING: 6593624  
EASTING: 543024

LOCATION ACCURACY: Within 500M

COMMENTS: Jersey Lily trenches (Property File - Morgan, 1982 page 15).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation  
DIMENSION: 425 x 1 Metres  
COMMENTS: The Jersey Lily vein is about 60 centimetres wide.

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP  
Lower Jurassic      Laberge

FORMATION  
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greywacke  
Shale  
Argillite  
Rhyolite  
Trachyte  
Volcanic Breccia  
Andesitic Dike  
Feldspar Porphyry

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Kirkland showing, as part of the Engineer gold camp, is located on the east side of Taku Arm about 10 kilometres east of the eastern edge of the Coast Plutonic Complex.

In the area, Lower Jurassic Laberge Group greywackes, shales and argillites are folded into a syncline with a northwest trending fold axis. Sediments on the west limb strike about 120 degrees and dip 30 to 40 degrees northeast. Small granodiorite plugs outcrop west of Engineer Mountain and south of Bee Peak. To the east of the plug on Engineer Mountain a subcircular volcanic cap or neck, about 4 kilometres across, is preserved predominantly as a down-dropped block. The volcanic cap or neck comprises Cretaceous or later rhyolites, trachytes, and volcanic breccias (probably equivalent to the Sloko Group). Feldspar porphyry, trachyte, and andesite dikes can be seen in underground workings and are reportedly offset by veins.

Veins belonging to the Kirkland occurrence represent the southerly extension of the Engineer vein system. Two shafts and several trenches have explored these veins. The main vein, the Jersey Lily, is about 60 centimetres wide and has an indicated length of 425 metres. It has been exposed in trenches for 75 metres, and consists of vuggy comb-structured quartz. Only a small amount of gold was found.

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EMPR BULL 105

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EMPR PF (In 104M General File - Claim map of 104M, 1970 and Claim map  
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Potential; In Abstracts: Smithers Exploration Group Workshop,  
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GSC MAP 19-1957; \*93A; 94A; 711; 1418A; 1426  
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GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;  
91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58; 1930A, p. 13  
GCNL Mar 1, June 24, July 8, 1975; #41, 1976; #139, #166, #206, #242  
1980; #5, #62, 1982  
N MINER July 24, 1975 (p. 22); Jan 7, 1982

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 016**

NATIONAL MINERAL INVENTORY: 104M8 Au4

NAME(S): **GLEANER**, TAKU CHIEF (L. 240), MICKEY (L. 967),  
MYOSOTTIS (L. 239), LAKEVIEW (L. 241), LUMSDEN,  
ENGINEER

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08E

UTM ZONE: 08 (NAD 83)

BC MAP:  
LATITUDE: 59 28 54 N  
LONGITUDE: 134 13 56 W  
ELEVATION: 825 Metres

NORTHING: 6593939  
EASTING: 543492

LOCATION ACCURACY: Within 500M  
COMMENTS: Gleaner adit (Property File - Morgan, 1982 page 15).

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation  
DIMENSION: 1 Metres  
COMMENTS: The veins are up to 1.2 metres wide.

STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP      FORMATION      IGNEOUS/METAMORPHIC/OTHER  
Lower Jurassic      Laberge      Undefined Formation

LITHOLOGY: Shale  
Greywacke  
Argillite  
Slate  
Feldspar Porphyry Dike  
Trachyte Dike  
Andesite Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Gold

YEAR: 1991

GRADE: 1.2300 Grams per tonne

COMMENTS: Sample from the Mickey vein.  
REFERENCE: Assessment Report 22075.

**CAPSULE GEOLOGY**

The Gleaner veins are located on the north and south sides of Butler Creek 30 kilometres west of Atlin. The property surrounds the Engineer mine (104M 014), and the veins are about 0.5 kilometres northeast of the main Engineer veins and workings.

Mr. Lumsden has been prospecting these claims since 1971. In 1991, trenching at the Gleaner adit and on the Mickey vein and rock sampling was done by J.W. Mcleod.

The Engineer gold camp is on the east side of Taku Arm about 10 kilometres east of the eastern edge of the Cretaceous to Tertiary Coast Plutonic Complex. Lower Jurassic Laberge Group greywacke, shale, slate and argillites is folded into a syncline with a northwest trending fold axis, and host the vein systems.

Small granodiorite plugs outcrop west of Engineer Mountain and south of Bee Peak. To the east of the plug on Engineer Mountain a subcircular volcanic cap or neck, about 4 kilometres across, comprises Cretaceous or later Hutshi Group rhyolites, trachytes and



## CAPSULE GEOLOGY

volcanic breccias. Feldspar porphyry, trachyte, and andesite dikes occur in the vicinity of the veins and are locally offset by them.

The Gleaner showing comprises the Mickey vein (on the Mickey claim) the Gleaner adit (on the Taku Chief claim) and the Myosotis adit (on the Myosotis claim).

The Gleaner veins, situated on the northeast side of a major northwest trending shear zone, strike north-south and dip to the west. They have been explored by several open cuts and the 210 metre long Gleaner cross-cut tunnel.

Veins range up to 1.2 metres in width, and consist of sets of quartz stringers cutting sediments, brecciated wall rock fragments cemented by quartz, and massive quartz veins. Mineralization consists of pyrite and native gold. Gold occurs as fine disseminations, thin leaves and flakes in small pockets.

In 1991, grab samples assayed up to 1.275 grams per tonne gold (Assessment Report 22075). A sample from the Mickey vein assayed 1.23 grams per tonne gold (Assessment Report 22075, sample 5008).

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EMPR PF (In 104M General File - Claim map of 104M, 1970 and Claim map  
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Windarra Minerals Ltd. surrounding the "Engineer" gold mine; in  
104M General File - Mihalynuk, M.G., et al (1988): A Closer Look  
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Potential; In Abstracts: Smithers Exploration Group Workshop,  
October 1988)  
EMPR RGS 37, 1993  
EMR MP CORPFILE (Gleaner Mining and Milling Co. Ltd.)  
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91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
GCNL #139,#206, 1980; #62,#138, 1982; #142,1983  
N MINER Apr 8, 1982

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/22

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 017**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANYOX-RODEO (L.4657.4670)**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 26 19 N  
LONGITUDE: 134 13 51 W  
ELEVATION: Metres

NORTHING: 6589145  
EASTING: 543626

LOCATION ACCURACY: Within 1 KM

COMMENTS: Workings above dam (Assessment Report 1628).

COMMODITIES: Copper                      Nickel                      Cobalt

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown  
TYPE: M01 Flood Basalt-Associated Ni-Cu

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Lower Jurassic              Laberge                      Undefined Formation

LITHOLOGY: Chloritic Schist

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inklin  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Teslin Plateau

RELATIONSHIP:                      GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1990
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Cobalt	0.1200 Per cent
Copper	0.1500 Per cent
Nickel	0.6000 Per cent

COMMENTS: Sample KM089-26-3.  
REFERENCE: Open File 1990-4.

**CAPSULE GEOLOGY**

A copper-nickel occurrence, called the Anyox-Rodeo, is shown on Geological Survey of Canada Map 19-1957. This may correlate with an adit and pit beside a dam on Wann River and a second adit upstream, shown on a map in Assessment Report 1628. No description is available.

The area is underlain by chloritic schist of the Lower Jurassic Laberge Group.

In Bulletin 105 it is described as a copper-nickel-platinum-palladium massive sulphide lens hosted within Boundary ranges chlorite-actinolite schist near its contact with Upper Triassic Stuhini Volcanics. Fractured actinolite porphyroblasts up to 3 centimetres are accompanied by interstitial or fracture filling pentlandite, pyrrhotite, chalcopyrite and pyrite. Precious metal values seem erratic and not reproducible. The deposit may be an example of "basaltic copper (M01) or marine volcanic association (G04/06).

A sample taken by the B.C. Geological Survey assayed 0.15 per cent copper, 0.60 per cent nickel and 0.12 per cent cobalt (Personal Communication - Mihalynuk, M., Jan. 1990).

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EMPR BULL 105  
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EMPR OF \*1990-4

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 555  
REPORT: RGEN0100

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EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: SED

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 018**

NATIONAL MINERAL INVENTORY: 104M8 Cu3

NAME(S): **EDGAR LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 23 29 N  
LONGITUDE: 134 10 17 W  
ELEVATION: Metres

NORTHING: 6583928  
EASTING: 547063

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Showing (Geological Survey of Canada Map 19-1957).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Copper      Chalcopyrite      Bornite  
ASSOCIATED: Quartz      Calcite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein      Disseminated  
CLASSIFICATION: Epigenetic      Hydrothermal  
TYPE: M01      Flood Basalt-Associated Ni-Cu

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Lapilli Tuff  
Basalt  
Tuff

HOSTROCK COMMENTS: Most probably Upper Triassic Sinwa equivalent.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

Upper Triassic Stuhini Group basalts and basaltic tuffs underlie the west side of Edgar Lake. Native copper is reported to occur in a showing similar to the Copper Island (104M 020). Quartz and calcite veins with chalcopyrite and bornite are reported to occur as well.

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EMPR BULL 105  
EMPR FIELDWORK 1985, p. 184, Fig. 26-1; 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 019**

NATIONAL MINERAL INVENTORY: 104M8 Ag3

NAME(S): **NELSON LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 18 59 N  
LONGITUDE: 134 11 27 W  
ELEVATION: Metres

NORTHING: 6575563  
EASTING: 546061

LOCATION ACCURACY: Within 1 KM

COMMENTS: Geological Survey of Canada Map 19-1957.

COMMODITIES: Silver Gold Copper Lead

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Pelitic Schist  
Marble

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP: GRADE: Amphibolite

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1990
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		198.0000	Grams per tonne
Gold		4.6000	Grams per tonne
Copper		1.2500	Per cent
Lead		3.9000	Per cent

COMMENTS: Sample MMI89-62-1.  
REFERENCE: Open File 1990-4.

**CAPSULE GEOLOGY**

On the western shore of Nelson Lake a silver-lead occurrence is shown on Geological Survey of Canada Map 19-1957.

The area is underlain by metamorphic rocks of the Devonian to Permian and older Boundary Ranges Metamorphic Suite. Highly deformed pelitic schists and marbles host sulphide-rich veins.

A grab sample assayed 4.6 grams per tonne gold, 198 grams per tonne silver, 3.9 per cent lead and 1.25 per cent copper (Personal Communication - Mihalynuk, M.G., Jan. 1990).

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1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;  
91-01A pp. 147-153; 92-01A

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*GEOLOGICAL SURVEY BRANCH*  
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PAGE: 558  
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GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1990/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 020**

NATIONAL MINERAL INVENTORY: 104M8 Cu1

NAME(S): **COPPER ISLAND**, NOEL

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 17 09 N  
LONGITUDE: 134 02 02 W  
ELEVATION: Metres

NORTHING: 6572279  
EASTING: 555043

LOCATION ACCURACY: Within 500M

COMMENTS: Adit (Geological Survey of Canada Map 19-1957).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Copper          Cuprite          Tenorite  
ASSOCIATED: Calcite  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                                  Disseminated                  Massive  
CLASSIFICATION: Epigenetic                  Hydrothermal  
TYPE: M01      Flood Basalt-Associated Ni-Cu

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic

**GROUP**

Stuhini

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Basalt  
Tuff

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

Upper Triassic Stuhini Group red and green olivine basalts and basaltic tuffs occur on the southwest corner of Copper Island, Atlin Lake.

Native copper, malachite and rare cuprite and tenorite occur in a number of calcite veins up to 15 centimetres thick and as disseminations in basalt. Masses of native copper, up to 18 kilograms, have been reported.

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EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
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GSC MEM \*37, pp. 114-116  
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GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1910, p. 54; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 021**

NATIONAL MINERAL INVENTORY: 104M1 Au1

NAME(S): **CALLAGHAN**, CALLAHAN, FAY,  
DO, CABIN FR., ARA,  
NA 4866, NA 4868

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6568182  
EASTING: 549557

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M01E  
BC MAP:  
LATITUDE: 59 14 59 N  
LONGITUDE: 134 07 52 W  
ELEVATION: Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS: Adit (Geological Survey of Canada Map 19-1957).

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation  
DIMENSION: 2 Metres  
COMMENTS: Veins are up to 1.8 metres wide.

STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Cretaceous			

LITHOLOGY: Schistose Rock  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
Plutonic Rocks  
RELATIONSHIP:  
PHYSIOGRAPHIC AREA: Boundary Ranges  
GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1918  
SAMPLE TYPE: Rock  
COMMODITY GRADE  
Silver 239.9600 Grams per tonne  
Gold 54.1700 Grams per tonne

REFERENCE: Minister of Mines Annual Report 1918, page 94.

**CAPSULE GEOLOGY**

The Callaghan showing is located on the south shore of Willison Bay at the south end of Atlin Lake.

The claims, extending to the Laverdiere prospect (104M 022), were held by Mrs. Callaghan in 1918 when open cutting was reported. The Callaghan vein (104M 021) was discovered in 1910. The Molly (104M 029, 051) showings were discovered in the late 1950s to the southwest of the Callaghan. Cominco Ltd. staked the Molly showings in the early 1970s and conducted diamond drilling mapping, geochemical and geophysical surveys. In 1989, prospecting, geochemical surveys and sampling were completed. In 1990, prospecting and sampling was conducted on the Ara property, which covers the Callaghan showing, by Equity Silver Mines.

The area of the showing, west of Hoboe Creek, is underlain by schistose rocks of the Upper Triassic Stuhini Group, which are intruded to the west by Cretaceous granodiorite.

Two lenticular quartz veins, up to 1.8 metres thick but generally less than 10 centimetres, occur in greenish schistose rocks. Pyrite and native gold have been reported. A selected sample assayed 54.17 grams per tonne gold and 239.96 grams per tonne silver (Minister of Mines Annual Report 1918, page 94).



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**BIBLIOGRAPHY**

EMPR AR \*1918-94  
EMPR ASS RPT 20134  
EMPR BULL 105  
EMPR FIELDWORK 1990, pp. 139-144, 153-159  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 218A; 711; 1418A; 1426  
GSC MEM \*37, p. 121  
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92-01A  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 022**

NATIONAL MINERAL INVENTORY: 104M1 Cu1

NAME(S): **LAVERDIERE, BUTTE (L.304), HELENA (L.306),  
FRENCH (L.246), HOLY CROSS (L.245), ALVINE (L.247),  
BROUGHTON, GREAT FALLS (L.305), LOON**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M01E  
BC MAP:  
LATITUDE: 59 13 24 N  
LONGITUDE: 134 07 17 W  
ELEVATION: Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: French adit (Assessment Report 9162, map).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6565251  
EASTING: 550150

COMMODITIES: Copper Cobalt Silver Iron Gold Magnetite Molybdenum Tungsten

**MINERALS**

SIGNIFICANT: Chalcopyrite Bornite Tetrahedrite Molybdenite Magnetite  
Pyrrhotite Pyrite Scheelite Cobaltite  
ASSOCIATED: Serpentine Chlorite Epidote Tremolite Specularite  
ALTERATION: Serpentine Chlorite Epidote Tremolite Malachite  
Erythrite  
ALTERATION TYPE: Skarn Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn Replacement Hydrothermal Industrial Min.  
TYPE: K01 Cu skarn

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Cretaceous			

LITHOLOGY: Dolomitic Limestone  
Calcareous Siltstone  
Schist  
Skarn  
Quartzite  
Biotite Hornblende Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
Plutonic Rocks  
RELATIONSHIP: Pre-mineralization  
GRADE: Hornfels Amphibolite

COMMENTS: Both pre- and syn-mineralization.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1969  
SAMPLE TYPE: Drill Core  
COMMODITY GRADE  
Silver 10.2900 Grams per tonne  
Gold 0.6900 Grams per tonne  
Copper 2.8500 Per cent

COMMENTS: The sample width is 3.05 metres.  
REFERENCE: Property File - White, W.H., 1969.

**CAPSULE GEOLOGY**

The Laverdiere prospect is located along the west side of Hoboe Creek south of Willison Bay (Atlin Lake).

Claims were staked on Hoboe Creek in 1899 by the Laverdiere brothers. The Holy Cross, French and Alvine claims (lots 245-247) were crown-granted to them in 1903. The Butte, Great Falls and Helena claims (lots 304-306) were crown-granted in 1903 to John Caplice. The Laverdiere brothers carried out intermittent exploration work until about 1918 when the property was abandoned. There are 4 tunnels, a drift and an open cut on the property.

Bethlehem Copper purchased 8 claims in 1956, reportedly over the

## CAPSULE GEOLOGY

Laverdiere Group. In 1964, Cominco optioned the property and carried out magnetometer and geological surveys and 154 metres of diamond drilling in 5 holes. In 1969, Centex Mines optioned lots 304-306 and drilled 32.6 metres in 2 holes. The property was taken over by Hobo Creek Coppermines in 1970. In 1971, Hobo Creek drilled 5 holes to test the area south of the French adit. In 1973, the property including the Loon claims was assigned to Rio Plata Silver Mines Ltd. This company drilled 57 metres in 5 holes on the Loon 71, 79, 80 and 100 claims and flew an airborne magnetometer survey over all the claims in 1973-74. The French adit was sampled by Pacific Sentinel in 1989 during prospecting on their surrounding Willison Bay property (Assessment Report 19887). In 1990, prospecting and sampling was conducted on the Ara property, which may cover this prospect, by Equity Silver Mines.

At the Laverdiere prospect, Upper Triassic Stuhini Group dolomitic limestone and underlying thin-bedded calcareous siltstone, quartzite and schist dip moderately west along the western edge of Hoboe Creek valley. These are intruded by Cretaceous biotite-hornblende granodiorite in higher bluffs west of the valley wall.

A series of semi-conformable skarn deposits occupy a horizon in dolomitic limestone near the siltstone contact, and are explored by several adits. Mineralization consists mainly of magnetite or magnetite-serpentine (chlorite, epidote, tremolite) skarn with disseminated to massive chalcopyrite. Three separate mineralized sections total over 265 metres in length, with widths of 3 to 12 metres, reaching a maximum of 55 metres. In addition to magnetite and chalcopyrite, specularite, tetrahedrite, pyrite, pyrrhotite, molybdenite, scheelite, cobaltite, erythrite, bornite and malachite have been reported in skarn, with molybdenite and scheelite occurring locally in fractured zones in the intrusives.

A 3.05-metre drill core sample assayed 2.85 per cent copper, 10.29 grams per tonne silver, and 0.69 grams per tonne gold (Property File - White, W.H. 1969). Molybdenum, tungsten, cobalt and iron are also noted. A 30 centimetre sample taken in 1989 assayed 0.46 grams per tonne gold, 18.7 grams per tonne silver and 4.05 per cent copper (Assessment Report 19887).

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- EMPR BULL 105
- EMPR FIELDWORK 1990, pp. 139-144, 153-159
- EMPR GEM 1974-350
- EMPR OF 1988-28, p. 103; 1991-17
- EMPR PF (In 104M General File - Claim map of 104M, 1970; \*White, W.H. (1969): Geology and economic prospects of the Laverdiere property)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 218A; 711; 1418A; 1426
- GSC MEM 37, pp. 117-121
- GSC OF 427, 2225 p. 42
- GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 91-01A pp. 147-153; 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58; \*1910, pp. 50,55,56

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/24

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 023**

NATIONAL MINERAL INVENTORY: 104M9 Au4

NAME(S): **GRAHAM CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 39 29 N  
LONGITUDE: 134 02 11 W  
ELEVATION: Metres

NORTHING: 6613725  
EASTING: 554300

LOCATION ACCURACY: Within 1 KM

COMMENTS: Probably occurs over greater than 1 kilometre of stream bed  
(Geological Survey of Canada Map 19-1957).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Placer  
TYPE: C01 Surficial placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

A large number of placer claims were staked on Graham Creek, 12.8 kilometres east of Taku Arm, in 1900.

The discovery claim was the only one which produced adequate returns and work continued on this claim into 1902. The other claims were soon abandoned and lapsed. In 1903, a small syndicate acquired a number of leases on the creek but were unable to finance the initial cost of a larger scale operation. Prospecting was carried out on the creek during the period 1905 to 1921.

This placer gold occurrence is the westernmost known placer of the Atlin Camp, probably derived from a nearby lode source (Personal Communication: Ballantyne, B., Geological Survey of Canada, Ottawa, 1988).

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EMPR FIELDWORK 1989, pp. 181-196; 1990, pp. 139-144, 153-159  
EMPR OF 1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 024**

NATIONAL MINERAL INVENTORY: 104M9 Au5

NAME(S): **RED RUPERT**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 30 39 N  
LONGITUDE: 134 29 07 W  
ELEVATION: 1110 Metres

NORTHING: 6597049  
EASTING: 529133

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location from description, longitude discrepancy between sheet 104M Skagway and 104M09 Fantail Lake (Minister of Mines Annual Report 1933). Attempt to locate in 1988 was unsuccessful.

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Unknown  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation I05 Polymetallic veins Ag-Pb-Zn±Au  
COMMENTS: The vein is 30 to 60 centimetres wide and dips 45 degrees west.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Schist  
Gneiss

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist  
Amphibolite

COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE: VEIN REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1933  
SAMPLE TYPE: Channel  
COMMODITY GRADE  
Silver 13.7200 Grams per tonne  
Gold 34.3000 Grams per tonne

COMMENTS: The sample represents a composite of two channel samples across a 30 centimetre vein.

REFERENCE: Minister of Mines Annual Report 1933, page 80.

**CAPSULE GEOLOGY**

At the Red Rupert showing a quartz vein about 0.3 to 0.6 metres wide dips 45 degrees south. The vein is hosted in schist and gneiss of the Devonian to Permian and older Boundary Ranges Metamorphic Suite.

Three channel samples, across 0.3 to 0.6 metre vein widths, assayed 10.3 to 34.3 grams per tonne gold and 3.4 to 13.7 grams per tonne silver (Minister of Mines Annual Report 1933, page 80).

**BIBLIOGRAPHY**

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EMPR BULL 105  
EMPR FIELDWORK 1988, pp. 293-310; 1990, pp. 139-144, 153-159  
EMPR OF 1989-13  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
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**BIBLIOGRAPHY**

GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 025**

NATIONAL MINERAL INVENTORY: 104M8 Au5

NAME(S): **SWEEPSTAKE**, SWEEPSTAKE 1-3 (L. 3283-3285), SWEEPSTAKE 4-6 (L. 4672-4674),  
**GOLDEN HOPE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09E  
BC MAP:  
LATITUDE: 59 29 59 N  
LONGITUDE: 134 13 56 W  
ELEVATION: Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6595949  
EASTING: 543469

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation  
DIMENSION: 15 x 8 Metres  
COMMENTS: The vein strikes 160 degrees and dips west.

105 Polymetallic veins Ag-Pb-Zn±Au  
STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Undefined Formation	

LITHOLOGY: Slate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Sweepstake vein is exposed by open cuts at intervals of 15 metres, from 925 to 1050 metres elevation on the east side of Taku Arm, north of the Engineer workings and south of Hope Creek.

The vein, up to 7.6 metres wide, strikes 160 degrees and dips west. The vein cuts Lower Jurassic Laberge Group slates. At 1050 metres elevation an adit is driven on a cross-vein, 0.3 metres wide, which strikes 055 degrees. Free gold is reported from both veins.

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EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR OF \*1990-4  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 218A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 026**

NATIONAL MINERAL INVENTORY: 104M8 Cu2

NAME(S): **BROWN, HARLEY #2, BROWNIE (L.4652-4653),  
 JACKPINE (L.4360), WANN FRACTION (L.4655)**

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104M08E  
 BC MAP:  
 LATITUDE: 59 26 54 N  
 LONGITUDE: 134 14 57 W  
 ELEVATION: 670 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS: Location from survey by B.C. Geological Survey Branch 1989.

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6590216  
 EASTING: 542574

COMMODITIES: Silver Gold Copper Lead Zinc  
 Molybdenum

**MINERALS**

SIGNIFICANT: Tetrahedrite Chalcopyrite Pyrite Molybdenite Galena  
 Sphalerite  
 ASSOCIATED: Quartz Carbonate  
 ALTERATION: Malachite Azurite Clay  
 ALTERATION TYPE: Oxidation Argillic  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Shear  
 CLASSIFICATION: Hydrothermal Epigenetic  
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
 SHAPE: Tabular  
 MODIFIER: Fractured  
 DIMENSION: 70 x 10 Metres STRIKE/DIP: 101/74 TREND/PLUNGE:  
 COMMENTS: Attitude of foliation and concordant veins. Anastomosing veins are up to 35 centimetres thick and occur over more than 70 metres.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	

DATING METHOD: Fossil  
 MATERIAL DATED: Conodonts and microfossils

Paleozoic  
 Upper Triassic  
 Boundary Ranges Metamor. Suite  
 Unnamed/Unknown Informal

ISOTOPIC AGE: 212 to 220 Ma  
 DATING METHOD: Uranium/Lead  
 MATERIAL DATED: Zircon

LITHOLOGY: Chlorite Actinolite Schist  
 Volcaniclastic  
 Carbonate  
 Hornblende Granodiorite

HOSTROCK COMMENTS: The Llewellyn fault zone, containing blocks of carbonate, volcanics, and metasedimentary and metaintrusive lenses, hosts mineralized veins.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
 TERRANE: Stikine  
 METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist Amphibolite

COMMENTS: At contact between Intermontane and Coast Crystalline belts.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
 YEAR: 1989  
 CATEGORY: Assay/analysis  
 SAMPLE TYPE: Grab  

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	347.0000	Grams per tonne
Gold	17.9000	Grams per tonne
Copper	0.5600	Per cent
Lead	2.6200	Per cent
Zinc	1.0000	Per cent

 COMMENTS: Sample MMI89-59-2A.  
 REFERENCE: Fieldwork 1989.



## CAPSULE GEOLOGY

The Brown vein is located about 0.6 kilometres up the Wann River above Taku Arm.

The area is underlain by the Upper Triassic Stuhini Group and the Devonian to Permian and older Boundary Ranges Metamorphic Suite which are intruded by Late Triassic hornblende granodiorite. The Llewellyn fault zone hosts mineralized synkinematic quartz veins.

A 10 metre adit has been driven along a zone containing quartz veins and stringers. The veins form an anastomosing network subparallel to the foliation of the country rocks. Individual veins range in thickness from less than 1 centimetre up to 35 centimetres, splitting and rejoining along their length.

Mineralization consists of tetrahedrite, chalcopyrite, malachite, azurite, molybdenite, pyrite, sphalerite and galena. On the surface, mineralized veins, up to 60 centimetres wide (mainly 1-15 centimetres), occur over a distance of 70 metres perpendicular to the fabric of the zone. These veins have been variably disrupted by brittle faulting suggesting syn-kinematic origins. Of the few well exposed veins, two main orientations were observed: 070/85, 101/74. Country rocks include a variety of lithologies admixed within the Llewellyn fault zone.

Some identifiable but strongly sheared rocks include: chlorite-actinolite schists of the Devonian to Permian Boundary Ranges Metamorphics; Upper Triassic Stuhini Group volcanoclastics, Norian carbonate (Sinwa Formation) and a coarse grained Late Triassic(?) granodiorite intrusive. Most rocks within the 20 by 10 metre exposure are bleached, highly pyritic (up to 5 per cent), cut by quartz and carbonate stringers and clay altered.

The highest grades come from material along the northern hangingwall of the 2.5 metre vein/shear system exposed by the adit. A chip sample, also from vein material, assayed 8.6 grams per tonne gold and 315.38 grams per tonne silver (Mihalynuk, M.G. Personal Communication, Sept. 1989). Grab sample MMI89-59-2A assayed 347 grams per tonne silver, 17.9 grams per tonne gold, 2.62 per cent lead, 0.56 per cent copper, and 1.0 per cent zinc (Fieldwork 1989).

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- EMPR OF \*1990-4
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37
- GSC OF 427; 2225 p. 42; 2694
- GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1989/09/03

CODED BY: GSB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 027**

NATIONAL MINERAL INVENTORY: 104M15 Ag1

NAME(S): **JESSIE** GREAT NORTHERN, TUTS,  
TUT 6

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:  
LATITUDE: 59 48 23 N  
LONGITUDE: 134 46 35 W  
ELEVATION: 1220 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS: Fieldwork 1985, Figure 26-1.

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6629871  
EASTING: 512545

COMMODITIES: Silver Gold Copper Lead Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrrhotite Galena Sphalerite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite
Upper Cretaceous			Coast Plutonic Complex

LITHOLOGY: Chlorite Schist  
Amphibole Gneiss  
Andesite  
Granite

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges  
Plutonic Rocks  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1929
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		809.1400	Grams per tonne
Gold		5.1400	Grams per tonne
Copper		4.9000	Per cent

COMMENTS: Average assay of ore shoots in the zone.  
REFERENCE: Minister of Mines Annual Report 1929, page 120.

**CAPSULE GEOLOGY**

The Jessie showing is located 40 kilometres south of Carcross at the southeast end of Tutshi Lake.

The Jessie showing was originally staked as the Great Northern Group in 1906. Exploration included hand and blast trenching which was reported in 1929. The Tut claims were staked in 1986 and 1987 by Noranda to cover a large alteration zone and the source areas for gold bearing float. The claims cover the Jessie, Great Northern and Big Thing (104M 071) showings. A 1987 geophysical program identified an anomaly on the Tut 7 and 8 claims that appears to be on strike with the Moon Lake showing (104M 057) to the southwest. The anomaly was tested by diamond drilling in 1988 but the results were negative.

The area is underlain by the Devonian to Permian and older Boundary Ranges Metamorphic Suite, the Upper Triassic Stuhini Group volcaniclastics and limestone and the Lower Jurassic Laberge Group sediments. These have been intruded by Late Cretaceous granitic rocks of the Coast Plutonic Complex.

A shear zone 1.8 metres in width occurs in andesite of the Devonian to Permian Boundary Ranges Metamorphics near the eastern edge of Late Cretaceous Coast Plutonic Complex intrusives. The shear

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**CAPSULE GEOLOGY**

zone strikes northeast and dips 65 degrees north.  
Mineralization consists of chalcopyrite and pyrrhotite with some galena and minor sphalerite. An average assay for "ore shoots" in the zone is reported to be 5.14 grams per tonne gold, 809.14 grams per tonne silver and 4.9 per cent copper (Minister of Mines Annual Report 1929, page 120).

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EMPR PF (In 104M General File - Claim map of 104M, 1970)  
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GSC MEM 37  
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GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 028**

NATIONAL MINERAL INVENTORY: 104M15 Au1

NAME(S): **BALD PEAK**, GAUG-SOUTH, PAVEY 3

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 55 34 N  
LONGITUDE: 134 54 00 W  
ELEVATION: 1295 Metres

NORTHING: 6643187  
EASTING: 505590

LOCATION ACCURACY: Within 500M

COMMENTS: Adit (Assessment Report 11044, Geology map).

COMMODITIES: Gold Silver Lead Antimony

**MINERALS**

SIGNIFICANT: Arsenopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Tabular  
MODIFIER: Fractured Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite  
Granite

HOSTROCK COMMENTS: Hypabyssal intrusive of Permo-Triassic age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		3.8000	Grams per tonne
Gold		1.4300	Grams per tonne

COMMENTS: A well mineralized sample (3PLP026) from the fractured zone.  
REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

The Bald Peak showing is located north of Bennett about 1 kilometre east of Bennett Lake.

The Bald Peak claims were located in about 1900. Work consisted of open cutting and sampling. The Silver Queen and Ruby Silver claims (104M 002) may have been a relocation of these claims and there is some confusion in the literature regarding these showings.

At the showing, an adit is driven in a small Permo-Triassic(?), chilled, granitic body of unknown affinity. Three open cuts are reported to expose a quartz vein 3 to 3.7 metres wide. A sample assayed "\$5.25" gold(?), 267.38 grams per tonne silver, 7.8 per cent lead and 0.67 per cent antimony.

A fractured and silicified zone in granodiorite, less than 1 metre in width locally contains up to 20 per cent arsenopyrite and 10 per cent pyrite. The zone trends 109 degrees and dips vertically.

A sample of a well mineralized piece from the fractured zone assayed 1.43 grams per tonne gold and 3.8 grams per tonne silver (Assessment Report 12554).

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GSC MEM 37  
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GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/05

CODED BY: GSB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 029**

NATIONAL MINERAL INVENTORY: 104M1 Mo1

NAME(S): **MOLLY, MOLLY ATLIN, MOLLY 11-14,  
MOLLY 30, FAYE, ARA,  
NA 4866**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M01E  
BC MAP:  
LATITUDE: 59 14 29 N  
LONGITUDE: 134 09 07 W  
ELEVATION: 1070 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Molybdenum mineralization (Assessment Report 2755).

UTM ZONE: 08 (NAD 83)

NORTHING: 6567239  
EASTING: 548380

COMMODITIES: Molybdenum                      Copper                      Antimony                      Lead

**MINERALS**

SIGNIFICANT: Molybdenite                      Chalcopyrite                      Tetrahedrite                      Stibnite                      Galena  
                    Magnetite                      Pyrite  
ASSOCIATED: Quartz                      Carbonate  
ALTERATION: Silica                      Sericite                      Kaolinite  
ALTERATION TYPE: Silicific'n                      Sericitic                      Argillic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia  
CLASSIFICATION: Porphyry                      Hydrothermal  
TYPE: L05                      Porphyry Mo (Low F- type)  
SHAPE: Irregular  
MODIFIER: Fractured

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cretaceous                                                                Coast Plutonic Complex

LITHOLOGY: Granodiorite  
                    Hornblende Granodiorite  
                    Biotite Granodiorite  
                    Alaskite  
                    Breccia  
                    Greisen  
                    Quartz Porphyritic Felsite Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

Nisling

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The Molly showing is located south of the western end of Williston Bay (Atlin Lake), 47 kilometres southwest of Atlin. The Molly South (104M 051) showing is 750 metres to the south.

The earliest work in the area was at the turn of the century on the Laverdiere property (104M 022). The Callaghan vein (104M 021) was discovered in 1910. The Molly showings were discovered in the late 1950s to the southwest of the Callaghan. Cominco Ltd. staked the Molly showings in the early 1970s and conducted diamond drilling mapping, geochemical and geophysical surveys. In 1989, prospecting, geochemical surveys and sampling were completed. In 1990, prospecting and sampling was conducted on the Ara property which covers the Molly showings by Equity Silver Mines.

In the area, Cretaceous Coast Plutonic Complex rocks comprise foliated hornblende granodiorite is intruded by massive biotite granodiorite, which is intruded by alaskite bodies with associated quartz-eye porphyritic felsite dikes and apophyses.

Quartz and quartz-carbonate veins are ubiquitous in the vicinity of alaskite bodies, which also contain marginal silicified breccias with alaskite and quartz fragments. Biotite granodiorite is strongly fractured near alaskite contacts.

Molybdenite occurs in fractured granodiorite, quartz veins, and to a lesser extent in alaskite and breccias as patches, rosettes and fine disseminations. Chalcopyrite is common and minor tetrahedrite, magnetite, stibnite and galena occur locally. Argillic alteration is most intense in mineralized areas, and locally strong sericitization and silicification have created coarse greisen zones.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 575  
REPORT: RGEN0100

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EMPR GEM 1970-23; 1971-52; 1972-555; 1974-35  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
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GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 91-01A pp. 147-153;  
92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 030**

NATIONAL MINERAL INVENTORY: 104M1 Cu2

NAME(S): **MUSSEN**, MUSSEN 1-2, WILLISON BAY,  
NA, MUSSEN 1-32

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M01E  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 59 11 39 N  
LONGITUDE: 134 05 17 W  
ELEVATION: Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6562029  
EASTING: 552097

LOCATION ACCURACY: Within 1 KM

COMMENTS: Northern part of the claim group (Assessment Report 2977).

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: M01 Flood Basalt-Associated Ni-Cu

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Stuhini	Unnamed/Unknown Formation	

LITHOLOGY: Amphibolite Gneiss  
Chlorite Schist  
Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Boundary Ranges	
TERRANE: Stikine	Plutonic Rocks	
METAMORPHIC TYPE: Regional	RELATIONSHIP:	GRADE: Amphibolite

**CAPSULE GEOLOGY**

The Mussen showing is located on the southwest slope of Mount Mussen, 22 kilometres southwest of Atlin.  
Cominco held the Mussen 1-2 claims in 1970 and conducted geological mapping. The showing was covered by the Willison Bay property of Pacific Sentinel in 1989. They conducted prospecting on the claims but failed to locate the showing.  
At the showing discontinuous irregular quartz veins with minor chalcopyrite and malachite occur in Upper Triassic Stuhini Group amphibolite gneiss.  
The veins are less than 0.3 metres wide. A fault zone, 0.9 to 1.4 metres wide, hosts abundant thin iron-carbonate veins and cuts the gneiss near its northern contact with pre-Permian granodiorite.

**BIBLIOGRAPHY**

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GSC MAP \*19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
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GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 91-01A pp. 147-153;  
92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104M 031**

NATIONAL MINERAL INVENTORY:

NAME(S): **JACKIE**, NA 3856, WILLISON BAY,  
GLACIER

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M01W  
BC MAP:  
LATITUDE: 59 09 17 N  
LONGITUDE: 134 19 21 W  
ELEVATION: 1650 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Jackie showing (Assessment Report 21162).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6557477  
EASTING: 538749

COMMODITIES: Silver                      Zinc                      Lead                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Chalcopyrite              Pyrrhotite              Pyrite  
ALTERATION: Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Cretaceous-Tertiary

**DEPOSIT**

CHARACTER: Massive                      Podiform                      Concordant  
CLASSIFICATION: Replacement              Epithermal                      Hydrothermal                      Epigenetic  
TYPE: J01 Polymetallic manto Ag-Pb-Zn  
DIMENSION: 30 x 6                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Pods are up to 30 metres long and 6 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Proterozoic-Paleoz.                                                                Nisling Assemblage

LITHOLOGY: Limestone  
Biotite Muscovite Sericite Schist  
Schist  
Biotite Quartz Schist  
Quartz Sericite Schist  
Gneiss  
Alaskite Dike  
Hornblende Porphyry Dike

HOSTROCK COMMENTS: The Nisling Assemblage is Mississippian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Nisling  
METAMORPHIC TYPE: Regional                      RELATIONSHIP:                      GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1990  
SAMPLE TYPE: Channel  
COMMODITY                      GRADE  
Silver                      21.8000                      Grams per tonne  
Gold                      0.0250                      Grams per tonne  
Copper                      0.0800                      Per cent  
Lead                      0.9800                      Per cent  
Zinc                      6.3900                      Per cent

COMMENTS: Widest significant intersection, over 7 metres.  
REFERENCE: Assessment Report 21162.

**CAPSULE GEOLOGY**

The Jackie showing is located to the south of the Willison Glacier near the headwaters of Willison Creek. The Falcon showing (104M 087) is 825 metres to the north.  
Falconbridge Ltd. included the Willison Bay area in a regional prospecting program in 1966. The Jackie and Falcon showings were discovered during that program and limited trenching and sampling were completed. The property was staked in 1989 and in 1990 Carmac Resources conducted geochemical and geophysical surveys, rock sampling, trenching and mapping on these showings.  
The claims cover biotite-quartz-schists, quartz-sericite schists, gneisses and limestones of the Mississippian and older

## CAPSULE GEOLOGY

Nisling Assemblage. The metasediments are cut by numerous northwest trending alaskite dikes.

Massive sulphide pods occur in limestone and biotite-muscovite-sericite schists generally near the contacts between the units. Large zones of limonite alteration, cut by alaskite and hornblende porphyry dikes, usually surround the pods. The lenses appear to be widest near the dikes. Several faults follow the general direction of the dikes, suggesting structural control on the mineralization. Sulphides comprise galena, sphalerite, chalcopyrite, pyrrhotite and pyrite. The pods are up to 30 metres long and 6 metres wide. The smaller pods host sphalerite and galena mineralization and the larger pods vary mineralogically along length. Galena, quartz and calcite dominate the northwest changing to pyrrhotite, chalcopyrite and pyrite in the centre and border areas.

The widest significant intersection averaged 0.025 gram per tonne gold, 21.8 grams per tonne silver, 0.08 per cent copper, 0.98 per cent lead and 6.39 per cent zinc over 7 metres (Assessment Report 21162).

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GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/26

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 032**

NATIONAL MINERAL INVENTORY:

NAME(S): **BENNETT LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 08 N  
LONGITUDE: 134 57 39 W  
ELEVATION: 1585 Metres

NORTHING: 6646091  
EASTING: 502188

LOCATION ACCURACY: Within 500M

COMMENTS: Location centered on limestone outcrop 2 kilometres northwest of Bennett Lake (Open File 1988-5).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Industrial Min.  
TYPE: R09 Limestone

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Limestone  
Siltstone  
Wacke  
Basalt  
Pyroclastic

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP:

GRADE: Greenschist

**CAPSULE GEOLOGY**

Limestone outcrops in several locations on Bennett Range, 0.5 to 2.5 kilometres northwest of Bennett Lake.

The limestone occurs within the Boundary Ranges Metamorphic Suite, a Devonian to Permian and older succession of greenschist metamorphosed siltstones, wackes, basalts and pyroclastics. The sequence is contained within a northwest trending belt up to 4 kilometres wide. The belt is intruded to the west by granite and granodiorite of the Late Cretaceous Coast Plutonic Complex. The strata have been warped into a gently plunging, tight to open syncline-anticline pair.

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EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
WWW [http://www.infomine.com/index/properties/BENNETT\\_LAKE.html](http://www.infomine.com/index/properties/BENNETT_LAKE.html)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 033**

NATIONAL MINERAL INVENTORY:

NAME(S): **TALAHA BAY**, TAGISH LAKE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M16E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 58 28 N  
LONGITUDE: 134 08 13 W  
ELEVATION: Metres

NORTHING: 6648879  
EASTING: 548175

LOCATION ACCURACY: Within 500M

COMMENTS: Location centered on limestone outcrop on Cloutier Peak just north of Talaha Bay (Geological Survey of Canada Map 19-1957).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
MINERALIZATION AGE: Pennsylvan.-Permian  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

**DEPOSIT**

CHARACTER: Stratiform  
CLASSIFICATION: Sedimentary  
TYPE: R09 Limestone

Massive  
Industrial Min.

DIMENSION: 1200

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: The limestone is between 900 and 1500 metres thick.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Pennsylvan.-Permian

Cache Creek Complex

LITHOLOGY: Limestone  
Mafic Flow  
Lithic Tuff

HOSTROCK COMMENTS: The Cache Creek Complex is Mississippian to Upper Triassic in age, Pennsylvanian to Permian in this area.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Permian limestone of the Cache Creek Complex (previously the Horsefeed Formation, Cache Creek Group) outcrops over an extensive area surrounding Talaha Bay on Taku Arm.

Talaha Bay lies near the western margin of a belt of limestone with minor mafic flows and lithic tuff at least 12 kilometres wide that extends northwestward from Atlin Lake, across Taku Arm of Tagish Lake into the Yukon Territory. The limestone is estimated to be between 900 and 1500 metres thick.

Two distinct carbonate members are distinguished. The most extensive member consists of variably recrystallized, medium to pale grey, massive bioclastic limestone Middle to Upper Pennsylvanian in age. This limestone is sometimes contaminated with black, nodular chert. A less extensive overlying Permian limestone member contains massive, locally thick to medium bedded, dark grey to black limestone that is rarely dolomitic.

**BIBLIOGRAPHY**

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EMPR IND MIN FILE (McCammon, J.W., 1973, Limestone Occurrences in B.C. p. 36 (in Ministry Library))  
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EMPR RGS 37, 1993  
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GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1989/08/30

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 033**

MINFILE NUMBER: **104M 034**

NATIONAL MINERAL INVENTORY:

NAME(S): **PENINSULA MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M16E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 48 59 N  
LONGITUDE: 134 14 06 W  
ELEVATION: 730 Metres

NORTHING: 6631211  
EASTING: 542906

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Magnesite

**MINERALS**

SIGNIFICANT: Magnesite  
ASSOCIATED: Plagioclase Calcite Dolomite Epidote  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stratabound  
CLASSIFICATION: Replacement Industrial Min.  
TYPE: I17 Cryptocrystalline magnesite veins

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic			Peninsula Mtn. Volcanic Suite

LITHOLOGY: Schistose Volcanic  
Magnesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Peninsula Mountain magnesite is located at the south end of Peninsula Mountain east of Taku Arm.

Carbonatized outcrops, some of considerable extent and consisting principally of magnesian carbonate, contain veins several centimetres wide of relatively pure magnesite. The host rocks of the Middle to Upper Triassic Peninsula Mountain Volcanic Suite appear schistose, fine-grained and are greyish to dark green on fresh surface but weather to a rough surface with a bright gossanous color. In thin section, the magnesian carbonates are associated with plagioclase and minor amounts of calcite, dolomite, epidote and an unidentified iron mineral.

Although the occurrence description is limited it seems similar in setting to magnesite occurrences in the Atlin and Sloko River areas which are associated with ultramafic intrusions within volcanic-sedimentary stratigraphy.

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EMPR OF 1987-13, p. 45  
EMPR RGS 37, 1993  
GSC ANN RPT 1899, p. 21B  
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GSC MEM 307, p. 36; \*37, pp. 54-56  
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GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/07

CODED BY: GSB  
REVISED BY: BG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 035**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUCHAN CREEK**, OCCURRENCE G, RUPERT,  
ICE 3, TYEE (L. 1272), FEE,  
TAKU ARM

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:  
LATITUDE: 59 29 12 N  
LONGITUDE: 134 20 08 W  
ELEVATION: 1420 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence G (Assessment Report 19827).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6594433  
EASTING: 537633

COMMODITIES: Gold Silver Lead Copper Zinc

**MINERALS**

SIGNIFICANT: Galena Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite Azurite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated Massive  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
DIMENSION: 21 x 1 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Pod shaped vein is 21 metres long and about 1.1 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite
Lower Jurassic			Hale Mountain Granodiorite

LITHOLOGY: Gneiss  
Schist  
Rhyolite Dike  
Granodiorite

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist Amphibolite  
COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1989  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 925.0000 Grams per tonne  
Gold 7.6000 Grams per tonne  
Copper 0.2800 Per cent  
Lead 74.0000 Per cent  
Zinc 0.0860 Per cent  
COMMENTS: Sample KMO 89-47-1. The value for lead is suspect.  
REFERENCE: Fieldwork 1989, page 194.

**CAPSULE GEOLOGY**

The Buchan Creek showing is located on a north-facing slope about 1.0 kilometre southeast of Buchan Creek and 2.25 kilometres west of the west shore of Taku Arm.  
A quartz vein occurs in hornblende gneiss of the Devonian to Permian and older Boundary Ranges Metamorphic Suite near the contact with Early Jurassic Hale Mountain Granodiorite.  
Trenching in 1981 over a caved adit driven in the early 1900s revealed a pod shaped vein 21 metres long. The strike and dip varies from 125/80 southwest on the south end to 160/80 east on the north

## CAPSULE GEOLOGY

end. The adit is estimated to have been 25 to 30 metres long. A number of workings extend about 50 metres downhill from the outcrop.

The vein, about 1.1 metres wide, is hosted in variably altered rhyolite dikes in schist-gneiss. The vein consists of quartz which is locally vuggy, and contains disseminated and massive galena, chalcopyrite and minor malachite and azurite.

Two 1.1 metre wide chip samples, taken 2 metres apart along the vein, averaged 15.43 grams per tonne gold, 244.8 grams per tonne silver, 9.85 per cent lead, 0.20 per cent copper and 0.05 per cent zinc (Assessment Report 8384). A grab sample taken in 1989 assayed 925 grams per tonne silver, 7.6 grams per tonne gold, 0.28 per cent copper, 74 per cent lead (this value is suspect), 0.086 per cent zinc (Fieldwork 1989, p. 194).

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- EMPR BULL 105
- EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR OF \*1990-4
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37
- GSC OF 427; 2225 p. 42; 2694
- GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58
- Placer Dome File

DATE CODED: 1986/12/31  
DATE REVISED: 1993/07/14

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 036**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUPERT-NORTH** OCCURRENCE H ICE 1-2,  
RUPERT, SILVER KING 3 (L. 1270), TAKU ARM,  
FEE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:  
LATITUDE: 59 28 46 N  
LONGITUDE: 134 19 17 W  
ELEVATION: 1360 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence H (Assessment Report 19827).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6593637  
EASTING: 538444

COMMODITIES: Gold Silver Lead Copper Zinc

**MINERALS**

SIGNIFICANT: Galena Chalcopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite Azurite Clay  
ALTERATION TYPE: Oxidation Argillic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Hornblende Gneiss  
Pelitic Schist  
Rhyolite Dike  
Dike

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist Amphibolite

COMMENTS: Metamorphic grade is transitional greenschist-amphibolite.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1989  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 30.0000 Grams per tonne  
Gold 5.4000 Grams per tonne

COMMENTS: A 0.5 metre chip sample across veined and clay-altered sheared schist-gneiss from the south pit.

REFERENCE: Assessment Report 19827.

**CAPSULE GEOLOGY**

The Rupert North showing is located south of Buchan Creek. Two blast pits over a mineralized shear zone, quartz veins and altered rhyolite dikes occur about 100 metres apart.

The Rupert showings were probably discovered at around the turn of the century. Trenching, reported in 1913, located 5 mineralized quartz veins (104M 008). The Fee Group was staked to cover these showings in 1979 by United Keno Hill Mines Limited. They carried out extensive geological and geochemical surveys. In 1986, Rise Resources optioned the Ice 1 claim and the 10 crown grants comprising the Rupert Group. Rise Resources confirmed the soil anomalies discovered by United Keno Hill Mines Ltd. Placer Dome optioned the property in 1989 and conducted mapping, geochemical sampling and geophysical surveys. In 1990, trenching was done on this showing.

The region is at the eastern margin of the Coast Plutonic



## CAPSULE GEOLOGY

Complex adjacent to the Intermontane Belt. The Intermontane Belt is represented by strata of the Lower Jurassic Laberge Group and the Upper Triassic Stuhini Group. These link Mississippian and older Nisling Terrane units to the west with oceanic rocks of the Cache Creek Terrane.

The area is underlain by gneisses and schists of the Devonian to Permian and older Boundary Ranges Metamorphic Suite and Triassic or older Hale Mountain granodiorite. Cretaceous or younger rhyolite, andesite and basalt dikes intrude the older units (Sloko Group?). The Llewellyn fault is 10 kilometres to the northeast.

A 2 to 20 centimetre wide quartz vein within a 0.5 metre shear zone is vuggy, rusty, azurite-malachite stained and contains less than 1 per cent each of chalcopyrite, pyrite and galena. Adjacent to the shear zone, the hostrock contains a stockwork of unmineralized quartz veins.

A 0.5 metre chip sample (343962) across the veined and clay-altered schist/gneiss from the south pit assayed 5.4 grams per tonne gold and 30 grams per tonne silver (Assessment Report 19827).

The north pit exposes a weakly developed stockwork of quartz veins, containing up to 2 per cent pyrite and galena within a rhyolite dike. A 1 metre chip sample (343961) of this material assayed 0.005 grams per tonne gold and 4 grams per tonne silver (Assessment Report 19827).

These veins may represent the northern extension of the Rupert vein system (104M 008).

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- EMPR BULL 105
- EMPR FIELDWORK 1990, pp. 139-144, 153-159
- EMPR OF \*1990-4
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37
- GSC OF 427; 2225 p. 42; 2694
- GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58
- Placer Dome File

DATE CODED: 1986/04/16  
DATE REVISED: 1993/07/14

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 037**

NATIONAL MINERAL INVENTORY:

NAME(S): **FEE GLACIER**, OCCURRENCE K, FEE,  
RUPERT, ICE 1, TAKU ARM

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 28 02 N  
LONGITUDE: 134 21 13 W  
ELEVATION: 1810 Metres

NORTHING: 6592257  
EASTING: 536632

LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence K (Assessment Report 19827).

COMMODITIES: Silver                      Copper                      Lead

**MINERALS**

SIGNIFICANT: Pyrite              Pyrrhotite              Chalcopyrite              Galena

COMMENTS: Also unidentified black sulphides.

ASSOCIATED: Quartz

ALTERATION: Limonite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Shear                      Disseminated

CLASSIFICATION: Hydrothermal              Epigenetic

TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Proterozoic-Paleoz.			Nisling Assemblage

LITHOLOGY: Hornblende Gneiss

HOSTROCK COMMENTS: The Nisling Assemblage is Mississippian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Nisling

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

6.8600

Grams per tonne

Copper

0.0200

Per cent

COMMENTS: Average of three grab samples.

REFERENCE: Assessment Report 8384.

**CAPSULE GEOLOGY**

The Fee Glacier showing consists of quartz veins, quartz sweats and shear zones located on a nunatak within the Fee Glacier.

The outcrop is comprised of Mississippian and older Nisling Assemblage gossanous hornblende gneiss.

Minor pyrite (less than 5 per cent) and unidentified fine-grained black sulphides were noted in a 0.3 metre wide clay bearing shear zone containing approximately 25 per cent quartz clasts. A 0.3 metre wide chip sample (343903) assayed less than 0.005 gram per tonne and 0.5 grams per tonne silver (Assessment Report 19827).

The veins are up to 0.25 metres wide and contain highly oxidized pyrite, pyrrhotite and minor chalcopyrite and galena. Assays of grab samples from 3 of the veins averaged 6.86 grams per tonne silver and 0.02 per cent copper (Assessment Report 8384).

**BIBLIOGRAPHY**

EMPR ASS RPT \*8384, 15208, \*19827

EMPR BULL 105

EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 587  
REPORT: RGEN0100

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GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;  
91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
Placer Dome File

DATE CODED: 1986/12/31  
DATE REVISED: 1993/07/14

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 038**

NATIONAL MINERAL INVENTORY:

NAME(S): **GAUG-WEST**, PAVEY 3

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 55 35 N  
LONGITUDE: 134 54 29 W  
ELEVATION: 1010 Metres

NORTHING: 6643217  
EASTING: 505140

LOCATION ACCURACY: Within 500M

COMMENTS: Adit (Assessment Report 12554).

COMMODITIES: Gold Silver Lead Antimony Arsenic

**MINERALS**

SIGNIFICANT: Arsenopyrite Pyrite Stibnite Galena  
ASSOCIATED: Quartz  
ALTERATION: Silica Jarosite  
ALTERATION TYPE: Silicific'n Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I09 Stibnite veins and disseminations  
SHAPE: Irregular  
MODIFIER: Fractured Sheared  
DIMENSION: Metres  
COMMENTS: Attitude of the vein. STRIKE/DIP: 090/55S TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Permian-Triassic Unnamed/Unknown Informal

LITHOLOGY: Rhyolite Porphyry  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks Stikine PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 212.2300 Grams per tonne  
Arsenic 4.7500 Per cent  
Gold 8.0200 Grams per tonne

COMMENTS: Chip sample (8196) across 70 centimetres.  
REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

The Gaug-West showing is located on the east side of Bennett Lake. A 25-metre long adit was driven in a northeast direction. The adit was emplaced in Permo-Triassic(?) granodiorite of unknown affinity.

The adit exposes a quartz vein averaging 25 centimetres in width which pinches and swells along strike and dips to the west. The vein is surrounded by a 4 metre wide bleached alteration zone in the host rhyolite porphyry. The alteration zone can be traced for over 50 metres from the portal. The vein strikes 090 degrees and dips 55 degrees south.

Mineralization consists of up to 20 per cent arsenopyrite, 10 per cent pyrite plus disseminated to massive coarse bladed stibnite, and galena. A chip sample across 70 centimetres assayed 8.02 grams per tonne gold, 212.23 grams per tonne silver and 4.75 per cent arsenic (sample 8196, Assessment Report 12554).

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EMPR AR 1915-64; 1916-46,438; 1933-73  
EMPR ASS RPT 2681, \*10427, \*11044, \*12554, 16569, 19186, 20581

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EMPR PF (In 104M General File - Claim map of 104M, 1970 and  
Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn  
Fault-Tectonic Implications and Economic Mineral Potential; In  
Abstracts: Smithers Exploration Group Workshop, October 1988;  
Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/17  
DATE REVISED: 1988/11/07

CODED BY: JB  
REVISED BY: SED

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 039**

NATIONAL MINERAL INVENTORY:

NAME(S): **GAUG 2, PAVEY 3, MAIN GULLY, PLATEAU**

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104M15W  
 BC MAP:

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)

LATITUDE: 59 55 38 N  
 LONGITUDE: 134 53 37 W  
 ELEVATION: 1370 Metres

NORTHING: 6643311  
 EASTING: 505947

LOCATION ACCURACY: Within 500M  
 COMMENTS: Highly fractured zone (Assessment Report 11044).

COMMODITIES: Gold Silver Zinc Copper Lead

**MINERALS**

SIGNIFICANT: Arsenopyrite Stibnite Sphalerite Galena Pyrite  
 ASSOCIATED: Quartz Carbonate  
 ALTERATION: Silica  
 ALTERATION TYPE: Silicific'n  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated Massive Shear  
 CLASSIFICATION: Hydrothermal Epigenetic  
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
 DIMENSION: 1 Metres STRIKE/DIP: 109  
 COMMENTS: Veins are up to 1 metre wide. TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Aishihik Plutonic Suite

LITHOLOGY: Granodiorite  
 Argillite  
 Dacitic Dike  
 Basaltic Dike

HOSTROCK COMMENTS: Hale Mountain granodiorite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Boundary Ranges  
 TERRANE: Plutonic Rocks Stikine  
 COMMENTS: Stikinia/Nisling terrane.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
 CATEGORY: Assay/analysis YEAR: 1982  
 SAMPLE TYPE: Chip  

COMMODITY	GRADE	
Silver	327.4300	Grams per tonne
Gold	12.0700	Grams per tonne
Copper	0.1010	Per cent
Zinc	0.3200	Per cent

 COMMENTS: Chip sample 1.0 metres wide across vein swarm.  
 REFERENCE: Assessment Report 11044.

**CAPSULE GEOLOGY**

The Gaug 2 showing (main gully) is located on the south side of a creek on the east side of Bennett Lake.  
 The area is underlain by altered granodiorite of the Lower Jurassic Aishihik Plutonic Suite (Hale Mountain Granodiorite). The intrusives are cut by several dacitic to basaltic dikes which appear to post-date the veins.  
 The showing consists of 6 east-west trending quartz veins exposed in shears and fractures along 1000 metres of outcrop and talus on the creek bank. The veins are a few centimetres to 1 metre wide and are hosted by granodiorite and argillite.  
 Mineralization consists of stibnite, arsenopyrite, pyrite, chalcopyrite, sphalerite, and galena. Mineralization occurs locally as fine-grained disseminations to semi-massive to massive bands in quartz-carbonate vein structures that often occupy fractures, shears and/or faults. Sulphide bands, up to 10 centimetres thick, consist

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**CAPSULE GEOLOGY**

of coarse bladed to fine-grained stibnite and fine-grained arsenopyrite.

A 1.0 metre chip sample across a vein swarm assayed 12.07 grams per tonne gold, 327.43 grams per tonne silver, 0.32 per cent zinc, and 0.101 per cent copper (Assessment Report 11044).

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EMPR FIELDWORK 1987, pp. 217-231; 1990, pp. 139-144, 153-159  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988; Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 040**

NATIONAL MINERAL INVENTORY:

NAME(S): **GAUG 1**, COPPER ZONE, PAVEY 3

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 56 03 N  
LONGITUDE: 134 53 50 W  
ELEVATION: 1300 Metres

NORTHING: 6644084  
EASTING: 505744

LOCATION ACCURACY: Within 500M

COMMENTS: Adit (Assessment Report 11044).

COMMODITIES: Silver                      Copper                      Iron

**MINERALS**

SIGNIFICANT: Chalcopyrite      Magnetite      Bornite      Pyrite  
ALTERATION: Malachite      Azurite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Shear                      Disseminated                      Massive  
CLASSIFICATION: Hydrothermal      Epigenetic                      Industrial Min.  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Irregular  
MODIFIER: Sheared  
DIMENSION: 10 x 4                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Mineralized shear zone.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Permian-Triassic                                                                Unnamed/Unknown Informal

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Zircon U-Pb dates indicate an Upper Triassic age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Plutonic Rocks                      Stikine

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1982  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      93.9400                      Grams per tonne  
Copper                      9.4900                      Per cent

COMMENTS: Sample 7700A, the highest value from grab samples taken of massive sulphides above the adit.

REFERENCE: Assessment Report 11044.

**CAPSULE GEOLOGY**

The adit of the Gaug 1 showing is located on the east side of Bennett Lake. The adit was driven horizontally into the lower portion of an altered zone. The adit is in good shape and is about 1 metre by 1.5 metres in section and 15 metres long.

The shearing occurs in Permo-Triassic(?) granodiorite of unknown affinity.

The shear zone, 4 metres wide and at least 10 metres long, strikes east to southeast, and dips moderately northeast. Mineralization consists of a 30 centimetre wide section of disseminated to massive chalcopyrite, magnetite, minor pyrite and bornite. Malachite/azurite staining extends 1.0 metre outward from the mineralized zone. Malachite staining covers the walls of the adit.

The highest value from grab samples of massive sulphides taken from above the adit was 9.49 per cent copper and 93.94 grams per tonne silver (sample 7700A) and a grab sample of malachite-stained granodiorite assayed 3.26 per cent copper and 28.46 grams per tonne silver (Assessment Report 11044).

A grab sample of malachite stained sheared granodiorite taken from an outcrop 450 metres below the adit assayed 0.5 per cent copper



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**CAPSULE GEOLOGY**

(Assessment Report 19186).

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Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 041**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN-POND**, PAVEY 4, B-3,  
 TARN

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104M15W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 44 N  
 LONGITUDE: 134 53 02 W  
 ELEVATION: 1585 Metres

NORTHING: 6641641  
 EASTING: 506494

LOCATION ACCURACY: Within 500M  
 COMMENTS: Trench B-3 (Assessment Report 12554).

COMMODITIES: Silver                      Lead                      Gold                      Zinc                      Antimony

**MINERALS**

SIGNIFICANT: Galena              Stibnite              Arsenopyrite              Sphalerite              Pyrite  
 ASSOCIATED: Quartz  
 ALTERATION: Silica  
 ALTERATION TYPE: Silicific'n  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Shear                      Disseminated                      Massive  
 CLASSIFICATION: Hydrothermal              Epigenetic  
 TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au                      I09      Stibnite veins and disseminations

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Undefined Formation	
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Felsic Rock  
 Rhyolite Porphyry  
 Argillite  
 Schist

HOSTROCK COMMENTS: At the contact between the Devonian to Permian and older Boundary Ranges Meta. Suite and the Laberge Group (Lower Jurassic argillites).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
 TERRANE: Stikine                      Inklin  
 METAMORPHIC TYPE: Regional                      RELATIONSHIP:                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1983
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	90.6000      Grams per tonne
Gold	0.0300      Grams per tonne
Lead	1.4700      Per cent
Antimony	1.3000      Per cent
COMMENTS: Sample width is 3.27 metres.	
REFERENCE: Assessment Report 12554.	

**CAPSULE GEOLOGY**

At the Ben Pond showing, on the east side of Bennett Lake, a trench exposes siliceous felsic rock near a northwest fault contact between schist of the Devonian to Permian and older Boundary Ranges Metamorphic Suite and Lower Jurassic Laberge Group argillites. The siliceous material contains disseminated galena and stibnite and a zone of massive stibnite with 10 per cent arsenopyrite, galena, sphalerite and minor pyrite. The sulphide zone is about 70 centimetres wide and appears to occupy a northwest trending shear zone in fractured rhyolite porphyry. A chip sample across 3.27 metres assayed 0.03 grams per tonne gold, 90.6 grams per tonne silver, 1.47 per cent lead and 1.3 per cent antimony (Assessment Report 12554).

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139-144, 153-159  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and  
Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn  
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Abstracts: Smithers Exploration Group Workshop, October 1988;  
Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 042**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN-CAMP**, BEN 1, PAVEY

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 49 N  
LONGITUDE: 134 53 07 W  
ELEVATION: 1555 Metres

NORTHING: 6641796  
EASTING: 506416

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 12554.

COMMODITIES: Silver                      Gold                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena                      Sphalerite                      Arsenopyrite                      Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                                      Massive  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I05                      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Undefined Formation	Boundary Ranges Metamor. Suite
Paleozoic			

LITHOLOGY: Argillite  
Gneiss

HOSTROCK COMMENTS: At the contact between the Devonian to Permian and older Boundary Ranges Meta. Suite and Lower Jurassic Laberge Group argillites.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Inklin

Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1983
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	2136.0000      Grams per tonne
Gold	12.4500        Grams per tonne

REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

At the Ben-Camp showing, on the east side of Bennett Lake, a trench exposes a quartz vein of unknown dimensions. The vein is adjacent to the fault contact between gneiss of the Devonian to Permian and older Boundary Ranges Metamorphic Suite and Lower Jurassic Laberge Group argillites. Massive sulphide vein mineralization consists of galena, sphalerite, arsenopyrite and pyrite. A grab sample assayed 12.45 grams per tonne gold and 2136.0 grams per tonne silver (Assessment Report 12554).

**BIBLIOGRAPHY**

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EMPR FIELDWORK \*1985, pp. 187-188; 1987, pp. 217-231; 1990, pp. 139-144, 153-159  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988; Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 597  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 043**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN-GLACIER**, BEN 2, PAVEY

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 24 N  
LONGITUDE: 134 53 12 W  
ELEVATION: Metres

NORTHING: 6641022  
EASTING: 506339

LOCATION ACCURACY: Within 500M  
COMMENTS: From Assessment Report 12554.

COMMODITIES: Gold Silver Cobalt

**MINERALS**

SIGNIFICANT: Erythrite Pyrite  
COMMENTS: Erythrite after a primary cobalt mineral (unspecified).  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Undefined Formation	

LITHOLOGY: Greywacke

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1983

COMMODITY	GRADE	
Silver	1.7000	Grams per tonne
Gold	6.6200	Grams per tonne
Cobalt	0.3700	Per cent

REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

The Ben Glacier showing is south of a glacial meltwater lake, on the east side of Bennett Lake.

At the showing a fracture zone, 2 centimetres wide, cuts fine-grained greywacke of the Lower Jurassic Laberge Group. A quartz vein and other fractures are associated.

Mineralization consists of a primary cobalt mineral, pyrite and erythrite stain. A grab sample assayed 6.62 grams per tonne gold, 1.7 grams per tonne silver and 0.37 per cent cobalt (Assessment Report 12554).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12554, 16569, 19186, 20581  
EMPR BULL 105  
EMPR FIELDWORK \*1985, pp. 187-188; 1987, pp. 217-231; 1990, pp. 139-144, 153-159  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988; Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 599  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 044**

NATIONAL MINERAL INVENTORY:

NAME(S): **BENNETT**, LQ, PADDY,  
PAVEY

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 59 54 59 N  
LONGITUDE: 134 51 42 W  
ELEVATION: 1355 Metres

UTM ZONE: 08 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 6642108  
EASTING: 507735

COMMENTS: Vein at the southwest corner of the LQ claim (Property File -  
Lodestar Explorations Inc. Prospectus, July, 1990).

COMMODITIES: Gold Silver Zinc Copper Lead

**MINERALS**

SIGNIFICANT: Arsenopyrite Galena Pyrite Sphalerite Chalcopyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Tabular  
DIMENSION: 7 x 1 Metres STRIKE/DIP: 033/57E TREND/PLUNGE:  
COMMENTS: The LQ vein is 0.4 to 0.8 metres wide and has an exposed length of  
7 metres.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE: Upper Triassic Paleozoic  
GROUP: Stuhini  
FORMATION: Undefined Formation  
IGNEOUS/METAMORPHIC/OTHER: Boundary Ranges Metamor. Suite

LITHOLOGY: Gneiss  
Quartz Chlorite Schist  
Limestone  
Argillite  
Quartz Monzonite  
Quartz Diorite

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and  
older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Chip  
COMMODITY: Silver 124.5000 Grams per tonne  
Gold 1.6900 Grams per tonne  
COMMENTS: Sample width 0.80 metres.  
REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

The LQ vein (on the Pavey property) is located 60 kilometres south of Whitehorse, near Pavey and east of Bennett Lake. The Pavey property contains 15 documented showings (104M 002-003, 028, 038-047, 085-086). Brett Resources Inc. worked the property as the Bennett in 1997; the property was held by Westmin Resources.

Two claims were staked around 1913 near Pavey. The Silver Queen and Ruby Silver claims were reported to overly high grade silver mineralization. The adit is located on Pavey 2 claim. Three shorter adits are located 2.5 kilometres to the north, on the Pavey 3 claim, of the Ruby Silver adit. The history of these workings is not known, they uncover mineralized quartz veins which occasionally contain visible gold.



## CAPSULE GEOLOGY

During 1981 to 1986 Du Pont held the Gaug claims over the area presently covered by the Pavey 1-4 claims. During 1982 and 1983, Du Pont completed geological and geochemical surveys on the upland plateau and over a steep rocky gully. They re-discovered the old adits in the gully. In 1983, Texaco Canada staked the Ben 1-4 claims and performed geological, geophysical and geochemical surveys. In 1987, pits were excavated on quartz sulphide veins in the "main gully" and beside a small tarn at the south end of the grid (Pavey 4). Thirty rock samples were collected and assayed. In 1988, Mapping and prospecting was conducted by Lodestar Resources on the LQ claim; 12 samples were collected. A trail was built in 1989. In 1990, Lodestar Explorations Inc. tested the showings on the Pavey property and the Skarn (104M 085) and Cowboy (104M 086) showings were discovered. Trenching was attempted on the LQ vein in 1991 but the trenches flooded. Brett Resources Inc. optioned the property from Westmin Resources Inc. in 1997.

The Bennett Lake area overlies the contact between the Intermontane Belt and the Coast Plutonic Complex. The Intermontane Belt features a complex assemblage of deformed volcanic and sedimentary rocks comprising the Upper Triassic Stuhini Group the Lower Jurassic Laberge Group and Proterozoic metamorphic rocks.

Cretaceous granitic rocks of the Coast Plutonic Complex are the most common in the area; typically they consist of fresh quartz monzonite or quartz diorite. Pendants of Proterozoic gneiss, schist and limestone occur in the granitic intrusives. A younger series of andesite, dacite and rhyolite flows, tuffs and agglomerates intrude and overlie granitic rocks at Montana Mountain, Mount Skukum and Mount Macauley. Tertiary and Eocene dikes intrude all rock types.

Major faults occur primarily along river and lake valleys, associated with movement in the Coast Plutonic Complex and with early Tertiary volcanism. The area is just west of a northwest trending faulted unconformity between the Devonian to Permian and older Boundary Ranges Metamorphic Suite and Upper Triassic Stuhini Group volcanics.

On the LQ claim a large quartz vein containing up to 20 per cent arsenopyrite and 5 per cent galena outcrops in quartz chlorite schist in a creek bed. The vein, 0.4 to 0.8 metres wide, forms the west bank of Ben Creek for 10 metres and has an exposed length of 7 metres. Sulphides comprise 7 per cent of the vein and include galena, pyrite, sphalerite, chalcopyrite, and arsenopyrite. The vein strikes 33 degrees and dips 57 degrees east. A grab sample of well mineralized vein material assayed 3.91 grams per tonne gold and 361.65 grams per tonne silver (Assessment Report 19186).

Quartz float was traced upstream for 350 metres to a second large quartz vein in outcrop. This vein also lies in the creek bed and is along strike from the main vein. It averages 0.5 metres in width over a 10 metre length. A 0.5 metre chip sample assayed 9.26 grams per tonne gold and more than 50 grams per tonne silver (Assessment Report 19186).

A chip sample across 0.80 metres assayed 1.69 grams per tonne gold and 124.5 grams per tonne silver (Assessment Report 12554).

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EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential, In Abstracts - Smithers Exploration Group Workshop, October 1988; Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
GCNL #153(Aug.11), #165(Aug.27), #192(Oct.6), 1997  
WWW <http://www.bmts.bc.ca/brn/bennett.htm>

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 045**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN-NORTHEAST**, PAVEY, BEN

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 49 N  
LONGITUDE: 134 50 22 W  
ELEVATION: 1610 Metres

NORTHING: 6641801  
EASTING: 508979

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site (Assessment Report 12554).

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Arsenopyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I01 Au-quartz veins

SHAPE: Tabular

MODIFIER: Fractured

DIMENSION: 11

Metres

STRIKE/DIP: 058/84S

TREND/PLUNGE:

COMMENTS: Attitude of the fracture zones, dimensions of the mineralized portions.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Tutshi Volcanic Suite

LITHOLOGY: Intermediate Flow

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

1.2000

Grams per tonne

Gold

13.3700

Grams per tonne

REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

The Ben-Northeast showing, on the Pavey property, is located east of Bennett Lake. The Pavey property contains 15 documented showings (104M 002-003, 028, 038-047, 085-086). Refer to the LQ showing (104M 044) for details on the Pavey property.

The Ben-Northeast showing comprises three parallel fracture zones in Lower to Middle Jurassic Tutshi Volcanic Suite intermediate flows mineralized with massive arsenopyrite.

The zones strike 058 degrees and dip 84 degrees southeast. The mineralized portions are up to 30 centimetres wide and 11 metres long. A grab sample assayed 13.37 grams per tonne gold and 1.2 grams per tonne silver (Assessment Report 12554).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12554, 16569, 19186, 20581

EMPR BULL 105

EMPR FIELDWORK \*1985, pp. 187-188; 1987, pp. 217-231; 1990, pp. 139-144, 153-159

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EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988; Lodestar Explorations Inc. Prospectus, July 1990)

EMPR RGS 37, 1993

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 603  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MAP 19-1957; 94A; 711; 1418A; 1426  
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GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 046**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN-SOUTHEAST**, BEN, PAVEY

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 35 N  
LONGITUDE: 134 50 08 W  
ELEVATION: 1430 Metres

NORTHING: 6641369  
EASTING: 509197

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site just to the east of the Ben 1 claim (Assessment Report 12554).

COMMODITIES: Silver                      Lead                      Gold                      Copper

**MINERALS**

SIGNIFICANT: Galena              Chalcopryite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

DIMENSION:                      Metres                      STRIKE/DIP: 060/90

TREND/PLUNGE:

COMMENTS: Quartz vein is about 30 centimetres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Tutshi Volcanic Suite

LITHOLOGY: Volcanic Breccia  
Tuffaceous Conglomerate

HOSTROCK COMMENTS: The informally named Tutshi Volcanic Suite is Lower to Middle Jurassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline

TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	253.7000	Grams per tonne
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Gold	0.0700	Grams per tonne
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Lead	1.3400	Per cent
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REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

The Ben-Southeast showing, on the Pavey property, is located east of Bennett Lake. The Pavey property contains 15 documented showings (104M 002-003, 028, 038-047, 085-086). Refer to the LQ showing (104M 044) for details on the Pavey property.

The showing consists of vuggy quartz veins striking 060 degrees and dipping vertically. The veins occur in Lower to Middle Jurassic Tutshi Volcanic Suite volcanoclastic breccia and tuffaceous conglomerate.

The vein is about 30 centimetres wide, pinches out at one end, and is talus covered at the other. Mineralization consists of galena and chalcopryite. A grab sample assayed 253.7 grams per tonne silver, 1.34 per cent lead and 0.07 gram per tonne gold (Assessment Report 12554).

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EMPR BULL 105  
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EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 605  
REPORT: RGEN0100

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GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 047**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN-FOUR**, BEN 2, BEN,  
PAVEY

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 19 N  
LONGITUDE: 134 51 37 W  
ELEVATION: 1615 Metres

NORTHING: 6640871  
EASTING: 507816

LOCATION ACCURACY: Within 500M  
COMMENTS: From Assessment Report 12554.

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Arsenopyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated Massive  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I01 Au-quartz veins  
SHAPE: Tabular  
DIMENSION: 15 Metres STRIKE/DIP: 040/55S  
COMMENTS: Vein is 30 to 50 centimetres wide and has an exposed strike length of 15 metres.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Gneiss  
Schist

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 8.0000 Grams per tonne  
Gold 22.6600 Grams per tonne  
COMMENTS: Taken from a narrow vein of massive arsenopyrite 25 metres to the southeast.  
REFERENCE: Assessment Report 12554.

**CAPSULE GEOLOGY**

The Ben-Four showing, on the Pavey property, is located about 300 metres northeast of a small lake. The Pavey property contains 15 documented showings (104M 002-003, 028, 038-047, 085-086). Refer to the LQ showing (104M 044) for details on the Pavey property.

At the showing a trench exposes a quartz vein in schist and gneiss of the Devonian to Permian and older Boundary Ranges Metamorphic Suite.

The vein is 30 to 50 centimetres wide and has an exposed strike length of 15 metres. The vein, mineralized with arsenopyrite, strikes 040 degrees and dips 55 degrees southeast. A chip sample across 0.30 metres assayed 6.59 grams per tonne gold and 28.0 grams per tonne silver.

About 25 metres to the southeast is a narrow vein of massive arsenopyrite about 10 metres long, with a similar attitude. A grab sample ran 22.66 grams per tonne gold and 8.0 grams per tonne silver (Assessment Report 12554).

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**BIBLIOGRAPHY**

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139-144, 153-159  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and  
Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn  
Fault-Tectonic Implications and Economic Mineral Potential; In  
Abstracts: Smithers Exploration Group Workshop, October 1988;  
Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/05

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 048**

NATIONAL MINERAL INVENTORY:

NAME(S): **TP-MAIN**, TEEPEE, TP 2,5,7,9,11,  
RACINE

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 25 N  
LONGITUDE: 134 40 48 W  
ELEVATION: 1737 Metres

NORTHING: 6616962  
EASTING: 518015

LOCATION ACCURACY: Within 500M

COMMENTS: Main showing, located on the southwest side of Teepee Peak about 50 kilometres west of Atlin (Assessment Report 20790).

COMMODITIES: Gold Silver Cobalt Copper Iron  
Magnetite

**MINERALS**

SIGNIFICANT: Gold Cobaltite Arsenopyrite Magnetite Chalcopyrite  
Galena Skutterudite

COMMENTS: Possibly skutterudite.

ASSOCIATED: Actinolite Garnet Calcite  
ALTERATION: Actinolite Garnet Calcite Malachite Erythrite

ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Massive Podiform  
CLASSIFICATION: Skarn Replacement Hydrothermal Industrial Min.  
TYPE: K03 Fe skarn  
DIMENSION: 200 x 15 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Skarn zone.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE      GROUP      FORMATION      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic      Boundary Ranges Metamor. Suite

LITHOLOGY: Marble  
Quartz Feldspar Porphyry Monzonite  
Skarn  
Gneiss  
Schist  
Dike

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact      Regional      RELATIONSHIP: Pre-mineralization      GRADE: Hornfels  
Amphibolite

COMMENTS: Both pre- and syn-mineralization.

**INVENTORY**

ORE ZONE: SAMPLE      REPORT ON: N  
CATEGORY: Assay/analysis      YEAR: 1983  
SAMPLE TYPE: Chip  
COMMODITY      GRADE  
Gold      22.6600      Grams per tonne  
Cobalt      0.1100      Per cent

COMMENTS: The sample width is 4.85 metres.  
REFERENCE: Assessment Report 11300.

**CAPSULE GEOLOGY**

The TP-Main showing, on the Teepee property, is located on the southwest side of Teepee Peak about 54 kilometres west of Atlin. The TP-Camp showing (104M 049) is 400 metres to the south and the TP-Central (104M 050) showing is 900 metres to the southeast. There is no record of early work in the area but old trenches and cabins are found in the area. In 1982, two mineral occurrences, the Main and Camp, were discovered by Trigg, Woollett, Olson Consulting Ltd. while exploring on behalf of Texaco Canada Resources



## CAPSULE GEOLOGY

Ltd. The TP claim was staked and a limited amount of prospecting, rock and stream-sediment geochemical sampling and reconnaissance geological mapping was completed on and around the claim. In 1983, more detailed exploration comprising geological mapping, trenching and geophysics was carried out. The TP claim was optioned to Cypress Gold Canada Ltd. in 1987. In 1988, Cyprus expanded the property and did follow up work on aeromagnetic anomalies. In 1989, prospecting, sampling, geochemical and geophysical surveys and 1371 metres of diamond drilling were conducted on the property. This work was mainly on the Crine (104M 081) veins to the north. In 1990, trenching, diamond drilling, prospecting and sampling was completed on the Crine veins and the UM (104M 084) vein was discovered to the southeast on the Add claims. Westmin Resources Limited planned to evaluate the area in 1996.

The region lies within a northeasterly trending belt of pre-Permian metamorphic rocks. These rocks are the oldest in the region and are composed predominantly of schists with lesser marbles, quartzites and orthogneisses.

The claim area is underlain by Devonian to Permian and older Boundary Ranges Metamorphic Suite consisting of gneiss, schist, marble and skarn. These are unconformably overlain by andesitic to basaltic volcanics, historically assigned to the Upper Triassic Stuhini Group. These are cut by a quartz-feldspar porphyry monzonite to granite stock, hornblendites, pyroxenites, dikes, sills of various ages and Cretaceous to Tertiary granodiorites to diorites.

The property contains many hornfels zones with disseminated pyrite, pyrrhotite, arsenopyrite, chalcopyrite and magnetite. There are also several areas of skarn development (variable epidote, chlorite, tremolite-actinolite, magnetite and pyrrhotite) on the property.

A skarn zone, 200 metres long and about 15 metres wide, occurs near the eastern contact of the stock and is zoned from north to south. The north end comprises magnetite-calcite skarn which grades into garnet-amphibole-magnetite skarn and then into marble. Zones of amphibole skarn occur near fracture zones cutting magnetite skarn, and host erythrite-cobaltite (or skutterudite) and native gold. Numerous rhyolite and monzonite dikes occur in the area. Disseminated arsenopyrite locally replaces magnetite skarn. One 20 centimetre diameter pod of chalcopyrite, malachite and galena occurs in calc-silicate-calcite skarn. The gold mineralized horizon in the skarn is 60 metres long along strike, cut off by a monzonite dike to the north and truncated by a fault to the south.

Gold and cobalt values generally occur together. Weighted average grades for gold range from 4.48 grams per tonne over 3.95 metres to 22.66 grams per tonne over 4.85 metres, and for cobalt range from 0.02 per cent over 3.95 metres to 3.91 per cent over 3.55 metres (Assessment Report 11300). Silver is generally less than 10.0 grams per tonne.

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- EMPR EXPL \*1988, pp. B159-160
- EMPR FIELDWORK \*1985, p. 187; 1988, pp. 293-310; 1990, pp. 139-144, 153-159
- EMPR OF 1989-13
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- GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58
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DATE CODED: 1986/04/18  
DATE REVISED: 1993/06/28

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 049**

NATIONAL MINERAL INVENTORY:

NAME(S): **TP-CAMP**, TEEPEE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 09 N  
LONGITUDE: 134 40 47 W  
ELEVATION: 1585 Metres

NORTHING: 6616468  
EASTING: 518033

LOCATION ACCURACY: Within 500M

COMMENTS: Camp showing (Assessment Report 20790).

COMMODITIES: Magnetite Iron

**MINERALS**

SIGNIFICANT: Magnetite Pyrrhotite  
ASSOCIATED: Garnet Epidote Calcite  
ALTERATION: Garnet Epidote Calcite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive Disseminated  
CLASSIFICATION: Skarn Replacement Hydrothermal Industrial Min.  
TYPE: K03 Fe skarn  
DIMENSION: 60 x 7 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Discontinuous skarn zones.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Gneiss  
Schist  
Skarn  
Quartz Feldspar Porphyry

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Pre-mineralization GRADE: Hornfels Amphibolite  
COMMENTS: Both pre- and syn-mineralization.

**CAPSULE GEOLOGY**

The TP-Camp showing, on the Teepee property, is located on the southwest side of Teepee Peak about 54 kilometres west of Atlin. The showing is about 400 metres south of the TP-Main showing (104M 048) and about 500 metres northwest of the TP-Central (104M 050) showing.

There is no record of early work in the area but old trenches and cabins are found in the area. In 1982, two mineral occurrences, the Main and Camp, were discovered by Trigg, Woollett, Olson Consulting Ltd. while exploring on behalf of Texaco Canada Resources Ltd. The TP claim was staked and a limited amount of prospecting, rock and stream-sediment geochemical sampling and reconnaissance geological mapping was completed on and around the claim. In 1983, more detailed exploration comprising geological mapping, trenching and geophysics was carried out. The TP claim was optioned to Cypress Gold Canada Ltd. in 1987. In 1988, Cyprus expanded the property and did follow up work on aeromagnetic anomalies. In 1989, prospecting, sampling, geochemical and geophysical surveys and 1371 metres of diamond drilling were conducted on the property. This work was mainly on the Crine (104M 081) veins to the north. In 1990, trenching, diamond drilling, prospecting and sampling was completed on the Crine veins and the UM (104M 084) vein was discovered to the southeast on the Add claims.

The region lies within a northeasterly trending belt of pre-Permian metamorphic rocks. These rocks are the oldest in the region and are composed predominantly of schists with lesser marbles, quartzites and orthogneisses.

The claim area is underlain by the Devonian to Permian and older Boundary Ranges Metamorphic Suite consisting of gneiss, schist,

## CAPSULE GEOLOGY

marble and skarn. These are unconformably overlain by andesitic to basaltic volcanics, historically assigned to the Upper Triassic Stuhini Group. These are cut by a quartz-feldspar porphyry monzonite to granite stock, hornblendites, pyroxenites, dikes, sills of various ages and Cretaceous to Tertiary granodiorites to diorites.

The property contains many hornfels zones with disseminated pyrite, pyrrhotite, arsenopyrite, chalcopyrite and magnetite. There are also several areas of skarn development (variable epidote, chlorite, tremolite-actinolite, magnetite and pyrrhotite) on the property.

At the TP-Camp showing, a small lens of skarn occurs in gneiss and schist of the Devonian to Permian Boundary Ranges Metamorphics. The northwest trending skarn zone is exposed discontinuously for 60 metres and is 1 to 7 metres in width. A quartz-feldspar porphyry body of unknown size is in contact with the skarn at its north end. The skarn consists of two types: garnet-epidote-calcite and massive magnetite. Disseminated pyrrhotite locally constitutes up to 40 per cent of the skarn.

## BIBLIOGRAPHY

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EMPR FIELDWORK \*1985, p. 187; 1988, pp. 293-310; 1990, pp. 139-144, 153-159  
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EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/23

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 050**

NATIONAL MINERAL INVENTORY:

NAME(S): **TP-CENTRAL, TEEPEE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 54 N  
LONGITUDE: 134 40 29 W  
ELEVATION: 1661 Metres

NORTHING: 6616005  
EASTING: 518317

LOCATION ACCURACY: Within 500M

COMMENTS: The TP-Central showing (Assessment Report 20790).

COMMODITIES: Silver                      Gold                      Cobalt                      Copper                      Magnetite

**MINERALS**

SIGNIFICANT: Pyrrhotite      Chalcopyrite      Arsenopyrite      Magnetite  
ASSOCIATED: Garnet      Epidote      Calcite  
ALTERATION: Garnet      Epidote      Calcite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Massive  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Industrial Min.  
TYPE: K03      Fe skarn  
DIMENSION: 15 x 5                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Skarn zone.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic                      Boundary Ranges Metamor. Suite

LITHOLOGY: Marble  
Quartz Feldspar Porphyry  
Skarn  
Gneiss  
Schist

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Contact                      Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Hornfels  
Amphibolite

COMMENTS: Both pre- and syn-mineralization.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1983  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      147.4000                      Grams per tonne  
Gold                      10.8300                      Grams per tonne  
Cobalt                      0.0200                      Per cent

REFERENCE: Assessment Report 11300.

**CAPSULE GEOLOGY**

The TP-Central showing, on the Teepee property, is located on the southwest side of Teepee Peak about 54 kilometres west of Atlin. The TP-Main showing (104M 048) is 900 metres to the northwest and the TP-Camp showing (104M 049) is 400 metres to the north. Refer to the TP-Main showing for details on the Teepee property.

At the TP-Central showing, gneiss, schist, marble and skarn of the Devonian to Permian and older Boundary Ranges Metamorphic Suite. These are conformably overlain by volcanics, historically included in the Upper Triassic Stuhini Group, cut by a quartz-feldspar porphyry stock and sills of various ages.

A magnetite and calc-silicate-calcite (garnet, epidote) skarn body, 5 metres by 15 metres in extent, is hosted by marble. The skarn locally contains pyrrhotite, chalcopyrite and arsenopyrite.

A chip sample across the sulphide-bearing zone assayed 12.3

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

grams per tonne silver, 0.09 grams per tonne gold and less than 0.01 per cent cobalt and a grab sample assayed 147.4 grams per tonne silver, 10.83 grams per tonne gold, and 0.02 per cent cobalt (Assessment Report 11300).

**BIBLIOGRAPHY**

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EMPR FIELDWORK \*1985, p. 187; 1988, pp. 293-310; 1990, pp. 139-144, 153-159  
EMPR OF 1989-13  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/23

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 051**

NATIONAL MINERAL INVENTORY: 104M1 Mo1

NAME(S): **MOLLY-SOUTH**, ARA, NA 4866

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M01E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 14 09 N  
LONGITUDE: 134 08 57 W  
ELEVATION: 1340 Metres

NORTHING: 6566622  
EASTING: 548547

LOCATION ACCURACY: Within 500M

COMMENTS: Southern vein swarm (Assessment Report 2755).

COMMODITIES: Molybdenum                  Copper                  Lead

**MINERALS**

SIGNIFICANT: Molybdenite          Chalcopyrite          Galena          Pyrite          Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Porphyry                  Hydrothermal                  Epigenetic

TYPE: L05          Porphyry Mo (Low F- type)

DIMENSION: 15 x 10          Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Dimensions of quartz pod in area.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Coast Plutonic Complex

LITHOLOGY: Granodiorite  
Hornblende Granodiorite  
Biotite Granodiorite  
Quartz Porphyritic Felsite Dike  
Alaskite  
Feldspar Porphyry

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The Molly-South showing is located south of the western end of Willison Bay (Atlin Lake), 48 kilometres southwest of Atlin. The Molly showing (104M 029) is about 750 metres to the north.

The earliest work in the area was at the turn of the century on the Laverdiere property (104M 022). The Callaghan vein (104M 021) was discovered in 1910. The Molly showings were discovered in the late 1950s to the southwest of the Callaghan. Cominco Ltd. staked the Molly showings in the early 1970s and conducted diamond drilling mapping, geochemical and geophysical surveys. In 1989, prospecting, geochemical surveys and sampling were completed. In 1990, prospecting and sampling was conducted on the Ara property, which covers the Molly showings, by Equity Silver Mines.

Cretaceous Coast Plutonic Complex rocks comprise foliated hornblende granodiorite intruded by massive biotite granodiorite intruded by alaskite bodies with associated quartz-eye porphyritic felsite dikes and apophyses.

A quartz vein swarm trends just west of north, cutting hornblende granodiorite and biotite granodiorite to the north. Molybdenite, chalcopyrite, and galena are associated with the veins.

Also in the area a large, 15 by 10 metre, quartz pod is mineralized with coarse-grained pyrite, minor disseminated molybdenite and arsenopyrite. The pod occurs at the contact of feldspar porphyry and hornblende granodiorite.

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EMPR GEM 1970-23; 1971-52; 1972-555; 1974-35  
EMPR PF (In 104M General File - Claim map of 104M, 1970)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 615  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

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GSC MEM 37  
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DATE CODED: 1986/04/21  
DATE REVISED: 1988/11/08

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 052**

NATIONAL MINERAL INVENTORY:

NAME(S): **SELLY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 45 49 N  
LONGITUDE: 134 42 27 W  
ELEVATION: 1050 Metres

NORTHING: 6625122  
EASTING: 516431

LOCATION ACCURACY: Within 500M

COMMENTS: Skarn zone (Assessment Report 10428, drawing 81-158).

COMMODITIES: Copper                      Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite      Galena              Pyrite              Pyrrhotite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Epigenetic  
TYPE: K01      Cu skarn

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite
Upper Cretaceous			Coast Plutonic Complex

LITHOLOGY: Limestone  
Granodiorite  
Skarn  
Quartzite

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane    PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine    Plutonic Rocks  
METAMORPHIC TYPE: Contact    RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**CAPSULE GEOLOGY**

The Selly showing, located on Selly Lake, consists of small skarn zones. The zones are developed in rocks of the Devonian to Permian and older Boundary Ranges Metamorphic Suite adjacent to a north trending intrusive contact with Late Cretaceous Coast Plutonic Complex granodiorite. Mineralization consists of minor disseminated pyrite, pyrrhotite, chalcopyrite and galena.

**BIBLIOGRAPHY**

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GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/04/23  
DATE REVISED: 1988/11/08

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104M 053**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAD**, RADELET CREEK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 56 44 N  
LONGITUDE: 135 33 37 W  
ELEVATION: Metres

NORTHING: 6645480  
EASTING: 468698

LOCATION ACCURACY: Within 1 KM

COMMENTS: Molybdenum in outcrop from crude map (Assessment Report 2478, Fig. 2).

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein  
CLASSIFICATION: Porphyry Hydrothermal  
TYPE: L05 Porphyry Mo (Low F- type)

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic-Cenozoic			Coast Plutonic Complex

LITHOLOGY: Granite

HOSTROCK COMMENTS: The Coast Plutonic Complex is Cretaceous to Tertiary.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

At the Rad showing, near Radelet Creek, disseminated molybdenite occurs in outcrop on the crest of a ridge.

The mineralization is hosted in granite of the Cretaceous to Tertiary Coast Plutonic Complex.

Molybdenite also occurs in a small quartz vein on a spur 600 metres to the north and in numerous boulders in the general area of Radelet Creek.

**BIBLIOGRAPHY**

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GSC BULL 227  
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GSC MEM 37  
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GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
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Chevron File

DATE CODED: 1986/04/23  
DATE REVISED: 1988/11/08

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 054**

NATIONAL MINERAL INVENTORY: 104M13 Mo1

NAME(S): **SILT, SUE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M13E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 59 N  
LONGITUDE: 135 36 52 W  
ELEVATION: 1320 Metres

NORTHING: 6647827  
EASTING: 465693

LOCATION ACCURACY: Within 500M

COMMENTS: Main showing (Assessment Report 7336).

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein Stockwork  
CLASSIFICATION: Porphyry Hydrothermal  
TYPE: L05 Porphyry Mo (Low F- type)  
DIMENSION: 250 Metres  
COMMENTS: Traces of molybdenite occur over 250 metres.

STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic-Cenozoic			Coast Plutonic Complex

LITHOLOGY: Alaskite  
Quartz Monzonite

HOSTROCK COMMENTS: The Coast Plutonic Complex is Cretaceous to Tertiary.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The Silt showing is located on the east side of Primrose River about 4 kilometres south of the Yukon border.

The area is underlain by strongly fractured alaskite to quartz monzonite of the Cretaceous to Tertiary Coast Plutonic Complex.

The main showing consists of fine molybdenite blebs lining micro-fractures in the bed of a creek. Fracture density is greater than 15 per foot, with traces of molybdenite being exposed over more than 250 metres.

**BIBLIOGRAPHY**

EMPR ASS RPT \*7336  
EMPR BULL 105  
EMPR FIELDWORK 1990, pp. 139-144, 153-159  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC BULL 227  
GSC MAP 19-1957; 1418A  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1986/04/23  
DATE REVISED: 1988/11/08

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 055**

NATIONAL MINERAL INVENTORY:

NAME(S): **PIT CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 58 29 N  
LONGITUDE: 135 36 57 W  
ELEVATION: Metres

NORTHING: 6648756  
EASTING: 465624

LOCATION ACCURACY: Within 500M  
COMMENTS: B showing (Assessment Report 7336).

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein  
CLASSIFICATION: Porphyry Hydrothermal  
TYPE: L05 Porphyry Mo (Low F-type)  
DIMENSION: 6 x 3 Metres STRIKE/DIP:  
COMMENTS: Molybdenite occurs in fractures and as disseminations over a 6 by 3 metre area.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic-Cenozoic			Coast Plutonic Complex

LITHOLOGY: Alaskite  
Quartz Monzonite

HOSTROCK COMMENTS: The Coast Plutonic Complex is Cretaceous to Tertiary.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The area of the Pit Creek showing is underlain by strongly fractured alaskite to leucocratic quartz monzonite of the Cretaceous to Tertiary Coast Plutonic Complex.  
Coarse blebs and streaks of molybdenite occur in fractures and as disseminations over a 6 by 3 metre area.

**BIBLIOGRAPHY**

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EMPR PF (In 104M General File - Claim map of 104M, 1970)  
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GSC BULL 227  
GSC MAP 19-1957; 1418A  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1986/04/23  
DATE REVISED: 1988/11/08

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 056**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIO CREEK**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M13E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 29 N  
LONGITUDE: 135 36 02 W  
ELEVATION: Metres

NORTHING: 6646892  
EASTING: 466460

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location BT-31/7-8 (Assessment Report 7336).

COMMODITIES: Zinc                      Lead                      Copper                      Tin                      Fluorite

**MINERALS**

SIGNIFICANT:	Sphalerite	Galena	Chalcopyrite	Cassiterite	Fluorite
ASSOCIATED:	Quartz				
ALTERATION:	Quartz	Muscovite	Fluorite		
ALTERATION TYPE:	Greisen				
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Industrial Min.  
TYPE: L06      Porphyry Sn

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Mesozoic-Cenozoic			Coast Plutonic Complex

LITHOLOGY: Alaskite  
Quartz Monzonite

HOSTROCK COMMENTS: The Coast Plutonic Complex is Cretaceous to Tertiary.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**CAPSULE GEOLOGY**

The area of the Rio Creek showing is underlain by strongly fractured alaskite to leucocratic quartz monzonite of the Cretaceous to Tertiary Coast Plutonic Complex.

Outcrops along Rio Creek contain fractures lined with fine-grained quartz and light green muscovite, sporadically mineralized with sphalerite, galena, chalcopyrite, cassiterite, and fluorite. One 3 metre zone contains subparallel bands of sphalerite and galena 2 to 10 centimetres wide.

**BIBLIOGRAPHY**

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EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC BULL 227  
GSC MAP 19-1957; 1418A  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1986/04/23  
DATE REVISED: 1988/11/08

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 057**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOON LAKE**, TUT 2, TUT 1-4,  
CARB, CAMP

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 48 29 N  
LONGITUDE: 134 42 28 W  
ELEVATION: 1645 Metres

NORTHING: 6630071  
EASTING: 516394

LOCATION ACCURACY: Within 500M  
COMMENTS: Fieldwork 1985, Fig. 26-1.

COMMODITIES: Silver                      Zinc                      Lead                      Arsenic                      Copper  
Gold

**MINERALS**

SIGNIFICANT: Tetrahedrite      Arsenopyrite      Galena      Sphalerite      Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz      Carbonate  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal      Epigenetic      Industrial Min.  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au      J01      Polymetallic manto Ag-Pb-Zn

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	
Mesozoic-Cenozoic			Coast Plutonic Complex

LITHOLOGY: Tuff  
Breccia  
Mafic Volcanic  
Granodiorite

HOSTROCK COMMENTS: The Coast Plutonic Complex is Cretaceous to Tertiary.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1985

COMMODITY	GRADE	
Silver	490.0000	Grams per tonne
Arsenic	1.3700	Per cent
Gold	0.3000	Grams per tonne
Copper	0.0960	Per cent
Lead	1.3900	Per cent
Zinc	0.2600	Per cent

REFERENCE: Fieldwork 1985, pages 184,188.

**CAPSULE GEOLOGY**

The Moon Lake showing is located 40 kilometres south of Carcross at the southeast end of Tutshi Lake near Moon Lake.

The Tut claims were staked in 1986 and 1987 by Noranda to cover a large alteration zone and the source areas for gold bearing float. The claims cover several old showings known as the Jessie and Great Northern (104M 027) and Big Thing (104M 071). An extensive geophysical and geochemical program, conducted in 1987, outlined two areas of interest (the Camp and Carb zones).

The area is underlain by Devonian to Permian greenschist facies Boundary Ranges Metamorphics, Upper Triassic Stuhini Group volcaniclastics and limestone and Lower Jurassic Laberge Group sediments. These have been intruded by Cretaceous to Tertiary rocks and are separated by the Llewellyn fault.

At the Camp zone a northwest-southeast trending zone of shearing is associated with strongly anomalous gold geochemistry in soils and

## CAPSULE GEOLOGY

outcrop. It was tested by two drill holes in 1988. Strongly anomalous gold values in sheared mafic volcanics and granodiorite were encountered. The results suggest weak gold enrichment either associated with the shear zone or as part of a distal facies of volcanogenic sulphide deposition within a mylonitized volcanic unit. The anomaly appears to continue to the northwest for 2 kilometres to the Jessie showing on the Tut 1 claim. A chip sample taken along the same structure 470 metres northwest of drill hole 1 assayed 3.5 grams per tonne gold over 3 metres (Assessment Report 18651).

In the Carb zone, disseminated arsenopyrite, pyrite, galena and sphalerite occur in quartz-carbonate altered Stuhini volcanics. A grab sample of quartz vein material with tetrahedrite assayed 490 grams per tonne silver, 1.39 per cent lead, 0.26 per cent zinc, 0.096 per cent copper, 1.37 per cent arsenic and 0.3 grams per tonne gold (Fieldwork 1985, pp. 184,188).

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- EMPR OF 1988-5
- EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalyuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37
- GSC OF 427, 2225 p. 42
- GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1986/12/31  
DATE REVISED: 1988/11/08

CODED BY: JB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104M 058**

NATIONAL MINERAL INVENTORY:

NAME(S): **NET 6**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 49 N  
LONGITUDE: 134 56 37 W  
ELEVATION: 700 Metres

NORTHING: 6641792  
EASTING: 503153

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample location (Assessment Report 6882).

COMMODITIES: Uranium                      Thorium

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Pegmatite                      Hydrothermal  
TYPE: I15                      Classical U veins

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Coast Plutonic Complex

LITHOLOGY: Quartz Monzonite  
Feldspar Porphyritic Quartz Monzonite  
Aplite  
Pegmatite

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1978

	<u>GRADE</u>	
Thorium	0.0070	Per cent
Uranium	0.0340	Per cent

REFERENCE: Assessment Report 6882.

**CAPSULE GEOLOGY**

The Net 6 showing is located east of Bennett Lake, south of the Yukon border.

Uranium exploration began in the area near Partridge Lake in 1979 when E & B Exploration Ltd. ran a regional exploration program.

The area of the showing is underlain by Late Cretaceous feldspar-porphyry-biotite-quartz monzonite of the Coast Plutonic Complex, in contact with the Upper Triassic Stuhini volcanics and sediments.

The plutonic rocks are cut by radioactive aplite and pegmatite dikes. A sample of an aplite dike assayed 0.034 per cent uranium (Assessment Report 6882).

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EMPR OF 1988-5, 1990-32  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
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DATE CODED: 1987/08/19  
DATE REVISED: 1988/11/08

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104M 059**

NATIONAL MINERAL INVENTORY:

NAME(S): **NET 3, AG GULLY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 59 N  
LONGITUDE: 134 58 47 W  
ELEVATION: 1370 Metres

NORTHING: 6642100  
EASTING: 501134

LOCATION ACCURACY: Within 500M  
COMMENTS: "U" springs (Assessment Report 7417).

COMMODITIES: Silver                      Uranium                      Thorium                      Molybdenum                      Tungsten

**MINERALS**

SIGNIFICANT: Silver                      Molybdenite                      Scheelite  
ALTERATION: Saussurite                      Garnet  
COMMENTS: Manganese oxides with saussurite.  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Unconsolidated  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Syngenetic  
TYPE: I15                      Classical U veins  
DIMENSION: 6 x 2                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Cretaceous                                                                Coast Plutonic Complex

LITHOLOGY: Quartz Monzonite  
Biotite Muscovite Quartz Monzonite  
Porphyritic Feldspar Quartz Monzonite  
Soil

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Plutonic Rocks

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1979  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE                        
Silver                      65.0000                      Grams per tonne  
REFERENCE: Assessment Report 7417.

**CAPSULE GEOLOGY**

The area of the Net 3 showing, west of Bennett Lake, is underlain by Late Cretaceous garnet biotite quartz monzonite and feldspar porphyry biotite quartz monzonite of the Coast Plutonic Complex.

Uranium exploration began in the area near Partridge Lake in 1979 when E & B Exploration Ltd. ran a regional exploration program.

A radioactive zone is associated with a 1 to 2 metre wide, 6 metre long oxidized fracture zone within biotite-muscovite-garnet quartz monzonite, near its contact with the porphyritic pluton. The rock is highly altered to a soft, readily decomposed mixture of saussurite and manganese oxide. A sample of the zone assayed 65 grams per tonne silver (Assessment Report 7417).

A uranium-rich spring, 50 metres to the south, contains highly anomalous silver and uranium organic-sediment values. Assays were up to 0.46 per cent uranium and 243 grams per tonne silver (Assessment Report 7417).

A heavy mineral sample taken from a lower elevation contained visible silver, molybdenite and scheelite grains in the heavy non-magnetic fraction. This fraction contained 0.25 per cent uranium and 0.17 per cent thorium (Assessment Report 7417).

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EMPR PF (In 104M General File - Claim map of 104M, 1970)  
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GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1987/08/19  
DATE REVISED: 1988/11/08

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 059**

MINFILE NUMBER: **104M 060**

NATIONAL MINERAL INVENTORY:

NAME(S): **JONES**, GOLDEN PARTRIDGE, JULIA

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 59 N  
LONGITUDE: 135 19 27 W  
ELEVATION: 1600 Metres

NORTHING: 6647712  
EASTING: 481900

LOCATION ACCURACY: Within 500M  
COMMENTS: Hot spot (Assessment Report 7321).

COMMODITIES: Uranium                      Thorium

**MINERALS**

SIGNIFICANT: Unknown  
ALTERATION: Hematite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Pegmatite                      Hydrothermal  
TYPE: I15      Classical U veins

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Mesozoic-Cenozoic                                                                Unnamed/Unknown Informal

LITHOLOGY: Brecciated Quartz Monzonite  
Pegmatite  
Rhyolite Dike  
Andesite Dike

HOSTROCK COMMENTS: Undifferentiated Cretaceous-Tertiary granitic rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
  
CATEGORY: Assay/analysis                      YEAR: 1979  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Thorium                      0.0150      Per cent  
Uranium                      0.0270      Per cent

REFERENCE: Assessment Report 7321.

**CAPSULE GEOLOGY**

The Jones showing is located by Jones Creek near the B.C.-Yukon border about 80 kilometres south of Whitehorse.

Exploration began in the Partridge Lake area in 1979 when E & B Exploration Ltd. ran a regional exploration program for uranium. Doron Explorations Ltd. acquired the claims, now called the Golden Partridge property, and conducted a reconnaissance geological and geochemical program. A brief prospecting program was undertaken in 1987. Prospecting and sampling was done in 1988.

The area of the Jones showing is situated at the south margin of the Bennett Lake Caldera Complex, within brecciated and unbrecciated quartz monzonite of Cretaceous to Tertiary age. The plutonics are cut by rhyolite and andesite dikes.

A small radioactive hematitic zone occurs in brecciated quartz monzonite, near a thin pegmatite dike. Radioactivity is 20 times background and a sample assayed 0.027 per cent uranium and 0.015 per cent thorium (Assessment Report 7321).

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EMPR EXPL 1979-294  
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EMPR PF (In 104M General File - Claim map of 104M, 1970)

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GSC BULL 227  
GSC MAP 19-1957; 1418A  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 68-01A p. 32; 69-01A pp. 21-27; 78-01A pp. 69-70; 91-01A pp.  
147-153; 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1987/08/19  
DATE REVISED: 1988/11/08

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 061**

NATIONAL MINERAL INVENTORY:

NAME(S): **CATFISH**, NORTH MOUNTAIN, FRIENDSHIP SILVER,  
LINDA, CATFISH 2-3, 6-7, 10-11

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 53 20 N  
LONGITUDE: 134 50 13 W  
ELEVATION: 1315 Metres

NORTHING: 6639048  
EASTING: 509125

LOCATION ACCURACY: Within 500M  
COMMENTS: Sample C8R 14R, adit (Assessment Report 18522).

COMMODITIES:	Silver	Gold	Zinc	Lead	Antimony
	Copper	Arsenic	Molybdenum		

**MINERALS**

SIGNIFICANT:	Pyrite	Stibnite	Arsenopyrite	Galena	Molybdenite
ASSOCIATED:	Quartz				
ALTERATION:	Limonite	Jarosite			
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Igneous-contact  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
COMMENTS: Mineralized quartz veins trend northeast and are 1 to 1.5 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic			Boundary Ranges Metamor. Suite
Upper Cretaceous			Coast Plutonic Complex

LITHOLOGY: Quartz Feldspar Chlorite Gneiss  
Granite  
Chlorite Sericite Schist  
Diorite  
Gossan

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Boundary Ranges
TERRANE: Stikine	RELATIONSHIP: Plutonic Rocks
METAMORPHIC TYPE: Regional	GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	15.7000 Grams per tonne
Arsenic	1.1300 Per cent
Gold	1.7000 Grams per tonne
Copper	0.0250 Per cent
Lead	0.1915 Per cent
Zinc	0.0262 Per cent

COMMENTS: Over 1.5 metres. Also 0.0121 per cent antimony.  
REFERENCE: Assessment Report 18522.

**CAPSULE GEOLOGY**

The Catfish showings are located on the west side of Tutshi Lake near Paddy Pass. There are 2 other showings on the Catfish property, the Catfish-Middle Ridge (104M 074) and the Catfish-South Mountain (104M 075).

Previous work consists of mapping and prospecting (adits, trenches and blast holes) and is largely undocumented. The property was explored for molybdenum in the 1970s and for gold at the turn of the century. The four adits and trenching are circa 1900. A prospecting program was completed on the north mountain by Copland in 1986. In 1988, Frame Mining Corp. conducted mapping, petrology and

## CAPSULE GEOLOGY

geochemical surveys. Detailed mapping, and sampling was done in 1989. In 1990, geophysical surveys were conducted on the property. An induced polarization survey in 1990 resulted in moderate to strong chargeability responses over known vein structures (Assessment Report 19794).

The Catfish claims straddle the contact between granite of the Cretaceous to Tertiary Coast Plutonic Complex and the Devonian to Permian and older Boundary Ranges Metamorphic Suite. The metamorphics form a 200 metre thick exposure consisting of quartz-feldspar chlorite gneiss and chlorite-sericite schist. A well defined fault, striking 160 degrees and dipping vertically, marks the gneiss and granite contact. Overlying the metamorphic rocks are very gossanous dacites and andesites of the Stuhini Group.

The property follows the regional northwest trend with foliations averaging 140 to 160 degrees with near vertical dips. Numerous quartz veins, ranging from 1.0 centimetre to 1.5 metres, crosscut both the granite and metamorphic rocks. The first set, which trends east-southeast, are generally barren. The major mineralized veins trend northeast and mineralization is confined to quartz veins which have an arsenopyrite rich core and a green to yellow alteration envelope (scorodite).

A 15 metre adit was driven along the main vein on the north mountain. The vein, characterized by a coarse-grained, comb-structured, vuggy, milky to white quartz, is traceable on the surface for 200 metres. Moderate to intense limonite and jarosite stain occurs on weathered surfaces. Mineralization occurs as coarse blebs in the vein and consists of pyrite, stibnite, arsenopyrite and galena. The west contact is essentially a stockwork with finely disseminated mineralization.

In 1986, samples assayed up to 23.32 grams per tonne gold and 147.1 grams per tonne silver (Assessment Report 15972). A chip sample in 1988, over 1.5 metres, assayed 1.6 grams per tonne gold, 15.7 grams per tonne silver, 0.025 per cent copper, 0.1915 per cent lead, 0.0262 per cent zinc, 1.13 per cent arsenic and 0.0121 per cent antimony (Assessment Report 18522, sample C8R 14R).

A parallel vein, 1.5 metres in width, occurs just west of the main vein. In 1986, a sample taken across the vein assayed 6.8 grams per tonne silver, 0.024 grams per tonne gold, 0.032 per cent lead, 0.018 per cent zinc, 0.005 per cent tin and 0.012 per cent copper (Assessment Report 15972).

Coarse flakes of molybdenite were observed on fracture surfaces in the granite intrusion. Molybdenum in quartz veins was observed on the north mountain west of the main adit.

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EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988; Location Map, Catfish claims)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 312; 37  
GSC OF 427, 2225 p. 42  
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DATE CODED: 1987/08/28  
DATE REVISED: 1993/07/14

CODED BY: LLC  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 062**

NATIONAL MINERAL INVENTORY:

NAME(S): **PIKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 53 44 N  
LONGITUDE: 134 44 22 W  
ELEVATION: 1000 Metres

NORTHING: 6639808  
EASTING: 514579

LOCATION ACCURACY: Within 500M

COMMENTS: Location from Assessment Report 15808.

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Clay  
ALTERATION TYPE: Argillic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE    GROUP    FORMATION    IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic    Stuhini    Undefined Formation

LITHOLOGY: Andesite  
Feldspar Porphyritic Andesite  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEINLETS

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1986

COMMODITY	GRADE	
Silver	0.5000	Grams per tonne
Gold	0.5900	Grams per tonne

COMMENTS: Grab sample of quartz veinlets.  
REFERENCE: Assessment Report 15808.

**CAPSULE GEOLOGY**

The Pike showing is located on the east side of Tutshi Lake across from the Paddy Pass. The showing outcrops in a creek bed between 900 and 1060 metres elevation.

The outcrop is composed of Upper Triassic Stuhini Group pyritiferous andesite. The andesite is argillically altered, medium-grained and has a sugary texture. Intense gossans occur along with numerous highly fractured zones. The zones range from 1 to several metres across and contain intense alteration associated with slickensides on the margins. Very fine-grained stringers and small veins, up to 2 centimetres wide, occur. Pyrite and minor amounts of chalcopyrite were noted.

The highest value came a grab sample of quartz veinlets in the andesite which assayed of 0.59 grams per tonne gold, and 0.5 grams per tonne silver (Assessment Report 15808).

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EMPR FIELDWORK 1987, pp. 217-231; 1990, pp. 139-144, 153-159  
EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In

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REPORT: RGEN0100

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GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1988/11/03  
DATE REVISED: 1988/12/05

CODED BY: SED  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104M 063**

NATIONAL MINERAL INVENTORY:

NAME(S): **KIM**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 20 59 N  
LONGITUDE: 134 27 07 W  
ELEVATION: Metres

NORTHING: 6579123  
EASTING: 531167

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location from written description (Property File - McDougall, J.J., 1965).

COMMODITIES: Copper                      Zinc                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Shear                      Disseminated  
CLASSIFICATION: Unknown  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic-Cenozoic			Coast Plutonic Complex
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Granite  
Amphibolite  
Quartzite  
Gneiss  
Schist  
Limestone

HOSTROCK COMMENTS: The Coast Plutonic Complex is Cretaceous to Tertiary.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks  
METAMORPHIC TYPE: Contact

Stikine  
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Boundary Ranges

GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1965

COMMODITY	GRADE	
Silver	109.6960	Grams per tonne
Gold	0.6856	Grams per tonne
Copper	4.0300	Per cent
Zinc	0.8200	Per cent

COMMENTS: A 30 to 50 "piece" sample across a 4.5 to 6.0 metre width.

REFERENCE: Property File - McDougall, J.J., 1965.

**CAPSULE GEOLOGY**

The Kim showing is located in and parallel to Kim Creek, 7.25 kilometres from its junction with the Swanson River.

The area around the showing is at or near the contact of the Cretaceous to Tertiary Coast Plutonic Complex with quartzite, gneiss, schist and limestone of the Devonian to Permian and older Boundary Ranges Metamorphic Suite.

Locally, the showing is located in one of several poorly exposed fault (or shear?) zones in granitic rock containing meta-sediment or meta-volcanic remnants (termed amphibolite).

A 30 to 50 "piece" sample taken across a 4.5 to 6 metre width of the only visibly mineralized section (chalcopyrite and quartz with malachite staining) assayed 4.03 per cent copper, 0.82 per cent zinc, 109.696 grams per tonne silver and 0.6856 grams per tonne gold (Property File - McDougall, J.J., 1965).

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EMPR RGS 37, 1993  
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GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;  
91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1988/11/03  
DATE REVISED: 1993/07/25

CODED BY: SED  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 064**

NATIONAL MINERAL INVENTORY:

NAME(S): **NA 5062**, NA, WILLISON BAY

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M01E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 12 33 N  
LONGITUDE: 134 08 06 W  
ELEVATION: 1209 Metres

NORTHING: 6563664  
EASTING: 549394

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location of samples WB 8802 and 8803 on the east side of Hobo Creek (Assessment Report 19887).

COMMODITIES: Copper Silver Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Probably of the Cretaceous to Tertiary Coast Plutonic Complex.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1989
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	34.3000 Grams per tonne
Gold	0.0680 Grams per tonne
Copper	2.7300 Per cent

COMMENTS: Sample WB 8803 from an 8-centimetre wide quartz-carbonate vein. Also, 0.19 per cent lead and 0.05 per cent zinc.  
REFERENCE: Assessment Report 19887.

**CAPSULE GEOLOGY**

The NA 5062 showing is located on the east side of Hobo Creek, just east of Mount Mussen.  
The showing was discovered in 1989 by Pacific Sentinel during prospecting on their Willison Bay property.  
The area is underlain by sheared Cretaceous granodiorite, probably of the Cretaceous to Tertiary Coast Plutonic Complex.  
A quartz-carbonate vein and iron-carbonate veinlets are hosted in sheared granodiorite strikes 090 degrees and dips 85 degrees south. One per cent malachite staining occurs on fractures.  
A sample from an 8 centimetre wide quartz-carbonate vein containing 1 to 2 per cent disseminated pyrite and 2 to 3 per cent chalcopyrite assayed 0.068 grams per tonne gold, 34.3 grams per tonne silver, 2.73 per cent copper, 0.19 per cent lead and 0.05 per cent zinc (Assessment Report 19887, sample WB 8803).

**BIBLIOGRAPHY**

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EMPR FIELDWORK 1990, pp. 139-144, 153-159  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 636  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

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GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 91-01A pp. 147-153;  
92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
Placer Dome File

DATE CODED: 1993/05/28  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 065**

NATIONAL MINERAL INVENTORY:

NAME(S): **MIP**, PIM 9, PIM 1-13

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M14E  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 59 55 51 N  
LONGITUDE: 135 14 46 W  
ELEVATION: 1350 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6643734  
EASTING: 486244

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate center of the MIP vein on the PIM 9 claim (Assessment Report 17970).

COMMODITIES: Silver                      Gold                      Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Pyrite              Galena              Sphalerite              Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Sericite              Clay              Chlorite              Epidote              Hematite  
ALTERATION TYPE: Argillic              Propylitic              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au              H05      Epithermal Au-Ag: low sulphidation  
DIMENSION: 280 x 5      Metres              STRIKE/DIP:              TREND/PLUNGE:  
COMMENTS: One vein is up to 5 metres wide and is parallel to a rhyolite dike.  
The vein structure can be traced for 280 metres to the south.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Eocene              Skukum                      Unnamed/Unknown Formation                      Coast Plutonic Complex  
Mesozoic-Cenozoic

LITHOLOGY: Quartz Monzonite  
Hornblende Biotite Quartz Monzonite  
Rhyolite Dike  
Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Plutonic Rocks

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1988  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      66.5000              Grams per tonne  
Gold                      0.7500              Grams per tonne  
Copper                      0.1000              Per cent  
Lead                      0.7800              Per cent  
Zinc                      0.1400              Per cent

COMMENTS: Highest assay values from samples of the MIP vein.  
REFERENCE: Assessment Report 17970.

**CAPSULE GEOLOGY**

The MIP showing is located on the Pim 9 claim east of Partridge Lake and south of the Yukon border.

There is no record of previous work on the Pim claims. Geological mapping, prospecting and sampling was carried out on the claims in 1988.

The area occurs on the eastern edge of the Cretaceous to Tertiary Coast Plutonic Complex near the boundary with folded Mesozoic and Paleozoic volcanic and sedimentary rocks of the Whitehorse Nechako trough.

The showing is underlain by hornblende biotite quartz monzonite of the Coast Plutonic Complex. The quartz monzonite is overlain and intruded by Eocene volcanics and related feeder dikes of the Skukum Group (Bennett Lake Caldera Complex). These are cut by steeply dipping porphyritic rhyolite "ring" dikes. The main structural

## CAPSULE GEOLOGY

features comprise concentric and radial fracture systems, two nested calderas and a central dome over Partridge Lake.

One significant showing, the MIP vein, and four minor occurrences have been discovered on the claims. The mineralization is controlled by north-northeast trending structures.

The MIP vein structure, gossanous with boxwork weathering, is traceable for over 500 metres. A float boulder of quartz vein material similar to the MIP vein was found 600 metres to the east. The northern part of the structure consists of a 2 metre wide chlorite-epidote-hematite alteration zone in quartz monzonite with sheeted quartz veins up to 5 centimetres wide. The vein widens to the south where the vein is 0.5 to 5 metres wide and can be traced for 280 metres. Further to the south, where exposure is limited, the vein is still open.

The vein consists of massive sugary honey colored to white quartz, some euhedral quartz crystals in vugs and sericite with minor amounts of clay. Mineralization consists of pyrite (up to 5 per cent), minor galena, spahlerite and chalcopyrite in crystal clusters up to 3 millimetres. The margins of the vein are altered.

Samples from the vein assayed up to 66.5 grams per tonne silver, 0.75 grams per tonne gold, 0.78 per cent lead, 0.1 per cent copper and 0.14 per cent zinc (Assessment Report 17970). The best mineralization occurs in a 5 centimetre wide quartz vein on the edge of a 5 metre wide rhyolite dike. This dike parallels the main MIP vein 50 metres to the east.

On the steep west facing slopes above the south end of Partridge Lake numerous gossanous quartz veins, with up to 1 per cent pyrite, occur. The veins have associated chlorite-sericite-hematite alteration zones, up to 40 centimetres wide, in quartz monzonite. Samples from these veins assayed up to 56.9 grams per tonne silver, 0.19 per cent lead and were anomalous in arsenic and gold (Assessment Report 17970).

On the northwestern part of the claims a large east striking shear zone is 20 metres wide. One sample assayed 4.45 grams per tonne silver and 0.17 per cent copper (Assessment Report 17970).

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- EMPR FIELDWORK 1990, pp. 139-144, 153-159
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- EMPR RGS 37, 1993
- GSC BULL 227
- GSC MAP 19-1957; 1418A
- GSC MEM 37
- GSC OF 427, 2225 p. 42
- GSC P 68-01A p. 32; 69-01A pp. 21-27; 78-01A pp. 69-70; 91-01A pp. 147-153; 92-01A
- GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1993/07/05  
DATE REVISED: 1993/07/05

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 066**

NATIONAL MINERAL INVENTORY:

NAME(S): **YAK**, GOLDEN PARTRIDGE

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104M14W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 58 12 N  
 LONGITUDE: 135 21 21 W  
 ELEVATION: 1676 Metres

NORTHING: 6648124  
 EASTING: 480135

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz vein (Assessment Report 18176).

COMMODITIES: Silver                      Gold                      Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Pyrite              Arsenopyrite              Sphalerite              Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal              Epigenetic

TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au              H05      Epithermal Au-Ag: low sulphidation

COMMENTS: The vein is 20 to 150 centimetres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic-Cenozoic			Coast Plutonic Complex
Eocene			Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
 Hornblende Biotite Quartz Monzonite  
 Rhyolite Dike

HOSTROCK COMMENTS: The dikes are Eocene in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
 TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Chip

COMMODITY

GRADE

COMMODITY	GRADE	UNIT
Silver	25.2000	Grams per tonne
Gold	0.0440	Grams per tonne
Copper	0.0048	Per cent
Lead	0.0051	Per cent
Zinc	0.0044	Per cent

COMMENTS: Chip sample across 150 centimetres (63826). Grab samples assayed higher values.

REFERENCE: Assessment Report 18176.

**CAPSULE GEOLOGY**

The Yak showing is located about 80 kilometres south of Whitehorse, west of Partridge Lake. There are several other similar veins in the area (104M 067 and 068).

Exploration began in the Partridge Lake area in 1979 when E & B Exploration Ltd. ran a regional exploration program for uranium. Doron Explorations Ltd. acquired the claims, now called the Golden Partridge property, and conducted a reconnaissance geological and geochemical program. A brief prospecting program was undertaken in 1987. Prospecting and sampling was done in 1988.

The area is underlain by rocks of the Bennett Lake Caldera Complex. The complex consists of two nested calderas, an eroded structural dome and a thick succession of pyroclastic and epiclastic rocks. The complex is surrounded by granitic rocks containing pendants. The caldera is located near the eastern contact of the Coast Plutonic Complex and the Whitehorse Trough. High level plutonic rocks intruded in early Tertiary time.

The 20 to 150 centimetre wide quartz vein is mineralized with galena, pyrite, arsenopyrite, sphalerite and chalcopyrite. The vein

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**CAPSULE GEOLOGY**

is hosted in hornblende biotite quartz monzonite and seems to be associated with Eocene rhyolite dikes.

A chip sample (63826) across 150 centimetres assayed 0.044 gram per tonne gold, 25.2 grams per tonne silver, 0.0051 per cent lead, 0.0044 per cent zinc and 0.0048 per cent copper (Assessment Report 18176).

**BIBLIOGRAPHY**

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EMPR BULL 105  
EMPR EXPL 1979-294  
EMPR FIELDWORK 1990, pp. 139-144, 153-159  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
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GSC OF 427, 2225 p. 42  
GSC P 68-01A p. 32; 69-01A pp. 21-27; 78-01A pp. 69-70; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1993/07/12  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104M 067**

NATIONAL MINERAL INVENTORY:

NAME(S): **YAK NORTH**, GOLDEN PARTRIDGE, YAK 1

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 58 20 N  
LONGITUDE: 135 21 17 W  
ELEVATION: 1676 Metres

NORTHING: 6648371  
EASTING: 480198

LOCATION ACCURACY: Within 500M

COMMENTS: Vein (Assessment Report 18176).

COMMODITIES: Lead Silver Copper Gold Zinc

**MINERALS**

SIGNIFICANT: Galena Sphalerite Chalcopyrite  
COMMENTS: Mineralogy assumed from other veins in the area.  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
COMMENTS: The vein is 40 centimetres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic-Cenozoic Eocene			Coast Plutonic Complex Unnamed/Unknown Informal

LITHOLOGY: Hornblende Biotite Quartz Monzonite  
Rhyolite Dike  
Quartz Monzonite

HOSTROCK COMMENTS: The dikes are Eocene in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY

YEAR: 1988

COMMODITY	GRADE	
Silver	50.0000	Grams per tonne
Gold	0.0220	Grams per tonne
Copper	0.0570	Per cent
Lead	71.0000	Per cent
Zinc	0.8400	Per cent

COMMENTS: Sample 63822.

REFERENCE: Assessment Report 18176.

**CAPSULE GEOLOGY**

The Yak North showing is located about 80 kilometres south of Whitehorse, west of Partridge Lake. There are several other similar veins in the area (104M 066 and 068).

Exploration began in the Partridge Lake area in 1979 when E & B Exploration Ltd. ran a regional exploration program for uranium. Doron Explorations Ltd. acquired the claims, now called the Golden Partridge property, and conducted a reconnaissance geological and geochemical program. A brief prospecting program was undertaken in 1987. Prospecting and sampling was done in 1988.

The area is underlain by rocks of the Bennett Lake Caldera Complex. The complex consists of two nested calderas, an eroded structural dome and a thick succession of pyroclastic and epiclastic rocks. The complex is surrounded by granitic rocks containing pendants. The caldera is located near the eastern contact of the Coast Plutonic Complex and the Whitehorse Trough. High level plutonic rocks intruded in early Tertiary time.

The 40 centimetre wide quartz vein is mineralized with galena, sphalerite and chalcopyrite (assumed from other veins in the area).

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**CAPSULE GEOLOGY**

The vein is hosted in hornblende biotite quartz monzonite and seems to be associated with Eocene rhyolite dikes.

A grab sample (63822) assayed 0.022 gram per tonne gold, more than 50.0 grams per tonne silver, 71 per cent lead, 0.84 per cent zinc and 0.057 per cent copper (Assessment Report 18176).

**BIBLIOGRAPHY**

EMPR ASS RPT \*18176, 18190  
EMPR BULL 105  
EMPR EXPL 1979-294  
EMPR FIELDWORK 1990, pp. 139-144, 153-159  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 1418A  
GSC MEM 37  
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GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1993/07/12  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 068**

NATIONAL MINERAL INVENTORY:

NAME(S): **YAK SOUTH**, GOLDEN PARTRIDGE, YAK 1

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 56 N  
LONGITUDE: 135 20 50 W  
ELEVATION: 1585 Metres

NORTHING: 6647626  
EASTING: 480613

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz vein (Assessment Report 18176).

COMMODITIES: Silver                      Lead                      Zinc                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Galena                      Arsenopyrite                      Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I05      Polymetallic veins      Ag-Pb-Zn±Au  
DIMENSION: 2                      Metres  
COMMENTS: The vein is 2 metres wide.

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Mesozoic-Cenozoic  
Eocene

Coast Plutonic Complex  
Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite  
Rhyolite Dike  
Hornblende Biotite Quartz Monzonite

HOSTROCK COMMENTS: The dikes are Eocene in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	20.2000	Grams per tonne
Gold	0.0120	Grams per tonne
Copper	0.0210	Per cent
Lead	0.1839	Per cent
Zinc	0.2760	Per cent

COMMENTS: Highest of grab samples (63815).

REFERENCE: Assessment Report 18176.

**CAPSULE GEOLOGY**

The Yak South showing is located about 80 kilometres south of Whitehorse, west of Partridge Lake. There are several other similar veins in the area (104M 066 and 067).

Exploration began in the Partridge Lake area in 1979 when E & B Exploration Ltd. ran a regional exploration program for uranium. Doron Explorations Ltd. acquired the claims, now called the Golden Partridge property, and conducted a reconnaissance geological and geochemical program. A brief prospecting program was undertaken in 1987. Prospecting and sampling was done in 1988.

The area is underlain by rocks of the Bennett Lake Caldera Complex. The complex consists of two nested calderas, an eroded structural dome and a thick succession of pyroclastic and epiclastic rocks. The complex is surrounded by granitic rocks containing pendants. The caldera is located near the eastern contact of the Coast Plutonic Complex and the Whitehorse Trough. High level plutonic rocks intruded in early Tertiary time.

The 2 metre wide quartz vein is mineralized with galena, arsenopyrite and sphalerite. The vein is hosted in hornblende

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**CAPSULE GEOLOGY**

biotite quartz monzonite and seems to be associated with Eocene rhyolite dikes.

The highest grab sample (63815) assayed 0.012 gram per tonne gold, 20.2 grams per tonne silver, 0.1839 per cent lead, 0.2760 per cent zinc and 0.0210 per cent copper (Assessment Report 18176).

**BIBLIOGRAPHY**

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EMPR BULL 105  
EMPR EXPL 1979-294  
EMPR FIELDWORK 1990, pp. 139-144, 153-159  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 1418A  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 68-01A p. 32; 69-01A pp. 21-27; 78-01A pp. 69-70; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1993/07/12  
DATE REVISED: 1993/07/12

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 069**

NATIONAL MINERAL INVENTORY:

NAME(S): **JULIA**, GOLDEN PARTRIDGE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 50 N  
LONGITUDE: 135 19 28 W  
ELEVATION: 1737 Metres

NORTHING: 6647434  
EASTING: 481884

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz vein (Assessment Report 18176).

COMMODITIES: Silver                      Gold                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite              Arsenopyrite              Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05      Polymetallic veins Ag-Pb-Zn±Au  
COMMENTS: The vein is 20 to 40 centimetres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Mesozoic-Cenozoic                                                                Coast Plutonic Complex

LITHOLOGY: Granodiorite  
Hornblende Biotite Quartz Monzonite  
Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	10.6000      Grams per tonne
Gold	0.0480      Grams per tonne
Copper	0.0132      Per cent
Lead	0.1826      Per cent
Zinc	0.0422      Per cent

COMMENTS: Chip sample across 110 centimetres (63805) from quartz vein with lenses of gouge and altered granodiorite, minor galena and pyrite.

REFERENCE: Assessment Report 18176.

**CAPSULE GEOLOGY**

The Julia showing is located about 80 kilometres south of Whitehorse, west of Partridge Lake.

Exploration began in the Partridge Lake area in 1979 when E & B Exploration Ltd. ran a regional exploration program for uranium. Doron Explorations Ltd. acquired the claims, now called the Golden Partridge property, and conducted a reconnaissance geological and geochemical program. A brief prospecting program was undertaken in 1987. Prospecting and sampling was done in 1988.

The area is underlain by rocks of the Bennett Lake Caldera Complex. The complex consists of two nested calderas, an eroded structural dome and a thick succession of pyroclastic and epiclastic rocks. The complex is surrounded by granitic rocks containing pendants. The caldera is located near the eastern contact of the Coast Plutonic Complex and the Whitehorse Trough. High level plutonic rocks intruded in early Tertiary time.

The 20 to 40 centimetre wide quartz vein, with a few vugs exhibiting coxcomb texture, consists of fine grained quartz with variable amounts of chalcedony. Gouge zones, up 0.5 metres wide, occur on both sides of the vein. The vein is sparsely mineralized with bands of fine-grained galena, sphalerite, pyrite and

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**CAPSULE GEOLOGY**

arsenopyrite. The vein, striking 65 to 70 degrees and dipping steeply north, is hosted in granodiorite of the Cretaceous to Tertiary Coast Plutonic Complex.

A chip sample (63805) across 110 centimetres assayed 0.048 gram per tonne gold, 10.6 grams per tonne silver, 0.1826 per cent lead, 0.0422 per cent zinc and 0.0132 per cent copper (Assessment Report 18176). Silver values increase as galena and sphalerite content increases.

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EMPR FIELDWORK 1990, pp. 139-144, 153-159  
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GSC BULL 227  
GSC MAP 19-1957; 1418A  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 68-01A p. 32; 69-01A pp. 21-27; 78-01A pp. 69-70; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1993/07/12  
DATE REVISED: 1993/07/12

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 070**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE** GOLDEN PARTRIDGE, BACKYAK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 58 44 N  
LONGITUDE: 135 24 12 W  
ELEVATION: 1920 Metres

NORTHING: 6649129  
EASTING: 477489

LOCATION ACCURACY: Within 500M

COMMENTS: The Eagle vein (Assessment Report 18176).

COMMODITIES: Silver Gold Lead

**MINERALS**

SIGNIFICANT: Pyrite Galena Fluorite  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Eocene

**GROUP**

Skukum

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Tuff  
Altered Volcanic

HOSTROCK COMMENTS: The hostrocks were previously included in the Jones Creek Formation.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988

SAMPLE TYPE: Channel

COMMODITY

GRADE

Silver 109.7000 Grams per tonne

COMMENTS: Pyrite-galena fluorite in altered volcanics. Channel across 30 centimetres.

REFERENCE: Assessment Report 18176.

**CAPSULE GEOLOGY**

The Eagle vein is located about 80 kilometres south of Whitehorse, west of Partridge Lake.

Exploration began in the Partridge Lake area in 1979 when E & B Exploration Ltd. ran a regional exploration program for uranium. Doron Explorations Ltd. acquired the claims, now called the Golden Partridge property, and conducted a reconnaissance geological and geochemical program. A brief prospecting program was undertaken in 1987. Prospecting and sampling was done in 1988.

The area is underlain by rocks of the Bennett Lake Caldera Complex. The complex consists of two nested calderas, an eroded structural dome and a thick succession of pyroclastic and epiclastic rocks. The complex is surrounded by granitic rocks containing pendants. The caldera is located near the eastern contact of the Coast Plutonic Complex and the Whitehorse Trough. High level plutonic rocks intruded in early Tertiary time.

The Eagle vein is mineralized with pyrite, galena and fluorite and is hosted in altered volcanics (tuff) of the Eocene Skukum Group (previously the Jones Creek Formation).

A channel sample (63826), across 30 centimetres, assayed 109.7 grams per tonne silver (Assessment Report 18176). A sample from a silicified zone in a trench assayed 44.46 grams per tonne gold and 14,356 grams per tonne silver (Assessment Report 18176).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 648  
REPORT: RGEN0100

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GSC MAP 19-1957; 1418A  
GSC MEM 37  
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GSC P 68-01A p. 32; 69-01A pp. 21-27; 78-01A pp. 69-70; 91-01A pp.  
147-153; 92-01A  
GSC SUM RPT 1911 pp. 27-58

DATE CODED: 1993/07/12  
DATE REVISED: 1993/07/12

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104M 071**

NATIONAL MINERAL INVENTORY: 104M15 Ag1

NAME(S): **BIG THING**, TUT 1, JESSIE,  
TUT 1-4

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15E  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 59 49 26 N  
LONGITUDE: 134 44 39 W  
ELEVATION: 1646 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6631826  
EASTING: 514346

LOCATION ACCURACY: Within 500M

COMMENTS: Trench at the showings named "Jessie" in Assessment Report 15500.  
This is believed to be the Big Thing showing incorrectly named  
because the Jessie showing is located to the southwest (104M 027).

COMMODITIES: Gold Silver Lead Zinc Copper

**MINERALS**

SIGNIFICANT: Galena Sphalerite Chalcopyrite Arsenopyrite  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive Podiform Vein Breccia  
CLASSIFICATION: Volcanogenic Hydrothermal  
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn 105 Polymetallic veins Ag-Pb-Zn±Au  
COMMENTS: The sulphide zone is about 2 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic Stuhini Undefined Formation

LITHOLOGY: Tuff

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Channel

YEAR: 1986

COMMODITY	GRADE	
Silver	51.4000	Grams per tonne
Gold	6.5000	Grams per tonne

COMMENTS: Sample (R78479) across 87 centimetres of sulphide zone.  
REFERENCE: Assessment Report 15500.

**CAPSULE GEOLOGY**

The Big Thing showing, on the Tut 1 claim, is located 40 kilometres south of Carcross at the southeast end of Tutshi Lake. This showing is believed to be incorrectly called the Jessie showings in Assessment Report 15500.

The Jessie showing (104M 027), to the southwest, was originally staked as the Great Northern Group in 1906. Exploration included hand and blast trenching which was reported in 1929. The Tut claims were staked in 1986 and 1987 by Noranda to cover a large alteration zone and the source areas for gold bearing float. The claims cover the Jessie and Big Thing showings. A 1987 geophysical program identified an anomaly on the Tut 7 and 8 claims that appears to be on strike with the Moon Lake showing (104M 057) to the southwest. The anomaly was tested by diamond drilling in 1988 but the results were negative.

The area is underlain by Devonian to Permian greenschist facies Boundary Ranges Metamorphics, Upper Triassic Stuhini Group volcanoclastics and limestone and Lower Jurassic Laberge Group sediments. These have been intruded by Cretaceous to Tertiary rocks.

A zone of intense silicification and brecciation contains up to 30 per cent galena, sphalerite, chalcopyrite and arsenopyrite. The mineralization occurs as pods and veins of massive sulphides in brecciated Stuhini tuff.

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**CAPSULE GEOLOGY**

A sample from this zone, over 87 centimetres, assayed 6.5 grams per tonne gold and 51.42 grams per tonne silver (Assessment Report 15500, sample R78479).

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EMPR BULL 105  
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EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
WWW <http://www.infomine.com/>

DATE CODED: 1993/07/13  
DATE REVISED: 1993/07/13

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 072**

NATIONAL MINERAL INVENTORY: 104M8 Au1

NAME(S): **WHITE MOOSE-B**, OCCURRENCE B, ICE 2,  
FEE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 28 29 N  
LONGITUDE: 134 17 07 W  
ELEVATION: 690 Metres

NORTHING: 6593132  
EASTING: 540495

LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence B (Assessment Report 19827).

COMMODITIES: Silver Lead

**MINERALS**

SIGNIFICANT: Galena Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Hematite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Amphibolitic Gneiss  
Schist

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Teslin Plateau  
RELATIONSHIP:  
GRADE:

**INVENTORY**

ORE ZONE: VEIN  
REPORT ON: N  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
YEAR: 1989  
COMMODITY GRADE  
Silver 71.6000 Grams per tonne  
Lead 1.3400 Per cent  
COMMENTS: Average of grab samples of mineralized quartz material. Trace gold and 0.01 per cent copper.  
REFERENCE: Assessment Report 19827.

**CAPSULE GEOLOGY**

The White Moose-B showing is located on the west shore of Taku Arm south of Buchan Creek. Several other showings occur in the area (104M 009, 010, 012).

The area is underlain by amphibolitic gneiss and schist of the Devonian to Permian and older Boundary Ranges Metamorphic Suite.

The showing consists of a massive, vuggy, variably hematite stained and mineralized quartz vein in outcrop. Mineralization consists of up to 5 per cent galena and pyrite in blebs.

Grab samples averaged trace gold, 71.6 grams per tonne silver, 1.34 per cent lead and 0.01 per cent copper (Assessment Report 19827).

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EMPR ASS RPT \*8384, \*19827  
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EMPR OF \*1990-4

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 652  
REPORT: RGEN0100

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GSC MAP \*19-1957; \*94A; 711; 218A; 1418A; 1426  
GSC MEM 37, pp. 93,94  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119;  
91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1985/07/24  
DATE REVISED: 1993/07/14

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 073**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUPERT-L, ICE 2, OCCURRENCE L,**  
RUPERT, FEE, TAKU ARM

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 28 01 N  
LONGITUDE: 134 19 56 W  
ELEVATION: 1600 Metres

NORTHING: 6592238  
EASTING: 537844

LOCATION ACCURACY: Within 500M  
COMMENTS: Occurrence L (Assessment Report 19827).

COMMODITIES: Silver                      Gold                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Pyrite              Galena              Pyrrhotite              Chalcopyrite              Sphalerite  
ASSOCIATED: Quartz              Carbonate  
ALTERATION: Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated                      Shear  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
DIMENSION: 15 Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: The vein is 20 to 50 centimetres and has a known strike length of 15 metres.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic                                                                Boundary Ranges Metamor. Suite

LITHOLOGY: Gneiss  
Schist  
Hornblende Gneiss  
Felsic Dike

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1989  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      29.0000                      Grams per tonne  
Gold                      0.2200                      Grams per tonne  
Copper                      0.0096                      Per cent  
Lead                      0.2160                      Per cent  
Zinc                      0.3100                      Per cent

COMMENTS: Highest assays from samples.  
REFERENCE: Assessment Report 19827.

**CAPSULE GEOLOGY**

The Rupert-L showing, on the Rupert property, is located 35 kilometres southwest of Atlin on the west side of Taku Arm, just east of the Fee Glacier.  
The Rupert showings were probably discovered at around the turn of the century. Trenching, reported in 1913, located 5 mineralized quartz veins (104M 036). The Fee Group was staked to cover these showings in 1979 by United Keno Hill Mines Limited. They carried out extensive geological and geochemical surveys. In 1986, Rise Resources optioned the Ice 1 claim and the 10 crown grants comprising the Rupert Group. Rise Resources confirmed the soil anomalies discovered by United Keno Hill Mines Ltd. Placer Dome optioned the property in 1989 and conducted mapping, geochemical sampling and

## CAPSULE GEOLOGY

geophysical surveys. The Occurrence L showing was located in 1989 as a geochemical anomaly. In 1990, trenching was conducted on this anomaly.

The region is at the eastern margin of the Coast Plutonic Complex adjacent to the Intermontane Belt. The Intermontane Belt is represented by strata of the Lower Jurassic Laberge Group and the Upper Triassic Stuhini Group. These link Mississippian and older Nisling Terrane units to the west with oceanic rocks of the Cache Creek Terrane.

The area is underlain by the Devonian to Permian and older Boundary Ranges Metamorphic Suite and the Triassic or older Hale Mountain granodiorite. Cretaceous or younger rhyolite, andesite and basalt dikes intrude the older units (Sloko Group?). The Llewellyn fault is 10 kilometres to the northeast.

A shear hosted quartz vein and associated alteration contains disseminated sulphides in a gangue of limonitic quartz and minor carbonate. Mineralization, in order of abundance, consists of pyrite, galena, pyrrhotite, chalcopyrite and sphalerite.

The vein is hosted in gneiss/schist and is spatially associated with at least one felsic dike. The vein is 20 to 50 centimetres in true width and has a known strike length of 15 metres.

The best values were from samples of mineralized quartz vein and altered material from trenches. Assays ranged from 0.045 to 0.220 gram per tonne gold, 4 to 29 grams per tonne silver, 0.0079 to 0.0096 per cent copper, 0.0400 to 0.2160 per cent lead and 0.1170 to 0.31 per cent zinc (Assessment Report 21114).

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EMPR BULL 105  
EMPR FIELDWORK 1989, pp. 175-179, 181-196, 197-203; 1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 90-01E pp. 113-119; 91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
Placer Dome File

DATE CODED: 1986/12/31  
DATE REVISED: 1993/07/14

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 074**

NATIONAL MINERAL INVENTORY:

NAME(S): **CATFISH-MIDDLE RIDGE**, CATFISH 6, LINDA,  
FRIENDSHIP SILVER

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:  
LATITUDE: 59 52 13 N  
LONGITUDE: 134 49 43 W  
ELEVATION: 1308 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Sample site C8R 100R (Assessment Report 18522).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6636977  
EASTING: 509597

COMMODITIES: Gold Silver Copper Lead Zinc  
Arsenic

**MINERALS**

SIGNIFICANT: Arsenopyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite
Upper Cretaceous			Coast Plutonic Complex

LITHOLOGY: Chlorite Sericite Schist  
Quartz Feldspar Chlorite Gneiss  
Granite  
Diorite  
Gossan

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Plutonic Rocks  
GRADE: Greenschist

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1988
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		22.3000	Grams per tonne
Arsenic		5.1000	Per cent
Gold		37.7000	Grams per tonne
Copper		0.0318	Per cent
Lead		0.0218	Per cent
Zinc		0.0484	Per cent

COMMENTS: Sample from vein with bands of massive arsenopyrite. Also, 0.0302 per cent antimony.

REFERENCE: Assessment Report 18522, sample C8R 100R.

**CAPSULE GEOLOGY**

The Catfish-Middle Ridge showings are located 2.5 kilometres west of Tutshi Lake near Paddy Pass. The Catfish property includes the Catfish (104M 061) and Catfish-South Mountain showings (104M 075).

Previous work consists of mapping and prospecting (adits, trenches and blast holes) and is largely undocumented. The property was explored for molybdenum in the 1970s and for gold at the turn of the century. The four adits and trenching are circa 1900. A prospecting program was completed on the north mountain by Copland in 1986. In 1988, Frame Mining Corp. conducted mapping, petrology and geochemical surveys. Detailed mapping, and sampling was done in 1989. In 1990, geophysical surveys were conducted on the property.

## CAPSULE GEOLOGY

An induced polarization survey in 1990 resulted in moderate to strong chargeability responses over known vein structures (Assessment Report 19794). In the Middle Ridge area, there are 2 adits and a major trench.

The Catfish claims straddle the contact between granite of the Cretaceous to Tertiary Coast Intrusive Complex and the Devonian to Permian and older Boundary Ranges Metamorphic Suite. The metamorphics form a 200 metre thick exposure consisting of quartz-feldspar-chlorite gneiss and chlorite-sericite schist. A well defined fault, striking 160 degrees and dipping vertically, marks the gneiss and granite contact. Overlying the metamorphic rocks are very gossanous dacites and andesites of the Upper Triassic Stuhini Group.

The property follows the regional northwest trend; foliations average 140 to 160 degrees with near vertical dips. Numerous quartz veins, ranging from 1.0 centimetre to 1.5 metres, crosscut both the granite and metamorphic rocks. The first set, which trends east-southeast, are generally barren. The major mineralized veins trend northeast. Mineralization is confined to quartz veins which have an arsenopyrite-rich core and a green to yellow alteration envelope (scorodite).

The lowest adit, at 1200 metres, is 12 metres long and was driven to test a 1.35 metre wide quartz vein exposed on surface. The adit is about 7 metres long and was abandoned before reaching the vein. The entrance is almost totally caved in.

About 85 metres above this adit a major trench and a partially caved adit occurs. The trench exposed a quartz vein, up to 0.85 metres wide, and the adit was started 5 metres below this.

The vein is mineralized with bands, up to 0.2 metres wide, of massive arsenopyrite. To the northeast, the vein extends for at least 200 metres where it is 0.4 metres thick. To the southwest the vein thins and appears to be truncated by the intrusive.

Several quartz veins are located on the north side of the Middle Ridge. One highly mineralized vein is located at 1308 metres elevation in a steep gully. This vein trends 60 degrees and is at least 1.4 metres thick with bands of massive arsenopyrite. A sample from this vein assayed 37.7 grams per tonne gold, 22.3 grams per tonne silver, 0.0318 per cent copper, 0.0218 per cent lead, 0.0484 per cent zinc, 0.0302 per cent antimony and 5.1 per cent arsenic (sample C8R 100R, Assessment Report 18522).

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EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 312; 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58  
CJES Vol. 16, pp. 1988-1997  
PR REL Marksmen Resources Ltd., August 21, 2002  
Bultman, B.B., (1979): Geology and Tectonic History of the Whitehorse Trough, west of Atlin, B.C.; unpublished Ph.D. Thesis, Yale University, p. 284

DATE CODED: 1987/08/28  
DATE REVISED: 1993/07/14

CODED BY: LLC  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104M 075**

NATIONAL MINERAL INVENTORY:

NAME(S): **CATFISH-SOUTH MOUNTAIN**, CATFISH 7, FRIENDSHIP SILVER,  
LINDA, CATFISH 2-3, 6-7, 10-11

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:  
LATITUDE: 59 51 40 N  
LONGITUDE: 134 49 16 W  
ELEVATION: 1475 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Sample C8R 10R (Assessment Report 18522).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6635957  
EASTING: 510020

COMMODITIES: Silver                      Gold                      Copper                      Lead                      Zinc  
                  Arsenic                      Antimony

**MINERALS**

SIGNIFICANT: Arsenopyrite  
COMMENTS: Arsenopyrite assumed from other showings in the area.  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
TYPE: I05                      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite
Upper Cretaceous			Coast Plutonic Complex

LITHOLOGY: Granite  
Diorite  
Chlorite Sericite Schist  
Quartz Feldspar Chlorite Gneiss  
Gossan

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: Plutonic Rocks  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1988  
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	351.4000	Grams per tonne
Arsenic	4.3000	Per cent
Gold	13.2000	Grams per tonne
Copper	0.2153	Per cent
Lead	1.4600	Per cent
Antimony	0.5292	Per cent

COMMENTS: Sample (C8R 10R) from quartz vein. Also, 0.0075 per cent zinc.  
REFERENCE: Assessment Report 18522.

**CAPSULE GEOLOGY**

The Catfish-South Mountain showing is located on the west side of Tutshi Lake near Paddy Pass. The Catfish property includes the Catfish showing (104M 061) and the Catfish-Middle Ridge showing (104M 074).

Previous work consists of mapping and prospecting (adits, trenches and blast holes) and is largely undocumented. The property was explored for molybdenum in the 1970s and for gold at the turn of the century. The four adits and trenching are circa 1900. A geological prospecting program was completed on the north mountain by Copland in 1986. In 1988, Frame Mining Corp. conducted mapping, petrology and geochemical surveys. Detailed mapping, and sampling was done in 1989. In 1990, geophysical surveys were conducted on the

## CAPSULE GEOLOGY

property. An induced polarization survey in 1990 resulted in moderate to strong chargeability responses over known vein structures (Assessment Report 19794).

The Catfish claims straddle the contact between granite of the Cretaceous to Tertiary Coast Plutonic Complex and the Devonian to Permian and older Boundary Ranges Metamorphic Suite. The metamorphics form a 200 metre thick exposure consisting of quartz-feldspar chlorite gneiss and chlorite-sericite schist. A well defined fault, striking 160 degrees and dipping vertically, marks the gneiss and granite contact. Overlying the metamorphic rocks are very gossanous dacites and andesites of the Stuhini Group.

The property follows the regional northwest trend; foliations average 140 to 160 degrees with near vertical dips. Numerous quartz veins, ranging from 1.0 centimetre to 1.5 metres, crosscut both the granite and metamorphic rocks. The first set, which trends east-southeast, are generally barren. The major mineralized veins trend northeast and mineralization is confined to quartz veins which have an arsenopyrite rich core and a green to yellow alteration envelope (scorodite).

At the South Mountain showing, arsenopyrite-rich quartz veins are confined to the intrusive hostrocks. The northeast contact with the metamorphics is a sharp linear feature. The veins are generally thin; 0.6 metres was the maximum observed.

A grab sample assayed 13.2 grams per tonne gold, 351.4 grams per tonne silver, 0.2153 per cent copper, 1.46 per cent lead, 0.0075 per cent zinc, 0.5292 per cent antimony and 4.3 per cent arsenic (Assessment Report 18522, sample C8R 10R).

## BIBLIOGRAPHY

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EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential; In Abstracts: Smithers Exploration Group Workshop, October 1988)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 312; 37  
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GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
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CJES Vol. 16, pp. 1988-1997  
Bultman, B.B., (1979): Geology and Tectonic History of the Whitehorse Trough, west of Atlin, B.C.; unpublished Ph.D. Thesis, Yale University, p. 284

DATE CODED: 1987/08/28  
DATE REVISED: 1993/07/14

CODED BY: LLC  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 076**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN BEE 2**, GAP, GOLDEN BEE 2-3,  
BEE, GENTLE BEE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 23 N  
LONGITUDE: 134 11 57 W  
ELEVATION: 1676 Metres

NORTHING: 6598570  
EASTING: 545309

LOCATION ACCURACY: Within 500M  
COMMENTS: Stibnite zone (Assessment Report 21011).

COMMODITIES: Antimony Silver Gold

**MINERALS**

SIGNIFICANT: Stibnite Pyrrhotite Pyrite Cinnabar  
ASSOCIATED: Quartz  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia Stockwork Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: 109 Stibnite veins and disseminations

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP      FORMATION      IGNEOUS/METAMORPHIC/OTHER  
Lower Jurassic      Laberge      Unnamed/Unknown Formation

LITHOLOGY: Feldspathic Greywacke  
Siltstone  
Argillite  
Feldspar Porphyritic Dike  
Greywacke  
Shale  
Conglomerate  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis      YEAR: 1990  
SAMPLE TYPE: Grab  
COMMODITY      GRADE  
Silver      13.5000      Grams per tonne  
Gold      0.4780      Grams per tonne  
Antimony      8.0000      Per cent

COMMENTS: Highest assay values from the Stibnite vein.  
REFERENCE: Assessment Report 21011.

**CAPSULE GEOLOGY**

The Golden Bee 2 showing is located 30 kilometres west of Atlin, just south of Bee Lake. Several other showings occur on the Golden Bee property (104M 077-80).

The claims were staked by Golden Bee Minerals in 1989 to cover the stibnite vein discovered by Lawrence Maki. Golden Bee Minerals conducted a program of sampling, mapping, prospecting and geochemical surveys in 1989 and 1990.

The area, bounded by faults, is underlain by sediments of the Lower Jurassic Laberge Group. These comprise greywacke, argillite, shale and conglomerate intruded by granite near Bee Peak. The Llewellyn fault is 2 kilometres to the west and separates these rocks from the Coast Plutonic Complex. To the east, the Nahlin fault separates the rocks from the Cache Creek Group. The area of the showing contains splays from these major faults. The bedding generally trends north to northwest.

Large scale, bright orange-brown hornfels-pyrrhotite oxidation and alteration occurs at the south end of the property.

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**CAPSULE GEOLOGY**

Mineralization occurs in quartz flooded and sheared feldspathic greywacke, siltstones, argillite, breccia and stockwork near a feldspar porphyry dike. Mineralization consists of minor pyrite and cinnabar and is associated with shears.

The stibnite vein/zone assayed up to 8 per cent antimony, 0.478 gram per tonne gold and 13.5 grams per tonne silver (Assessment Report 21011). Samples from other shear zones in the area also assayed high in antimony.

**BIBLIOGRAPHY**

EMPR ASS RPT 19630, \*21011  
EMPR BULL 105  
EMPR EXPL 1979-294  
EMPR FIELDWORK 1990, pp. 139-144, 153-159  
EMPR OF \*1990-4  
EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/15  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 077**

NATIONAL MINERAL INVENTORY: 104M9 Au6

NAME(S): **BEE PEAK** GOLDEN BEE 4, GOLDEN BEE 2,  
GB 2, GOLDEN BEE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 00 N  
LONGITUDE: 134 10 32 W  
ELEVATION: 1752 Metres

NORTHING: 6597875  
EASTING: 546654

LOCATION ACCURACY: Within 500M  
COMMENTS: Sample 89-1R04 on the Golden Bee 4 claim (Assessment Report 19631).

COMMODITIES: Lead Silver Gold Arsenic

**MINERALS**

SIGNIFICANT: Pyrrhotite Pyrite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Laberge	Unnamed/Unknown Formation	

LITHOLOGY: Greywacke  
Argillite  
Shale  
Conglomerate  
Felsic Dike  
Dike  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1989
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		44.6000	Grams per tonne
Arsenic		0.7900	Per cent
Gold		0.1170	Grams per tonne
Lead		19.0000	Per cent
COMMENTS:	Sample (89-1R04) taken 1160 metres south of Bee Peak.		
REFERENCE:	Assessment Report 19631.		

**CAPSULE GEOLOGY**

The Bee Peak showings are located 30 kilometres west of Atlin, south of Bee Lake. There are several other showings on the Golden Bee property (104M 078-80).

The claims were staked by Golden Bee Minerals in 1989. Golden Bee Minerals conducted a program of sampling, mapping, prospecting and geochemical surveys in 1989 and 1990.

The area, bounded by faults, is underlain by sediments of the Lower Jurassic Laberge Group. These comprise greywacke, argillite, shale and conglomerate intruded by granite near Bee Peak. The Llewellyn fault is 2 kilometres to the west and separates these rocks from Nisling Assemblage rocks. To the east, the Nahlin fault separates the rocks from the Cache Creek Group. The area of the showing contains splays from these major faults. The bedding generally trends north to northwest dipping gently east. Bee Peak represents a volcanic plug and several dikes crosscut the sediments and intrusives.

The claims cover an area of pyrrhotite hornfels with orange-brown oxidation. The most abundant mineralization is pyrite

## CAPSULE GEOLOGY

and pyrrhotite ranging from 1 to 10 per cent throughout the claims.

About 1160 metres south of Bee Peak, sample 89-1R04 assayed 19 per cent lead, 0.117 grams per tonne gold, 44.6 grams per tonne silver and 0.79 per cent arsenic (Assessment Report 19631).

About 80 metres west of Bee Peak, a zone in a carbonate felsic dike, in a orange-brown recessive zone, contains minor mariposite and 2 per cent sulphides. This zone is about 4 metres wide and trends north.

A shear zone, up to 5 metres wide, occurs 100 metres west of Bee Peak. Samples from the zone, in a carbonate altered breccia, assayed up to 0.373 gram per tonne gold in 1989 (Assessment Report 19630) but subsequent sampling failed to duplicate this value (Assessment Report 21011).

## BIBLIOGRAPHY

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- EMPR BULL 105
- EMPR EXPL 1979-294
- EMPR FIELDWORK 1990, pp. 139-144, 153-159
- EMPR OF \*1990-4
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37
- GSC OF 427, 2225 p. 42
- GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/15  
DATE REVISED: 1993/07/15

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 078**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLEAN**, GM 1, GB 2,  
 GOLDEN BEE, GLEANER MOUNTAIN

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104M08E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 28 41 N  
 LONGITUDE: 134 11 06 W  
 ELEVATION: 1850 Metres

NORTHING: 6593569  
 EASTING: 546172

LOCATION ACCURACY: Within 500M  
 COMMENTS: Sample 5R03 (Assessment Report 19631).

COMMODITIES: Silver                      Gold                      Copper                      Lead                      Zinc  
                   Arsenic                      Antimony

**MINERALS**

SIGNIFICANT: Pyrite                      Arsenopyrite                      Chalcopyrite                      Galena                      Pyrrhotite  
 ALTERATION: Silica                      Malachite                      Chlorite                      Sericite  
 ALTERATION TYPE: Silicific'n                      Oxidation                      Chloritic  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Shear  
 CLASSIFICATION: Hydrothermal                      Epigenetic  
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au                      H05 Epithermal Au-Ag: low sulphidation  
 DIMENSION: 75 x 1 Metres                      STRIKE/DIP: 360/50E                      TREND/PLUNGE:  
 COMMENTS: Mineralized zone is 1 metre wide and is exposed for 75 metres in length.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleocene			Taish Volcanic Suite

LITHOLOGY: Andesite  
 Rhyolite  
 Basalt  
 Tuff  
 Greywacke  
 Argillite  
 Shale  
 Conglomerate  
 Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
 TERRANE: Stikine

PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1989
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	58.9000 Grams per tonne
Arsenic	8.0000 Per cent
Gold	3.2000 Grams per tonne
Copper	0.0950 Per cent
Lead	0.9870 Per cent
Zinc	0.2030 Per cent

COMMENTS: Highest sample from alteration zone between andesite and banded brecciated rhyolite flows. Also, 0.06 per cent antimony.

REFERENCE: Assessment Report 19631.

**CAPSULE GEOLOGY**

The Glean showing is located 30 kilometres west of Atlin, on the east side of Taku Arm near Gleaner Mountain, 6 kilometres south of Bee Peak. There are several other occurrences on the Golden Bee property (104M 076-080).

The claims were staked by Golden Bee Minerals in 1989. Golden Bee Minerals conducted a program of sampling, mapping, prospecting and geochemical surveys in 1989 and 1990.

The area, bounded by faults, is underlain by sediments of the

## CAPSULE GEOLOGY

Lower Jurassic Laberge Group. These comprise greywacke, argillite, shale and conglomerate intruded by granite near Bee Peak. The Llewellyn fault is 2 kilometres to the west and separates these rocks from the Coast Plutonic Complex. To the east, the Nahlin fault separates the rocks from the Cache Creek Group. The area of the showing contains splays from these major faults. The bedding generally trends north to northwest.

At the Glean showing, mineralization is hosted in rhyolite, basalt, andesite and tuff of the Paleocene Tagish Volcanic Suite.

Mineralization occurs in several silicified shears, 1 to 8 metres wide, displaying parallel, stacked and en echelon zoning. Mineralization, as sparse disseminations and concentrations of up to 40 per cent, consists of pyrite, arsenopyrite, chalcopyrite, galena and pyrrhotite. Sulphides, 1 per cent or less, also occur within large altered units of andesite and rhyolite. A copper zone has been identified by malachite staining on the east face of the rhyolite talus. Alteration consisting of silicification +/-chlorite and sericite is associated with mineralized zones.

Samples were taken from the altered contact zone between andesite and banded brecciated rhyolite flows of uncertain age. The zone, 1 metre wide and exposed for 75 metres in length, trends north-south and dips 50 degrees east.

The highest sample (89-5R03) assayed 3.2 grams per tonne gold, 58.9 grams per tonne silver, 0.095 per cent copper, 0.986 per cent lead, 0.203 per cent zinc, 8 per cent arsenic and 0.06 per cent antimony (Assessment Report 19631). Samples in 1990 confirmed these values and further delineated the zone (Assessment Report 21327).

## BIBLIOGRAPHY

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EMPR BULL 105  
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EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427; 2225 p. 42; 2694  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/15  
DATE REVISED: 1993/07/15

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104M 079**

NATIONAL MINERAL INVENTORY:

NAME(S): **MASS, MAIN, BEAR,**  
GB 1, GOLDEN BEE, QUANTITY,  
GM 2-3, BRECCIA, TWO FOOT CREEK

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09W  
BC MAP:  
LATITUDE: 59 33 08 N  
LONGITUDE: 134 15 18 W  
ELEVATION: 700 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Approximate center of the mineralized breccia zone (Main zone) on the southwest corner of the Mass claim (Assessment Report 19384).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6601781  
EASTING: 542114

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Pyrrhotite Pyrite  
COMMENTS: Also low copper, arsenic and antimony values from assays.  
ASSOCIATED: Quartz  
ALTERATION: Silica Carbonate Chlorite Sericite Mariposite  
ALTERATION TYPE: Quartz-Carb. Silicific'n Carbonate Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia Stockwork  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation  
DIMENSION: 350 x 15 Metres  
COMMENTS: Inferred dimensions of the Bear zone. STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Laberge	Unnamed/Unknown Formation	

LITHOLOGY: Argillite  
Breccia  
Greywacke  
Shale  
Porphyry  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inclin  
PHYSIOGRAPHIC AREA: Boundary Ranges

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1989  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 62.7300 Grams per tonne  
Gold 2.5700 Grams per tonne  
COMMENTS: Average of 55 samples taken of the breccia at the Main and Bear zones.  
REFERENCE: Assessment Report 21508.

**CAPSULE GEOLOGY**

The Mass showing is located 30 kilometres west of Atlin, near the southwest corner of the Mass claim. There are several other showings on the Golden Bee property (104M 076-080).  
The claims were staked by Golden Bee Minerals in 1988 to 1989. Golden Bee Minerals conducted a program of sampling, mapping, prospecting and geochemical surveys in 1989 and 1990. Trenches found in 1990 are suspected to be from work done in the 1920s by Consolidated Mining and Smelting Company.  
The area, bounded by faults, is underlain by sediments of the Lower Jurassic Laberge Group. These comprise greywacke, argillite, shale and conglomerate intruded by granite near Bee Peak. The Llewellyn fault is 2 kilometres to the west and separates these rocks from the Coast Plutonic Complex. To the east, the Nahlin fault separates the rocks from the Cache Creek Group. The area of the

## CAPSULE GEOLOGY

showing contains splays from these major faults. The bedding generally trends north to northwest and dips 10 degrees to vertical.

Mineralization, at the southwest corner of the Mass claim, is associated with quartz flooded fault breccia which has been traced for 350 metres. The average of 55 samples was 2.57 grams per tonne gold and 62.73 grams per tonne silver (Assessment Report 21508). Mineralization is hosted in fault controlled quartz rich stockworks and argillite breccias. Porphyry units, also fault related, contain up to 15 per cent finely disseminated pyrite and pyrrhotite. Several areas of calcium-rich stockwork and breccia contain lesser amounts of sulphides. Silicification and carbonate alteration is dominant with lesser chlorite, sericite and mariposite.

The Mass showing comprises the Main and Bear zones. The Main zone is about 500 metres south of the Bear zone and the Barney zone (104M 080) is about 2.5 kilometres to the northwest along the fault splay. The Main and Bear zones, stockworked breccia zones, occur as irregular elongated bodies.

A sample (GT-03590) of silicified argillite breccia was taken from mid-main zone and assayed 2.4 grams per tonne gold, 1374 grams per tonne silver, 0.0231 per cent copper, 0.25 per cent arsenic and 0.16 per cent antimony (Assessment Report 21508).

The Bear zone, about 350 metres long, is the area from the north shore of the first lake on strike along the splay fault. The mineralization has not been traced continuously for the full length but the north half is 5 to 15 metres wide. Rusty breccias and fan-like quartz vugs with carbonate alteration host the sulphide mineralization. Several old trenches were found and sampled within this zone. Samples were taken of quartz-carbonate altered argillite breccia with 1 per cent sulphides and minor mariposite. The average value of samples taken from the old trench is 1.37 grams per tonne gold, 1.25 grams per tonne silver and 0.57 per cent arsenic (Assessment Report 21508).

## BIBLIOGRAPHY

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- EMPR BULL 105
- EMPR EXPL 1979-294
- EMPR FIELDWORK 1990, pp. 139-144, 153-159
- EMPR OF \*1990-4
- EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)
- EMPR RGS 37, 1993
- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37
- GSC OF 427, 2225 p. 42
- GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/15  
DATE REVISED: 1993/07/15

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 080**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUANTITY, BARNEY, GB 1,  
GOLDEN BEE, GM 2-3, TWO FOOT CREEK**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09E  
BC MAP:  
LATITUDE: 59 34 40 N  
LONGITUDE: 134 14 03 W  
ELEVATION: 670 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: The Barney zone on the Quantity claim (Assessment Report 21508).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6604640  
EASTING: 543259

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Arsenopyrite Pyrite Pyrrhotite  
COMMENTS: Mineralogy assumed from showings in the area.  
ASSOCIATED: Quartz  
ALTERATION: Carbonate Silica  
ALTERATION TYPE: Carbonate Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia Stockwork Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: H05 Epithermal Au-Ag: low sulphidation  
DIMENSION: 233 x 25 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: The Barney zone.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Lower Jurassic Laberge Unnamed/Unknown Formation

LITHOLOGY: Argillite  
Greywacke  
Shale  
Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Inclin

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1990  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 1.0000 Grams per tonne  
Gold 0.3500 Grams per tonne  
Copper 0.0165 Per cent  
COMMENTS: Sample GT-04490 from the Barney zone.  
REFERENCE: Assessment Report 21508.

**CAPSULE GEOLOGY**

The Quantity showing is located 30 kilometres west of Atlin, on the eastern portion of the Quantity claim. There are several other showings on the Golden Bee property (104M 076-079).

The claims were staked by Golden Bee Minerals in 1988 to 1989. Golden Bee Minerals conducted a program of sampling, mapping, prospecting and geochemical surveys in 1989 and 1990. Trenches found in 1990 are suspected to be from work done in the 1920s by Consolidated Mining and Smelting Company.

The area, bounded by faults, is underlain by sediments of the Lower Jurassic Laberge Group. These comprise greywacke, argillite, shale and conglomerate intruded by granite near Bee Peak. The Llewellyn fault is 2 kilometres to the west and separates these rocks from the Coast Plutonic Complex. To the east, the Nahlin fault separates the rocks from the Cache Creek Group. The area of the showing contains splays from these major faults. The bedding generally trends north to northwest and dips 10 degrees to vertical.

The Quantity showing consists of the Barney zone located 200

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## CAPSULE GEOLOGY

metres south-southeast of Fox Bay. The Barney zone is restricted to the west of the splay fault and has a total strike length of 233 metres. The zone is 5 to 25 metres wide. The zone, with some vugs and up to 3 per cent fine sulphides, contains variable carbonate alteration, quartz veining, stockwork and breccia. The southern portion, 60 by 5 to 10 metres, is less altered than the rest of the zone and produced higher metal values. The highest values came from sample GT-04490 which assayed 0.35 grams per tonne gold, 1.0 gram per tonne silver and 0.0165 per cent copper (Assessment Report 21508).

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GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/15  
DATE REVISED: 1993/07/15

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 081**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRINE**, CRINE VEIN #1, BX ZONE,  
CRINE VEIN #3, SCOTIA, QUARTZ ZONE,  
TP 9, TP 6, TP,  
TEEPEE

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M10E  
BC MAP:  
LATITUDE: 59 43 54 N  
LONGITUDE: 134 38 49 W  
ELEVATION: 1448 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS: The Crine vein, the other 5 veins are within 1 kilometre from here (Assessment Report 19438).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6621581  
EASTING: 519852

COMMODITIES: Gold Silver Lead Zinc Arsenic  
Copper

**MINERALS**

SIGNIFICANT: Galena Sphalerite Arsenopyrite Tetrahedrite Chalcopyrite  
Pyrite Stibnite  
ASSOCIATED: Quartz Graphite  
ALTERATION: Silica Clay  
ALTERATION TYPE: Silicific'n Argillic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive Breccia Stockwork  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
DIMENSION: 650 x 4 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: The Crine vein.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic Boundary Ranges Metamor. Suite

LITHOLOGY: Graphitic Schist  
Phyllite  
Schist  
Felsite Dike  
Andesite Dike  
Feldspar Porphyry Dike

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1989  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 29.8000 Grams per tonne  
Arsenic 5.4500 Per cent  
Gold 4.4500 Grams per tonne  
COMMENTS: Average of 14 chip samples over the 650 metre strike length and 1 to 3 metres width of the Crine vein.  
REFERENCE: Assessment Report 19438.

**CAPSULE GEOLOGY**

The Crine veins, on the TP 9 and TP 6 claims, are located on the southwest side of Teepee Peak about 54 kilometres west of Atlin. Refer to the TP-Main (104M 048) showing for details on the Teepee property.  
The claim area is underlain by the Devonian to Permian and older Boundary Ranges Metamorphic Suite comprising phyllite, quartzite and schist. These are intruded by dikes of variable composition.

## CAPSULE GEOLOGY

The Crine veins occur on the northeast part of the Teepee property over a 1 kilometre area. The veins comprise the Crine, Crine #1, Crine #3 and Scotia veins and the BX and Quartz zones. The veins occupy zones of weakness parallel to the Llewellyn fault system. The Crine, Crine #1, Crine #3 and Scotia veins are all arsenopyrite-rich veins with gold, silver, galena, sphalerite, tetrahedrite and minor chalcopyrite. Areas of the veins exhibit a massive nature to the galena and sphalerite although along strike the veins change to dominant arsenopyrite in a quartz host with a lower base metal content. The average width of the veins is 10 centimetres to 4.1 metres and they can be traced intermittently on surface for up to 1.7 kilometres. The veins strike between 150 to 160 degrees and dip 44 to 70 degrees west.

The Crine vein is a vertical, brecciated, sheared, silicified and quartz veined zone. The vein is podiform, pinching and swelling up to 4 metres in width and has been traced for 650 metres at a strike of 150 degrees. The vein becomes wider where crosscutting, sometimes parallel, andesitic dikes occur. The faulted western margin is in some places well defined. The vein has zones of massive arsenopyrite and scorodite, pyrite and disseminated galena with small amounts of sphalerite. Some sections of the vein contain up to 50 per cent sulphide mineralization as lenses of pyrite, pyrrhotite, arsenopyrite and/or stibnite. Samples from the vein assayed 3.64 to 33.2 grams per tonne gold (Assessment Report 18766). Fourteen chip samples of 1 to 3 metres width over the 650 metre strike length average 4.45 grams per tonne gold, 29.8 grams per tonne silver and 5.45 per cent arsenic (Assessment Report 19438).

The Crine #1 and Crine #3 arsenopyrite-rich veins strike 150 degrees and may be persistent along strike for up to 700 metres as traced by float. These contain small pods of massive to disseminated dark brown sphalerite and galena with disseminated pyrite.

Drilling on the Crine #3 vein intersected narrow vein material, up to 0.50 metre, dipping steeply to the west between 69 and 73 degrees. A drillcore sample across 0.50 metres assayed 0.78 grams per tonne gold, 20.22 grams per tonne silver, 0.92 per cent arsenic, 0.78 per cent lead and 1.46 per cent zinc (Assessment Report 19438).

The Crine #1 vein, up to 4.11 metres wide, is podiform. The vein is highly brecciated and silicified and dips 43 to 50 degrees west. Massive and disseminated arsenopyrite, galena, sphalerite and lesser pyrite are common. Drilling suggests this vein to be fairly shallow, tabular and possibly zoned, becoming more silver rich to the south. A feldspar porphyry dike commonly occurs as a footwall marker. A drillcore sample across the 4.11 metre width assayed 3.70 grams per tonne gold, 326.69 grams per tonne silver, 3.45 per cent arsenic, 0.67 per cent lead and 2.30 per cent zinc (Assessment Report 19438).

The BX zone, exposed along a steep hillside, is the northerly extension of the Crine #1 vein and, due to the low gold values, possibly indicates mineral zonation. The zone exhibits intense quartz stockwork and brecciation in a clay altered felsite dike. Mineralization consists of disseminated chalcopyrite, tetrahedrite, galena, arsenopyrite, pyrite and minor sphalerite. The zone outcrops over 100 metres and is 0.50 to 1.8 metres wide. Chip samples assayed from 34.28 to 377.08 grams per tonne silver (Assessment Report 19438) but drill results were negative.

The Quartz zone, located at the southeast end of the projected Scotia vein, consists of a quartz graphite mix with high gold values. The vein is generally narrow, less than 1 metre, poddy and dips 60 to 70 degrees west. Minor pyrite and arsenopyrite are occur with small amounts of silver from assays. Drilling indicates a flat lying zone and float found on the surface indicates a steeply west dipping zone, faulting is suggested to explain this. Drilling also indicated the similarity between this zone and the Crine and Scotia veins. A drillcore sample over 3 metres assayed 4.76 grams per tonne gold, 15.08 grams per tonne silver, 0.69 per cent arsenic, 0.09 per cent lead and 0.09 per cent zinc (Assessment Report 19438).

The Scotia vein is about 550 metres west of the Crine #3 vein. This arsenopyrite-rich vein trends 160 degrees and pinches and swells over a 700 metre strike length as indicated by float samples. Drilling in 1989 indicated that the vein is narrow, less than 1 metre, and dips 69 degrees west. Drilling in 1990 indicated that there is a small higher grade pod of mineralization plunging southeast. A drillcore sample taken in 1989 over 0.95 metres assayed 7.98 grams per tonne gold, 14.05 grams per tonne silver, 8.70 per cent arsenic, 0.13 per cent lead and 0.84 per cent zinc (Assessment Report 19438).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 671  
REPORT: RGEN0100

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GSC MEM 37  
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GCNL #184, 1989

DATE CODED: 1986/04/18  
DATE REVISED: 1993/07/15

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 082**

NATIONAL MINERAL INVENTORY:

NAME(S): **DELTA**, DELTA 1-4

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M08E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 17 40 N  
LONGITUDE: 134 11 41 W  
ELEVATION: 1000 Metres

NORTHING: 6573116  
EASTING: 545869

LOCATION ACCURACY: Within 1 KM

COMMENTS: Vein at centre of the Delta 1-4 claims (Assessment Report 20389).

COMMODITIES: Gold Silver Copper Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite Galena  
ASSOCIATED: Quartz  
ALTERATION: Carbonate Malachite  
ALTERATION TYPE: Carbonate Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
DIMENSION: 1 Metres  
COMMENTS: The vein is 1 metre wide. STRIKE/DIP: 006/90E TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Proterozoic-Paleoz.			Nisling Assemblage
Mesozoic-Cenozoic			Coast Plutonic Complex

LITHOLOGY: Phyllite  
Quartzite  
Granodiorite

HOSTROCK COMMENTS: The Nisling Assemblage is Mississippian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Nisling  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: GRADE:

**INVENTORY**

ORE ZONE: VEIN REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1991  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 99.1000 Grams per tonne  
Gold 1.7800 Grams per tonne  
COMMENTS: Highest sample (4906) across the width of vein.  
REFERENCE: Assessment Report 20389.

**CAPSULE GEOLOGY**

The Delta showing is located 40 kilometres southeast of Atlin near the center of the Delta 1-4 claims. The claims were staked in 1989 by Robert Smith who conducted prospecting and did some hand trenching. The area is located on the eastern flank of the Cretaceous to Tertiary Coast Plutonic Complex and is underlain by metamorphic rocks of the Mississippian and older Nisling Assemblage. The Llewellyn fault cuts through the area to the east. At the showing, a small Cretaceous granodiorite stock intrudes quartzites and phyllites. A vein, 1 metre wide, is mineralized with malachite, chalcopyrite and galena. The vein strikes 006 degrees and dips vertically. The country rock around the vein shows intense carbonate alteration. The vein, exposed in the trench, is hosted in phyllite. The highest chip sample across the width of the vein assayed 1.78 grams per tonne gold and 99.1 grams per tonne silver (Assessment Report 20389, sample 4906).



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RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 673  
REPORT: RGEN0100

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EMPR PF (In 104M General File - Claim map of 104M, 1970; Claim map of 104M 08 and 09, 1970)  
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GSC MEM 37  
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91-01A pp. 147-153; 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/22  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 083**

NATIONAL MINERAL INVENTORY:

NAME(S): **MILL**, MILL 1, MILL 1-2,  
**VENUS**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15E  
BC MAP:

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)

LATITUDE: 59 56 41 N  
LONGITUDE: 134 41 31 W  
ELEVATION: 777 Metres

NORTHING: 6645295  
EASTING: 517211

LOCATION ACCURACY: Within 500M  
COMMENTS: Diamond drillhole 89-1 about 1.6 kilometres southeast of the Venus millsite on the Mill 2 claim (Assessment Report 20032).

COMMODITIES: Copper Silver Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite Pyrrhotite Arsenopyrite  
ASSOCIATED: Quartz Calcite  
ALTERATION: Chlorite Epidote Carbonate  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia  
CLASSIFICATION: Skarn Epigenetic Hydrothermal  
TYPE: K01 Cu skarn

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Unnamed/Unknown Formation	
Lower Jurassic	Laberge	Inklin	
Mesozoic-Cenozoic			Coast Plutonic Complex

LITHOLOGY: Conglomerate  
Felsic Intrusive  
Limestone  
Volcanic  
Siltstone  
Argillite  
Greywacke  
Sandstone  
Porphyry Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
Inklin  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP:  
GRADE:

**INVENTORY**

ORE ZONE: DRILLHOLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1989  
SAMPLE TYPE: Drill Core  
COMMODITY

COMMODITY	GRADE	
Silver	24.0000	Grams per tonne
Gold	1.0300	Grams per tonne
Copper	0.8550	Per cent

COMMENTS: A 4.4 metre intersection in drillhole 89-1.  
REFERENCE: Assessment Report 20032.

**CAPSULE GEOLOGY**

The Mill showing is located about 1.6 kilometres southeast of the Venus millsite north of Tutshi Lake and about 32 kilometres south of Carcross, Yukon Territory.

At the turn of the century, ridges in the area were prospected for Venus vein type occurrences, 7 pits in the millsite area may date from this period. At the Venus millsite, an adit was driven into altered conglomerate and limestone during the 1970s. The pits were, with one exception, blasted in conglomerate or fine-grained felsic intrusive containing copper-lead-zinc mineralization. The one pit was in limestone and contained copper mineralization.

Showings on the Mill claim were discovered during geological

## CAPSULE GEOLOGY

mapping and prospecting in 1987 by United Keno Hill Mines. In 1988, United Keno conducted geophysical surveys and drilling. In 1989, mapping, prospecting and sampling were done on the Mill 1 claim and 2 drillholes were completed on the newly staked Mill 2 claim.

The area is underlain by rocks of the Upper Triassic Stuhini Group and the Lower Jurassic Inklin Formation (Laberge Group) intruded by Cretaceous to Tertiary Coast Plutonic Complex dikes and intrusions. The Stuhini Group comprises carbonates, conglomerates, siltstone, argillite, mudstone, volcanics, tuffs and breccias. The Inklin Formation consists of siltstone, argillite, conglomerate and arenaceous wackes. Intrusive rocks include feldspar porphyry dikes, quartz-feldspar porphyry dikes, quartz-diorite dikes and a siliceous rhyodacitic intrusive. The Llewellyn fault occurs in the area.

The copper showing discovered in 1987 was hosted in altered conglomerates adjacent to a carbonate ridge. Drilling in 1988, in the tailings pond area, indicated that skarn alteration of conglomerate units increases with depth. Clast replacement with pyrite, pyrrhotite and chalcopyrite along with epidote, chlorite and carbonate minerals increases with depth. Porphyry dikes were encountered which were not previously mapped on surface. The dikes were strongly altered to clays and contained varying amounts of arsenopyrite filled fractures and stockworks.

Mapping in 1989 delineated the existence of the altered conglomerate unit along strike towards Tutshi Lake.

The rocks intersected below the carbonate unit, in hole 89-1, were strongly altered and mineralized at the contact but decreased away from the contact. The alteration consists of abundant epidote and chlorite. The hostrocks have undergone severe structural deformation as evidenced by breccia zones and abundant quartz veining. As the alteration decreases, the fracturing diminishes and fracture filling becomes calcite with pyrite as opposed to quartz with chalcopyrite. The majority of the mineralization present occurs as sulphide replacement of clasts and matrix. Chalcopyrite, pyrite and pyrrhotite occur in varying amounts up to 30 per cent or more in a 1.4 metre section. This intersection averages 1.58 per cent copper, 41.14 grams per tonne silver and 2.06 grams per tonne gold (Assessment Report 20032). A 4.4 metre intersection averages 0.855 per cent copper, 24 grams per tonne silver and 1.03 grams per tonne gold (Assessment Report 20032 ).

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- GSC OF 427, 2225 p. 42
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- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/22  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 084**

NATIONAL MINERAL INVENTORY:

NAME(S): **UM**, ADD 3, TEEPEE,  
**TP**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 29 N  
LONGITUDE: 134 32 24 W  
ELEVATION: Metres

NORTHING: 6611564  
EASTING: 525935

LOCATION ACCURACY: Within 500M  
COMMENTS: UM vein (Assessment Report 20790).

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Unknown  
ASSOCIATED: Quartz  
ALTERATION: Quartz Carbonate Mariposite  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: I01 Au-quartz veins  
DIMENSION: 700 x 2 Metres  
COMMENTS: Dimensions of the UM vein.

STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Peridotite  
Ultramafic  
Listwanite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Boundary Ranges  
RELATIONSHIP: GRADE:

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1990

COMMODITY	GRADE	
Silver	45.5900	Grams per tonne
Gold	3.7700	Grams per tonne

COMMENTS: Average from 15 chip samples.  
REFERENCE: Assessment Report 20790.

**CAPSULE GEOLOGY**

The UM vein is located on the Teepee property to the southeast of the TP showings (104M 048-050) and the Crine veins (104M 081) near Teepee Peak about 54 kilometres west of Atlin. Refer to the TP-Main showing for details on the property.

In 1990, trenching, diamond drilling, prospecting and sampling were conducted on the Crine veins and the UM vein was discovered on the newly staked Add 3 claim.

The UM vein, on the Add 3 claim, is up to 2.2 metres wide hosted by a northwest trending linear peridotite found on the Add 1-8 mineral claims. The vein is hosted in a listwanite alteration zone of an ultramafic lens. The lens trends northwest, occupies a structural break and dips steeply to the southwest and northeast. The vein has been isolated over 700 metres of strike length and, from a total of 15 rock chip samples, averages 3.77 grams per tonne gold and 45.59 grams per tonne silver (Assessment Report 20790).

Features of the UM that show it to be mesothermal include its association with a major fault, a strong ferroan carbonate, mariposite alteration to of mafic to ultramafic host rocks and are cut by quartz veins and characterized by orange brown limonite weathering. It has

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**CAPSULE GEOLOGY**

a higher than usual silver/gold ration.

**BIBLIOGRAPHY**

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153-159  
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GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/23  
DATE REVISED: 1993/07/23

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 085**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKARN, PAVEY, BEN 1,  
BENNETT**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 55 N  
LONGITUDE: 134 51 13 W  
ELEVATION: 1524 Metres

NORTHING: 6641985  
EASTING: 508186

LOCATION ACCURACY: Within 500M  
COMMENTS: Skarn zone (Assessment Report 20581).

COMMODITIES: Gold Copper

**MINERALS**

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite Gold Electrum  
ASSOCIATED: Quartz Calcite  
ALTERATION: Chlorite Actinolite Epidote Biotite Silica  
Carbonate

ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated

CLASSIFICATION: Skarn  
TYPE: K01 Cu skarn

DIMENSION: 700 x 150 Metres STRIKE/DIP:

COMMENTS: The Skarn zone trends south-southeast for 700 metres. TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

**STRATIGRAPHIC AGE**

Upper Triassic

**GROUP**

Stuhini

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Porphyry Volcaniclastic  
Hornblende Feldspar Porphyry Sill  
Tuff  
Augite Porphyry Flow

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1990

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Gold

3.4300

Grams per tonne

COMMENTS: An 8-metre section from drillhole 90-07.

REFERENCE: Assessment Report 20581.

**CAPSULE GEOLOGY**

The Skarn zone (on the Pavey property) is located near Pavey, east of Bennett Lake. Brett Resources Inc. worked the property as the Bennett in 1997; the property was held by Westmin Resources.

In 1990, Lodestar Explorations Inc. tested the showings on the Pavey property and the Skarn and Cowboy (104M 086) zones were discovered. These zones were drilled in 1990. Brett Resources Inc. optioned the property from Westmin Resources Inc. in 1997.

The area overlies the contact between the Intermontane Belt and the Coast Plutonic Complex. The Intermontane Belt features a complex assemblage of deformed volcanic and sedimentary rocks comprising the Upper Triassic Stuhini Group, the Lower Jurassic Laberge Group and Proterozoic metamorphic rocks. Major faults occur primarily along river and lake valleys, associated with movement in the Coast Plutonic Complex and with early Tertiary volcanism.

A large south-southeast trending skarn zone occurs along the sheared unconformity between the Stuhini Group and Boundary Ranges rocks. This unconformity was previously interpreted as the Paddy fault. The skarn is hosted by intercalated porphyry volcaniclastic

## CAPSULE GEOLOGY

and flow rocks of the Upper Triassic Stuhini Group. A small exposure of a hornblende-feldspar+/-biotite porphyry sill occurs in the vicinity. The skarn alteration, comprising chlorite, actinolite and lesser epidote, secondary biotite, quartz and carbonate, has been traced for over 700 metres and up to 150 metres wide. Values range from more than 1 gram per tonne gold across 1 to 9 metres to over 100 grams per tonne across much narrower widths (Assessment Report 20581).

At the showing visible gold mineralization, in an echelon quartz-calcite stringer vein structures, occurs in a slightly gossanous 100 by 50 metre area. Visible gold is associated with actinolite-chlorite veinlets which cut host rocks near the sill. Mineralization consists of disseminated pyrrhotite, chalcopyrite, minor pyrite and fracture controlled gold and/or electrum.

Drilling indicates a relatively consistent, near-surface, shallow dipping layer of gold-bearing mineralization which is open to the south and west. Drilling intersected a sequence of altered lapilli and lithic tuffs and augite porphyry flows and a hornblende-feldspar+/-biotite porphyry sill. Visible gold crystals, less than or equal to 1 millimetre in size were hosted in quartz carbonate veinlets. All drillholes on the zone intersected highly anomalous sections of gold. These sections occur above and close to the sill; the underlying units have no significant gold values.

An 8 metre section from drillhole 90-07 assayed 3.43 grams per tonne gold (Assessment Report 20581).

Brett Resources Inc. drilled 8 holes on the Skarn zone. A drill hole returned 7.64 grams per tonne gold over 3.5 metres (Exploration in BC 1997, page 17).

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- EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalynuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential, In Abstracts - Smithers Exploration Group Workshop, October 1988; Lodestar Explorations Inc. Prospectus, July 1990; Brett Resources Inc. Website (Dec.1997): Bennett Project, 6 p.)
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- GSC MAP 19-1957; 94A; 711; 1418A; 1426
- GSC MEM 37
- GSC OF 427, 2225 p. 42
- GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A
- GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58
- GCNL #153(Aug.11), #165(Aug.27), #192(Oct.6), 1997
- WWW <http://www.bmts.bc.ca/brn/bennett.htm>

DATE CODED: 1993/07/23  
DATE REVISED: 1993/07/24

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 086**

NATIONAL MINERAL INVENTORY:

NAME(S): **COWBOY**, PAVEY, BEN 1

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 29 N  
LONGITUDE: 134 52 17 W  
ELEVATION: 1600 Metres

NORTHING: 6641179  
EASTING: 507194

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of the Cowboy zone (Assessment Report 20581).

COMMODITIES: Gold Silver Antimony Lead Copper

**MINERALS**

SIGNIFICANT: Stibnite Arsenopyrite Galena Pyrite Pyrrhotite  
Chalcopyrite  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Limonite Hematite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Epigenetic Hydrothermal  
TYPE: I09 Stibnite veins and disseminations

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Laberge	Unnamed/Unknown Formation	Boundary Ranges Metamor. Suite
Paleozoic			

LITHOLOGY: Schist  
Quartz Chlorite Actinolite Schist  
Actinolite Chlorite Schist  
Meta Wacke

HOSTROCK COMMENTS: The Boundary Ranges Metamorphic Suite is Devonian to Permian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Boundary Ranges

TERRANE: Stikine

Inklin

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Channel

YEAR: 1990

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	32.2000	Grams per tonne
Gold	2.2900	Grams per tonne

COMMENTS: Sample 99015 over 1 metre.

REFERENCE: Assessment Report 20581.

**CAPSULE GEOLOGY**

The Cowboy zone (on the Pavey property) is located near Pavey, east of Bennett Lake.

In 1990, Lodestar Explorations Inc. tested the showings on the Pavey property and the Cowboy and Skarn (104M 085) zones were discovered.

The Bennett Lake area overlies the contact between the Intermontane Belt and the Coast Plutonic Complex. The Intermontane Belt features a complex assemblage of deformed volcanic and sedimentary rocks comprising the Upper Triassic Stuhini Group, the Lower Jurassic Laberge Group and Proterozoic metamorphic rocks. Major faults occur primarily along river and lake valleys, associated with movement in the Coast Plutonic Complex and with early Tertiary volcanism.

The zone occurs along the unconformable contact between rocks of the Devonian to Permian and older Boundary Ranges Metamorphic Suite and the Lower Jurassic Laberge Group.

Trenches and drillholes intersected several narrow, shear



## CAPSULE GEOLOGY

hosted, sulphide-bearing, quartz-carbonate, vein structures. Mineralization consists of stibnite, arsenopyrite, galena, pyrrhotite, pyrite and/or chalcopyrite. The veins, 1 to 10 centimetres wide, are controlled by local fracturing, shearing or faulting. The veins are hosted in quartz-chlorite-actinolite schist, actinolite-chlorite schist and metawackes. These rocks are cut by several shear zones characterized by intense limonitic and hematitic alteration and clay development. Shears generally trend 060 degrees with steep to vertical dips but they also trend north-south with variable dips, usually west.

A sample (99015) over 1 metre assayed 2.29 grams per tonne gold and 32.2 grams per tonne silver (Assessment Report 20581). Only one drillhole intersection of the quartz-carbonate vein structure contained anomalous gold. A sample from drillhole 90-10 over 2 metres assayed 2.06 grams per tonne gold (Assessment Report 20581).

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EMPR OF 1988-5  
EMPR PF (In 104M General File - Claim map of 104M, 1970 and Mihalyuk, M.G., et al (1988): A Closer Look at the Llewellyn Fault-Tectonic Implications and Economic Mineral Potential, In Abstracts - Smithers Exploration Group Workshop, October 1988; Lodestar Explorations Inc. Prospectus, July 1990)  
EMPR RGS 37, 1993  
GSC MAP 19-1957; 94A; 711; 1418A; 1426  
GSC MEM 37  
GSC OF 427, 2225 p. 42  
GSC P 69-01A pp. 23-27, 78-01A pp. 69-70, 91-01A pp. 147-153, 92-01A  
GSC SUM RPT 1906 pp. 26-32; 1911 pp. 27-58

DATE CODED: 1993/07/23  
DATE REVISED: 1993/07/24

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 087**

NATIONAL MINERAL INVENTORY:

NAME(S): **FALCON**, NA 3858, WILLISON BAY

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104M01W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 09 44 N  
LONGITUDE: 134 19 09 W  
ELEVATION: 1880 Metres

NORTHING: 6558314  
EASTING: 538931

LOCATION ACCURACY: Within 500M

COMMENTS: The Falcon showing (Assessment Report 21162).

COMMODITIES: Silver                      Gold                      Zinc                      Lead                      Copper  
                  Arsenic                      Antimony

**MINERALS**

SIGNIFICANT: Galena                      Sphalerite                      Pyrite                      Chalcocopyrite                      Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
                  TYPE: 105                      Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: 25 x 1                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

COMMENTS: The veins trend northwest and are exposed for 25 metres. Individual veins are up to 1.2 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE                      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Proterozoic-Paleoz.                                                                Nisling Assemblage

LITHOLOGY: Biotite Quartz Schist  
                  Quartz Sericite Schist  
                  Gneiss  
                  Limestone  
                  Alaskite Dike  
                  Quartz Feldspar Porphyry Breccia

HOSTROCK COMMENTS: The Nisling Assemblage is Mississippian and older.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Stikine

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP:

GRADE:

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1990  
SAMPLE TYPE: Channel  
COMMODITY                      GRADE  
Silver                      2641.0000                      Grams per tonne  
Arsenic                      5.7800                      Per cent  
Gold                      3.3000                      Grams per tonne  
Copper                      0.1500                      Per cent  
Lead                      2.5000                      Per cent  
Zinc                      3.3200                      Per cent

COMMENTS: Sample across 2.2 metres of the vein system. Also, 2.56 per cent antimony.

REFERENCE: Assessment Report 21162.

**CAPSULE GEOLOGY**

The Falcon showing is located immediately south of the Willison Glacier. The Jackie showing (104M 031) is 825 metres to the south.

Falconbridge Ltd. included the Willison Bay area in a regional prospecting program in 1966. The Jackie and Falcon showings were discovered during that program and limited trenching and sampling were completed. The property was staked in 1989 and in 1990 Carmac Resources conducted geochemical and geophysical surveys, rock sampling, trenching and mapping on these showings.

The claims cover biotite-quartz-schists, quartz-sericite schists, gneisses and limestones of the Mississippian and older

## CAPSULE GEOLOGY

Nisling Assemblage. The metasediments are cut by numerous northwest trending alaskite dikes.

The Falcon showing consists of 2 northwest trending quartz veins. Mineralization comprises galena, sphalerite, pyrite, chalcopyrite, arsenopyrite and stibnite. The vein system is exposed for 25 metres and the strike extensions are covered by talus. Individual veins are up to 1.2 metres wide. To the northwest, a quartz-feldspar porphyry breccia contains smaller quartz veins with semi-massive arsenopyrite and stibnite.

A 2.2 metre wide sample of the vein system assayed 3.3 grams per tonne gold, 2641 grams per tonne silver, 0.15 per cent copper, 2.5 per cent lead and 3.32 per cent zinc, 5.78 per cent arsenic and 2.56 per cent antimony (Assessment Report 21162).

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- GSC MEM 37
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- GSC P 77-01A; 69-01A pp. 23-27; 78-01A pp. 69-70; 91-01A pp. 147-153; 92-01A
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- Placer Dome File

DATE CODED: 1993/07/26  
DATE REVISED: 1993/07/26

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104M 088**

NATIONAL MINERAL INVENTORY:

NAME(S): **MM05-1**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104M09W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 30 06 N  
LONGITUDE: 134 17 28 W  
ELEVATION: Metres

NORTHING: 6596129  
EASTING: 540133

LOCATION ACCURACY: Within 500M

COMMENTS: Location of sample MM05-1 (Open File 1989-13).

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia Shear  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I01 Au-quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Boundary Ranges Metamor. Suite

LITHOLOGY: Chlorite Actinolite Biotite Schist  
Schist  
Phyllite  
Quartzite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Stikine  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Boundary Ranges

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1989

COMMODITY	GRADE	
Silver	20.0000	Grams per tonne
Gold	41.0000	Grams per tonne
Copper	0.0215	Per cent

COMMENTS: Sample from vein exposed in overgrown trench on the west shore of Tagish Lake.

REFERENCE: Open File 1989-13.

**CAPSULE GEOLOGY**

The MM05-1 showing is located on the west shore of Tagish Lake just north of the mouth of Buchan Creek. The claim area is underlain by the Devonian to Permian Boundary Ranges Metamorphic Suite comprising greenstone and lesser quartz mica schists.

A vein is exposed in an overgrown trench in chlorite-actinolite-biotite schist. The vein is a drusy quartz-flooded shear and breccia zone within metamorphic rocks (Unit PPM).

A grab sample from this vein assayed 41 grams per tonne gold, 20 grams per tonne silver and 0.0215 per cent copper (Open File 1989-13).

**BIBLIOGRAPHY**

EMPR BULL 105  
EMPR FIELDWORK \*1988, pp. 293-309  
EMPR OF \*1989-13  
EMPR PF (In 104M General File - Claim map of 104M, 1970)  
EMPR RGS 37, 1993

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 685  
REPORT: RGEN0100

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GSC OF 427, 2225 p. 42

DATE CODED: 1994/01/06  
DATE REVISED: 1994/01/06

CODED BY: DEJ  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104N 001**

NATIONAL MINERAL INVENTORY: 104N12 U1

NAME(S): **HUSSELBEE**, BEAVER, DEEP BAY

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 29 N  
LONGITUDE: 133 51 06 W  
ELEVATION: 783 Metres

NORTHING: 6619458  
EASTING: 564613

LOCATION ACCURACY: Within 500M

COMMENTS: Claims centered around "Discovery Hill".

COMMODITIES: Uranium                      Thorium                      Fluorite                      Lead                      Molybdenum

**MINERALS**

SIGNIFICANT: Galena                      Fluorite                      Uraninite                      Apatite                      Molybdenite

COMMENTS: Visible galena and fluorite are minor.

ASSOCIATED: Pyrite                      Jasper                      Actinolite                      Calcite

COMMENTS: Only minor pyrite and jasper clasts.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Vein  
CLASSIFICATION: Skarn                      Igneous-contact                      Industrial Min.                      115                      Classical U veins  
TYPE: K07      Mo skarn

COMMENTS: Mineralization in irregular body of amphibolite.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Horsefeed	
Middle Jurassic			Fourth of July Creek Batholith

ISOTOPIC AGE: 171 +1/-5 Ma  
DATING METHOD: Zircon  
MATERIAL DATED: Zircon

LITHOLOGY: Actinolite Skarn  
Fine Grained Black Amphibolite  
Volcanic Breccia  
Alkali Feldspar Porphyritic Monzonite  
Calcite Vein

HOSTROCK COMMENTS: Inferred to be derived from epiclastic volcanic greywacke and agglomerate. Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

Plutonic Rocks

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE:

COMMENTS: Occurrence at southern margin of the Fourth of July Creek Batholith.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1953

SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
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Thorium	0.1600	Per cent
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Uranium	0.0120	Per cent
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COMMENTS: Another sample assayed 0.059 per cent uranium and 0.17 per cent thorium.

REFERENCE: Minister of Mines Annual Report 1953, page A81.

**CAPSULE GEOLOGY**

The Husselbee uranium showing lies within actinolite skarn, on "Discovery Hill", located about 1 to 2 kilometres south of Deep Bay on the west side of Atlin Lake, approximately 17 kilometres northwest of Atlin. The property was discovered and staked in 1953 and minor surface work and drilling was completed. Additional trenching was completed in 1967 which was the last year the property was worked on.

The original showing on Discovery Hill, and also one 400 metres to the west, is composed of dark green to black, fine-grained amphibolite consisting largely of bladed amphiboles which can be up to 5 centimetres long. Lighter grey-green varieties, forming

## CAPSULE GEOLOGY

rosettes, are dominantly actinolite as the major amphibole which form rosettes. Sparsely disseminated hematite can give the rock a reddish colour. Irregular masses or pods of jasper are also common and they are often mineralized with pyrite, fluorite, and galena. Partially recrystallized xenoliths of limestone are present. These indicate a possible volcanic agglomerate or breccia protolith for the amphibolite which may have been part of the Lower Pennsylvanian to Triassic Horsefeed Formation of the Mississippian to Triassic Cache Creek Group (Complex?). Underlying the amphibolite and exposed in areas away from Discovery Hill is a variably textured and heterogeneous granodiorite to monzodiorite with pink porphyritic alkali feldspar. These are most likely part of the Jurassic Fourth of July Creek Batholith of the Coast Intrusions. The Fourth of July Creek Batholith has been zircon dated at 171 ±5 Ma (Fieldwork 1990, in prep.).

Mineralization occurs as pyrite, galena, and fluorite in jasper pods. Uraninite and apatite are present, but the identity of the thorium-bearing mineral is uncertain. A sample from the top of Discovery Hill assayed 0.012 per cent uranium and 0.16 per cent thorium oxide and a sample 380 metres to the west assayed 0.059 per cent uranium and 0.17 per cent thorium. Another sample from the area assayed 0.14 per cent uranium and 0.04 per cent thorium oxide (Minister of Mines Annual Report 1953).

Small calcite and dolomite veins cut the amphibolite and contain disseminated molybdenite, pyrite, and chalcopyrite. Samples have assayed as high as 0.11 per cent molybdenite (Assessment Report 2786).

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- EMPR BULL 105
- EMPR FIELDWORK 1989 pp.311-322, pp.365-374; 1990, pp. 145-152
- EMPR GEM 1969-36
- EMPR MAP 22 (#64); 52
- EMPR OF 1989-15A; 1989-24; 1992-16
- EMPR PF (J.J. McDougall, (1954): Exploration and Prospecting Possibilities, Yukon and Northern British Columbia, page 26 in 104P General File)
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- GSC EC GEOL #16, (Rev.), p. 230
- GSC MAP 1082A
- GSC MEM 307, p. 73
- GSC OF 551
- GSC P 74-47; 78-1A, p. 467
- DIAND OF \*1990-4
- W MINER June 1954, p. 88
- Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1990/10/28

CODED BY: GSB  
REVISED BY: MGM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 002**

NATIONAL MINERAL INVENTORY: 104N12 Mo2

NAME(S): **ISLAND MOLY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 05 N  
LONGITUDE: 133 46 48 W  
ELEVATION: 33 Metres

NORTHING: 6618787  
EASTING: 5686659

LOCATION ACCURACY: Within 500M

COMMENTS: Island on east side of Atlin Lake about 15 kilometres north of Atlin.  
Note: Previously no name.

COMMODITIES: Molybdenum

#### MINERALS

SIGNIFICANT: Molybdenite

COMMENTS: No description of mineralization available.

ASSOCIATED: Quartz Microcline Orthoclase Sphene

COMMENTS: From description of Fourth of July Creek Batholith (Aitken).

MINERALIZATION AGE: Unknown

#### DEPOSIT

CHARACTER: Unknown

CLASSIFICATION: Unknown

TYPE: L05 Porphyry Mo (Low F- type)

COMMENTS: No description of occurrence available.

#### HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Fourth of July Creek Batholith
ISOTOPIC AGE:	171 +1/-5 Ma		
DATING METHOD:	Zircon		
MATERIAL DATED:	Zircon		

LITHOLOGY: Porphyritic Granite

HOSTROCK COMMENTS: No description available, taken from Geological Survey of Canada Map 1082A. Age date from Fieldwork 1990.

#### GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

COMMENTS: Along the southern margin of the Fourth of July Creek Batholith.

#### CAPSULE GEOLOGY

The Island Moly occurrence is located on a small island on the east side of Atlin Lake about 15 kilometres north of Atlin. The property has no work history.

The only reference to the molybdenite occurrence is on Map 1082A (Geological Survey of Canada Memoir 307). On this map, Aitken shows rock, cropping out on the island, of the Jurassic Fourth of July Creek Batholith. Cairnes (1913) originally refers to the rocks as "pink granites" and Aitken (1958) has retained this same terminology.

Microcline and orthoclase are both present and the rock can have a porphyritic texture. Thin section shows this rock to commonly have micro-fractures filled with quartz. This unit can also be very rich in sphene, sometimes easily recognizable in hand specimen.

The Fourth of July Creek Batholith is a large body covering about 780 square kilometres. It is zoned with three "mappable" phases (Aitken 1958). These phases, including the pink granite, range from granite to diorite. The pink granite appears to be the youngest phase and crops out primarily along Atlin Lake in the southwest portion of the batholith.

There is another small molybdenite occurrence on the east shore of Atlin Lake (Norsk, 104N 014) directly across from the island.

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EMPR BULL 105  
EMPR FIELDWORK 1989 pp.311-322, pp.365-374; 1990 pp. 145-152  
EMPR OF 1989-15A, 1989-24  
EMPR PRELIM MAP 52  
GSC MAP \*1082A



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
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PAGE: 689  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 37; 307  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 003**

NATIONAL MINERAL INVENTORY: 104N12 Pb1

NAME(S): **DUNDEE**, TABLE MOUNTAIN, PELTON

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N12W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 59 N  
LONGITUDE: 133 56 06 W  
ELEVATION: 1000 Metres

NORTHING: 6611028  
EASTING: 560058

LOCATION ACCURACY: Within 500M

COMMENTS: Pelton Group adjoins to the northeast along strike of the Dundee Vein, although no such vein was found on the group.

COMMODITIES: Lead                      Copper

**MINERALS**

SIGNIFICANT: Galena              Chalcopyrite      Malachite      Azurite

ASSOCIATED: Quartz              Calcite

COMMENTS: Veins are up to 1 metre wide with abundant sulphides.

ALTERATION: Malachite      Azurite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated

CLASSIFICATION: Hydrothermal              Epigenetic

TYPE: I05      Polymetallic veins      Ag-Pb-Zn±Au

DIMENSION:                      Metres                      STRIKE/DIP: 030/45N

TREND/PLUNGE:

COMMENTS: Vein thickness varies considerably and it is fault truncated to the southwest.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Triassic  
Miocene

Unnamed/Unknown Group

Undefined Formation

Klusha Intrusions

LITHOLOGY: Porphyritic Granitic Dike  
Porphyritic Hornblende Augite Andesite  
Lapilli Lithic Tuff  
Volcanic Sandstone  
Quartz Calcite Vein  
Volcanic Breccia

HOSTROCK COMMENTS: Veins occur within a granite-porphry dyke which Cairnes (1913) calls the Klusha Intrusive of age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

COMMENTS: Hosted in rocks south of the Fourth of July Creek Batholith.

**CAPSULE GEOLOGY**

The Dundee claims are located on the southeast flank of Table Mountain on the north shore of Graham Inlet between Tagish and Atlin Lakes. The property is about 15 kilometres northwest of Atlin and adjoins the Pelton claims to the northeast and the Petty claims to the southwest. The claims were staked prior to 1904 and sometime between then and 1907, two tunnels and 2 open cuts were made.

Only one quartz-calcite vein has been evaluated on the Dundee property. It is hosted rocks proposed by Mihalynuk et al (Fieldwork 1990) to be Middle to Upper Triassic in age. However, they could be part of the Upper Cretaceous Carmachs Group as indicated by Wheeler et al (Geological Survey of Canada Open File 1565). The rocks are primarily greenish augite-hornblende-feldspar porphyritic andesite flows with lesser lapilli lithic tuffs, volcanic breccias, and sandstones. A granite-porphry dyke of the Late Tertiary Klusha Intrusions, texturally and compositionally heterogeneous, has intruded the volcanic rocks. These dykes may be the hypabyssal equivalents of the Fourth of July Creek Intrusives. This dyke hosts the vein which follows a fissure system near the edge of the dyke. The vein/dyke attitude is 030 degrees/45 degrees northwest.

Strong mineralization occurs within the quartz-calcite vein and disseminated mineralization occurs in the wallrock. The most significant minerals are galena, chalcopyrite, malachite, and azurite. Vein thickness varies within a 10 metre distance, from 100 centi-

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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ENERGY AND MINERALS DIVISION

PAGE: 691  
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**CAPSULE GEOLOGY**

metres to 2 centimetres. The vein is traced on surface for 30 metres and is truncated by a fault at the southeast end. Continuation of this vein after offset may occur on the Petty Claims (104N 004) to the southeast.

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EMPR FIELDWORK 1989 pp.311-322, pp.365-374; 1990 pp. 145-152  
EMPR OF 1989-15A, 1989-24  
EMPR PRELIM MAP 52  
GSC MEM \*37, p. 108; 307, p. 73  
GSC SUM RPT \*1910, p. 51

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 004**

NATIONAL MINERAL INVENTORY: 104N12 Pb1

NAME(S): **PETTY, DUNDEE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 53 N  
LONGITUDE: 133 56 06 W  
ELEVATION: 1066 Metres

NORTHING: 6610843  
EASTING: 560061

LOCATION ACCURACY: Within 500M

COMMENTS: Dundee claims (Dundee 104N 003) adjoin to the northeast.

COMMODITIES: Lead                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Galena                      Chalcopyrite  
COMMENTS: Sulphide mineralization is irregular.  
ASSOCIATED: Linarite                      Quartz                      Calcite                      Malachite                      Azurite  
Pyrite  
COMMENTS: Minor linarite lining small cavities.  
ALTERATION: Malachite                      Azurite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                                      Disseminated  
CLASSIFICATION: Epigenetic                      Hydrothermal  
TYPE: I05                      Polymetallic veins Ag-Pb-Zn±Au  
DIMENSION:                                      Metres                                      STRIKE/DIP: 030/40                      TREND/PLUNGE:  
COMMENTS: Vein is truncated to the northeast.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Unnamed/Unknown Group	Undefined Formation	
Miocene			Klusha Intrusions

LITHOLOGY: Quartz Diorite Dike  
Andesite  
Andesitic Tuff  
Diorite Dike  
Quartz Calcite Vein

HOSTROCK COMMENTS: Veins occur in dykes of the Klusha Intrusives of Late Tertiary age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                                      PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
COMMENTS: Occurrence lies just south of the Fourth of July Creek Batholith.

**CAPSULE GEOLOGY**

The Petty claims are located on the southern flank of Table Mountain on the north shore of Graham Inlet between Tagish and Atlin Lakes. The property is about 15 kilometres northwest of Atlin. The Dundee claims adjoin to the northeast and work was done on both of the properties in the early 1900's.

The country rock on the property consists of andesitic flows and tuffs proposed by Mihalynuk et al (Fieldwork 1990) to be Middle to Upper Triassic in age. However, they could be part of the Carmachs Group as indicated by Wheeler et al (Geological Survey of Canada Open File 1565). This volcanic package was intruded by a narrow, dioritic to quartz-dioritic dyke of the Late Tertiary Klusha Intrusives (Cairnes 1913). These dykes may be the hypabyssal equivalent of the Fourth of July Intrusives.

The showing consists of a quartz-calcite vein hosted within the dioritic dykes. It may be the extension of the Dundee vein but fault displacement makes the correlation difficult. The vein strikes 030 degrees and dips about 40 degrees to the northwest. Inconsistent mineralization in the vein comprises galena, chalcopyrite and lesser pyrite, azurite and malachite. One small cavity was lined with the rare mineral linarite (a base sulphate of lead and copper). Smaller veins occur within two feet of the main vein and the wallrock in between is often mineralized with galena and chalcopyrite. Unlike the Dundee occurrence (104N 003), the wallrock surrounding the Petty veins is not mineralized. The veins are also of much more consistent thickness on the Petty property.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
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ENERGY AND MINERALS DIVISION

PAGE: 693  
REPORT: RGEN0100

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EMPR BULL 105  
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EMPR OF 1989-15A, 1989-24  
EMPR PRELIM MAP 52  
GSC MEM \*37, p. 106; 307  
GSC SUM RPT \*1910, p. 50  
GCNL Feb. 13, 1979  
W MINER April 1979

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 005**

NATIONAL MINERAL INVENTORY: 104N11 U1

NAME(S): **PURPLE ROSE** CRACKER CREEK

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 19 N  
LONGITUDE: 133 19 01 W  
ELEVATION: 1820 Metres

NORTHING: 6621646  
EASTING: 594657

LOCATION ACCURACY: Within 500M

COMMENTS: Occurrence at headwaters of Cracker Creek.

COMMODITIES: Uranium                      Copper                      Silver                      Lead                      Thorium  
Fluorite

**MINERALS**

SIGNIFICANT: Zeunerite                      Autunite                      Arsenopyrite                      Tetrahedrite                      Pyrite  
Fluorite                      Galena

COMMENTS: First recorded zeunerite occurrence in British Columbia.

ASSOCIATED: Malachite                      Magnetite                      Azurite

COMMENTS: Mostly associated with skarn away from main occurrence.

ALTERATION: Kaolinite                      Malachite                      Azurite

ALTERATION TYPE: Argillic                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal  
DIMENSION:                      STRIKE/DIP: 135/  
COMMENTS: Northwest trending shear zone. Deposit classification also includes  
igneous-contact.

Industrial Min.  
TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous Pennsylvan.-Permian Upper Cretaceous	Cache Creek	Nakina	Atlin Ultramafic Allochthon Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Coarse Grained Alaskite  
Porphyritic Alaskite  
Greenstone  
Limestone  
Quartzite  
Tremolite Garnet Skarn

HOSTROCK COMMENTS: Hosted in batholith that has intruded Cache Creek Group and Atlin Ultramafic Allochthon rocks. Age date from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE:  
COMMENTS: Hosted along western margin of the Surprise Lake Batholith.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1955
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Thorium	0.0110 Per cent
Uranium	0.0750 Per cent

COMMENTS: One sample also reportedly ran 1.06 per cent copper.  
REFERENCE: Minister of Mines Annual Report 1955, pages 7-9.

**CAPSULE GEOLOGY**

The Purple Rose occurrence is located at the headwaters of Cracker Creek which drains eastward into the north end of Surprise Lake. The occurrence is about 24 kilometres northeast of Atlin. Work on the occurrence occurred from 1953 to 1955 and 1977 to 1978. The primary lithology in the area is that of a coarse-grained to

## CAPSULE GEOLOGY

porphyritic alaskite to quartz monzonite belonging to the Late Cretaceous Surprise Lake Batholith. These rocks have intruded volcanic and sedimentary sequences of the Mississippian to Triassic Cache Creek Group (Complex?) composed of quartzite, limestone, and greenstone of the Lower Mississippian to Middle Pennsylvanian Nakina Formation. The Atlin Ultramafic Allochthon is composed of variably serpentinized ultramafic rocks (peridotite) and have also been intruded by the Surprise Lake Batholith in the Cracker Creek area.

The mineral occurrence is associated with a northwest trending shear zone that is near the boundary of, but hosted entirely within, the alaskite to quartz monzonite body, near its contact with the sediments. The shear zone and associated mineralization has been traced over 500 metres. The alaskite is strongly "kaolinized" near the shear zone and the degree of alteration decreases away from the shear. Within the strongly altered alaskite, on the footwall of the shear zone, the uranium mineral zeunerite is found. This zone returned the highest values of 0.075 per cent uranium and 0.011 per cent thorium oxide. Other minerals associated with the zeunerite are autunite, arsenopyrite, tetrahedrite, pyrite, galena and minor fluorite. One sample also ran 1.06 per cent copper (Minister of Mines Annual Report 1955, pages 7 to 9).

In another area where the alaskite body comes in direct contact with limestone, the limestone is metamorphosed to a tremolite-garnet skarn with patchy magnetite and copper staining of malachite and azurite.

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- GSC P 78-1A, p. 467
- EMPR ASS RPT \*6469, 6922, 7610
- N MINER Sept.16, 1954
- EMR MP CORPFILE (Jason Explorers Ltd.)
- EMPR MAP 22; 52 (10 pages of notes)
- GSC OF 551
- GSC MAP 1082A
- EMPR PF (J.J. McDougall, (1954): Exploration and Prospecting Possibilities, Yukon and Northern British Columbia, in 104P General File)
- DIAND OF \*1990-4
- Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154
- EMPR OF 1989-15; 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N





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**CAPSULE GEOLOGY**

Silver Mines Ltd. who carried out only minor surface work on the vein.

**BIBLIOGRAPHY**

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GSC P 74-47  
GSC MEM 307, p. 72  
EMR MIN BR INVEST NO 1384  
EMR MP CORPFILE (Transcontinental Resources Ltd.)  
GCNL #183,#205, 1979; #36,#114, 1982  
EMPR GEM 1970-30; 1972-557  
EMPR MAP \*52 (10 pages of notes)  
EMPR FIELDWORK 1978, p. 107  
EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report,  
116 pages)  
EMPR OF 1989-15; 1991-17; 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 007**

NATIONAL MINERAL INVENTORY: 104N12 Au4

NAME(S): **BEAVIS**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 00 N  
LONGITUDE: 133 43 15 W  
ELEVATION: 762 Metres

NORTHING: 6605705  
EASTING: 572241

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold Pyrite  
ASSOCIATED: Quartz Mariposite  
COMMENTS: Sulphide content is highly variable.  
ALTERATION: Silica Carbonate Mariposite  
COMMENTS: Often referred to as a "Listwanite".  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
DIMENSION:  
COMMENTS: Attitude from T.G. Schroeter field notes, July 13, 1985.  
STRIKE/DIP: 155/85

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous Pennsylvan.-Permian	Cache Creek	Kedahda	Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
Quartz Vein  
Listwanite  
Felsic Dike  
Chert  
Argillite  
Dike

HOSTROCK COMMENTS: Hosted in and near altered dike rocks near contact with Cache Creek Group rocks. Ultramafic rocks occur structurally above prospect.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
COMMENTS: At southern edge of Fourth of July Creek Batholith.  
PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: BRECCIA  
REPORT ON: N  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY: 

COMMODITY	GRADE	
Silver	235.0000	Grams per tonne
Gold	63.0000	Grams per tonne

  
REFERENCE: Tom Schroeter Field Notes July 13, 1985.

**CAPSULE GEOLOGY**

The Beavis Mine is located on the eastern shore of Atlin Lake about 2 kilometres north of the town of Atlin.

The Beavis property covers the northern contact of the Monarch Mountain thrust, a tectonized basalt of the harzburgite unit of the Atlin ophiolite assemblage. The mineralization is hosted in "accretionary complex" sediments caught up in the thrust.

The occurrence consists of a well-defined quartz vein hosted within rocks of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. In the area of the vein, the ultramafic rock can be both silicified and carbonate altered to a listwanitic-type alteration assemblage with some chromium micas identified as mariposite. The host rocks for the intrusions are cherts and

## CAPSULE GEOLOGY

argillites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Mississippian to Triassic Cache Creek Group (Complex?). The quartz veins and alteration in the mine occur very near the contact of the intrusions and the sediments.

The main vein at the Beavis mine is 45 centimetres wide and it strikes at 155 degrees with a dip of 85 degrees to the northeast. Associated with the vein is a light coloured felsic dyke. The exact relationship of the vein and dyke is not documented, although a similar dike/vein assemblage occurs on the Anaconda property (104N 046) about 3 kilometres to the south. The dike on both properties is mineralized with disseminated pyrite. The quartz veins of the Beavis Mine carry variable amounts of disseminated pyrite and visible gold. Some breccia textures are present.

Work on the mine occurred from 1902 to 1908 with the most work done in 1908 by the Gold Group Mining Company with three levels developed from a shaft sunk 60 metres. A sample taken by Tom Schroeter (Energy, Mines and Petroleum Resources) on July 13, 1985 from a silicified breccia zone contained 63 grams per tonne gold and 235 grams per tonne silver.

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EMPR FIELDWORK 1989 pp.311-322, pp.365-374; 1990 (in prep)  
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GSC MEM \*37, p. 103; 307  
GSC SUM RPT \*1910, p. 49  
DIAND OF \*1990-4  
PERS COMM (\*Tom Schroeter)  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in *Geology* V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 008**

NATIONAL MINERAL INVENTORY: 104N12 Au3

NAME(S): **IMPERIAL**, MONROE MOUNTAIN

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

Underground

MINING DIVISION: Atlin

LATITUDE: 59 36 17 N  
LONGITUDE: 133 36 06 W  
ELEVATION: 1100 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6608222  
EASTING: 578921

LOCATION ACCURACY: Within 500M

COMMENTS: Located on southwest flank of Mt. Munro, 8 kilometres northeast of Atlin.

COMMODITIES: Gold Silver Copper Lead

**MINERALS**

SIGNIFICANT: Gold Chalcopyrite Galena Pyrite

COMMENTS: Abundant visible gold.

ASSOCIATED: Quartz Malachite

COMMENTS: Very distinct or "clean" quartz veins.

ALTERATION: Malachite Magnesite Ankerite Quartz Calcite

Talc Fuchsite Serpentine

COMMENTS: Copper staining is common.

ALTERATION TYPE: Oxidation Quartz-Carb. Serpentin'zn

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

SHAPE: Tabular

DIMENSION: 150 x 2 Metres STRIKE/DIP: 135/55

TREND/PLUNGE:

COMMENTS: Vein attitude is consistent. Depth dimension not reported. Vein is near altered dike.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Nakina	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
Quartz Vein  
Porphyritic Felsic Dike  
Listwanite  
Serpentinized Peridotite  
Gabbro  
Diorite  
Greenstone  
Volcanic Greywacke

HOSTROCK COMMENTS: Vein hosted in altered ultramafics (wehrlite); mafic volcanics and crustal rocks near its western end.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

COMMENTS: Occurrence is just south of the Fourth of July Creek Batholith.

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1902

SAMPLE TYPE: Bulk Sample

COMMODITY

GRADE

Silver 26.4700 Grams per tonne

Gold 27.1000 Grams per tonne

COMMENTS: Sample sent by Herbert Pearce to Vancouver, B.C. in 1902.

REFERENCE: GSC Memoir 37, 1913, page 102.

**CAPSULE GEOLOGY**

The Imperial Mine is located on the southwest flank of Monroe Mountain, southwest of Surprise Lake. The property is about 8 kilometres northeast of Atlin. The mine was developed from 1900 to 1902.

The Imperial occurrence lies within a body of ultramafic rocks

## CAPSULE GEOLOGY

of the Pennsylvanian to Permian Atlin Ultramfic Allochton. These rocks are composed largely of peridotites, diorites, and gabbros under variable degrees of shearing and alteration. The peridotites are often highly serpentized; especially in the vicinity of local faults. These rocks have intruded into a volcanic package of the Lower Mississippian to Middle Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group (Complex?). This package is composed largely of greenstone and volcanic greywacke. Porphyritic felsic dikes are often associated with the veins and can carry a significant amount of gold.

The alteration is silica-carbonate (listwanite?) type magnesite/ankerite, quartz, calcite, talc, fuchsite and minor tremolite within serpentinite and quartz, calcite, ankerite and fuchsite within greenstone (Assessment Report 9868).

The Imperial occurrence comprises several parallel quartz-filled fissures. The main vein or lode varies from 0.3 to 2.1 metres in width and has been traced for a distance of over 150 metres. The vein strikes at 135 degrees with a dip of 55 degrees to the southwest. The vein attitude is very consistent. Mineralization in the vein comprises visible gold with variable amounts of chalcopyrite, galena and pyrite. Copper staining with malachite is common.

The mine was operated from two levels with over 150 metres of underground development. The western extension of the vein is faulted and it pinches to an unmineable width to the east. On the upper level, the mining width can reach 2.5 metres, but the vein pinches with depth as well as decreasing in grade. A total of 245 tonnes milled from the upper level yielded 13.7 grams per tonne gold while 23 tonnes milled from the lower level yielded only 5.1 grams per tonne gold.

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EMPR PRELIM MAP 52  
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GSC SUM RPT \*1910, p. 47  
EMR MP CORPFILE (Ogdad Mining Co. Ltd.)  
DIAND OF \*1990-4  
GCNL #137, 1984  
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the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 009**

NATIONAL MINERAL INVENTORY: 104N11 Au9

NAME(S): **LAKEVIEW**, LAKE VIEW, LAST CHANCE

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 39 N  
LONGITUDE: 133 27 06 W  
ELEVATION: 1333 Metres

NORTHING: 6612802  
EASTING: 587283

LOCATION ACCURACY: Within 500M

COMMENTS: Centered around old underground workings between Birch and Boulder Creeks, north of east end of Surprise Lake.

COMMODITIES: Gold Silver Lead

**MINERALS**

SIGNIFICANT: Gold Galena Pyrite  
COMMENTS: Only minor visible gold. Table 2.1, Bulletin 108.  
ASSOCIATED: Chalcopyrite Sphalerite Magnetite Chromite Mariposite  
Dolomite Quartz Hessite

COMMENTS: Sulphides occur as disseminated blebs.  
ALTERATION: Silica Carbonate Mariposite Ankerite  
COMMENTS: Veins occur in wide zones of silicification and carbonate alteration (listwanite).

ALTERATION TYPE: Silicific'n Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
DIMENSION: Metres STRIKE/DIP: 125/80 TREND/PLUNGE:  
COMMENTS: Vein orientation is consistent.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Kedahda	
Carboniferous	Cache Creek	Nakina	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon

LITHOLOGY: Olivine Basalt  
Andesite  
Quartz Calcite Vein  
Peridotite  
Ultramafic  
Listwanite  
Argillite  
Chert  
Limestone

HOSTROCK COMMENTS: Veins hosted in alteration zones within Nakina Formation volcanics near their contact with the Atlin Ultramafic Allochthon.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
COMMENTS: Occurrence is between the Surprise Lake & Fourth of July Ck. Batholith

**INVENTORY**

ORE ZONE: DUMP REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1933  
SAMPLE TYPE: Rock  
COMMODITY GRADE  
Silver 933.1000 Grams per tonne  
Gold 43.5000 Grams per tonne  
COMMENTS: Sample of "best mineralized vein material" from dump pile.  
REFERENCE: Annual Report 1933, page 78.

**CAPSULE GEOLOGY**

The Lakeview property is located between Birch and Boulder creeks just north of the west end of Surprise Lake. The property is about 16 kilometres northeast of Atlin. Underground development was done primarily in 1902 with recent exploration occurring from 1982 to 1987 by Cream Silver Mines Ltd.

## CAPSULE GEOLOGY

Mineralization on the Lakeview property is hosted in intermediate to basic volcanic rocks of the Lower Mississippian to Middle Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group (Complex?). This package is composed of olivine-bearing basalts and andesite under varying degrees of silicification. These rocks are in close contact with ultramafic rocks of the Atlin Ultramafic Allochthon and overlain by cherts, argillites, and limestones of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Cache Creek Group. Fresh ultramafic rocks appear as peridotite but they are often highly serpentized and talc-altered.

The occurrence comprises quartz-calcite veins hosted in silicified and carbonate altered "listwanitic" zones within the andesite. The vein has a quartz core and calcite selvages and varies from 2 centimetres to 1 metre in width. The vein strikes at 125 degrees and dips 80 degrees to the northeast. Its attitude is very consistent. Sulphide mineralization in the vein occurs as blebs of pyrite and galena with minor chalcopyrite and sphalerite. In the altered wallrock, pyrite, mariposite, ankerite, chromite, and magnetite occur as disseminated grains. Gold is visible in the vein and the altered wallrock immediately surrounding the vein may also be auriferous. Hessite and tetradymite occurs locally.

One adit and two shafts were developed along 150 metres of strike length of the vein. Material from these workings was said to have averaged 14.4 grams per tonne gold in 1902. No further underground development was done after 1902, although the occurrence has received significant work in the past four years.

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EMPR PF (Atlin Area, Smithers: 104N 009; Black, J.M., (1953): Atlin Placer Camp, Unpublished Report, 116 pages)  
EMR MP CORPFILE (Yukon Revenue Mines Ltd.)  
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GSC MEM 37, p. 104; 307, p. 73  
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DIAND OF \*1990-4  
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V STOCKWATCH May 8, Jul.12, 1987  
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DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 010**

NATIONAL MINERAL INVENTORY: 104N11 Au8

NAME(S): **WHITE STAR**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 59 N  
LONGITUDE: 133 26 06 W  
ELEVATION: 1500 Metres

NORTHING: 6613442  
EASTING: 588208

LOCATION ACCURACY: Within 500M

COMMENTS: Occurrence associated with two showings.

COMMODITIES: Gold Lead Silver

**MINERALS**

SIGNIFICANT: Gold Galena  
COMMENTS: Only minor visible gold.  
ASSOCIATED: Quartz Pyrite Chalcopyrite Sphalerite  
COMMENTS: Pyrite is the most abundant sulphide.  
ALTERATION: Chlorite Sericite Silica  
COMMENTS: Veins hosted in chlorite and sericite schists.  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic Skarn  
DIMENSION: STRIKE/DIP: 125/80 TREND/PLUNGE:  
COMMENTS: Vein attitude is fairly consistent.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Kedahda	
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende

LITHOLOGY: Chlorite Schist  
Sericite Schist  
Quartzite  
Limestone  
Quartz Vein  
Alaskite  
Quartz Monzonite  
Skarn

HOSTROCK COMMENTS: Veins hosted in metasediments and metavolcanics near the contact of the Surprise Lake Batholith. Age date - Map 52, notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:  
COMMENTS: Occurs along western edge of the Surprise Lake Batholith.

**INVENTORY**

ORE ZONE: TRENCH REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1904  
SAMPLE TYPE: Rock  
COMMODITY  
Silver 308.6000 Grams per tonne  
Gold 4.1100 Grams per tonne  
COMMENTS: Gold values are reported as sporadic.  
REFERENCE: Annual Report 1904, page 77.

**CAPSULE GEOLOGY**

The White Star occurrence is located between Birch and Boulder creeks which both drain into the west end of Surprise Lake. The occurrence is about 16 kilometres northeast of Atlin. Some underground work was done on the occurrence in 1904.  
The occurrence consists of quartz veins which are hosted in variably metamorphosed rocks of the Upper Mississippian to Upper



## CAPSULE GEOLOGY

Pennsylvanian Kedahda Formation of the Mississippian to Triassic Cache Creek Group (Complex?). The rocks consist of chlorite and sericite schists, quartzites and minor limestone. Near the occurrence is a large body of quartz monzonite often referred to as alaskite. The body is part of the Late Cretaceous Surprise Lake Batholith and has variable textures. It has imparted the metamorphic fabrics on the Kedahda Formation rocks and in places has silicified the limestone pods. Some skarn-type mineralization has been reported in the area of the occurrence.

The quartz veins strike at 70 degrees and dip 80 degrees to the northwest. They are well defined and have consistent orientations. The vein is 1.5 to 2 metres wide and is often banded with darker material, particularly towards the hangingwall margin. Mineralization is spotty with minor galena, pyrite and sporadic visible gold. Exposed mineralization in trenches in skarn-type zones has pyrite, chalcopyrite, galena and sphalerite. Gold values were reported as sporadic, varying from nil to 13 grams per tonne gold. Silver assays have been as high as 308 grams per tonne, taken during the development work of 1904 (Minister of Mines Annual Report 1904, page 77). Recent exploration has been limited to surface surveys.

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GSC P 74-47  
EMPR MAP 52 (10 pages of notes)  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 011**

NATIONAL MINERAL INVENTORY: 104N12 Ag1

NAME(S): **ATLIN RUFFNER, SILVER FOX, MOUNT VAUGHAN  
BIG CANYON, CHEROKEE, SILVER BARBER,  
TWIN MOOSE, CRATER CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:  
LATITUDE: 59 44 09 N  
LONGITUDE: 133 31 18 W  
ELEVATION: 1500 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: The mine is located 23 kilometres northeast of Atlin, on Crater Creek which drains west into Fourth of July Creek.

Underground  
MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6622918  
EASTING: 583110

COMMODITIES: Silver Lead Zinc Gold Copper  
Cadmium Molybdenum Tin

**MINERALS**

SIGNIFICANT: Galena Sphalerite Arsenopyrite Chalcopyrite Pyrrhotite  
Pyrargyrite Tetrahedrite Molybdenite Scheelite Cassiterite  
ASSOCIATED: Quartz Calcite Ankerite Pyrite  
ALTERATION: Ankerite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Shear  
CLASSIFICATION: Replacement Epigenetic Hydrothermal  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
DIMENSION:  
COMMENTS: Lamprophyre dykes. STRIKE/DIP: 070/85N TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Middle Jurassic  
ISOTOPIC AGE: 171 +/- 5 Ma  
DATING METHOD: Zircon  
MATERIAL DATED: Zircon  
Fourth of July Creek Batholith

LITHOLOGY: Pyroxene Lamprophyre Dike  
Granite  
Feldspar Porphyritic Quartz Syenite

HOSTROCK COMMENTS: Mineralization occurs in vein/shear zones in lamprophyre dykes hosted in the Fourth of July Creek batholith. Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks Cache Creek PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: ATLIN RUFFNER REPORT ON: Y  
CATEGORY: Unclassified YEAR: 1988  
QUANTITY: 113638 Tonnes  
COMMODITY GRADE  
Silver 600.0000 Grams per tonne  
Lead 5.0000 Per cent  
COMMENTS: Reserves from the two zones from which underground development and production has taken place.  
REFERENCE: Assessment Report 18646.

**CAPSULE GEOLOGY**

The Atlin Ruffner mine, composed primarily of the Ruffner and Big Canyon claim groups, is located on Crater Creek which drains west into the Fourth of July Creek. The mine is about 23 kilometres northeast of Atlin. The occurrence has been an intermittent producer from 1916 to 1981, being operated by numerous companies. The occurrence lies completely within the Middle Jurassic Fourth of July Creek batholith which covers about 780 square kilometres northeast of Atlin. It is composed of both monzonitic and quartz dioritic phases and in the area of the Atlin Ruffner mine is composed of feldspar porphyritic quartz syenite to granite. The batholith has

## CAPSULE GEOLOGY

intruded into Carboniferous-Jurassic Cache Creek Complex (Group) rocks.

Mineralization on the property is associated with dark green, pyroxene-bearing lamprophyre dykes which strike 070 degrees and dip 85 degrees to the northwest. The dykes are abundant, parallel and from 2 to 10 metres thick. They follow older fracture zones and have been the host for younger fracturing, shearing and veining. The dykes are not commonly seen outside the batholith and have also been crosscut by the younger, Late Cretaceous Surprise Lake batholith. These relationships suggest that the mafic dykes may be in part coeval with the Jurassic Fourth of July Creek Batholith and represent a residual, differentiated mafic portion of the same parent magma emplaced only slightly after the main body.

Possibly because of their brittle more competent nature, the dykes host later shearing, veining and fracturing. Four of these dykes are replaced by ankerite-quartz-calcite veining and shear zones. They are heavily mineralized with galena, sphalerite and arsenopyrite with lesser pyrite and chalcopyrite. Mineralization is lensey and not laterally continuous. Ore has been produced from these structures from 1916 to 1981 with an average grade of 0.42 grams per tonne gold, 267 grams per tonne silver and 5 per cent combined lead-zinc. Mineralization occurs in four major zones (Assessment Report 18646).

Unclassified reserves from the 2 zones from which underground development and production has taken place are 113,638 tonnes grading 600 grams per tonne silver and 5.0 per cent lead (Assessment Report

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EMPR ASS RPT 2203, \*18646  
EMPR CORPFILE (Atlin Silver Mines Limited; Atlin-Ruffner Mines Limited; R.J. Jowsey Mining Company Ltd.; Armore Mines Limited; Turismo Industries Ltd.; Atlin Silver Corporation; Trident Resources Inc.; Cyclone Developments Ltd.)  
EMPR FIELDWORK 1976, p. 69; 1990 (in prep.)  
EMPR GEM 1969-28; 1970-54; 1971-54  
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EMPR OF 1992-1; 1992-7  
EMPR PF (Report to Shareholders, No. 5, May 22, (1967): Interprovincial Metals Ltd.; (1974): Private Report, Smith, E.R.; (1975): Private Report, Snell, J.C.; (1975): Private Report, Larabie, E.N.; Atlin Silver Corporation, 1975)  
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N MINER July 19, 1979; Jan 22, April 9, 1981  
WWW [http://www.infomine.com/index/properties/ATLIN\\_RUFFNER.html](http://www.infomine.com/index/properties/ATLIN_RUFFNER.html)  
Placer Dome File  
EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1990/04/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 012**

NATIONAL MINERAL INVENTORY: 104N14 Cu1

NAME(S): **SUNRISE** SUNSET, CONSOLATION CREEK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 47 23 N  
LONGITUDE: 133 18 54 W  
ELEVATION: 1666 Metres

NORTHING: 6629195  
EASTING: 594574

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite      Galena              Sphalerite

COMMENTS: Sulphides occur in massive lenses.

ASSOCIATED: Pyrite

COMMENTS: Sulphides are disseminated away from main zone.

COMMENTS: Skarn minerals not described.

ALTERATION TYPE: Skarn                      Silicific'n

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive                      Disseminated

CLASSIFICATION: Igneous-contact      Skarn

COMMENTS: Shape of mineralization body is irregular.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Kedahda	
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Limestone  
Granite  
Quartz Monzonite  
Skarn

HOSTROCK COMMENTS: Occurrence is in altered sediments next to the Surprise Lake Batholith. Map 52, notes, p. 3.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE:

COMMENTS: Occurrence between Surprise Lake and Fourth of July Ck. Batholith.

**CAPSULE GEOLOGY**

The occurrence is located at the head of Consolation Creek north of Surprise Lake. It is about 32 kilometres northeast of Atlin. The occurrence is covered primarily by two Crown Grants; the Sunrise and Sunset claims staked in 1899.

The occurrence is located in a pendant of Mississippian to Triassic Cache Creek Group (Complex?) volcanic and sedimentary rocks located between the Early Cretaceous Fourth of July Creek Batholith and the Late Cretaceous Surprise Lake Batholith. More specifically, the occurrence lies within a limestone lens of the Kedahda Formation. The Kedahda Formation is Upper Mississippian to Upper Pennsylvanian composed of cherts, argillites and lesser basic volcanic rocks located in the upper levels of the Cache Creek Group package. The limestone is highly silicified near the occurrence. The Surprise Lake Batholith near the occurrence is composed of granite to quartz monzonite.

There is very little written material on the occurrence itself. It is briefly described as a green skarn containing massive sulphide lenses of pyrite, galena, chalcopyrite and sphalerite that are up to 1.5 metres wide. Disseminated sulphides occur for an additional 5 metres away from the main skarn zone.

Some open cuts were dug when the occurrence was initially staked in 1899 and some drilling was done in 1954 but was never documented.

This skarn-type mineralization is similar to other occurrences peripheral to the Surprise Lake Batholith.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 709  
REPORT: RGEN0100

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DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 013**

NATIONAL MINERAL INVENTORY: 104N11 Ni1

NAME(S): **MOUNT BARHAM**, Ni, FOX

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 24 N  
LONGITUDE: 133 23 08 W  
ELEVATION: 1844 Metres

NORTHING: 6623561  
EASTING: 590750

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Ni and Fox claims from Assessment Report 2132.

COMMODITIES: Nickel Copper

**MINERALS**

SIGNIFICANT: Pyrrhotite Pentlandite  
COMMENTS: Disseminated pyrrhotite and pentlandite in andesite.

ASSOCIATED: Pyroxene Quartz Pyrolusite

COMMENTS: Pyroxene occurs in andesite near the ultramafic contact.

ALTERATION: Pyrolusite Serpentinite Manganite Chlorite Epidote

Silica

COMMENTS: Manganese staining near contact.

ALTERATION TYPE: Silicific'n Chloritic Epidote

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia Disseminated  
CLASSIFICATION: Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Carboniferous  
Pennsylvan.-Permian

**GROUP**

Cache Creek

**FORMATION**

Nakina

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon

LITHOLOGY: Fine Grained Andesite  
Fine Grained Basalt  
Breccia  
Serpentinized Peridotite  
Ultramafic  
Marble  
Dioritic Dike  
Quartz Vein

HOSTROCK COMMENTS: Mineralization in Nakina Formation andesites near contact with the Atlin Ultramafic Allochthon.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

COMMENTS: Situated between Surprise Lake and Fourth of July Creek Batholiths.

**CAPSULE GEOLOGY**

The Fox claims, which cover the Mount Barham occurrence, are located on the southern flank of Mount Barham, at the head of Ruby Creek north of Surprise Lake. The occurrence is about 40 kilometres northeast of Atlin. The claims were staked in 1968 and were worked for only 1 year in 1969.

Mineralization on the property occurs in dark grey-green to black, massive, fine-grained andesites to basalts of the Upper Mississippian to Upper Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group. On the property, these rocks are near the contact with ultramafic rocks of the Permian to Pennsylvanian Atlin Ultramafic Allochthon. These rocks are composed of light green to brown, often serpentinized peridotite. The contact is often highly fractured and sheared and the peridotite is often serpentinized. A contact breccia has been reported in one location. Some marble has been identified as float and is inferred to represent small, recrystallized limestone lenses interbedded with the andesites and metamorphosed by the intrusions. A dioritic dyke striking 010 degrees crosscuts the andesite on the property.

Mineralization on the property consists of disseminated pyrrhotite and pentlandite. The mineralization is associated with silicification and fine quartz veining, plus or minus chlorite and epidote, and may be fracture controlled. Up to 2 per cent pyrite and possibly arsenopyrite are also present. Some quartz vein float has been re-

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RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 711  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

ported with some pyrolusite but no significant sulphide mineralization is reported. Results from soil geochemistry surveys in 1969 revealed 2 copper and 1 lead anomaly but they were not substantial. No further work has been done on the mineral showing.

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DIAND OF \*1990-4  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N





RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 713  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 015**

NATIONAL MINERAL INVENTORY: 104N11 W4

NAME(S): **THOR**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 11 N  
LONGITUDE: 133 23 00 W  
ELEVATION: 1733 Metres

NORTHING: 6619450  
EASTING: 590975

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Tungsten Silver Molybdenum Lead

**MINERALS**

SIGNIFICANT: Wolframite Molybdenite Arsenopyrite Galena

COMMENTS: Wolframite mineralization is very patchy.

ASSOCIATED: Quartz Pyrite

COMMENTS: Mineralization hosted in quartz vein.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic

DIMENSION:

STRIKE/DIP: 050/65N

TREND/PLUNGE:

COMMENTS: Dips vary from 55 to 75 degrees.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Fine Grained Quartz Monzonite  
Coarse Grained Quartz Vein  
Quartz Vein

HOSTROCK COMMENTS: Hosted in Mt. Leonard Boss separated from the main body of the pluton. Map 52, notes page 3.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1968

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

10.3000

Grams per tonne

Molybdenum

0.0200

Per cent

Tungsten

0.6700

Per cent

COMMENTS: Best of 25 samples taken. Commodity is WO3.

REFERENCE: Assessment Report 1764.

**CAPSULE GEOLOGY**

The Thor occurrence is located about 3 kilometres north of Ruby Mountain on the west side of Ruby Creek near its headwaters. It is about 25 kilometres northeast of Atlin and was explored in 1968 and 1969 by the Canadian Johns-Manville Company. The mineralized quartz vein occurs just north of the eastern-most extension of the Black Diamond vein (104N 006) and has the same orientation as that vein.

The occurrence is located within the Mt. Leonard Boss, a small stock removed from the main body of the Late Cretaceous Surprise Lake Batholith, which covers approximately 1100 square kilometres east and northeast of Atlin. The stock is 70.6, plus or minus 3.8 million years (Map 52), and composed of fine to coarse-grained quartz monzonites often referred to as alaskite. The body is occasionally quartz and/or feldspar porphyritic. The stock is separated from the main pluton mainly by ultramafic, mafic volcanic, and sedimentary rocks of the Upper Paleozoic Cache Creek Group exposed along Boulder

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**CAPSULE GEOLOGY**

Creek, and only a short distance east of the occurrence. Some narrow, light grey felsic dykes occur in the area crosscutting the alaskite.

Mineralization consists of patchy and erratic wolframite with lesser galena, arsenopyrite and pyrite. Molybdenite is also erratic and occurs in large books and rosettes. The dark grey quartz vein hosting the mineralization is from 1.5 to 3 metres wide, 280 metres long, strikes northeast and dips steeply to the northwest.

The best sample result was 0.67 per cent tungsten, 0.02 per cent molybdenum and 10.3 grams per tonne silver (Assessment Report 1764).

**BIBLIOGRAPHY**

EMPR ASS RPT 1763, \*1764, 1991  
GSC MEM 307  
GSC P 74-47  
EMPR AR 1969-374  
EMPR MAP 52 (10 pages of notes)  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 016**

NATIONAL MINERAL INVENTORY: 104N11 W6

NAME(S): **PEREYE TUNGSTEN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 39 N  
LONGITUDE: 133 18 15 W  
ELEVATION: 1525 Metres

NORTHING: 6620427  
EASTING: 595407

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located between Ruby and Cracker Creek (Assessment Report 7281).

COMMODITIES: Tungsten                      Copper

**MINERALS**

SIGNIFICANT: Wolframite              Chalcopyrite              Arsenopyrite  
ASSOCIATED: Arsenopyrite              Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Carboniferous  
Upper Cretaceous

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Surprise Lake Batholith

LITHOLOGY: Quartzite  
Argillite  
Alaskite  
Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This tungsten occurrence is located just east of Ruby Creek near the western contact of the Late Cretaceous Surprise Lake Batholith with Mississippian to Triassic Cache Creek Group rocks, which consist of cherts and argillites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation and altered green basalts of the Pennsylvanian-Mississippian Nakina Formation. The Surprise Lake Batholith is composed of vari-textured quartz monzonite often referred to as alaskite.

Aitken (GSC Memoir 307, Map 1082A), surveyed this area from 1951 to 1955. He reported several small showings of wolframite, associated with quartz veins, occurring near the margin of the batholith in sericitized alaskite. Weathering of associated arsenopyrite forms a greenish yellow stain over mineralized areas.

A tungsten showing located on Map 1082 is underlain by Kedahda Formation rock. However, Aitken has described only alaskite hosted tungsten mineralization (GSC Memoir 307).

Near the northeast corner of the Pereye claim a quartzite and siltstone sequence host quartz veins with associated chalcopyrite and wolframite (Assessment Report 7278).

**BIBLIOGRAPHY**

GSC MEM \*307, p. 72  
GSC MAP 1082A  
GSC P 74-47  
GSC OF 1565  
EMPR ASS RPT 2541, \*7281, 8049  
EMPR EXPL 1979-302  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 016**

MINFILE NUMBER: **104N 017**

NATIONAL MINERAL INVENTORY: 104N10 W1

NAME(S): **WEIR MOUNTAIN**, WHI, CYZ

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 49 N  
LONGITUDE: 132 59 51 W  
ELEVATION: 1733 Metres

NORTHING: 6619362  
EASTING: 612704

LOCATION ACCURACY: Within 500M

COMMENTS: Location based upon a tungsten showing on Map 1082A (GSC Memoir 307).

COMMODITIES: Tungsten Molybdenum

**MINERALS**

SIGNIFICANT: Wolframite Molybdenite  
COMMENTS: Only trace amounts occur.  
ASSOCIATED: Quartz Malachite  
COMMENTS: Mineralization hosted in quartz veins.  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Epigenetic  
COMMENTS: Vein attitudes are not consistent.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Equigranular Medium Grained Alaskite  
Quartz Feldspar Porphyritic Alaskite  
Fine Grained Aplite Dike  
Quartz Vein  
Biotite Quartz Feldspar Pegmatite

HOSTROCK COMMENTS: Mineralization in quartz veins hosted in the middle of the batholith.  
Map 52, notes page 3.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks  
COMMENTS: Hosted right in the middle of the Surprise Lake Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1979
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Molybdenum	0.0230 Per cent
Tungsten	0.0550 Per cent

REFERENCE: Assessment Report 8413, page 18.

**CAPSULE GEOLOGY**

The Mount Weir occurrence, within the Whi claim block (418 claims), is located about 5 kilometres north of Weir Mountain and 10 kilometres east of Surprise Lake. The occurrence is about 44 kilometres northeast of Atlin.

The occurrence is based upon a tungsten occurrence shown on Map 1082A of Geological Survey of Canada Memoir 307. It is located right in the middle of the Surprise Lake Batholith which covers about 1100 square kilometres east and northeast of Atlin. The batholith is dated at 70.6 plus or minus 3.8 million years or Late Cretaceous. It is composed primarily of medium-grained, equigranular alaskite, which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz and may or may not contain plagioclase and mafics. There are some coarse-grained quartz-feldspar porphyritic varieties.

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## CAPSULE GEOLOGY

The contacts between the various textural varieties are commonly gradational. There are also some massive aplitic dykes which cross-cut the batholith. There are also some very coarse-grained pegmatitic zones within the alaskite with large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

Mineralization occurs as disseminated wolframite and molybdenite in quartz veins with minor malachite. Like the dykes, the veins vary in orientation from a northwest strike and southwest dip to a slightly more common northeast strike and northwest dip. Mapping, sampling, and soil surveys were done over the occurrence in 1969 and 1971, but no significant results were achieved. In 1979 Mattagami Lake Explorations investigated the showings. A sample of a 2 centimetre wide quartz vein contained 0.008 per cent tungsten and 0.071 per cent molybdenum. Another sample contained 0.055 per cent tungsten and 0.023 per cent molybdenum (Assessment Report 8413, page 18).

## BIBLIOGRAPHY

EMPR ASS RPT 2332, 2333, \*2334, 3730, 3567, 3568, 3569, 3731, 6898,  
7412, 7486, 7556, \*8413, 8638  
EMPR MAP \*52 (10 pages of notes)  
GSC MEM 307, p. 72  
GSC P 74-47  
GSC MAP 1082A  
EMPR GEM 1972-557  
EMPR EXPL 1977-E239; 1978-E269; 1979-298  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 018**

NATIONAL MINERAL INVENTORY: 104N11 W5

NAME(S): **BIRCH CREEK TUNGSTEN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 59 N  
LONGITUDE: 133 27 30 W  
ELEVATION: 1833 Metres

NORTHING: 6617123  
EASTING: 586807

LOCATION ACCURACY: Within 500M

COMMENTS: Based on tungsten occurrence shown on Map 1082A from GSC Memoir 307.

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Wolframite  
COMMENTS: No description available.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal

Disseminated

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Cretaceous

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Surprise Lake Batholith

LITHOLOGY: Fine Grained Quartz Monzonite

HOSTROCK COMMENTS: Age date from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks      Cache Creek  
COMMENTS: Located at western edge of the Surprise Lake Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Birch Creek Tungsten occurrence is located at the head of Birch Creek, north of the west end of Surprise Lake. The occurrence is about 20 kilometres northeast of Atlin.

The occurrence is based on a tungsten occurrence shown on Map 1082A of Geological Survey of Canada Memoir 307. No work has ever been done directly related to this occurrence, although assessment work was done in 1984 on a property covering an area which included this occurrence. There was no reference to the tungsten occurrence in the Assessment Report 13643 for that work.

The occurrence is located in the Mt. Leonard boss which is a small stock of the Surprise Lake Batholith which is separated from the main body by a pendant of Paleozoic volcanic, sedimentary, and ultramafic rocks. The stock is composed of a fine-grained quartz monzonite which has slightly more biotite than in most parts of the batholith. The Surprise Lake Batholith is primarily an orthoclase-rich granite, is Late Cretaceous in age and has been dated at 70.6 plus or minus 3.8 million of years.

No description of the tungsten showing is available but if it is similar to many others in the area, it is composed of disseminated wolframite within quartz veins. These veins commonly strike northeast.

**BIBLIOGRAPHY**

EMPR ASS RPT 13643  
GSC MAP 1082A  
GSC MEM 307  
EMPR MAP 52 (& 10 pages of notes)  
EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report,  
116 pages)  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 019**

NATIONAL MINERAL INVENTORY: 104N12 Au8

NAME(S): **AITKEN GOLD**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 32 11 N  
LONGITUDE: 133 39 06 W  
ELEVATION: 900 Metres

NORTHING: 6600555  
EASTING: 576253

LOCATION ACCURACY: Within 500M

COMMENTS: Based on gold occurrence shown on Map 1082A of GSC Memoir 307. It is 3.8 kilometres south of Atlin, roughly 50 metres east of Warm Road.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Galena  
COMMENTS: Only a brief description from 1899 report.

ASSOCIATED: Quartz Malachite

COMMENTS: Sulphides occur in quartz veins.

ALTERATION: Malachite Fuchsite Mariposite Talc Serpentine

COMMENTS: Copper staining reported.

ALTERATION TYPE: Quartz-Carb.

Carbonate

Silicific'n

Oxidation

Serpentin'zn

MINERALIZATION AGE: Middle Jurassic

ISOTOPIC AGE: 167 +/- 3 Ma

DATING METHOD: Argon/Argon

MATERIAL DATED: Mariposite

**DEPOSIT**

CHARACTER: Vein Disseminated

CLASSIFICATION: Epigenetic Hydrothermal

COMMENTS: Bulletin 108, p. 123, Fig. 2.7. Thought to age of mineralization. Bull quartz veinlets form stockworks along East trendy high angle fault zone.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian			Atlin Ultramafic Allochthon

LITHOLOGY: Harzburgite  
Ultramafic  
Peridotite  
Listwanite  
Quartz

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek

COMMENTS: Occurrence near the western edge of the Cache Creek Terrane.

**CAPSULE GEOLOGY**

The Aitken Gold occurrence is based upon a gold occurrence shown on Map 1082A of GSC Memoir 307. It is located about 5 kilometres southeast of Atlin and only 1 kilometre from the eastern shore of Atlin Lake.

The occurrence is located within ultramafic rocks of the Permian to Pennsylvanian Atlin Ultramafic Allochthon. These are composed largely of peridotites which are commonly talc and serpentine altered. The age of these rocks relative to the volcanic and sedimentary sequences of the Mississippian to Triassic Cache Creek Group is uncertain.

A brief description of the occurrence in 1899 says it is composed of quartz veins hosting galena mineralization and malachite staining. It also suggests the host rock and vein are iron-carbonate altered and silicified. This description sounds similar to other occurrences in the area such as the Anaconda, Pictou, and Anna (104N 046,044,101, respectively) which are comprised of mineralized quartz and calcite veins hosted in carbonate altered, and silicified ultramafic rocks. They are often referred to as listwanitic-type occurrences, commonly containing chromium mica such as fuchsite (mariposite).

The area around the occurrence has been staked on several different occasions, but no information has ever been documented on work done specifically on this occurrence shown on Aitken's map. A short description is in Bulletin 108, page 19.



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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR BULL 108, pp. 19,23,24,133  
EMPR ASS RPT 9055  
GSC ANN RPT \*1899, Vol. XII, Pt. A, p.69  
GSC MEM 307

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 020**

NATIONAL MINERAL INVENTORY: 104N4 Cu1

NAME(S): **LLEWELLYN INLET, UNION**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N04W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 12 05 N  
LONGITUDE: 133 59 01 W  
ELEVATION: 833 Metres

NORTHING: 6562919  
EASTING: 558051

LOCATION ACCURACY: Within 500M

COMMENTS: Occurrence shown on Map 1082A of GSC Memoir 307.

COMMODITIES: Copper Silver Gold

**MINERALS**

SIGNIFICANT: Chalcocite Quartz  
COMMENTS: Chalcocite stringer received most work.  
ASSOCIATED: Malachite Pyrite  
COMMENTS: Secondary occurrence of copper-stained pyrite zone.  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive Disseminated  
CLASSIFICATION: Epigenetic Hydrothermal  
COMMENTS: No description of orientation of stringer.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Stuhini	Undefined Formation	

LITHOLOGY: Andesite  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Stikine  
COMMENTS: Just east of eastern edge of Boundary Ranges & Coast Crystalline Belt.

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1904
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		3133.0000	Grams per tonne
Gold		1.0200	Grams per tonne
Copper		6.1000	Per cent

REFERENCE: GSC Memoir 307.

**CAPSULE GEOLOGY**

The Union claim group covers the Llewellyn Inlet occurrence which is located at the foot of Llewellyn Glacier at the south end of Atlin Lake. The occurrence is about 45 kilometres southwest of Atlin. The occurrence lies within a narrow wedge of Triassic Stuhini Group andesites and basalts bordered to the west by metamorphic rocks of the Coast Plutonic Complex and to the east by Jurassic sedimentary and volcanic rocks of the Lebarge Group. This small segment of Triassic volcanics is juxtaposed against the Lebarge Group by the King Salmon fault which is in turn juxtaposed against the Cache Creek Terrane by the Nahlin Fault. Rocks of the Crystalline Belt to the west are not in fault contact and are composed of Proterozoic to Paleozoic high grade metamorphic rocks of the Central Gneiss Complex. The occurrence consists of two copper showings which are described in GSC Memoir 307. The main occurrence comprises a narrow quartz stringer filled with massive chalcocite along which an adit was driven from the east shore of the inlet. There is a second showing of a copper stained (malachite) pyrite zone located in a creek flowing west into the north end of the inlet. A hand sample from the quartz string zone was sampled in 1904 and assayed 6.1 per cent copper, 3133 grams per tonne silver, and 1.02 grams per tonne gold (Annual Report 1904).

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RUN TIME: 12:30:28

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REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR AR 1904-80  
GSC MEM 307, p. 73

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 021**

NATIONAL MINERAL INVENTORY: 104N14 Au1

NAME(S): **DAVENPORT CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N14E  
BC MAP:  
LATITUDE: 59 52 59 N  
LONGITUDE: 133 08 30 W  
ELEVATION: 1100 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6639847  
EASTING: 604010

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer deposit overlying Cache Creek Group rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
COMMENTS: Located just north of the Surprise Lake Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Davenport Creek flows into the west end of Gladys Lake which is north of Surprise Lake and about 50 kilometres northeast of Atlin.

The creek is located just north of the Late Cretaceous, primarily granitic Surprise Lake Batholith. The northern contact of the batholith with limestones, cherts, and argillites of the Upper Paleozoic Kedahda Formation of the Cache Creek Group is at the headwaters of the creek. The creek flows north, is about 6 kilometres long, and has no exposed bedrock around it.

Placer operations have taken place near the bottom of the creek where it enters Gladys Lake. No work was recorded although coarse gold was reported during prospecting, shafting and tunnelling from 1910 to 1915 and 1920 to 1921. Around 155 grams of gold were recovered from the creek between 1916 and 1920.

Bulletin 28 records production from a period of 1916 to 1920 but, it most likely is from 1911 to 1915.

**BIBLIOGRAPHY**

EMPR BULL \*28, p. 18  
EMPR AR 1910-54; 1912-60; 1913-70; 1914-78; 1915-62; 1916-45;  
1917-79; 1918-100; 1920-73; 1921-84  
EMPR MISC PUB (Stratigraphy of the Placers in Atlin, Placer Mining Camp, P.J. & W.M. Proudlock, 1976)  
GSC ANN RPT Vol. XII, 1899, p. 60  
GSC MEM 307  
GSC P 74-47  
EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report, 116 pages)  
EMPR P 1984-2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 022**

NATIONAL MINERAL INVENTORY: 104N14 Au2

NAME(S): **CHEHALIS CREEK**, LINCOLN CREEK

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N14E  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 50 59 N  
LONGITUDE: 133 01 12 W  
ELEVATION: 1300 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6636333  
EASTING: 610929

LOCATION ACCURACY: Within 500M

COMMENTS: Location centered on underground workings on Placer leases.

COMMODITIES: Gold

#### MINERALS

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

#### DEPOSIT

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

#### HOST ROCK

DOMINANT HOSTROCK: Sedimentary

#### STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer deposit overlying Cache Creek Group rocks.

#### GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

COMMENTS: Just north of the Surprise Lake Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

#### CAPSULE GEOLOGY

Chehalis, previously called Lincoln Creek flows north into the west end of Gladys Lake north of Surprise Lake and about 53 kilometres northeast of Atlin. Most of the old workings are about half way up the creek which is about 10 kilometres long.

The creek is located just north of the Late Cretaceous, primarily granitic Surprise Lake Batholith. Outcrops in the area east of the creek are composed of greenstones of the Nakina Formation of the Upper Paleozoic Cache Creek Group and ultramafic rocks of Atlin Intrusions. The ultramafic bodies are often highly altered and talc-rich. West of the creek, there are cherts, argillites, and lime-stones of the Kedahda Formation which are stratigraphically higher in the Cache Creek Group. There are no exposures right in the creek bed.

The creek was prospected and worked during two main periods - from 1910 to 1919 and from 1984 to 1985. Underground work and percussion drilling were done but only a small amount of gold was removed. It is notable that much of the work was stopped due to financial disagreements and the caving in of shafts and tunnels through the overburden which never reached bedrock. Around 155 grams of gold were recovered from the creek between 1916 and 1920.

Bulletin 28 records production from a period of 1916 to 1920, but it most likely is from 1910 to 1915.

#### BIBLIOGRAPHY

EMPR BULL 1, (1933), p. 30; 28, p. 18

EMPR ASS RPT 12388, 14688, 14874

GSC MEM 307

GSC SUM RPT XII, 1899, Pt. A-60

EMPR AR 1905-78; 1906-55; 1907-52; 1908-49; 1909-52; 1910-54;

1911-59; 1912-59; 1916-45; 1917-79; 1918-100; 1919-90; 1920-

73; 1928-122; 1930-127; 1932-72

GSC P 74-47

EMPR MISC PUB (Stratigraphy of the Placers in Atlin, Placer Mining

Camp, P.J. & W.M. Proudlock, 1976)

EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report, 116 pages)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR P 1984-2

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 023**

NATIONAL MINERAL INVENTORY: 104N14 Au3

NAME(S): **CONSOLATION CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N14W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 50 53 N  
LONGITUDE: 133 19 01 W  
ELEVATION: 1200 Metres

NORTHING: 6635687  
EASTING: 594300

LOCATION ACCURACY: Within 1 KM

COMMENTS: Exact location of primary placer work on creek is uncertain.

COMMODITIES: Gold

#### MINERALS

SIGNIFICANT: Gold  
COMMENTS: Placer.  
MINERALIZATION AGE: Unknown

#### DEPOSIT

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

#### HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlying Cache Creek Group rocks.

#### GEOLOGICAL SETTING

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
COMMENTS: Located just north of the Surprise Lake Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

#### CAPSULE GEOLOGY

Consolation Creek flows north for about 20 kilometres into the west end of Gladys Lake north of Surprise Lake. The main workings are about 4 kilometres north of the east bend and about 37 kilometres northeast of Atlin.

The creek is located north of the northern edge of the Late Cretaceous, primarily granitic Surprise Lake Batholith. There are no outcrops in the creek itself but just west of the creek, there are exposures of cherts, argillites, and limestones of the Permian to Pennsylvanian Kedahda Formation of the Cache Creek Group.

The creek was prospected with preliminary evaluations from 1904 to 1910 and from 1913 to 1915. Some shafts were sunk and adits driven during 1932 and 1945 and in 1946, 469 metres of overburden drilling was done. Much of this development was incomplete and did not reach bedrock.

The upper levels of the creek are in a flat, glacial-planted, drift-filled valley and as suggested in Bulletin 1, 1933, may contain a large volume of low grade material concentrated by inter-or-post-glacial events retrievable by dredging. Around 995 grams of gold were recovered from the creek from 1936 to 1940.

Bulletin 28 records production from a period of 1936 to 1940 but it most likely is from 1931 to 1935.

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 024**

NATIONAL MINERAL INVENTORY: 104N14 Au4

NAME(S): **VOLCANIC CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N14E  
BC MAP:  
LATITUDE: 59 46 05 N  
LONGITUDE: 133 28 12 W  
ELEVATION: 1166 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6626572  
EASTING: 585931

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Pleistocene

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlying the Fourth of July Creek Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
COMMENTS: Creek located along eastern margin of Fourth of July Creek Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Volcanic Creek is about 5 kilometres long and flows west into Fourth of July Creek which in turns flows southwest into Atlin Lake. The creek and workings are located about 25 kilometres northeast of Atlin.

The creek is almost entirely within the Early Cretaceous Fourth of July Creek Batholith which is composed primarily of quartz diorites and granodiorites. The eastern margin of the batholith is located at the headwaters of the creek. Here, the batholith is in contact with cherts and argillites of the Pennsylvanian to Permian Kedahda Formation which in turn overlies, and is in contact with greenstones of the Mississippian to Pennsylvanian Nakina Formation. Both formations are part of the Cache Creek Group. In one location, this contact has been overprinted by a young Pleistocene basaltic flow which overlies unconsolidated glacial and fluvial material. This flow is the same as the one which is exposed in Ruby Creek.

Relatively minor prospecting and development work has occurred on Volcanic Creek sporadically from 1901 to 1932. Around 4820 grams of gold was recovered from 1901 to 1920. It has been suggested that there may be a buried channel under the lava flow as is the case in Ruby Creek which has produced a significant amount of gold.

Bulletin 28 lists production as:

-----  
1901-1905        1835 grams of gold  
1906-1910        715 grams of gold  
1911-1915        1835 grams of gold  
1916-1920        435 grams of gold  
TOTAL            4820 grams of gold  
-----

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DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 025**

NATIONAL MINERAL INVENTORY: 104N11 Au11

NAME(S): **CRACKER CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:  
LATITUDE: 59 44 41 N  
LONGITUDE: 133 15 12 W  
ELEVATION: 1333 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6624275  
EASTING: 598167

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies the Surprise Lake Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
COMMENTS: Creek flows over northern margin of the Surprise Lake Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Cracker Creek is about 10 kilometres long and flows east-northeast with a steep descent for the final 3 kilometres into the north end of Surprise Lake. The main workings are just above the lower "canyon" and are about 32 kilometres northeast of Atlin.

The creek is located entirely within the Late Cretaceous Surprise Lake Batholith which covers approximately 1100 square kilometres northeast of Atlin. The batholith is comprised primarily of alaskite which is a leucocratic granite with abundant orthoclase and microcline, subordinate quartz, and may or may not contain mafic minerals or plagioclase. This body has intruded into Upper Paleozoic volcanic and sedimentary rocks of the Cache Creek Group. There are numerous mineral showings in the area immediately west of the creek.

Placer work on Cracker Creek began in 1909 with cursory prospecting until 1916. Underground development in search of old channels took place in 1917, 1932, and in 1933 when a pay streak was hit overlying bedrock. A total of 342 grams of gold were recovered from the property between 1941 and 1945.

Bulletin 28 quotes production as:

1941-1945	342.2 grams of gold
1916-1920	466.5 grams of gold
TOTAL	808.7 grams of gold

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DATE CODED: 1985/07/24  
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FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 025**

MINFILE NUMBER: **104N 026**

NATIONAL MINERAL INVENTORY: 104N11 Au12

NAME(S): **HORSE CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11E  
BC MAP:  
LATITUDE: 59 43 41 N  
LONGITUDE: 133 09 18 W  
ELEVATION: 1300 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6622569  
EASTING: 603744

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence located within the Surprise Lake Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Horse Creek is only about 5 kilometres long and flows west into the north end of Surprise Lake. The creek is about 35 kilometres northeast of Atlin. The creek received relatively minor prospecting from 1909 to 1916.

The creek is located well within the Late Cretaceous Surprise Lake Batholith which covers about 1100 square kilometres northeast of Atlin. The batholith is composed primarily of a leucocratic granite with abundant microcline and orthoclase with subordinate quartz. It may or may not contain plagioclase and mafic minerals, most commonly biotite. This body has intruded into Upper Paleozoic volcanic and sedimentary rocks of the Cache Creek Group.

The creek only received cursory prospecting and development work between 1909 and 1920 and around 373 grams of gold were recovered from the creek between 1916 and 1918 (Bulletin 28).

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DATE CODED: 1985/07/24  
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FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 027**

NATIONAL MINERAL INVENTORY: 104N11 Au1

NAME(S): **BOULDER CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 39 38 N  
LONGITUDE: 133 25 20 W  
ELEVATION: 1233 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6614666  
EASTING: 588899

LOCATION ACCURACY: Within 1 KM

COMMENTS: Stream was worked for about 3.5 kilometres.

COMMODITIES: Gold Tungsten Tin

**MINERALS**

SIGNIFICANT: Gold Wolframite  
COMMENTS: Placer gold and wolframite.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence located near the southwest margin of the Surprise Lake Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Boulder Creek flows south into the west end of Surprise Lake about 17 kilometres northeast of Atlin. The stream is about 6 kilometres long and braids into 3 separate streams near it's mouth where most of the placer work has been done. From the years 1898 to 1945, 1,920 kilograms of gold were taken from the creek (Bulletin 28). The creek was extensively hydraulically mined at the lower end and has received a resurgence of work in the 1980's. It is the third largest producer in Atlin.

The headwaters of the creek are located within a fine-grained, alaskite body of the Late Cretaceous Surprise Lake Batholith. The creek then flows out of the pluton and over Upper Paleozoic ultramafic and volcanic rocks of the Cache Creek Group. The volcanic rocks belong to the Nakina Formation and comprise mafic greenstone flows and minor volcanic greywacke. The ultramafic rocks are often altered to serpentinite.

Most of the gold was taken from the lower end of the creek and very little at the upper end where it flows over the batholith. There is significant placer wolframite in Boulder Creek and several wolframite showings in areas surrounding the headwaters of the creek. Hydraulic mining was done on Boulder Creek from 1927 to 1941 and produced most of the gold recovered from the creek. A dam was built on the upper reaches of the creek to supply water for operations lower down.

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

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FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 028**

NATIONAL MINERAL INVENTORY: 104N11 Au2

NAME(S): **RUBY CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 40 23 N  
LONGITUDE: 133 20 04 W  
ELEVATION: 1300 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6616178  
EASTING: 593809

LOCATION ACCURACY: Within 500M

COMMENTS: Centered on underground workings below Pleistocene flows.

COMMODITIES: Gold

Ruby

Gemstones

Corundum

**MINERALS**

SIGNIFICANT: Gold Corundum  
COMMENTS: Ruby variety of corundum present.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Unconsolidated Sediment/Sedimentary

HOSTROCK COMMENTS: Placer deposit located within the Surprise Lake Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Ruby Creek flows south into the west end of Surprise Lake about 22 kilometres northeast of Atlin. The creek is about 10 kilometres long and braids into several streams at its mouth. Most of the gold was removed from the creek between 1898 and 1948 with both hydraulic and underground operations. Drifting was done on bedrock accessed by one main decline. All of the hydraulic work occurred at the lower end of the creek. Between the years 1906 and 1945, a total of 1,721,178 grams of gold were recovered, the fourth highest producer in Atlin (Bulletin 28).

The pay channel at Ruby Creek cuts through the Surprise Lake Batholith of Late Cretaceous age (70.6 plus or minus 3.8 - 1982, Christopher). It is a large pluton covering about 1100 square kilometres and ranges in composition from monzonite to granite (fine-grained alaskite) to syenite containing minor biotite and no hornblende. The gravels overlying the pluton are up to 6 metres thick, and like many other streams in the area, have the richest returns in the bottom 2 metres immediately above bedrock. Capping the gravels is a 20 to 40 metres thick, columnar jointed, olive-basalt flow covered by an additional 20 to 40 metres of air-fall ash material called scoria. The flow is about 100,000 years old.

In 1978, the gravels were explored for their uranium content and was found to range from 0.02 to 0.013 per cent from the base to the gravel tops (see RU-104N 061). The increase in uranium upwards in the gravel is reverse of the gold distribution. The uranium is present as the oxide zeunerite. The Surprise Lake Batholith is known to have anomalous uranium and is likely the source for Ruby Creek. Gem quality rubies, as corundum, were also reported from this creek.

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REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 029**

NATIONAL MINERAL INVENTORY: 104N12 Au12

NAME(S): **WILLOW CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 35 49 N  
LONGITUDE: 133 34 33 W  
ELEVATION: 966 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6607387  
EASTING: 580397

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer gold.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Unconsolidated Sediment/Sedimentary

HOSTROCK COMMENTS: Placer occurrence underlain by ultramafic rocks of the Cache Creek Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Willow Creek is a short 1 to 2 kilometre stream which flows south from a small lake into Pine Creek about half way between Atlin and Surprise Lake. It is about 8 kilometres northeast of Atlin. The creek was discovered in 1898 when gold was discovered on Pine Creek and was subsequently worked for four years recovering around 40,308 grams of moderately coarse gold (Bulletin 28). Only sporadic exploration drilling was done thereafter in 1937 and 1946.

The creek is underlain entirely by variably altered ultramafic rocks of the Upper Paleozoic Cache Creek Group. The rocks are commonly altered to serpentine and are part of a northeast trending belt of ultramafic rocks extending along Pine Creek from Atlin to Surprise Lake.

There are two paychannels in the creek. The overburden consists of two gravel beds separated by a fine glacial silt to clay called "muck" by the old miners. Both pay channels are in the lower gravel, one right below the muck, and one on top of bedrock. The gold distribution in the channels is sporadic.

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EMPR P 1984-2

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FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 030**

NATIONAL MINERAL INVENTORY: 104N11,12 Au6

NAME(S): **PINE CREEK**, GOLD RUN, PANAMA CANAL

STATUS: Past Producer Open Pit

MINING DIVISION: Atlin

REGIONS: British Columbia

NTS MAP: 104N12E

BC MAP:

LATITUDE: 59 35 49 N

LONGITUDE: 133 32 06 W

ELEVATION: 966 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Creek has been worked for a length of about 2740 metres.

UTM ZONE: 08 (NAD 83)

NORTHING: 6607437

EASTING: 582702

COMMODITIES: Gold

#### MINERALS

SIGNIFICANT: Gold

COMMENTS: Placer.

MINERALIZATION AGE: Unknown

#### DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

#### HOST ROCK

DOMINANT HOSTROCK: Sedimentary

#### STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence underlain by ultramafic rocks of the Cache Creek Group.

#### GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

#### CAPSULE GEOLOGY

Pine Creek flows west from Surprise Lake into Atlin Lake about three kilometres south of the present townsite of Atlin. The creek is about 20 kilometres long and was the site of the initial discovery of gold in Atlin in 1898. The creek has been mined more or less continuously from that time to the present with both individual, and very large scale, mechanical mining operations by large companies. Hydraulic mining was successful on this creek and relatively little underground work was done.

The creek is underlain by a belt of variably altered ultramafic rocks that stretches from Surprise Lake to the town of Atlin. The rocks belong to the lower sections of the Upper Paleozoic Cache Creek Group. In the Pine Creek placer operation areas, the ultramafics are highly talc and serpentine altered.

The placer deposit is about 2 kilometres long and up to 350 metres wide. Like other areas in Atlin the pay gravels are located right above bedrock. Mining ceased at the eastern ends toward Surprise Lake because bedrock became progressively deeper and pits were too deep requiring removal of too much overburden with insufficient room for all the tailings.

Approximately 4,017,917 grams of gold were removed from Pine Creek from 1898 to 1945, the second largest producer in the Atlin gold fields behind Spruce Creek (104N 034, Bulletin 28). However, increased work more recently on Pine Creek allowed it to become the largest producer in the Atlin area from 1956 onward.

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GSC SEP RPT 958; 1085

EMPR BULL 1, (1931), p. 33; 2, (1930), p. 20; 28, p. 17

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EMPR AR 1895-657; 1989-986; 1899-611,644,649,653; 1900-756,772,779;

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NAGMIN June 7, 1985  
N MINER Aug.22, 1988

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 031**

NATIONAL MINERAL INVENTORY: 104N11 Au5

NAME(S): **BIRCH CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 37 32 N  
LONGITUDE: 133 28 56 W  
ELEVATION: 1100 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6610690  
EASTING: 585608

LOCATION ACCURACY: Within 1 KM

COMMENTS: Placer occurrence on Birch Creek worked for about 3 to 4 kilometres.

COMMODITIES: Gold

#### MINERALS

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

#### DEPOSIT

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

#### HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies mafic volcanic and ultramafic rocks of the Cache Creek Group.

#### GEOLOGICAL SETTING

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

#### CAPSULE GEOLOGY

Birch Creek flows south into Pine Creek less than 2 kilometres west of Surprise Lake and about 15 kilometres northeast of Atlin. The creek is about 9 kilometres long and was worked for about a 3.5 to 4 kilometre length starting from about 1 kilometre above its junction with Pine Creek. Hydraulic methods were used a great deal on Birch Creek and 386,859 grams of gold were recovered on the creek from 1896 to 1945 (Bulletin 28). It was known for its unusually coarse gold. It is the 8th largest producer of placer gold in the Atlin camp.

The creek is underlain along its entire length by Upper Paleozoic mafic volcanic and ultramafic rocks. The volcanic rocks belong to the Nakina Formation, Cache Creek Group, and comprise mafic, dark grey-green, greenstone. Ultramafic rocks of the Atlin Intrusions are commonly altered to talc and serpentine. The creek is very near the southwest margin of the Late Cretaceous Surprise Lake Batholith. There is also some limestone (sometimes metamorphosed to marble) and argillite of the Kedahda Formation which overlies the Nakina in the upper parts of the creek. Like many other creeks in Atlin, the miners process the top 1.8 to 2.4 metres of bedrock and get good gold recovery from it.

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98; 1919-87,89; 1920-72; 1921-83; 1926-109; 1927-115; 1932-70;  
1933-88; 1935-B28,G47; 1936-B60; 1937-B45; 1938-B30; 1939-103;  
1940-88; 1947-188; 1948-173; 1951-202; 1954-168; 1955-82; 1959-  
146; 1960-121; 1961-127; 1962-137; 1967-294  
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MINFILE NUMBER: **104N 031**

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 032**

NATIONAL MINERAL INVENTORY: 104N11 Au3

NAME(S): **OTTER CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 36 29 N  
LONGITUDE: 133 23 36 W  
ELEVATION: 1166 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6608859  
EASTING: 590668

LOCATION ACCURACY: Within 500M

COMMENTS: Placer occurrence worked for 2 to 3 kilometres along the lower section of the creek.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

COMMENTS: Placer.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C02 Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies volcanic, sedimentary, and ultramafic rocks of the Cache Creek Group and Atlin Intrusions.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Otter Creek flows north into the west end of Surprise Lake about 17 kilometres northeast of Atlin. The main part of the creek is about 10 kilometres long with a 5 kilometre long west flowing spur at its southern end. The creek has been worked more or less continuously from the discovery of gold in Pine Creek in 1898. Approximately 688,445 grams of gold were recovered from the creek between 1896 and 1945 making it the sixth largest producer in the Atlin area (Bulletin 28). Most was taken by hydraulic and underground operations near the mouth of the creek.

The lower section of the creek flows over mafic volcanics of the Mississippian to Pennsylvanian Nakina Formation, Cache Creek Group, and ultramafic rocks of the Pennsylvanian to Permian Atlin Intrusions. The ultramafic rocks are often highly altered to talc and serpentinite with silicification and iron-carbonate alteration. These rocks are overlain by primarily chert and argillite of the Kedahda Formation, also of the Cache Creek Group, which are exposed further up the stream. The creek is located right at the southern margin of the Late Cretaceous Surprise Lake Batholith.

Three pay channels were mined at Otter Creek, one on bedrock, one 10 metres above, and one 20 metres above. Like many creeks in Atlin, the richest pay came from the first 1.8 to 2.4 metres of gravel above bedrock and from a metre or so of the often highly altered and weathered bedrock itself.

Work concentrated in the lower section near Surprise Lake and in the west flowing upper branch. Only exploratory drilling has been done in the middle sections. The creek received little or no work in the late 1940's and 1950's. Some underground work has been done on the creek.

Minstral Resources is currently conducting large scale operations on the lower portion of Otter Creek.

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RUN TIME: 12:30:28

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84; 1922-89; 1925-117; 1926-109; 1927-115; 1928-122; 1929-121,427;  
1931-66; 1932-71; 1933-89; 1935-B28,G47; 1936-B59; 1938-B30; 1939-  
103; 1940-88; 1941-83; 1942-84; 1945-124; 1946-195; 1948-172;  
1949-239; 1950-197; 1955-82; 1956-138; 1967-294  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 033**

NATIONAL MINERAL INVENTORY: 104N11 Au4

NAME(S): **WRIGHT CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 36 17 N  
LONGITUDE: 133 21 12 W  
ELEVATION: 1333 Metres

NORTHING: 6608543  
EASTING: 592934

LOCATION ACCURACY: Within 500M

COMMENTS: Creek also worked for placer near its mouth and recently in its upper, west flowing section.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies Upper Paleozoic rocks of the Cache Creek Group and Atlin Intrusions.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Wright Creek flows north into the west end of Surprise Lake about 22 kilometres northeast of Atlin. The creek is about 8 kilometres long with its upper reaches flowing west for about 2.5 kilometres. The creek produced approximately 426,049 grams of gold between 1896 and 1945 and was known for producing the coarsest gold in Atlin. It was the seventh largest producer of gold.

The lower section of the creek flows over mafic volcanic of the Mississippian to Pennsylvanian Nakina Formation, Cache Creek Group and ultramafic rocks of the Pennsylvanian to Permian Atlin Intrusions. The ultramafic rocks are often highly talc and serpentine altered. The upper, west flowing portion of the creek flows over cherts, argillites, and minor limestone of the Kedahda Formation which occurs slightly higher in the Cache Creek Group. The creek flows just west and south of the southern margin of the Late Cretaceous Surprise Lake Batholith.

The creek was initially mined near its mouth at Surprise Lake by mainly hydraulic with lesser underground mining techniques. The middle and upper portions were developed more recently and with less success due to many large boulders and a lack of water.

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 034**

NATIONAL MINERAL INVENTORY: 104N11,12 Au7

NAME(S): **SPRUCE CREEK**, KOKEN

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

Open Pit    Underground

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 33 29 N  
LONGITUDE: 133 32 30 W  
ELEVATION: 1133 Metres

NORTHING: 6603099  
EASTING: 582421

LOCATION ACCURACY: Within 500M

COMMENTS: The placer occurrence has been worked for at least 5 kilometres along the creek.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer  
TYPE: C02    Buried-channel placers

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE    GROUP  
Pleistocene

FORMATION

IGNEOUS/METAMORPHIC/OTHER  
Glacial/Fluvial Gravels

LITHOLOGY: Gravel

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Spruce Creek flows northwest into Pine Creek about 4 kilometres east of Atlin. The main creek is about 23 kilometres long with two main 4 kilometre long branches at its head. The creek was worked for a length of about 5 kilometres primarily in an area around the midpoint of its course. Some work has been done in the upper reaches of the creek, but the operations have been small and less successful.

Some hydraulic mining and steam shovel operations were done on the main part of Spruce Creek but by far the majority of gold was recovered by significant underground development in the early 1900's. From 1896 to 1945, approximately 7,926,848 grams of gold were recovered from Spruce Creek making it the largest gold producer in Atlin (Bulletin 28). Records showing the exact amount of underground work are not available. Greater development on Pine Creek (104N 030) recently allowed it to become the largest gold producer in Atlin, overtaking Spruce in 1956.

The creek flows over primarily mafic volcanic rocks of the Nakina Formation of the Upper Paleozoic Cache Creek Group. Minor chert, argillite, and limestone of the stratigraphically higher Kedahda Formation are also exposed both in the lower and upper reaches of the creek.

Two pay channels, the "grey" and the "red", have been developed on Spruce Creek. The red channel sits on bedrock; the richest pay came from the first 1.8 to 2.4 metres of gravel above bedrock.

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1909-50; 1910-52; 1911-56; 1912-57; 1913-68; 1914-75,82,85,86;  
1915-60; 1916-44,46; 1917-75,77; 1918-96,98; 1919-86,88; 1920-71;  
1921-75,83; 1922-88; 1924-80; 1925-117; 1926-109; 1927-115; 1928-  
122; 1930-126,356; 1932-67; 1933-84; 1935-B28,G47; 1937-B43;  
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1945-123; 1946-193; 1947-186; 1948-172; 1949-237; 1950-196; 1951-  
201; 1952-235,236; 1953-173; 1954-167; 1955-81,82; 1956-137;  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 035**

NATIONAL MINERAL INVENTORY: 104N5,6 Au1

NAME(S): **MCKEE CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N05E  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 27 53 N  
LONGITUDE: 133 33 30 W  
ELEVATION: 1033 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6592686  
EASTING: 581704

LOCATION ACCURACY: Within 500M

COMMENTS: Main placer workings at lower end of creek.

COMMODITIES: Gold

#### MINERALS

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

#### DEPOSIT

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

#### HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE    GROUP  
Pleistocene

FORMATION

IGNEOUS/METAMORPHIC/OTHER  
Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies Upper Paleozoic Cache Creek Group rocks.

#### GEOLOGICAL SETTING

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

#### CAPSULE GEOLOGY

McKee Creek flows west and southwest into Atlin Lake about 14 kilometres south of Atlin. The creek is about 12 kilometres long and has been worked primarily in the middle third section of its length. Hydraulic mining was started in 1903 and accounted for most of the gold recovered from McKee. Some underground work was also done on the creek in the mid 1930's. From 1898 to 1945, approximately 1,369,123 grams of gold were recovered from the creek making it the 5th largest producer in the Atlin Camp (Bulletin 28).

The creek flows over primarily mafic greenstone of the Mississippian to Pennsylvanian Nakina Formation (Cache Creek Group), and ultramafics of the Pennsylvanian to Permian Atlin Intrusions. Cherts and argillites of the Kedadha Formation (Cache Creek Group) overlie the Nakina Formation and are exposed at higher elevations. There is also a small exposure midway down the creek of quartz veins within a shear zone hosted in chert and near a small diorite plug (See 104N 117).

The stratigraphy of McKee Creek consists of a thick till overlying a 30 metre thick glacial-fluvial sequence. Underlying this is a layer of coarse boulders which overlays the auriferous channel gravels. The gold can be very coarse, and as elsewhere in Atlin, it is found in fractures in highly weathered bedrock down to a depth of 1.2 to 1.8 metres.

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1901-984; 1902-36,37,40; 1903-43,46; 1904-57,73,87,94; 1905-

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

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51; 1911-55; 1912-55; 1913-67; 1914-74,86; 1915-59; 1916-43;  
1917-76; 1918-96,97; 1919-88; 1920-71; 1921-83,122; 1924-81;  
1925-117; 1926-109; 1927-110,115; 1928-122; 1929-428; 1930-  
127,357; 1932-66; 1933-83; 1935-B28,G47; 1936-B59; 1937-B44;  
1938-B30; 1939-103; 1940-89; 1941-84; 1942-84; 1945-124; 1946-  
195; 1947-188; 1948-173; 1949-239; 1950-197; 1951-202; 1952-236;  
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146; 1960-121; 1961-127; 1962-137; 1966-254; 1967-294  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 036**

NATIONAL MINERAL INVENTORY: 104N6 Au1

NAME(S): **FEATHER CREEK**, SLATE CREEK

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N06W  
BC MAP:  
LATITUDE: 59 29 47 N  
LONGITUDE: 133 17 07 W  
ELEVATION: 1300 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS: Placer occurrence.

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6596579  
EASTING: 597086

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Pleistocene

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence is underlain by Upper Paleozoic Cache Creek Group rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Feather Creek flows east into the upper reaches of the O'Donnel River sometimes referred to as Dixie Creek. The creek junction with Dixie Creek is about 30 kilometres southeast of Atlin and has received all of the placer work. A 16 metre shaft was sunk to bedrock and 61 metres of drifting was done from the shaft from 1914 to 1921 but only 156 grams of gold were recovered. An additional 187 grams of gold were recovered in 1937 (Bulletin 28). Recent activity involving a small surface operation using a cat and excavator has been conducted in the same area of the creek in the early 1980's.

The creek flows over chert, argillite, and limestone of the Mississippian to Permian Kedadha Formation of the Cache Creek Group. The creek is in a low relief area and there is not a great deal of outcrop.

The best channel gravels are found overlying bedrock. This creek is referred to as Slate Creek on some older maps, in particular Map 1082A of GSC Memoir 307. On this map, the creek immediately north is incorrectly referred to as Feather Creek.

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1918-100; 1919-91; 1921-84; 1937-B39,B40  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 037**

NATIONAL MINERAL INVENTORY: 104N6 Au2

NAME(S): **BULL CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N06E  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 29 17 N  
LONGITUDE: 133 08 12 W  
ELEVATION: 1133 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6595878  
EASTING: 605525

LOCATION ACCURACY: Within 500M

COMMENTS: Placer occurrence near convergence of Bull Creek with O'Donnel River.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Carboniferous  
Pleistocene

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Till  
Argillite

HOSTROCK COMMENTS: Placer occurrence overlies rocks of the Kedahda Formation of the Upper Paleozoic Cache Creek Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Bull Creek flows southwest from Mt. Farnsworth to the O'Donnel River. It is about 10 kilometres long and its junction with the O'Donnel River is about 33 kilometres southeast of Atlin. All work has been done near the creek junction with the O'Donnel River and has involved small, individual operations running intermittently from 1903 to 1945 and during the past 13 years. From 1936 to 1945, 1296 ounces of gold (40,309 grams) were recovered from the creek.

Bull Creek flows over primarily cherts and argillites with minor limestone of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Mississippian to Triassic Cache Creek Group. There are also some exposures of mafic volcanic rocks of the Nakina Formation east and west of the headwaters of Bull Creek. The bedrock in the creek is composed of weathered and fractured argillite which contains some gold.

The placer stratigraphy consists of grey till overlying yellow till which overlies clean, well stratified auriferous gravels immediately above bedrock. This creek has distinctly fine gold in comparison to the main producers in the Surprise Lake area.

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Cordey, F. et al (1987): Significance of Jurassic Radiolarions from

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
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1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 038**

NATIONAL MINERAL INVENTORY: 104N6 Au4

NAME(S): **FOX CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11E  
BC MAP:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 30 23 N  
LONGITUDE: 133 06 54 W  
ELEVATION: 1166 Metres

NORTHING: 6597953  
EASTING: 606694

LOCATION ACCURACY: Within 1 KM

COMMENTS: Placer occurrence at mouth of Fox Creek.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies Upper Paleozoic rocks of the Cache Creek Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Fox Creek flows southwest into Bull Creek which flows into Dixie Creek which flows into the O'Donnel River. It is about 5 kilometres long and its junction with Bull Creek is about 35 kilometres east-southeast of Atlin.

The creek received sporadic work by small, individual surface operations from 1899 to 1904, from 1913 to 1921, and from 1941 to 1945. The amount of work is very poorly documented and it is recorded that 870 grams of gold were recovered from the creek, mostly from the years 1916 to 1920 when the creek received the most work (Bulletin 28).

The creek is underlain primarily by cherts and argillites of the Mississippian to Permian Kedadha Formation of the Cache Creek Group. There are also some exposures north of the creek of mafic volcanic rocks of the Nakina Formation. Some lode gold exploration has been done in the area north of Fox Creek.

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DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 039**

NATIONAL MINERAL INVENTORY: 104N6 Au1

NAME(S): **SLATE CREEK**, WILSON CREEK

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N06W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 24 05 N  
LONGITUDE: 133 22 42 W  
ELEVATION: 1000 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6585870  
EASTING: 592076

LOCATION ACCURACY: Within 1 KM

COMMENTS: Placer occurrence on Slate Creek.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies Upper Paleozoic rocks of the Cache Creek Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Slate Creek flows south into the O'Donnel River. Most of the work was carried out around the midpoint of the creek, which is about 27 kilometres southeast of Atlin. The creek is about 19 kilometres long.

Gold was first discovered on the creek in 1898 during the discovery years in the Atlin Camp and was subsequently staked. The creek was more or less abandoned until 1905 when it was worked almost continuously until 1921. The creek has produced 48,863 grams of gold from 1906 to 1940 but has not received much recent work (Bulletin 28).

Slate Creek is underlain by chert, argillite, and limestone of the Mississippian to Permian Kedadha Formation of the Cache Creek Group. To the north and west of the creek around Sentinel Mountain are extensive exposures of massive, dark grey, mafic volcanic flows (greenstone) of the Nakina Formation which underlies the Kedadha Formation.

Map 1082A from GSC Memoir 307 (1959) has incorrectly named Slate Creek as Wilson Creek, which is actually located 5 kilometres to the east.

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DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 040**

NATIONAL MINERAL INVENTORY: 104N6 Au1

NAME(S): **O'DONNELL RIVER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N06W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 21 53 N  
LONGITUDE: 133 17 07 W  
ELEVATION: 983 Metres

NORTHING: 6581920  
EASTING: 597464

LOCATION ACCURACY: Within 500M

COMMENTS: Placer occurrence on O'Donnell River.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Pleistocene

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies Upper Paleozoic rocks of the Cache Creek Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The O'Donnell River is about 40 kilometres long and flows south from its headwaters and then west into Atlin Lake. The placers occur midway along its length at the abandoned town of O'Donnell which is about 34 kilometres southeast of Atlin and road accessible from Atlin.

The occurrence was discovered in 1898 during the initial discovery years in Atlin but received little or no work thereafter until 1913 when the Canadian Alaska Exploration Co. discovered a pay streak 3 to 5 metres above the creek bed. It was worked by both underground and hydraulic methods intensively for about 7 years. Sporadic small-scale operations were done until 1939, and recently seismic surveys were done in 1973 and 1974. Approximately 200,770 grams of gold were recovered from the creek between 1898 and 1945 (Bulletin 28). Aitken (1959) said that "this creek was never worked for a profit" (GSC Memoir 307).

The creek flows over limestones of Horsefeed Formation and cherts and argillites of the Kedahda Formation of the Pennsylvanian to Permian Cache Creek Group. Immediately east of the creek is a large body of quartz diorite of the Early Tertiary McMaster Stock (Open File Map 1565). There are no lode gold showings in the area.

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RUN DATE: 26-Jun-2003  
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DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 041**

NATIONAL MINERAL INVENTORY: 104N6 Au5

NAME(S): **BURDETTE CREEK**, JASPER CREEK

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N06W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 22 11 N  
LONGITUDE: 133 27 07 W  
ELEVATION: 1000 Metres

NORTHING: 6582245  
EASTING: 587979

LOCATION ACCURACY: Within 1 KM

COMMENTS: Placer occurrence near southern end of Burdette Creek.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Placer.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer occurrence overlies Upper Paleozoic rocks of the Cache Creek Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Burdett Creek flows south from Sentinel Mountain into Slate Creek which joins the O'Donnel River. The creek is about 8 kilometres long and the placer occurrence is near its southern end, about 28 kilometres southeast of Atlin.

The placer gold was discovered in 1912 but work was limited by the next summer. The creek received very sporadic prospecting work until 1921 when it was abandoned altogether. From 1916 to 1920, 156 grams of gold were recorded as recovered from Burdette Creek (Bulletin 28).

The creek flows over primarily massive grey limestone of the Horsefeed Formation and lesser chert and argillite of the Kedahda Formation, both of Mississippian to Permian age and part of the Cache Creek Group. There are also exposures of the Mississippian to Pennsylvanian Nakina Formation at the headwaters of the creek around Sentinel Mountain composed of mafic volcanic rocks (greenstone).

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EMPR P 1984-2

DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 042**

NATIONAL MINERAL INVENTORY: 104N12 Au7

NAME(S): **GOLDEN VIEW**, IVY MAY, ALEXANDRA,  
MAIN VEIN, NORTH VEIN

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:  
LATITUDE: 59 32 05 N  
LONGITUDE: 133 34 18 W  
ELEVATION: 1266 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6600464  
EASTING: 580781

COMMODITIES: Gold Copper Molybdenum Silver

**MINERALS**

SIGNIFICANT: Gold Chalcopyrite Molybdenite Malachite Pyrite  
Galena  
COMMENTS: Molybdenite and chalcopyrite are very minor.  
ASSOCIATED: Quartz Carbonate Serpentine Pyrite Malachite  
COMMENTS: Mineralization hosted in quartz veins in altered "greenstone".  
ALTERATION: Serpentine Carbonate  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact  
DIMENSION: Metres STRIKE/DIP: 323/90 TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Nakina	Atlin Ultramafic Allochthon
Pennsylvan.-Permian			

LITHOLOGY: Ultramafic  
Greenstone  
Coarse Grained Peridotite  
Coarse Grained Serpentinite  
Listwanite  
Coarse Grained Diorite

HOSTROCK COMMENTS: Mineralization occurs along the contacts. Possible listwanite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek

**INVENTORY**

ORE ZONE: MAIN VEIN REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1950  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 26.0600 Grams per tonne  
Gold 17.8300 Grams per tonne  
COMMENTS: Sample taken across 23 centimetres.  
REFERENCE: Annual Report 1950, page 71.

**CAPSULE GEOLOGY**

The Golden View occurrence is located on the northwest flank of Union Mountain about 8 kilometres southeast of Atlin. The occurrence was discovered in 1899 and received sporadic work until 1903, in 1912, 1950, 1951, and more recently from 1979 to 1981. The showing is in carbonatized harzburgite above and in hanging wall of Monarch Mountain thrust. The mineralized zones occur along the contacts of two major rock types; rocks of the Permian to Pennsylvanian Atlin Ultramafic Allochthon and mafic volcanic rocks of the Lower Mississippian to Middle Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group. The ultramafic rocks may be sill-like and essentially coeval with the mafic volcanic flow rocks. They are composed of coarse-grained peridotites, serpentinites, and more rarely diorites. The volcanic rocks are composed often of massive,

## CAPSULE GEOLOGY

dark grey-green "greenstone". The contacts are often characterized by shear zones, intense serpentinization and quartz-carbonate (listwanite?) alteration in the ultramafic rocks, and quartz veins. Slickensides are common.

Mineralization occurs in narrow, less than 20 centimetre wide quartz veins with orientations striking northwest-southeast. Two main occurrences are called the Main Vein and North Vein. The North vein is 12 centimetres wide and was traced for 70 metres before breaking into a network of quartz veinlets. Malachite, pyrite, and chalcopyrite occur. No visible gold was seen. The Main vein comprises two, parallel, 15 centimetre wide quartz veins traced for 130 metres. They also disperse into quartz veinlets to the southeast. The veins contain visible gold, and minor pyrite and malachite. The small diorite plug also contains disseminated molybdenite and narrow quartz veinlets containing rosettes of molybdenite.

A sample taken across 23 centimetres contained 17.83 grams per tonne gold and 26.06 grams per tonne silver (Annual Report, 1950).

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DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

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REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 043**

NATIONAL MINERAL INVENTORY: 104N12 Au1

NAME(S): **YELLOW JACKET**, RED JACKET, ROCK OF AGES

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 41 N  
LONGITUDE: 133 32 57 W  
ELEVATION: 880 Metres

NORTHING: 6607172  
EASTING: 581908

LOCATION ACCURACY: Within 500M

COMMENTS: Property lies with Spruce Creek placer leases.

COMMODITIES: Gold

Magnesite

**MINERALS**

SIGNIFICANT: Gold Magnesite Electrum Pyrite Gersdorffite  
Rammelsbergite Millerite

COMMENTS: Visible gold seen in drill core.

ASSOCIATED: Chromite Quartz

COMMENTS: Amounts of accessory minerals (chromite, pyrite) are less than one per cent.

ALTERATION: Fuchsite Talc Serpentine Carbonate Silica

COMMENTS: Auriferous zones are intensely sheared and altered.

ALTERATION TYPE: Silicific'n Carbonate Quartz-Carb. Serpentin'zn Chloritic

MINERALIZATION AGE: Middle Jurassic

ISOTOPIC AGE: 171 +/- 3 Ma

DATING METHOD: Argon/Argon

MATERIAL DATED: Mariposite

**DEPOSIT**

CHARACTER: Vein Breccia Stratabound Disseminated

CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.

DIMENSION: 226 x 91 Metres STRIKE/DIP: 045/90 TREND/PLUNGE:

COMMENTS: Dimensions of zone still rather speculative; earlier shallow fault zones are cut by steep later fault zone.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Carboniferous

Pennsylvan.-Permian

GROUP

Cache Creek

FORMATION

Nakina

IGNEOUS/METAMORPHIC/OTHER

Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic

Listwanite

Porphyritic Hornblende Feldspar Andesite

Basalt

Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

COMMENTS: Located just south of the Surprise Lake Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Gold

17.8000

Grams per tonne

COMMENTS: Results from 1986/1987 drill programme. Grade is from 3.1 metre interval with another 15.1 grade from a 4.0 metre interval.

REFERENCE: Stockwatch, March 11, 1987.

**CAPSULE GEOLOGY**

The occurrence is located west of Surprise Lake along Pine Creek which runs southwest into Atlin. The zone is located directly under a well-developed placer area with a long history of production dating back to the late 1800's. A 26 metre shaft was sunk on the property in 1903 and reported to hit free gold but the shaft was filled with placer tailings and has not been located since. They reported the gold was hosted in quartz-filled fissures at mineable widths.

A shallow thrust along the southern slopes of Mount Munro and capping Spruce Mountain hosts many showings including 104N 023. A later steep fault along Pine Creek valley is also seen in



## CAPSULE GEOLOGY

showings.

The occurrence consists of a zone of quartz veins, breccia and silicified patches located within intensely altered and sheared ultramafic rocks of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. The ultramafics are bounded above by light green, hornblende-feldspar porphyritic andesite and below by a darker green, and more massive andesite to basalt of the Lower Mississippian to Middle Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group. The contacts are highly sheared and altered, often having slickensides. Around the contacts, the basalt is heavily chlorite-altered and the ultramafic is altered to serpentine, fuchsite, talc, quartz and carbonate (listwanite assemblage). The talc/serpentine zones often grade into intense silicification. Within the ultramafic zone, there are abundant interbedded sequences of andesite/basalt. Shearing and alteration has occurred preferentially along the contacts of the interbedded mafic and ultramafic rocks.

The auriferous zone occurs near the top of the ultramafic zone which may define a fault zone. The zone is 3 to 4 metres wide with narrow quartz veins containing free gold within breccia and silicified zones. Pyrite, chromite, and fuchsite occur as minor accessories. Samples from this zone have run 15.1 grams per tonne gold over 4.0 metres and 17.8 grams per tonne gold over 3.1 metres (Vancouver Stockwatch, March 11, 1987). Minor magnesite is found in the auriferous zones.

Drill programs conducted by Homestake Mining Company in 1986 and 1987 have defined the mineralized zone over a 226 metre strike length with ore grade intercepts to 91 metres in depth. The favourable structure has been drill indicated over 2 kilometres and to a depth of 183 metres (George Cross Newsletter, No. 213, 1988).

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V Stockwatch Mar.11, Apr.16, May 8, Jun.12, Sept.22, Nov.3, 1987  
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 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

PAGE: 762  
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MINFILE NUMBER: **104N 044**

NATIONAL MINERAL INVENTORY: 104N12 Au2

NAME(S): **PICTOU (L.5643)**, LUCKY, HUDSON'S BAY,  
 ROSEDALE

STATUS: Past Producer	Open Pit	MINING DIVISION: Atlin
REGIONS: British Columbia		
NTS MAP: 104N12E		UTM ZONE: 08 (NAD 83)
BC MAP:		
LATITUDE: 59 33 59 N		NORTHING: 6603876
LONGITUDE: 133 40 06 W		EASTING: 575244
ELEVATION: 816 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Located about 2 kilometres east of the present-day Atlin air-strip.		

COMMODITIES: Gold                                  Silver                                  Lead                                  Zinc                                  Magnesite

**MINERALS**

SIGNIFICANT: Pyrite                  Freibergite                  ChalcOPYrite                  Gersdorffite                  Rammelsbergite  
 Acanthite                  Millerite

COMMENTS: No reference to lead, zinc mineralization.

ASSOCIATED: Quartz                  Chromite                  Tetrahedrite                  Silver                  Galena  
 Sphalerite                  Magnesite

COMMENTS: Mineralization occurs in silicification zones and radiating quartz veins.

ALTERATION: Carbonate                  Fuchsite                  Mariposite                  Silica                  Magnesite  
 ALTERATION TYPE: Silicific'n                  Quartz-Carb.

MINERALIZATION AGE: Cambrian-Ordovician

ISOTOPIC AGE: 165 +/- 4 Ma                  DATING METHOD: Argon/Argon                  MATERIAL DATED: Mariposite

**DEPOSIT**

CHARACTER: Vein  
 CLASSIFICATION: Epigenetic                  Industrial Min.  
 DIMENSION: Metres  
 COMMENTS: Table 2.1, Bulletin 108, p. 133.                  STRIKE/DIP: 100/90                  TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Nakina	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
 Harzburgite  
 Peridotite  
 Listwanite  
 Quartz Vein  
 Feldspar Phyric Dike

HOSTROCK COMMENTS: Rocks of the Atlin Ultramafic Allochthon are highly altered in the area of the showing. Also possibly listwanite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                                  PHYSIOGRAPHIC AREA: Teslin Plateau  
 TERRANE: Cache Creek  
 COMMENTS: Showings are to south of southern margin of Surprise Lake Batholith.

**INVENTORY**

ORE ZONE: VEIN    REPORT ON: N

CATEGORY: Assay/analysis                                  YEAR: 1933  
 SAMPLE TYPE: Chip

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	171.4300	Grams per tonne
Gold	20.5700	Grams per tonne

COMMENTS: Sample taken across 0.61 metre.  
 REFERENCE: Minister of Mines Annual Report 1933, page A78.

**CAPSULE GEOLOGY**

The showings are located on the west side of Pine Creek, about one kilometre east of the present-day airstrip and 2 to 3 kilometres northeast of Atlin.

The showings are interpreted to be in the hanging wall of the Monarch Mountain thrust.

The occurrence consists of an extensive alteration zone hosted within ultramafic rocks of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. The rocks in the vicinity of the showings are

## CAPSULE GEOLOGY

highly altered but outcrops one kilometre to the west reveal their composition to be that of a knobby (pyroxene) peridotite. The ultramafic "slice" occurs within volcanic rocks of the Upper Mississippian to Upper Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group (Complex?). There are no lithologic contacts or changes on the property.

The occurrence is a wide alteration/fracture zone that has pervasive silicification, brecciation, and iron and magnesium-carbonate (listwanite?) alteration. The zone can be up to 5 metres wide but its thickness is inconsistent. Some bull quartz and narrow radiating quartz veinlets are present although distinct quartz veins are not abundant in the alteration zone. Breccia textures are common and the zone is vertical, striking about 100 degrees. Pyrite is minor with trace amounts of tetrahedrite, chalcopyrite, and fuchsite. Zoning of iron and magnesium in the carbonate alteration is common. Magnesite is present. Quartz veins are vuggy; open space textures in the zone are common. Recent sampling suggest that the breccia zones are anomalous in gold and the quartz veins are anomalous in gold, silver, arsenic, and antimony. Gold assays were as high as 0.4 ounces per tonne.

Work on the property began in 1900 by Lord Hamilton of London who put in a 20 metre adit and 7 metre shaft. Then in 1968, T.O. Connolly developed more surface workings and shipped a .91 tonne bulk sample which contained 342 grams of silver, 0.3 per cent lead and 0.15 per cent zinc (Minister of Mines Annual Report 1968, page A52). In 1987, Homestake Mining did geophysical and geochemical work with some surface trenching.

## BIBLIOGRAPHY

- EMPR AR 1931-65; 1933-78; 1968-23,A52
- EMPR ASS RPT 4551
- EMPR BULL 108, p. 17,22,133
- EMPR PF (Smithers)
- GSC MAP 1082A
- GSC MEM 307
- DIAND OF \*1990-4
- WWW <http://www.infomine.com/>
- Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in *Geology* V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104N 045**

NATIONAL MINERAL INVENTORY: 104N12 Au10

NAME(S): **RELIEF**, OTTAWA

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 35 N  
LONGITUDE: 133 40 18 W  
ELEVATION: 900 Metres

NORTHING: 6606842  
EASTING: 574996

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver Magnesite

**MINERALS**

SIGNIFICANT: Pyrite Quartz Magnesite  
COMMENTS: Minor pyrite in quartz stringers.  
ALTERATION: Magnesite  
COMMENTS: Country rock is carbonate-altered.  
ALTERATION TYPE: Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Industrial Min.  
DIMENSION: STRIKE/DIP: 040/60E TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Nakina	
Middle Jurassic			Fourth of July Creek Batholith

ISOTOPIC AGE: 171 +1/-5 Ma  
DATING METHOD: Zircon  
MATERIAL DATED: Zircon

LITHOLOGY: Andesite  
Basalt  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: Hosted in mafic volcanics of the Nakina Formation just south of the Fourth of July Creek Batholith. Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
COMMENTS: Located just south of the Fourth of July Creek Batholith.

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Relief property is located just south of Como Lake on the south side of the road about 3 kilometres north of Atlin. The property was worked primarily in 1904 with a short shaft and drift but has not been worked significantly since.

The property is hosted within dark green, massive andesites to basalts of the Lower Mississippian to Middle Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group (Complex?). These rocks are often referred to as greenstone. The occurrence lies just south of the Jurassic Fourth of July Creek Batholith which covers an area of 780 square kilometres north and northwest of Atlin. It is composed primarily of hornblende-bearing diorites to quartz diorites.

Mineralization occurs in quartz stringers up to 30 centimetres wide sparsely mineralized with pyrite. The volcanic country rock is reportedly "carbonate altered" and some references to magnesite are made; the geology and mineralization of this occurrence are poorly documented. The veins are said to strike 40 degrees, dipping 60 degrees to the southeast.

Samples taken in 1904 reportedly averaged around 9 grams per tonne gold. A dump sample analysed in 1931 returned values of trace gold and 10 grams per tonne silver.

**BIBLIOGRAPHY**

EMPR AR \*1904-79; \*1931-64  
GSC MEM 307

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 765  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC P 74-47  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154  
EMPR FIELDWORK 1990 (in prep.)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 046**

NATIONAL MINERAL INVENTORY: 104N12 Au5

NAME(S): **ANACONDA, ANNY, FULL MOON,  
SOUTH ATLIN**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 33 49 N  
LONGITUDE: 133 42 06 W  
ELEVATION: 733 Metres

NORTHING: 6603530  
EASTING: 573367

LOCATION ACCURACY: Within 500M  
COMMENTS: Main showings right on lake shore.

COMMODITIES: Gold Silver Magnesite

**MINERALS**

SIGNIFICANT: Gold Magnesite Galena Tetrahedrite  
COMMENTS: Minor visible gold on property. Quartz veins with minor disseminated  
to blebby pyrite and galena.  
ASSOCIATED: Quartz Pyrite  
ALTERATION: Fuchsite Silica Serpentine  
ALTERATION TYPE: Silicific'n Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal Industrial Min.  
DIMENSION: STRIKE/DIP: 100/90 TREND/PLUNGE:  
COMMENTS: Fairly consistent attitude and thickness.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous Pennsylvan.-Permian	Cache Creek	Nakina	Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
Harzburgite  
Peridotite  
Quartz Vein  
Quartz Feldspar Rhyolite Dike

HOSTROCK COMMENTS: Rocks of the Atlin Ultramafic Allochthon are altered to some degree in the area of the veins.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
COMMENTS: Showings to south of southern margin of Surprise Lake Batholith.

**CAPSULE GEOLOGY**

The Anaconda property is located on the east shore of Atlin Lake about 1 kilometre south of the town of Atlin. Work on the quartz veins started in 1898 or 1899 and a 30-metre adit was driven from a level 5 metres above the lake. The claim was crown-granted in 1900 but work was suspended in that year. Homestake re-opened the property for work in 1987.

The showing is interpreted to be in the hanging wall of the Monarch Mountain thrust.

The showing consists of a narrow quartz vein less than 25 centimetres wide hosted in variable altered ultramafic peridotites of the Atlin Ultramafic Allochthon. Serpentine alteration is common. The ultramafic aphiolite "slice" occurs within the Lower Mississippian to Middle Pennsylvanian Nakina Formation of the Mississippian to Triassic Cache Creek Group (Complex?).

The vein itself has some associated iron-magnesium carbonate alteration with sporadically pervasive magnesite. Some fuchsite is also present. Some breccia and open space textures are present. Disseminated to poddy galena and pyrite are present but minor. There is also trace disseminated black crystals of tetrahedrite or possibly chromite. The vein is narrow, vertical, and strikes at 100 degrees. The adit was driven along this vein. Oxidized seams and cavities are reported to have had the highest gold values, although assays are available from only one sample which reported "a small amount of gold and 0.75 ounces to the tonne silver (26 grams per tonne)".

South of the adit on the same property is a well exposed

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**CAPSULE GEOLOGY**

porphyritic quartz-feldspar rhyolite dike with evenly disseminated grains of pyrite which make up 5 to 10 per cent of the rock. The dike orientation is irregular, possibly due to faulting. Samples from this dike were taken but assays are not yet available.

An analysis of the alteration zone surrounding the vein indicated about 21.7 per cent magnesia, 27 per cent carbonic acid, 45.7 per cent silica, 5.1 per cent iron and 0.5 per cent loss on ignition and water (GSC Annual Report 1899).

**BIBLIOGRAPHY**

EMPR AR 1900-758,777; 1904-78; 1933-78  
EMPR ASS RPT 4551  
EMPR BULL 108, p. 17  
EMPR OF 1987-13  
EMPR PF (Smithers)  
GSC ANN RPT 1899, pp. 18B-22B  
GSC MEM 307  
GSC SUM RPT 1899, Part A, pp. 70-71; Part B, p. 45  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104N 047**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 05 N  
LONGITUDE: 133 18 57 W  
ELEVATION: 1360 Metres

NORTHING: 6606370  
EASTING: 595107

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Carboniferous

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Schistose Quartzite  
Graphitic Argillite  
Unknown Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Rock

COMMODITY

GRADE

Silver

76.4600

Grams per tonne

REFERENCE: Assessment Report 13338.

**CAPSULE GEOLOGY**

The Eagle occurrence is underlain by Upper Mississippian to Upper Pennsylvanian Kedahda Formation rocks of the Mississippian to Triassic Cache Creek Group. These consist of buff to grey fine-grained schistose quartzite and dark grey massive graphitic argillites. An ultramafic body of the Atlin Ultramafic Allochthon and the contact of the Surprise Lake Batholith occur approximately 2 kilometres north of this showing.

A north trending shear zone cutting the argillite was discovered several hundred metres upstream from the confluence of Wright and Eagle Creeks near the south bank of Wright Creek. This zone contained crushed quartz material and one large quartz vein ranging from 0.8 to 3.7 metres in width. Found immediately east of the vein was a deep orange weathering altered dyke containing scattered flecks of a green amorphous mineral. This dyke has a strike parallel to the vein-shear zone.

Pyrite content seldom exceeds 1 per cent within the sedimentary rocks but may locally be as high as 5 per cent. Samples of the altered dyke assayed as high as 76.46 grams per tonne silver. Samples of the vein-shear zone contained up to 46.63 grams per tonne silver over a width of 1.4 metres. No significant gold was obtained from the vein-shear zone.

Significant placer gold mining operations have been ongoing all along Wright Creek since the turn of the century.

**BIBLIOGRAPHY**

EMPR ASS RPT \*13338  
EMPR EXPL \*1984-402  
GSC P 74-47



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 769  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 307  
GSC MAP 1082A  
DIAND OF \*1990-4

Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1988/05/17  
DATE REVISED: 1988/11/28

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 048**

NATIONAL MINERAL INVENTORY: 104N16 Cu1

NAME(S): **MACDONALD**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N16E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 29 N  
LONGITUDE: 133 45 06 W  
ELEVATION: 800 Metres

NORTHING: 6641830  
EASTING: 569820

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located somewhere along Indian Creek. Map 104N does not agree with topographic or geology maps with respect to which creek in 104N/16 is actually Indian Creek.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Fourth of July Creek Batholith
ISOTOPIC AGE:	171 +1/-5 Ma		
DATING METHOD:	Zircon		
MATERIAL DATED:	Zircon		

LITHOLOGY: Unknown

HOSTROCK COMMENTS: The host of the copper mineralization is unknown, but batholithic rock underlies the region. Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This copper occurrence is situated somewhere along Indian Creek in an area underlain by the Jurassic Fourth of July Creek Batholith. Little information is available on this prospect. It is known that 38 metres of underground work was completed in, or just prior to, 1902 with assays of rock being "quite satisfactory". The owners were apparently planning to ship ore to Tacoma when navigation conditions permitted (Annual Report, 1902).

**BIBLIOGRAPHY**

EMPR AR 1901-985; 1902-38  
GSC P 74-47  
GSC MEM 307  
GSC MAP 1082A  
EMPR MAP 52  
EMPR FIELDWORK 1990 (in prep.)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 049**

NATIONAL MINERAL INVENTORY: 104N3 Cu1

NAME(S): **COP**, KIM

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N03E 104N03W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 09 34 N  
LONGITUDE: 133 23 25 W  
ELEVATION: 1000 Metres

NORTHING: 6558917  
EASTING: 592049

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Asbestos                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Chalcocite      Chalcopyrite      Pyrite      Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Massive  
CLASSIFICATION: Hydrothermal      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Kedahda	
Carboniferous	Cache Creek	Nakina	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Ultramafic  
Felsic Dike  
Peridotite  
Serpentinite  
Basalt  
Granodiorite  
Granophyre

HOSTROCK COMMENTS: The host of chalcocite vein is unknown. Granodiorite and a felsic dyke are known to host chalcopyrite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1985  
SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	6.1000	Grams per tonne
Gold	0.2150	Grams per tonne
Copper	0.7210	Per cent

REFERENCE: Assessment Report 14090.

**CAPSULE GEOLOGY**

The area is underlain by the northeast contact of the Permo-Pennsylvanian Nahlin Ultramafic body of the Atlin Ultramafic Allochthon within Mississippian to Triassic Cache Creek Group rocks. The Cache Creek Group is represented by cherts and argillites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation and altered green basalt of the Lower Mississippian to Middle Pennsylvanian Nakina Formation. The ultramafics are spatially related to Nakina Formation rocks and Monger (GSC Paper 74-47) believes that they may also be genetically related. Small bodies of Lower Tertiary granodiorite and granophyre (Tertiary?) intrude the ultramafics locally.

The best assays reported came from samples of a felsic dyke which cut the ultramafics and contains disseminated chalcopyrite and pyrite. One sample contained 0.721 per cent copper, 0.215 grams per tonne gold, 6.1 grams per tonne silver, 0.0231 per cent lead, and

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## CAPSULE GEOLOGY

0.0204 per cent zinc (Assessment Report 14090). Quartz stockwork zones in the ultramafics are associated with bright orange gossan zones. No anomalous values were obtained from samples of these stockworks.

In 1967 O'Keefe Mountain Mines discovered a block of highgrade chalcocite float on the southwest part of Mount O'Keefe near the summit (Assessment Report 1231). Although this mining interest failed to find the source of the chalcocite a previous owner of the property (C.G. McLennan) was reported to have located a vein of massive chalcocite, between 0.4 and 0.6 metres thick, in unspecified host rock. Small blebs of chalcopyrite were also observed in granodiorite talus near granodiorite outcrop.

Some fibres of chrysotile asbestos were observed in serpentine just north of the Sloko River and southwest of Mount O'Keefe.

## BIBLIOGRAPHY

- EMPR ASS RPT 321, \*1231, 14090
- EMPR AR 1960-119; 1967-24
- EMPR EXPL 1985-C397
- EMPR OF 1995-25
- GSC P 74-47
- GSC MEM 307
- GSC MAP 1082A
- GSC OF 1565
- DIAND OF \*1990-4
- Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 050**

NATIONAL MINERAL INVENTORY: 104N12 Asb1

NAME(S): **MONARCH MOUNTAIN**, HELL, COPTER

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 32 35 N  
LONGITUDE: 133 37 00 W  
ELEVATION: 1533 Metres

NORTHING: 6601338  
EASTING: 578217

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
COMMENTS: Asbestos fibers occur in veinlets with serpentinite.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian			Atlin Ultramafic Allochthon

LITHOLOGY: Peridotite  
Ultramafic  
Serpentinite

HOSTROCK COMMENTS: Asbestos veinlets occur in altered rocks of the Atlin Ultramafic Allochthon.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Monarch Mountain is located about 4.0 kilometres southwest of Atlin. Several gold occurrences have been prospected in the area since the discovery of placer gold on Pine Creek and during this time, the asbestos occurrences on Monarch Mountain was discovered. The showing received minor attention in 1950 and 1980.

The Monarch Mountain area is underlain by a large body of ultramafic rocks composed largely of variably altered peridotite. They are Pennsylvanian to Permian in age and are referred to as the Atlin Ultramafic Allochthon. They may be coeval with the mafic flows of the Nakina Formation of the Cache Creek Group and emplaced as dykes and sills.

The asbestos occurrence consists of narrow veinlets from 3 to 6 millimetres wide composed of rather harsh, cross-fiber chrysotile material. The best showing comprises a 3 metre wide zone with numerous parallel veinlets. Numerous other patches containing similar fibers are present in the area.

**BIBLIOGRAPHY**

EMPR AR 1951-208; 1960-126  
EMPR ASS RPT 53, 9055  
EMPR OF 1995-25  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 051**

NATIONAL MINERAL INVENTORY: 104N11 Mo2

NAME(S): **HOBO 1**, HOBO 3

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 47 N  
LONGITUDE: 133 23 12 W  
ELEVATION: 1666 Metres

NORTHING: 6620559  
EASTING: 590760

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Molybdenum Silver Lead Tungsten

**MINERALS**

SIGNIFICANT: Molybdenite Arsenopyrite Galena Wolframite

ASSOCIATED: Quartz Pyrite

COMMENTS: Mineralization is hosted in quartz veins.

ALTERATION: Kaolinite Sericite

COMMENTS: Kaolinitization of host intrusion present around some veins.

ALTERATION TYPE: Argillic Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Medium Grained Alaskite  
Quartz Porphyritic Alaskite  
Quartz Vein  
Aplite  
Feldspar Porphyritic Alaskite  
Quartz Feldspar Porphyritic Alaskite

HOSTROCK COMMENTS: Hosted in the Mt. Leonard Boss removed from the main body of the pluton. Age date is from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Hobo 1 and 3 and Thor claims are located near the headwaters of Ruby Creek on the northeast flank of Ruby Mountain. The occurrence is about 25 kilometres northeast of Atlin and received considerable exploration work in 1968 and 1969. A large molybdenite deposit (Adunac) was discovered a short distance to the west.

The occurrence is hosted within the Late Cretaceous (70.6 plus or minus 3.8 million years; Map 52, page 3) Surprise Lake Batholith which is exposed over 1100 square kilometres east of Atlin. The dominant phase of the pluton hosting this occurrence comprises a medium to coarse-grained alaskite. This lithology often grades into "smoky" quartz-porphyritic alaskite, quartz-feldspar porphyritic alaskite, feldspar-porphyritic alaskite, and more massive aplite. The intrusion often becomes sericite and kaolinite altered when crosscut by quartz veins. Exposures of mafic volcanic and ultramafic rocks of the Upper Paleozoic Cache Creek Group almost surround this property.

Molybdenum mineralization comprises erratically distributed flakes, books, and rosettes of molybdenite usually associated with dull, milky, cryptocrystalline quartz veins. Galena, arsenopyrite, and wolframite are also commonly associated with the quartz veins. The veins average 2 to 5 centimetres wide, have variable orientations, and have been traced for up to 100 metres. Assays returned were less than 0.2 per cent molybdenum and not significantly encouraging. Eleven quartz vein systems were identified.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 775  
REPORT: RGEN0100

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GSC MEM 307  
GSC P 74-47  
EMPR GEM 1969-374  
GSC MAP 1082A  
EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report,  
116 pages)  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 052**

NATIONAL MINERAL INVENTORY: 104N11 Mo1

NAME(S): **ADANAC**, ADERA, RUBY CREEK

STATUS: Developed Prospect

MINING DIVISION: Atlin

REGIONS: British Columbia

NTS MAP: 104N11W

BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 35 N

LONGITUDE: 133 24 18 W

ELEVATION: 1600 Metres

NORTHING: 6620163

EASTING: 589738

LOCATION ACCURACY: Within 500M

COMMENTS: The deposit is located north of Ruby Mountain and the headwaters of Ruby Creek which drains into Surprise Lake, 23 kilometres northeast of the town of Atlin.

COMMODITIES: Molybdenum

Tungsten

**MINERALS**

SIGNIFICANT: Molybdenite Fluorite Chalcopyrite Scheelite Wolframite

ASSOCIATED: Quartz Pyrite Arsenopyrite

ALTERATION: Chlorite Sericite Clay Carbonate Silica

ALTERATION TYPE: Chloritic

Argillic

Sericitic

Carbonate

Potassic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

Stockwork

CLASSIFICATION: Porphyry

Hydrothermal

TYPE: L05 Porphyry Mo (Low F- type)

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Upper Cretaceous

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Surprise Lake Batholith

LITHOLOGY: Quartz Monzonite

Alaskite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: ADANAC

REPORT ON: Y

CATEGORY: Measured  
QUANTITY: 152000000 Tonnes

YEAR: 1982

COMMODITY

GRADE

Molybdenum

0.0630

Per cent

COMMENTS: Open pit mineable reserves.

REFERENCE: CIM Special Volume 37, page 218.

**CAPSULE GEOLOGY**

The Adanac molybdenum deposit is located north of Ruby Mountain and the headwaters of Ruby Creek which drains into Surprise Lake. The occurrence is about 23 kilometres northeast of the town of Atlin.

The occurrence was discovered in 1905, but was not developed until the period 1966 to 1980 by the Adanac Mining and Exploration Company who defined reserves of 151 million tonnes grading 0.063 per cent molybdenum (Northern Miner, March 13, 1980). Although a pilot mill was run for a short time, the deposit has never been put into full scale production.

The deposit occurs in several phases of the "Mount Leonard Boss", a small stock removed from the main body of the Surprise Lake batholith. The batholith is Late Cretaceous, covers about 1100 square kilometres east and northeast of Atlin, and is mainly of a quartz monzonitic composition. Host rocks of the deposit range from fine to coarse-grained quartz monzonite (alaskite). Alteration consists mainly of chlorite with lesser clay, sericite, and carbonate alteration. Some silicification and potassic alteration can develop in envelopes several centimetres thick peripheral to quartz veins.



## CAPSULE GEOLOGY

Molybdenite has several modes of occurrence but mainly as coarse rosettes in smoky quartz veins. It also occurs as fracture coatings, in fault gouge and in alteration envelopes. It also occurs in quartz veins associated with fluorite and associated potassium feldspar alteration. Pyrite, chalcopyrite, arsenopyrite, scheelite and wolframite are common accessory minerals. Molybdenum grades are as high as 0.108 per cent in the orebody core but average grades quoted in reserves are usually around 0.06 per cent. The host intrusion also contains measurable but very minor quantities of uranium.

Open pit mineable reserves at Adanac are 152 million tonnes grading 0.063 per cent molybdenum (CIM Special Volume 37, page 218).

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EMPR EXPL 1977-E240; 1979-303; 1980-502  
EMPR FIELDWORK 1976-69; 1979-75  
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EMPR MAP \*52 (10 pages of notes); 65 (1989)  
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EMR MP CORPFILE (Adanac Mining & Exploration Ltd.)  
EMR MP RESFILE (Ruby Creek Property; Adera)  
GSC MEM 307  
GSC P 74-47  
CIM Spec. Vol. \*15, p. 476  
GCNL #71, 1971; #9, 1974; #249, 1975; #28,#44,#60,#78,#117, 1976; #5, #220,#247, 1978; #30,#172, 1980; #192, 1982; #16, 1983; #84,#102, 1984  
N MINER Apr.2,3, 1970; Apr.1, 1976; Jan.4, 1979; Mar.5, Apr. 2, 1981; Feb.11, Mar.4, May 13, 1982; Mar.15,22, Apr.5, May 17, 1984  
W MINER Feb. 14, 1979  
WWW <http://www.infomine.com/>  
Geoscience Forum, Whitehorse, 1979 (The geology and mineralization of the Adanac Property; Tennant, S.J., Pinsent, R.H.)  
Placer Dome File  
Schroeter, Tom (Monthly Report, August 1979, Smithers)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N



## CAPSULE GEOLOGY

1100 square kilometres east and northeast of Atlin. The stock is composed of a fine to coarse-grained quartz monzonite (alaskite) which is occasionally feldspar porphyritic. The intrusion is often kaolinitized near mineralized quartz veins. The pluton has intruded into mafic volcanic, ultramafic, and sedimentary rocks of the Upper Paleozoic Cache Creek Group which is exposed about 1 kilometre south of the occurrence. Light grey, porphyritic felsic dykes occur both in the immediate footwall of the vein and about 16 metres west of the vein.

The main vein of the Garnet occurrence is comprised of dark smoky quartz, strikes 030 degrees, and dips 60 degrees to the northwest. The vein varies from 2 to 10 metres wide and has been traced for about 80 metres. Mineralization comprises patchy and erratic wolframite, ferberite, and rare gold. Sulphide mineralization is minor and is composed of pyrite, chalcopyrite, molybdenite, tetrahedrite, and galena. A shipment made from this vein in 1943 yielded 15.2 per cent tungsten oxide and 10.6 grams per tonne gold (this material was likely selective high grade) (Annual Report 1950). Twenty samples taken in 1941 by Cominco over a length of 70 metres and average width of 3 metres averaged 0.60 per cent tungsten.

## BIBLIOGRAPHY

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EMPR EXPL 1979-302  
EMPR GEM 1970-30; 1972-557  
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EMPR OF 1991-17, 1999-3  
EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report,  
116 pages)  
GSC MEM 307, p. 72  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 054**

NATIONAL MINERAL INVENTORY: 104N11 W3

NAME(S): **NORTH**, HOBO 44

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 17 N  
LONGITUDE: 133 26 00 W  
ELEVATION: 1400 Metres

NORTHING: 6617713  
EASTING: 588201

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Wolframite  
COMMENTS: Wolframite is patchy and irregular.  
ASSOCIATED: Quartz Pyrite  
COMMENTS: Wolframite hosted in quartz vein.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic  
COMMENTS: Vein strikes northeast but numerical attitudes not given.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Fine Grained Quartz Monzonite  
Coarse Grained Quartz Monzonite  
Quartz Vein

HOSTROCK COMMENTS: Hosted in a small stock removed from the main body of the batholith.  
Map 52, notes, page 3.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The North occurrence is located between the two upper forks of Boulder Creek west of Ruby Mountain. It is about 21 kilometres northeast of Atlin. Tungsten showings were discovered in this area in 1903 and this occurrence received minimal exploration work from 1939 to 1943 and from 1970 to 1972. Energy, Mines and Petroleum Resources Preliminary Map 52 (1982) shows three trenches and one adit over this occurrence although there are no specific references to this work. It was likely done in the 1939 to 1943 period.

The occurrence is hosted within the western portion of the Mt. Leonard Boss, a small stock removed from the main body of the Late Cretaceous Surprise Lake Batholith which covers approximately 1100 square kilometres east and northeast of Atlin. The stock is composed of fine to coarse-grained quartz monzonite often referred to as alaskite. The occurrence is just northeast of the western margin of the stock where it is in contact with mafic volcanic and ultramafic rocks of the Upper Paleozoic Cache Creek Group.

The mineralization is hosted in a quartz vein of unknown width, length, and orientation. Mineralization consists of erratic and patchy wolframite with minor pyrite. No assays from this occurrence are documented. It is located in an area with few outcrop exposures. Trenches shown on Map 52 are orientated northwest-southeast suggesting the vein strikes northeast parallel to other tungsten veins in the area.

**BIBLIOGRAPHY**

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 781  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 307, p. 72  
GSC P 74-47  
EMPR MAP \*52 (10 pages of notes)  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 055**

NATIONAL MINERAL INVENTORY: 104N11 Asb1

NAME(S): **PUB.** JUAN HUB

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 29 N  
LONGITUDE: 133 19 49 W  
ELEVATION: 1500 Metres

NORTHING: 6621937  
EASTING: 593899

LOCATION ACCURACY: Within 500M

COMMENTS: Located from Assessment Report 2541.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Tremolite  
COMMENTS: Assumed to be tremolite asbestos as in 104N 124.  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Pennsylvan.-Permian

Atlin Ultramafic Allochthon

LITHOLOGY: Serpentinite  
Peridotite  
Ultramafic  
Alaskite  
Quartz Monzonite  
Greenstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This asbestos occurrence is located at the headwaters of Cracker Creek which drains eastward into the north end of Surprise Lake.

The area is underlain primarily by porphyritic alaskite to quartz monzonite of the Lower Cretaceous Surprise Lake Batholith. These rocks have intruded Permo-Pennsylvanian serpentinitized peridotites of the Atlin Ultramafic Allochthon and Mississippian to Triassic Cache Creek Group rocks. The Cache Creek Group is represented by cherts and argillites of the Carboniferous Kedahda Formation and greenstone of the Pennsylvanian-Mississippian Nakina Formation. Atlin Ultramafic Allochthon are spatially related to Nakina Formation mafic volcanics and according to Monger (Paper 74-47) they may also be genetically related.

A minor zone of serpentinite containing thin seams of asbestos (tremolite?) is reported (Assessment Report 2541).

**BIBLIOGRAPHY**

EMPR ASS RPT \*2541, 7278, 8049  
EMPR OF 1995-25  
GSC MAP 1082A  
GSC MEM 307  
GSC OF 1565  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 056**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAR**

MINING DIVISION: Skeena

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 26 N  
LONGITUDE: 132 59 24 W  
ELEVATION: 1350 Metres

NORTHING: 6600109  
EASTING: 613709

LOCATION ACCURACY: Within 500M

COMMENTS: Identified from Assessment Report 7284.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Carboniferous

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Chert  
Cherty Argillite  
Quartzite  
Marble

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Copper

YEAR: 1978

GRADE: 0.1170 Per cent

REFERENCE: Assessment Report 7284.

**CAPSULE GEOLOGY**

Chalcopyrite and malachite are reported to occur in a chert unit northeast of Mount Farnsworth.

The area is underlain by cherts, cherty argillites, quartzite and marble of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Mississippian to Triassic Cache Creek Group (Complex?). The strata are folded, having a northeast trending synformal axis coinciding with a ridge. A northeast trending fault with steep dip cuts the country rock just west of the occurrence.

A sample of cherty argillite with malachite stains contained 0.117 per cent copper (Assessment Report 7284).

**BIBLIOGRAPHY**

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EMPR EXPL 1979-297  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 057**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAM**, DAMBOULEO, B-2,  
**BEGIN**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 36 N  
LONGITUDE: 133 23 22 W  
ELEVATION: 1750 Metres

NORTHING: 6618359  
EASTING: 590657

LOCATION ACCURACY: Within 500M  
COMMENTS: Located on Ruby Mountain northwest of Surprise Lake (Assessment Report 7282).

COMMODITIES: Silver                      Zinc                      Gold                      Lead                      Copper  
                  Tungsten

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Chalcopyrite      Scheelite      Pyrrhotite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Skarn  
DIMENSION: 0020 x 0002                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Kedahda	
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Siliceous Carbonate  
Alaskite  
Skarn

HOSTROCK COMMENTS: A skarn occurs at the contact of Cache Creek carbonate and alaskite of the Surprise Lake Batholith. Age date from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek                      Plutonic Rocks                      PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1978
SAMPLE TYPE: Chip	
COMMODITY	<u>GRADE</u>
Copper	0.0800      Per cent
Lead	1.2400      Per cent
Tungsten	0.1600      Per cent
Zinc	2.3200      Per cent

COMMENTS: From a 2 metre sample. The tungsten assay is for tungsten-oxide.

REFERENCE: Assessment Report 7282.

**CAPSULE GEOLOGY**

The Ruby Mountain area is underlain by Mississippian to Triassic Cache Creek Group (Complex?) rock consisting of sediments of the KUpper Mississippian to Upper Pennsylvanian Kedahda Formation and mafic volcanics of the Mississippian to Pennsylvanian Nakina Formation. These are intruded by ultramafics of the Pennsylvanian to Mississippian Atlin Ultramafic Allochthon and alaskite of the Late Cretaceous Surprise Lake Batholith. The eastern flank of the mountain is overlain by Tertiary-Quaternary olivine basalt and scoria.

A skarn occurs at the contact of an impure carbonate unit (Kedahda Formation) and alaskite. The skarn zone is about 200 metres long and 50 metres wide and is, in part, covered by Cenozoic basaltic flows.

The skarn contains north-northeast trending sulphide lenses up to 2 metres wide and 20 metres long. Most of the mineralization consist



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**CAPSULE GEOLOGY**

of pyrrhotite, chalcopyrite, sphalerite, scheelite and minor galena. Small lenses of higher grade bedded sphalerite, chalcopyrite and galena are also present.

A 2 metre wide sample contained 0.16 per cent tungsten oxide (WO<sub>3</sub>), 0.08 per cent copper, 1.24 per cent lead, 2.32 per cent zinc and a trace of gold. A 0.5 metre sample contained 0.07 per cent tungsten oxide (WO<sub>3</sub>), 0.01 per cent copper, 0.01 per cent lead, 9.93 per cent zinc and 1.67 grams per tonne gold (Assessment Report 7282).

Silver up to 154.29 grams per tonne is also reported (Assessment Report 14438).

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EMPR EXPL 1979-301; 1981-304; 1983-551; 1984-403; 1986-C454  
GSC MEM 307  
GSC MAP 1082A  
GSC P 74-47  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in *Geology* V. 15, pp. 1151-1154  
EMPR OF 1991-17

DATE CODED: 1988/10/26  
DATE REVISED: 1988/11/29

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 058**

NATIONAL MINERAL INVENTORY: 104N11 Mo3

NAME(S): **VOLCANIC CREEK MOLY, CANYON**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 29 N  
LONGITUDE: 133 25 18 W  
ELEVATION: 1666 Metres

NORTHING: 6623666  
EASTING: 588716

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite      Chalcopyrite      Pyrite      Pyrrhotite      Sphalerite

COMMENTS: Molybdenite is coarse-grained within quartz and calcite veins.  
Sphalerite is very minor.

ASSOCIATED: Quartz                      Calcite

COMMENTS: Intrusion related to mineralization is often rusty.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                              Stockwork                              Disseminated

CLASSIFICATION: Porphyry                      Igneous-contact                      Epigenetic

DIMENSION: 0300 x 0070                      Metres                      STRIKE/DIP:

COMMENTS: Vein orientations are variable although most strike northeast.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Fourth of July Creek Batholith

ISOTOPIC AGE: 171 +1/-5 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Diorite  
Quartz Diorite  
Quartz Vein  
Quartz Monzonite  
Chert  
Siltstone  
Greenstone

HOSTROCK COMMENTS: Occurrence very near contact with Mississippian to Triassic Cache Creek Group rocks. Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE                              REPORT ON: N

CATEGORY: Assay/analysis                              YEAR: 1970

SAMPLE TYPE: Grab

COMMODITY                              GRADE

Molybdenum                              0.0450                      Per cent

COMMENTS: Average assay of 32 samples over 300 metre length of zone.

REFERENCE: Assessment Report 2519.

**CAPSULE GEOLOGY**

The Volcanic Creek Moly occurrence is located near the headwaters of Volcanic Creek just southwest of Mt. Barham. It is about 25 kilometres northeast of Atlin. The occurrence was first worked from 1968 to 1970 and then more extensively in 1981 including some diamond drilling.

The occurrence is hosted within vari-textured diorite to quartz diorite of the Jurassic Fourth of July Creek Batholith. In an area near the Husselbee (104N 001) showing the batholith was dated at 171 +1/-5 million years (Fieldwork 1990, in prep.). The intrusion often has a rusty appearance around mineralized zones. The occurrence is located very near the contact of the batholith with Mississippian to Triassic rocks of the Cache Creek Group. They are

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**CAPSULE GEOLOGY**

composed of variably metamorphosed cherts and siltstones, and massive greenstone. To the east of the main mineralized zones, there is a quartz monzonitic phase of the batholith.

There are numerous spotty patches of molybdenite mineralization spread over the entire property. It generally occurs as coarse rosettes of molybdenite occurring both in quartz/calcite veins and along parallel, sheeted fracture surfaces. Sulphide minerals include pyrite and pyrrhotite with lesser chalcopyrite and very minor sphalerite. The attitude of the veins and/or fractures vary but most are steep to vertical and strike northeast.

The Canyon Zone comprises the main occurrence and consists of numerous parallel to subparallel zones of molybdenite mineralization. The zone is up to 300 metres long, strikes roughly north, may be fault controlled, and has an average grade of 0.045 per cent molybdenum (Assessment Report 2519). Its width is roughly 70 metres.

**BIBLIOGRAPHY**

EMPR ASS RPT 2346, 2446, \*2519, 10134  
EMPR MAP 52 (10 pages of notes)  
EMPR GEM 1970-27  
EMPR FIELDWORK 1990 (in prep.)  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 059**

NATIONAL MINERAL INVENTORY: 104N13 Mo1

NAME(S): **STEAMBOAT MOUNTAIN**, BIG HILL, STEEP HILL

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N13E  
BC MAP:  
LATITUDE: 59 46 47 N  
LONGITUDE: 133 30 54 W  
ELEVATION: 1666 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6627813  
EASTING: 583375

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
COMMENTS: Molybdenite occurs in coarse rosettes.  
ASSOCIATED: Pyrite Quartz  
COMMENTS: Moly occurs with pyrite in quartz veins.  
ALTERATION: Limonite  
COMMENTS: Limonite staining along fractures.  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Hydrothermal Porphyry Epigenetic  
COMMENTS: Veins and fractures have variable attitudes.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Fourth of July Creek Batholith

ISOTOPIC AGE: 171 +1/-5 Ma  
DATING METHOD: Zircon  
MATERIAL DATED: Zircon

LITHOLOGY: Equigranular Quartz Monzonite  
Porphyritic Quartz Monzonite  
Quartz Vein

HOSTROCK COMMENTS: Located well within the batholith. Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Steamboat Mountain occurrence is located on the west side of the Fourth of July Creek opposite Volcanic Creek. It is about 23 kilometres north-northeast of Atlin. The occurrence was crown granted in 1917 and received some exploration work in 1970 and 1981. The occurrence is hosted well within the Jurassic Fourth of July Creek Batholith. In an area near the Hesselbee (104N 001) showing, the batholith has been dated at 171 +1/-5 million years (Fieldwork 1990, in prep.). Around Steamboat Mountain, it is composed of vertically textured quartz monzonite which can be fine to coarse-grained and equigranular to an even coarser-grained, more porphyritic phase. Orthoclase commonly makes up 40 per cent of the rocks. This batholith has intruded primarily Mississippian to Triassic rocks of the Cache Creek Group in the Atlin area. Mineralization consists of coarse blebs and rosettes of molybdenite which often occur within vugs of milky white quartz veins. The veins often occur in sheeted fracture sets. Pyrite is common but no other sulphide minerals are documented. The veins/fractures have 3 distinct orientations with the most abundant striking 070 degrees and dipping 62 degrees to the northwest, and striking 100 degrees and dipping 38 degrees to the northwest. Assays of mineralized zones are reported to vary from 0.2 to 1.5 per cent molybdenite (Assessment Report 2809). This occurrence is very similar to the mineralization of the Canyon zone (104N 058).

**BIBLIOGRAPHY**

EMPR EXPL 1981-95,224  
EMPR ASS RPT \*2809, 9700, 10174

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 789  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR AR 1917-451  
EMPR GEM 1970-26  
EMPR FIELDWORK 1990 (in prep.)  
GSC MEM 307  
GSC P 74-47  
N MINER Feb. 12, 1970  
EMR MP CORPFILE (Silver Standard Mines Ltd.)  
EMPR MAP 52 (10 pages of notes)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 060**

NATIONAL MINERAL INVENTORY: 104N14 Mo1

NAME(S): **GLADYS LAKE MOLY**, PIP, DIP,  
SIP

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14E  
BC MAP:  
LATITUDE: 59 51 53 N  
LONGITUDE: 133 06 00 W  
ELEVATION: 1400 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6637872  
EASTING: 606400

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite      Chalcopyrite      Scheelite      Wolframite  
COMMENTS: Molybdenite occurs in quartz veins. Scheelite and wolframite are very minor.  
ASSOCIATED: Quartz              Pyrite              Pyrrhotite  
COMMENTS: Chalcopyrite and pyrrhotite are minor.  
ALTERATION: Silica              Sericite  
COMMENTS: Host rocks are also hornfelsed.  
ALTERATION TYPE: Silicific'n              Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork                      Disseminated  
CLASSIFICATION: Hydrothermal              Porphyry                      Epigenetic  
COMMENTS: Veins have 2 predominant orientation sets.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Kedahda	
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Bedded Argillite  
Bedded Chert  
Limestone  
Hornfels  
Quartz K-Feldspar Porphyritic Alaskite  
Quartz Vein

HOSTROCK COMMENTS: Hosted in metamorphosed sediments peripheral to intrusions related to the Surprise Lake Batholith. Age date from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**CAPSULE GEOLOGY**

The Gladys Lake Moly occurrence is located between Davenport and Chehalis Creeks about 2 to 3 kilometres south of the west end of Gladys Lake. It is about 50 kilometres northeast of Atlin. The occurrence received an extensive exploration programme in 1970 and 1971.

The occurrence is located within sedimentary rocks of the Mississippian to Triassic Cache Creek Group (Complex?) peripheral to a ring-dyke complex associated with the Late Cretaceous Surprise Lake Batholith. The batholith covers around 1100 square kilometres east and northeast of Atlin and has been dated at 70.6 plus or minus 3.8 million years (Map 52, notes). Around Gladys Lake, a ring-dyke complex roughly 500 metres in diameter has formed well north of the main body of the pluton. The dykes have sharp intrusive contacts and are composed primarily of quartz and k-feldspar porphyritic alaskite with 2 to 5 per cent biotite. This complex has intruded into well-bedded cherts and argillites and massive limestone of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Cache Creek Group. Around the dykes there is an extensive hornfelsing halo marked by variable silicification, quartz veining, and fracturing. The dykes themselves are not greatly silicified nor do they contain

### CAPSULE GEOLOGY

significant molybdenite mineralization. Medium-grained flakes, books, and rosettes of molybdenite occur within quartz veins, stockwork zones, and stringers. Less commonly it occurs in fractures associated with the stockwork zone. Associated sulphides include pyrite, chalcopyrite, and pyrrhotite with very minor scheelite and wolframite. Disseminated sulphides also occur away from the stockworks but within the hornfelsed zone. Molybdenite ranges from 0.02 to 0.07 per cent in the stockwork zone (Assessment Report 6818).

### BIBLIOGRAPHY

EMPR ASS RPT \*2653, \*6818  
EMPR MAP 52 (10 pages of notes)  
EMPR GEM 1970-27; 1971-54  
EMPR EXPL 1978-E272  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: MHG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 061**

NATIONAL MINERAL INVENTORY:

NAME(S): **RU**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 09 N  
LONGITUDE: 133 20 06 W  
ELEVATION: 1000 Metres

NORTHING: 6615744  
EASTING: 593789

LOCATION ACCURACY: Within 500M

COMMENTS: Exposed paleochannel (Assessment Report 6923).

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Zeunerite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith
	ISOTOPIC AGE: 70.6 +/- 3.8 Ma		
	DATING METHOD: Potassium/Argon		
	MATERIAL DATED: Biotite		
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Unconsolidated Gravel  
Conglomerate  
Alaskite

HOSTROCK COMMENTS: Age data is from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Channel  
COMMODITY

YEAR: 1978

Uranium 0.0200 Per cent

COMMENTS: 10 centimetre sample of unconsolidated gravel.  
REFERENCE: Assessment Report 6923.

**CAPSULE GEOLOGY**

Coarse-grained, occasionally porphyritic, biotite-quartz-monzonite of the Late Cretaceous Surprise Lake Batholith are overlain by Pleistocene volcanics. A basal flow of columnar olivine basalt, 10 to 15 metres thick, is overlain by an upper vesicular volcanic fly ash and scoria unit, 20 to 40 metres thick. A paleochannel of gravel underlies the basalt unit.

The gravels are up to 6 metres thick and consist of three units. The basal gravel, up to 0.5 metres thick, immediately overlies the quartz monzonite and contains values of uranium up to 0.013 per cent. An unoxidized middle gravel, 1 to 4 metres thick, contains uranium values to 0.0165 per cent. An oxidized upper gravel, immediately underlying the basalt, is represented by an exposure of a 10 centimetre thickness of rusty semi-consolidated pebble conglomerate with 0.02 per cent uranium (Assessment Report 6923). The uranium is present as the oxide zeunerite.

The nearby alaskites of the batholith are the likely source of the uranium. See also Ruby Creek (104N 028), for placer gold information.

**BIBLIOGRAPHY**

EMPR ASS RPT \*6923, 7610, 7653  
GSC MAP 1082A  
GSC MEM 307



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 793  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR EXPL 1978-270  
EMPR OF 1989-15; 1989-24

DATE CODED: 1987/08/12  
DATE REVISED: 1988/11/28

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 062**

NATIONAL MINERAL INVENTORY: 104N13 Mo2

NAME(S): **SUN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 47 40 N  
LONGITUDE: 133 34 17 W  
ELEVATION: Metres

NORTHING: 6629383  
EASTING: 580174

LOCATION ACCURACY: Within 1 KM

COMMENTS: Identified from Assessment Report 2485.

COMMODITIES: Molybdenum                      Lead                      Copper

**MINERALS**

SIGNIFICANT:	Molybdenite	Galena	Malachite
ASSOCIATED:	Quartz		
ALTERATION:	Kaolinite	Sericite	Malachite
ALTERATION TYPE:	Argillic	Sericitic	Oxidation
MINERALIZATION AGE:	Unknown		

**DEPOSIT**

CHARACTER:	Disseminated	Vein	
CLASSIFICATION:	Hydrothermal	Epigenetic	
DIMENSION:	0123 x 0023	Metres	
COMMENTS:	Dimension of alteration zone.		

STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Fourth of July Creek Batholith
ISOTOPIC AGE:	171 +/-5 Ma		
DATING METHOD:	Zircon		
MATERIAL DATED:	Zircon		

LITHOLOGY: Quartz Monzonite

HOSTROCK COMMENTS: Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT:	Intermontane	PHYSIOGRAPHIC AREA:	Teslin Plateau
TERRANE:	Plutonic Rocks		

**CAPSULE GEOLOGY**

The area is comprised of quartz monzonite of the Jurassic Fourth of July Creek Batholith. A northeast trending kaolinite-sericite alteration zone, developed in the intrusive, is approximately 23 metres wide and 123 metres long. Diorite dykes have cut the intrusive both before and after the alteration event.

Molybdenite occurs as scattered flakes and books of flakes concentrated on the northwest and west side of the alteration. Galena veins occur associated with quartz veins. Malachite stains were also reported.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2485, 2486, 4574, 9739  
EMPR GEM 1970-26; 1973-515  
EMPR FIELDWORK 1990 (in prep.)  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 063**

NATIONAL MINERAL INVENTORY:

NAME(S): **ENG 2**, GALENA CK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 00 N  
LONGITUDE: 132 57 42 W  
ELEVATION: 1460 Metres

NORTHING: 6610486  
EASTING: 614994

LOCATION ACCURACY: Within 500M

COMMENTS: Located on a southern flowing tributary (Galena Creek) of Terrahina Creek.

COMMODITIES: Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Galena              Sphalerite  
ALTERATION: Chlorite  
ALTERATION TYPE: Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Epigenetic              Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date is from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This occurrence is located near the southern margin of the Surprise Lake Batholith on the upper reaches of a south flowing tributary (Galena Creek) of Terrahina Creek. The batholith covers about 1100 square kilometres east and northeast of Atlin and is dated at 70.6 plus or minus 3.8 million years or Late Cretaceous. It is composed primarily of medium-grained, equigranular alaskite, which is essentially a leucocratic granite with microcline and orthoclase, with subordinate quartz and may or may not contain plagioclase and mafics. There are some coarse-grained, quartz-feldspar porphyritic varieties. The contacts between the various textural varieties are commonly gradational. Massive aplitic dykes crosscut the batholith. There are also some very coarse-grained pegmatitic zones within the alaskite with large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

A lead-zinc geochemical anomaly about 600 metres long, open to the east and west, was outlined in 1979 on "Galena Creek" (Assessment Report 8413). Some surficial galena mineralization was observed but did not resemble highly altered alaskite boulders found in the creek containing disseminations and veins of galena and sphalerite. One sample contained 15 per cent lead, 9.5 per cent zinc and 56.2 grams per tonne silver (Assessment Report 7556).

Drilling on this zone in 1980 intersected 1.5 metres of chloritized alaskite containing up to 5 per cent galena and sphalerite.

**BIBLIOGRAPHY**

EMPR ASS RPT 6898, 7412, \*7556, \*8413, \*8638  
EMPR EXPL 1977-E239; 1978-E269; 1979-298  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082

DATE CODED: 1988/06/07  
DATE REVISED: 1988/11/28

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 063**

MINFILE NUMBER: **104N 064**

NATIONAL MINERAL INVENTORY: 104N11 Cu3

NAME(S): **PIT, PAL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 31 N  
LONGITUDE: 133 16 33 W  
ELEVATION: 1500 Metres

NORTHING: 6623932  
EASTING: 596911

LOCATION ACCURACY: Within 500M

COMMENTS: Pit #19, from Assessment Report 2725.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT:	Malachite	Azurite	Chalcopyrite
ASSOCIATED:	Quartz		
ALTERATION:	Malachite	Azurite	Limonite Silica
ALTERATION TYPE:	Oxidation	Silicific'n	
MINERALIZATION AGE:	Unknown		

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite  
Pennsylvan.-Permian

Atlin Ultramafic Allochthon

LITHOLOGY: Alaskite  
Ultramafic

HOSTROCK COMMENTS: Age date is from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The area is underlain by alaskite of the Late Cretaceous Surprise Lake Batholith and ultramafics of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. The alaskite is moderately to highly silicified and locally very limonitic.

A 1.5 metre quartz vein containing malachite and azurite occurs at the alaskite-ultramafic contact. Chalcopyrite was found in locally derived alaskite float (Assessment Report 2725).

**BIBLIOGRAPHY**

EMPR ASS RPT \*2725, 6977  
EMPR EXPL 1978-E271  
EMPR GEM 1970-28  
EMPR MAP 52 (with notes)  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 065**

NATIONAL MINERAL INVENTORY: 104N10 W2

NAME(S): **WHI 357**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 20 N  
LONGITUDE: 132 56 53 W  
ELEVATION: 1500 Metres

NORTHING: 6622261  
EASTING: 615399

LOCATION ACCURACY: Within 500M

COMMENTS: About 1.5 kilometres west of the confluence of Zenazie Creek with its lower major tributary.

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Wolframite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith
ISOTOPIC AGE:	70.6 +/- 3.8 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date is from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This tungsten occurrence is located in the middle of the Surprise Lake Batholith which covers about 1100 square kilometres east and lies northeast of Atlin. The batholith is dated at 70.6 plus or minus 3.8 million years or Late Cretaceous. It is composed primarily of medium-grained, equigranular alaskite, which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz, and may or may not contain plagioclase and mafics. There are some coarse-grained, quartz-feldspar porphyritic varieties. The contacts between the various textural varieties are commonly gradational. There are also some massive aplitic dykes which crosscut the batholith and some very coarse-grained pegmatitic zones within the alaskite with large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

A quartz vein in alaskite is reported to contain wolframite (Assessment Report 2334).

**BIBLIOGRAPHY**

EMPR ASS RPT 2332, 2333, \*2334, 3730, 7345, 8171, 9342  
EMPR GEM 1972-557  
EMPR EXPL 1977-E239; 1978-E269; 1979-299; 1980-500  
EMPR MAP 52 (with notes)  
GSC MEM 307, p. 72  
GSC P 74-47  
GSC MAP 1082A  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 066**

NATIONAL MINERAL INVENTORY: 104N10 Mo1

NAME(S): **CANDY**, WHI 147, ZEN

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 19 N  
LONGITUDE: 132 56 19 W  
ELEVATION: 1600 Metres

NORTHING: 6616680  
EASTING: 616104

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Molybdenum                      Tungsten                      Lead                      Beryllium                      Fluorite  
Copper

**MINERALS**

SIGNIFICANT: Molybdenite                      Wolframite                      Galena                      Beryl                      Fluorite

ASSOCIATED: Chalcopyrite                      Fluorite                      Beryl

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Quartz Feldspar Porphyritic Alaskite

HOSTROCK COMMENTS: Age date is from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The occurrence is situated near the middle of the Surprise Lake Batholith which covers about 1100 square kilometres east and lies northeast of Atlin. The batholith is dated at 70.6 plus or minus 3.8 million years (Late Cretaceous). It is composed primarily of medium-grained, equigranular alaskite, which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz, and may or may not contain plagioclase and mafics. There are some coarse-grained, quartz-feldspar porphyritic varieties. The contacts between the various textural varieties are commonly gradational. There are also some massive aplitic dykes which crosscut the batholith and some very coarse-grained pegmatitic zones within the alaskite with large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

Molybdenite rosettes are hosted by narrow quartz veins that cut a fine to coarse-grained quartz feldspar porphyry phase of the alaskite. These veins occur in a 90 metre wide zone having northwest or southwest strikes with steep north and southeast dips, respectively. The veins range from 2 to 7 centimetres thick but have only been traced along strike for less than a metre. The molybdenite rosettes range in diameter from 1 to 1.5 centimetres. Occasionally the molybdenite is observed as minute specks in feldspar. Traces of chalcopyrite, wolframite, galena, fluorite and beryl were also reported.

**BIBLIOGRAPHY**

EMPR GEM 1972-557  
EMPR EXPL 1979-298; 1980-499  
EMPR ASS RPT 2332, 2333, 2334, 3567, 3568, \*3569, 3730, 3731, 7486, 8977  
GSC P 74-47  
GSC MEM 307  
EMPR MAP 52 (with notes)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 799  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR OF 1991-17; 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/28

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 067**

NATIONAL MINERAL INVENTORY: 104N7 Mo1

NAME(S): **N1, FIRE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N07W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 27 46 N  
LONGITUDE: 132 47 14 W  
ELEVATION: 1600 Metres

NORTHING: 6593671  
EASTING: 625404

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 3.5 kilometres southeast of Mount Sanford on a mountain unofficially labelled "Fire Mountain" (Assessment Report 3867).

COMMODITIES: Molybdenum                      Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Molybdenite                      Chalcopyrite                      Galena                      Sphalerite                      Pyrite

                    Pyrrhotite                      Arsenopyrite                      Scheelite

ASSOCIATED: Quartz                      Calcite                      Rutile

ALTERATION: Sericite                      Kaolinite                      Silica

ALTERATION TYPE: Oxidation                      Silicific'n                      Argillic                      Sericitic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Vein                      Breccia

CLASSIFICATION: Porphyry                      Hydrothermal                      Syngenetic                      Epigenetic

COMMENTS: Igneous-contact deposit classification included also.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER

Carboniferous                      Cache Creek                      Kedahda                      Surprise Lake Batholith

Upper Cretaceous

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Quartz Feldspar Porphyry  
Granodiorite  
Alaskite  
Brecciated Chert  
Argillite

HOSTROCK COMMENTS: Mineralization occurs in a small stock and in surrounding intruded rock. Age date is from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks                      Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This occurrence is located on "Fire Mountain" in an area underlain by rocks of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Mississippian Cache Creek Group (Complex?). These rocks consist of northeast trending cherts, cherty argillites and argillites. A small stock of quartz feldspar porphyry (leucogranodiorite to alaskite in composition) intrudes these rocks on the east side of the mountain and appears to be related to rocks of the Late Cretaceous Surprise Lake Batholith. The stock measures about 100 by 360 metres and has its long axis parallel to the trend of bedding. The main body of the Surprise Lake Batholith lies about 16 kilometres to the north. The contact of the Early Tertiary Llangorse Batholith is found within 2 kilometres to the south.

A pronounced reddish-brown gossan has formed over the mineralized zone and oxidation with some surficial leaching occurs to depths of 30 metres. Sericite and kaolinite alteration of the feldspar has occurred within the porphyry stock and a large altered silicified zone, about 800 metres occurs in the enclosing brecciated chert.

Molybdenite occurs as disseminations within the porphyry and in veins within the silicified zone. It occurs mainly along fractures in the quartz veins and less frequently in quartz-pyrite-calcite veins as disseminations or along the margin or down the centre of the vein. Chalcopyrite is seen in veins mainly near the outer margin of the silicified zone and as disseminations (syngenetic) with pyrite and pyrrhotite in unaltered argillite. Galena, sphalerite and arsenopyrite are observed only in drill core. Rutile is observed in quartz



**CAPSULE GEOLOGY**

veins and in drill core. Traces of scheelite were also found in the porphyry.

**BIBLIOGRAPHY**

EMPR ASS RPT 3733, 3782, \*3867, 4277, \*4435, 4436, 4437, 9778, 14775  
EMPR GEM \*1972-556  
EMPR EXPL 1981-116  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A; 1418A  
GSC OF 1565  
EMPR MAP 52 (notes)  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 068**

NATIONAL MINERAL INVENTORY:

NAME(S): **ENG 3**, FEATHER CREEK

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 47 N  
LONGITUDE: 132 58 17 W  
ELEVATION: Metres

NORTHING: 6611923  
EASTING: 614402

LOCATION ACCURACY: Within 500M

COMMENTS: Located near Feather Creek, a northwest flowing tributary of Terrahina Creek (Assessment Report 8413).

COMMODITIES: Zinc                      Lead                      Iron                      Tin

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Magnetite      Cassiterite  
COMMENTS: Sphalerite and galena occur in a 5 metre wide magnetite vein. Mineralized boulders contain cassiterite and sphalerite.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date is from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This occurrence is located on the western flank of Mount Shiziko near a tributary of Terrahina Creek (Weir Creek) called Feather Creek. The area is underlain by the Surprise Lake Batholith which covers about 1100 square kilometres east and northeast of Atlin. The batholith is dated at 70.6 plus or minus 3.8 million years or Late Cretaceous (Map 52). It is composed primarily of medium-grained, equigranular alaskite which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz, and may or may not contain plagioclase and mafics. There are some coarse-grained, quartz-feldspar porphyritic varieties. The contacts between the various textural varieties are commonly gradational. Massive aplitic dykes crosscut the batholith. Very coarse-grained pegmatitic zones also occur within the alaskite containing large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

A magnetite vein, up to 5 metres wide, cuts the alaskite and contains up to 0.55 per cent zinc and 0.1 per cent lead in the form of sphalerite and galena (Assessment Report 8413). Mineralized boulders rich in sphalerite and cassiterite have been found nearby and on strike with the vein.

**BIBLIOGRAPHY**

EMPR ASS RPT 6898, 7412, 7556, \*8413, 8638  
EMPR EXPL 1977-E239; 1978-E269; 1979-298  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082  
EMPR MAP 52 (with notes)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 069**

NATIONAL MINERAL INVENTORY: 104N11 Sn1

NAME(S): **SILVER DIAMOND**, BUB, HEY HAY

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104N11W  
 BC MAP:  
 LATITUDE: 59 39 59 N  
 LONGITUDE: 133 26 30 W  
 ELEVATION: 1600 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS:

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6615289  
 EASTING: 587789

COMMODITIES: Tin                      Tungsten                      Silver                      Zinc                      Copper  
                   Fluorite                      Lead                      Molybdenum

**MINERALS**

SIGNIFICANT: Pyrite              Pyrrhotite              Cassiterite              Scheelite              Fluorite  
                   Galena                    Sphalerite              Chalcopyrite              Tetrahedrite              Molybdenite  
 COMMENTS: Occurrence consists of massive lenses of pyrite and pyrrhotite.  
 ALTERATION: Talc                    Actinolite  
 COMMENTS: Talc-altered ultramafic rocks.  
 ALTERATION TYPE: Serpentin'zn  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive                      Disseminated                      Podiform  
 CLASSIFICATION: Skarn                      Epigenetic                      Porphyry                      Industrial Min.  
 COMMENTS: Irregular skarn zone.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
 Pennsylvan.-Permian                                                                Atlin Ultramafic Allochthon

LITHOLOGY: Peridotite  
 Greenstone  
 Chert  
 Limestone  
 Quartz Monzonite  
 Hornfels

HOSTROCK COMMENTS: Hosted in the Atlin Ultramafic Allochthon very near contact with the  
 Suprise Lake Batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
 TERRANE: Cache Creek  
 METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
 CATEGORY: Assay/analysis                      YEAR: 1962  
 SAMPLE TYPE: Rock  
 COMMODITY                      GRADE  
 Silver                      390.0000                      Grams per tonne  
 Copper                      0.3500                      Per cent  
 Tin                      2.5000                      Per cent  
 Tungsten                      1.0000                      Per cent  
 Zinc                      5.3000                      Per cent

COMMENTS: Sample taken by Mr. L.G. White; affiliation unknown.  
 REFERENCE: Assessment Report 2672.

**CAPSULE GEOLOGY**

The Silver Diamond occurrence is located on the west side of Boulder Creek about 4 kilometres north of the west end of Atlin Lake. It is about 19 kilometres northeast of Atlin. Tungsten and tin occurrences were discovered in the area in 1903 by placer miners and this occurrence was first worked in 1963 and 1964. Cursory programmes followed in 1970 and 1979 to 1980.

The occurrence is hosted primarily in variably talc-altered peridotite of the Atlin Ultramafic Allochthon (Aitken, 1959). These rocks are Pennsylvanian to Permian in age and may be coeval with the mafic volcanic rocks (greenstone) of the Nakina Formation of the Lower Cache Creek Group. The volcanic rocks, which outcrop to the

## CAPSULE GEOLOGY

northwest of the occurrence, contain narrow, interbedded bodies of chert and limestone. The Late Cretaceous Surprise Lake Batholith outcrops just to the east of the occurrence and is composed of vari-textured quartz monzonites often referred to as alaskite.

Mineralization consists of skarn-type zones of massive pyrite and pyrrhotite with lesser amounts of cassiterite, scheelite, fluorite, galena, sphalerite, chalcopyrite and tetrahedrite. A minor zone mineralized with molybdenite occurs just northeast of the main zones. Assays done from 1962 to 1964 revealed values up to 2.5 per cent tin, 1.0 per cent tungsten, 390 grams per tonne silver, 0.35 per cent copper, and 5.3 per cent zinc (Assessment Report 2672).

Disseminated pyrrhotite, chalcopyrite and pyrite also occur in the volcanics on strike with a quartz vein crosscutting the andesite adjacent to a limestone bed. The volcanics have been hornfelsed and altered to actinolite adjacent to the quartz vein (Assessment Report 16820).

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EMPR AR 1964-8  
EMPR ASS RPT \*2672, 16820  
EMPR EXPL 1979-302  
EMPR GEM 1969-36; 1970-30  
EMPR MAP 52 (10 pages of notes)  
EMPR OF 1991-17; 1992-16; 1998-8-M, pp. 1-74  
EMR MP CORPFILE (Coin Canyon Mine)  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/18

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 070**

NATIONAL MINERAL INVENTORY: 104N3 Asb1

NAME(S): **CHIKOIDA MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N03E 104N03W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 13 59 N  
LONGITUDE: 133 00 07 W  
ELEVATION: 1524 Metres

NORTHING: 6567712  
EASTING: 614005

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Kedahda	
Carboniferous	Cache Creek	Nakina	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Peridotite  
Serpentinite  
Basalt  
Argillite  
Chert

HOSTROCK COMMENTS: Mineralization occurs in Atlin Ultramafic Allochthon rocks near contact of Early Tertiary granitic intrusion.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact  
COMMENTS: Occurs in altered ultramafics near contact of granitic intrusion.

PHYSIOGRAPHIC AREA: Taku Plateau  
RELATIONSHIP: Plutonic Rocks  
GRADE:

**CAPSULE GEOLOGY**

Chikoida Mountain is underlain by Pennsylvanian to Permian Atlin Ultramafic Allochthon rocks that are emplaced in Mississippian to Triassic Cache Creek Group (Complex?) rock. The Cache Creek Group is represented by cherts and argillites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation and altered green basalts of the Mississippian to Pennsylvanian Nakina Formation. The Atlin Ultramafic Allochthon is spatially related to Nakina Formation mafic volcanics and may also be genetically related (Monger, GSC Paper 74-47).

A stock of Early Tertiary pink granite has intruded these rocks producing a halo of "dynamothermal metamorphism" within the ultramafics surrounding the intrusion (GSC Memoir 307). Some asbestos fibre (chrysotile?) has been reported in serpentine within the metamorphosed halos on Chikoida Mountain.

**BIBLIOGRAPHY**

EMPR AR \*1960-131  
EMPR OF 1995-25  
GSC MAP 1082A; 1418A  
GSC MEM \*307, page 78  
GSC OF 1565  
GSC P 74-47  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 806  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 071**

NATIONAL MINERAL INVENTORY: 104N3 Asb2

NAME(S): **FOCUS MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N03E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 08 35 N  
LONGITUDE: 133 07 07 W  
ELEVATION: 1370 Metres

NORTHING: 6557499  
EASTING: 607632

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Kedahda	
Carboniferous	Cache Creek	Nakina	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Peridotite  
Serpentinite  
Basalt  
Argillite  
Chert

HOSTROCK COMMENTS: Mineralization occurs in Atlin Ultramafic Allochthon rocks near contact of granitic intrusion.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact  
COMMENTS: Asbestos fibres occur in altered ultramafic rocks near contact.

PHYSIOGRAPHIC AREA: Taku Plateau  
RELATIONSHIP: Plutonic Rocks  
GRADE:

**CAPSULE GEOLOGY**

Focus Mountain is underlain primarily by cherts and argillites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation and altered green basalts of the Mississippian to Pennsylvanian Nakina Formation, all of the Mississippian to Triassic Cache Creek Group (Complex?). Small bodies of Pennsylvanian to Permian Atlin Ultramafic Allochthon rocks are emplaced within the Cache Creek Group rocks. These ultramafics may be genetically related to Nakina Formation mafic volcanics (Monger, GSC Paper 74-47).

Asbestos fibre (chrysotile?) occurs in serpentinite on Focus Mountain within the halos of "dynamothermal metamorphism" surrounding granitic intrusions (GSC Memoir 307).

**BIBLIOGRAPHY**

EMPR AR \*1960-131  
EMPR OF 1995-25  
GSC MAP 1082A  
GSC MEM \*307, p. 78  
GSC OF 1565  
GSC P 74-47  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 071**

MINFILE NUMBER: **104N 072**

NATIONAL MINERAL INVENTORY: 104N4 Cu2

NAME(S): **SLOKO LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N04E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 06 59 N  
LONGITUDE: 133 38 07 W  
ELEVATION: 640 Metres

NORTHING: 6553811  
EASTING: 578138

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located from Geological Survey of Canada Map 218A.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous-Tertiary	Sloko	Undefined Formation	

LITHOLOGY: Volcanic

HOSTROCK COMMENTS: The host rocks are not identified in available reports. The area is composed primarily of Sloko Group volcanics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

A copper occurrence is reported to occur on the Sloko River about 2 kilometres east of Sloko Lake (GSC Map 218A). The area is underlain by Tertiary-Cretaceous Sloko Group volcanics (GSC Memoir 307).

No details of the showing are available.

**BIBLIOGRAPHY**

GSC MAP \*218A  
GSC MEM 307  
GSC P 74-47  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/19

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 073**

NATIONAL MINERAL INVENTORY: 104N11 Au10

NAME(S): **SUNBEAM**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 13 N  
LONGITUDE: 133 26 03 W  
ELEVATION: 1400 Metres

NORTHING: 6615732  
EASTING: 588201

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located roughly from description in Annual Report 1904, page 77.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Unknown

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous Pennsylvan.-Permian Upper Cretaceous	Cache Creek	Nakina	Atlin Ultramafic Allochthon Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Mafic Volcanic  
Felsic Dyke  
Alaskite  
Argillite  
Chert  
Ultramafic

HOSTROCK COMMENTS: Mineralization occurs near contact of felsic dyke and quartz vein.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This occurrence is reported to be located opposite "26 above Discovery" 180 metres above Boulder Creek on the west slope (Annual Report 1904).

The lower west side of the Boulder Creek valley is underlain by Pennsylvanian to Mississippian mafic volcanics of the Nakina Formation of the Mississippian to Triassic Cache Creek Group (Complex?). The lower east side of the valley is underlain by ultramafics of the Permo-Pennsylvanian Atlin Ultramafic Allochthon and primarily cherts and pelites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation, Cache Creek Group. The upper portion of the creek is underlain by alaskite of the Mount Leonard Boss, a small stock separated from the main body of the Late Cretaceous Surprise Lake Batholith.

A large quartz vein occurs adjacent a light coloured dyke. Several high gold assays were obtained from trench samples taken from or near the contact of the dyke and vein.

The author of the 1904 Annual Report article on the Sunbeam occurrence does not describe the underlying host rock. However, he does state that the quartz vein occurrences between Birch and Boulder Creeks are part of the same series as they share similar strikes and general characteristics. These occurrences consist of the Cache Creek Group hosted Lakeview (104N 009) and Whitestar (104N 010) showings.

**BIBLIOGRAPHY**

EMPR AR \*1904-G77  
EMPR OF 1999-3  
GSC MEM 307  
GSC P 74-47

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 810  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/20

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 074**

NATIONAL MINERAL INVENTORY: 104N10 Zn1

NAME(S): **NORTHEAST**, CY, WHI

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 15 N  
LONGITUDE: 132 58 23 W  
ELEVATION: 1600 Metres

NORTHING: 6616497  
EASTING: 614168

LOCATION ACCURACY: Within 1 KM

COMMENTS: Somewhere on the northeast flank of Mount Weir (Fieldwork 1978).

COMMODITIES: Zinc                      Lead                      Iron

**MINERALS**

SIGNIFICANT:	Sphalerite	Galena	Magnetite
ASSOCIATED:	Magnetite	Quartz	Danalite
ALTERATION:	Hematite		
ALTERATION TYPE:	Oxidation		
MINERALIZATION AGE:	Unknown		

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Mafic Dike

HOSTROCK COMMENTS: Age date is from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This occurrence is located in the middle of the Surprise Lake Batholith which covers about 1100 square kilometres east and northeast of Atlin. The batholith is dated at 70.6 plus or minus 3.8 million years or Late Cretaceous (Map 52, notes). It is composed primarily of medium-grained equigranular alaskite, which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz, and may or may not contain plagioclase and mafics. There are some coarse-grained quartz-feldspar porphyritic varieties. The contacts between the various textural varieties are commonly gradational. Massive aplitic dykes crosscut the batholith and very coarse-grained pegmatitic zones also occur within the alaskite containing large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

On the northeast flank of Mount Weir mafic-rich dykes with sphalerite, galena, magnetite, hematite, quartz and danalite intrude alaskite (Fieldwork 1978, pages 106,107).

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1978, pp. 106,107  
EMPR ASS RPT 2332, 2333, 2334, 3567, 3568, 3569, 3730, 3731, 6898, 7412, 7486, 7556, 8413, 8638  
EMPR GEM 1972-557  
EMPR EXPL 1977-E239; 1978-E269; 1979-298  
GSC P 74-47  
GSC MEM 307  
GSC MAP 1082A  
EMPR MAP 52 (with notes)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 075**

NATIONAL MINERAL INVENTORY:

NAME(S): **KRANS 14**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 42 N  
LONGITUDE: 132 54 40 W  
ELEVATION: 1500 Metres

NORTHING: 6624862  
EASTING: 617396

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Tin

**MINERALS**

SIGNIFICANT: Cassiterite  
COMMENTS: Although not identified at this occurrence cassiterite does occur within a few kilometres.

ALTERATION: Kaolinite Chlorite Magnetite Pyrite Tourmaline  
ALTERATION TYPE: Argillic Chloritic Greisen  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP      FORMATION      IGNEOUS/METAMORPHIC/OTHER  
Upper Cretaceous                Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Greisen

HOSTROCK COMMENTS: Age date is from Map 52 (notes).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE      REPORT ON: N  
CATEGORY: Assay/analysis      YEAR: 1980  
SAMPLE TYPE: Grab  
COMMODITY      GRADE  
Tin      0.0450      Per cent  
REFERENCE: Assessment Report 9342.

**CAPSULE GEOLOGY**

This tin occurrence is hosted by alaskite of the Surprise Lake Batholith and is situated along the upper reaches of a south flowing tributary of Zenazie Creek. The batholith covers about 1100 square kilometres east and northeast of Atlin and is dated at 70.6 plus or minus 3.8 million years or Late Cretaceous (Map 52, notes). It is composed primarily of medium-grained, equigranular alaskite, which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz, and may or may not contain plagioclase and mafics. Some coarse-grained, quartz-feldspar porphyritic varieties also exist. The contacts between the various textural varieties are commonly gradational. Massive aplitic dykes crosscut the batholith and very coarse-grained pegmatitic zones also occur within the alaskite containing large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

A 20 to 30 metre wide alteration zone within alaskite occurs in a creek valley. This zone, striking 60 degrees, has as the core a 0.5 to 0.6 metre wide dark quartz vein centered in a 5.0 metre wide zone of soft kaolinized alaskite. In addition to this pervasive clay alteration chlorite-magnetite, plus or minus tourmaline and pyrite alteration, is most common. Greisen-style alteration, often with magnetite, is less common.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 813  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

A sample of the vein contained 0.045 per cent tin, while a sample of greissenized wallrock contained only 0.0023 per cent tin (Assessment Report 9342).

**BIBLIOGRAPHY**

EMPR ASS RPT 7345, 8171, \*9342  
EMPR EXPL 1979-299; 1980-500  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A  
EMPR MAP 52 (with notes)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 076**

NATIONAL MINERAL INVENTORY: 104N11 Pb1

NAME(S): **SURPRISE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 36 09 N  
LONGITUDE: 133 26 33 W  
ELEVATION: 1200 Metres

NORTHING: 6608175  
EASTING: 587908

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located on the northeastern flank of Spruce Mountain, 1 kilometre northeast of summit.

COMMODITIES: Lead

Copper

**MINERALS**

SIGNIFICANT: Galena

Pyrite

ASSOCIATED: Quartz

Calcite

Chalcopyrite

ALTERATION: Carbonate

Talc

Silica

Mariposite

ALTERATION TYPE: Quartz-Carb.

Carbonate

MINERALIZATION AGE: Middle Jurassic

ISOTOPIC AGE: 171 +/- 6 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Mariposite

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal

Epigenetic

DIMENSION: 6

Metres

STRIKE/DIP: 170/20

TREND/PLUNGE:

COMMENTS: Bull 108, p.24, Table 2.2 dates age of mineralization.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Carboniferous  
Pennsylvan.-Permian

**GROUP**

Cache Creek

**FORMATION**

Nakina

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon

LITHOLOGY: Carbonatized Ultramafic  
Carbonatized Basalt

HOSTROCK COMMENTS: The ultramafics and basalts are talc-carbonate to silica-carbonate altered (Personal Communication - Mary Anne Bloodgood).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This occurrence is located at timberline on the south side of Pine Creek valley, northeast of Spruce Mountain. The area is underlain by basalts of the Lower Mississippian to Lower Pennsylvanian Nakina Formation Mississippian to Triassic Cache Creek Group (Complex?) and Pennsylvanian to Permian ultramafics of the Atlin Ultramafic Allochthon. The ultramafics are spatially related to these Cache Creek rocks and Monger (GSC Paper 74-47) believes they may be genetically related as well. Contact with the Late Cretaceous Surprise Lake Batholith occurs within several kilometres to the northeast.

A quartz vein, from 1 to 6 metres in width, strikes 170 degrees and dips 70 degrees southwest through basalt and ultramafic rocks near their contact. The vein contains minor amounts of galena, chalcopyrite and calcite. The rocks are talc-carbonate to silica-carbonate altered. Some galena clots are up to 4 centimetres across.

**BIBLIOGRAPHY**

EMPR ASS RPT 11138  
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EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report, 116 pages)  
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GSC MEM 307  
GSC P 74-47  
GSC SUM RPT \*1925, p. 23  
DIAND OF \*1990-4  
PERS COMM (Mary Anne Bloodgood)  
Andrew, K.P.E., (1985): \*Fluid Inclusion and Chemical Studies of

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 815  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

- Gold-Quartz Veins in the Atlin Camp, B.Sc. Thesis, University of British Columbia  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154  
Newton, D.C., (1985): \*A Study of Carbonate Alteration of Serpentine around Gold and Silver Bearing Quartz Veins in Atlin Camp, B.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 077**

NATIONAL MINERAL INVENTORY: 104N11 Ag1

NAME(S): **RU SILVER, RU**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 37 N  
LONGITUDE: 133 26 15 W  
ELEVATION: 1900 Metres

NORTHING: 6620181  
EASTING: 587908

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Ru 1 to 8 claims located on Mount Leonard. See claim map.

COMMODITIES: Silver

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith
	ISOTOPIC AGE: 70.6 +/- 3.8 Ma		
	DATING METHOD: Potassium/Argon		
	MATERIAL DATED: Biotite		
Middle Jurassic			Fourth of July Creek Batholith
	ISOTOPIC AGE: 171 +/- 5 Ma		
	DATING METHOD: Zircon		
	MATERIAL DATED: Zircon		

LITHOLOGY: Quartz Monzonite

HOSTROCK COMMENTS: Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Silver  
GRADE: 1543.0000 Grams per tonne

COMMENTS: Average value of samples taken over a length of 34 metres.  
REFERENCE: National Mineral Inventory 104N/11 Ag1.

**CAPSULE GEOLOGY**

The Ru Silver occurrence is located near the summit of Mount Leonard. The area is underlain by the contact of the Jurassic Fourth of July Creek Batholith and the Mount Leonard Boss. The Mount Leonard Boss is the west part of the Late Cretaceous Surprise Lake Batholith but separated from the main batholith by a pendant of Mississippian to Triassic Cache Creek Group (Complex?) rocks.

The Fourth of July Batholith is a fairly uniform medium-grained biotite-hornblende diorite to granodiorite. In the occurrence area the Mount Leonard Boss is composed of quartz monzonite.

A silver bearing vein has an indicated length of about 460 metres. Samples taken from the adit over a length of 34 metres are reported to average 1543 grams per tonne silver (National Mineral Inventory 104N/11 Ag1).

**BIBLIOGRAPHY**

W MINER Oct. 1968  
FIN POST 1968, p. 12  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A  
EMR MP CORPFILE (Adanac Mining and Exploration Ltd.)  
EMPR MAP 52 (10 pages of notes)



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 817  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR FIELDWORK 1990 (in prep.)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/02

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 078**

NATIONAL MINERAL INVENTORY: 104N10 Cu1

NAME(S): **BOOT, LINE, STORM,  
 WINDY, JENNIFER**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104N10W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 19 N  
 LONGITUDE: 132 49 55 W  
 ELEVATION: 1200 Metres

NORTHING: 6600174  
 EASTING: 622655

LOCATION ACCURACY: Within 500M  
 COMMENTS: Located from Assessment Report 6615.

COMMODITIES: Copper                      Silver                      Lead                      Zinc                      Tin  
                     Tungsten                      Fluorite

**MINERALS**

SIGNIFICANT: Chalcopyrite      Pyrrhotite      Pyrite      Sphalerite      Galena  
                     Bornite              Cassiterite      Scheelite      Wolframite      Molybdenite  
                     Fluorite

ASSOCIATED: Fluorite      Quartz

ALTERATION: Malachite      Azurite      Silica      Calcite      Chloritic

ALTERATION TYPE: Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Podiform                      Massive  
 CLASSIFICATION: Replacement      Epigenetic                      Hydrothermal                      Industrial Min.  
 DIMENSION: 0030 x 0018              Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
 Carboniferous      Cache Creek                      Kedahda

LITHOLOGY: Limestone  
 Hornfels  
 Chert  
 Argillite  
 Feldspar Porphyry

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau

TERRANE: Cache Creek  
 METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
 CATEGORY: Assay/analysis                      YEAR: 1976  
 SAMPLE TYPE: Grab  
 COMMODITY                      GRADE  
 Silver                      68.0000      Grams per tonne  
 Copper                      1.5600      Per cent  
 Lead                      0.0920      Per cent  
 Tin                      0.2040      Per cent  
 Tungsten                      0.0720      Per cent  
 Zinc                      0.4560      Per cent

COMMENTS: Fluorine assays 0.345 per cent.  
 REFERENCE: Assessment Report 6127.

**CAPSULE GEOLOGY**

The area is underlain by northeast striking cherts, argillites and minor limestone of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Mississippian to Triassic Cache Creek Group (Complex?). In the lower reaches of "Avalanche Creek" the cherts and argillites have been metamorphosed to brown biotite hornfels. Small intrusions, dykes and/or sills, of feldspar porphyry have intruded the sediments. The largest found, on the north side of the creek, is about 30 metres wide. A larger intrusion at depth is deemed responsible for the hornfelsing action.

The limestone is found as discontinuous bands within the chert and argillite that pinch out along strike. These carbonate members have been partially altered to light green to light grey lime sili-

## CAPSULE GEOLOGY

cate, both within and outside the hornfels. The light grey rock is predominantly tremolite and the light green rock is diopside.

These silicified limestone bands contain pockets and disseminations of minor sulphides including galena, sphalerite, and chalcopyrite. Pockets of pyrrhotite are more widespread. Within the lower part of "Avalanche Creek" a series of discontinuous lenses of massive sulphide occur within a chloritic zone in grey chert over a width of 18 metres and length of 30 metres. These are interpreted as replacements of limestone lenses and consist of mainly pyrrhotite, with some pyrite, abundant chalcopyrite and minor sphalerite and galena. Bornite, malachite, azurite and scheelite are also observed. Fluorite content is as high as 10 per cent locally and quartz is also present. The tungsten and tin content of these lenses is also high. A sample from one limestone band contained 1.560 per cent copper, 0.092 per cent lead, 0.456 per cent zinc, 0.072 per cent tungsten, 0.204 per cent tin, 0.345 per cent fluorine, and 68 grams per tonne silver (Assessment Report 6127).

Wolframite, scheelite, cassiterite and molybdenite are also reported to occur in quartz veins.

## BIBLIOGRAPHY

- EMPR ASS RPT 4910, 4911, 4912, \*6127, \*6128, \*6615, \*9779
- EMPR GEM 1972-556; 1973-514
- EMPR EXPL 1976-195; 1977-239
- GSC MEM 307
- GSC P 74-47
- GSC MAP 1082A
- EMR MP CORPFILE (Turismo Industries Ltd.)
- DIAND OF \*1990-4
- Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in *Geology* V. 15, pp. 1151-1154
- EMPR OF 1991-17; 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 079**

NATIONAL MINERAL INVENTORY: 104N12 Mg1

NAME(S): **ATLIN**

MINING DIVISION: Atlin

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 54 N  
LONGITUDE: 133 41 16 W  
ELEVATION: 685 Metres

NORTHING: 6605556  
EASTING: 574112

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Hydromagnesite

**MINERALS**

SIGNIFICANT: Hydromagnesite  
ASSOCIATED: Calcite Clay  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive  
CLASSIFICATION: Residual Industrial Min.  
TYPE: F09 Playa and Alkaline Lake Evaporites  
DIMENSION: 600 x 200 x 1 Metres

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Unknown

Unnamed/Unknown Informal

LITHOLOGY: Hydromagnesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: ATLIN

REPORT ON: Y

CATEGORY: Unclassified  
QUANTITY: 107037 Tonnes  
YEAR: 1940

COMMODITY: Hydromagnesite  
GRADE: 41.0000 Per cent

COMMENTS: Eight-three per cent of the reserves would grade 41 to 42 per cent MgO.

REFERENCE: Bulletin 4 (1940), page 119.

**CAPSULE GEOLOGY**

Accumulations of hydromagnesite are located within topographic lows immediately east of Atlin. In addition to the two main bodies, a number of small, isolated patches of hydromagnesite occur along the lakeshore in the vicinity of Atlin.

The largest deposit is about 7.29 hectares with an average depth of 81 centimetres and it has several smaller satellite bodies. It is located northeast of Atlin, north of the airfield road and lies in a slight depression which opens northwest to a swampy area.

Glacio-fluvial materials underlie the deposit and the basal contact with the underlying clay-like soil and grit is sharp with no evidence of gradation. Near the base of the deposit however, the hydromagnesite may be more porous and is traversed by irregular vein-like films of glassy hydromagnesite. The surface is slightly raised and hummocky and is crosscut by cracks and fractures up to 3 centimetres wide and one metre deep. The bodies are relatively barren of vegetation and have slightly irregular but sharply defined boundaries.

The hydromagnesite is white, powdery and remarkably uniform in texture and composition with no evidence of bedding or structure. The white surface color assumes a yellow tinge after a depth of about 30 centimetres although this color disappears with exposure to air. The hydromagnesite becomes quite plastic, like clay, when wet.

Two holes drilled in the deposit were sampled and analysed. Hole No. 1 indicated a hydromagnesite thickness of 66 centimetres and was sampled at depths of 8, 33 and 58 centimetres. Hole No. 2 indicated a thickness of 1.07 metres and was sampled at 10, 42 and

**CAPSULE GEOLOGY**

71 centimetres. Results of this sampling are presented as analytical results for samples 1A, 1B, 1C and 2A, 2B, 2C respectively, in the accompanying table.

A second hydromagnesite deposit lies directly east of Atlin and southwest of the main deposit. It consists of three bodies within topographic depressions and associated with larger areas of impure hydromagnesite. The surfaces of all three bodies are irregular and thickness varies from 0.3 to 2.2 metres.

The first body is about 1.82 hectares with an average thickness of about one metre but which varies from 0.3 to 1.5 metres. Sample No. 3 was collected at a depth of 53 centimetres near the center of the body. Sample No. 4 was collected at a depth of 41 centimetres, about 30 metres from site three.

The second body is northwest of the first. It is about 0.3 hectares with a variable thickness from 1 to 2.14 metres but averages 1.53 metres. Near the northeast corner of this hydromagnesite deposit the thickness is about 1.73 metres and Sample No. 5 was collected from a depth of 46 centimetres. The material is partly granular and somewhat clay-like with walnut sized, or smaller, pieces of hardened hydromagnesite. Sample No. 6 is a surface sample where the thickness of the deposit is greater than 1.8 metres.

The third body constituting this deposit is 0.4 hectares with a thickness of 0.3 to one metre. Sample No. 7 was collected about ten centimetres above the base of the deposit at a depth of 51 centimetres. The material sampled is compact and traversed by thin micro-veinlets of hydrous magnesium carbonate.

Unclassified reserves are 107,037 tonnes grading 41 per cent hydromagnesite; 83 per cent of the reserves would grade 41 to 42 per cent MgO. Several hundred tonnes were mined and shipped to the USA between 1904 and 1915.

Analysis of Hydromagnesite - Atlin Deposits (Annual Report 1915):

Sample No.	Deposit Thickness (metres)	Sample Depth (cm)	MgO	CaO	SiO2	CO2	Al2O3	Fe2O3	FeO	H2O
1A	0.66	8	41.13	2.04	1.86	35.98	0.67	0.15	0.60	18.02
1B	0.66	33	42.35	0.82	0.90	36.10	0.10	0.09	0.45	18.95
1C		58	42.19	0.68	0.54	36.17	0.17	0.11	0.64	19.05
2A	1.07	10	40.56	1.26	1.22	35.96	0.67	0.18	0.63	19.04
2B		42	41.93	1.50	1.96	36.04	0.14	0.45	0.65	17.66
2C		71	35.23	6.44	9.22	37.70	0.94	0.73	0.78	8.20
3	1.0	53	42.85	0.32	0.74	36.35	0.35	0.15	0.66	19.10
4	1.0	41	38.94	0.42	3.48	34.31	2.85	0.56	0.81	18.10
5	1.73	46	43.04	0.16	0.96	36.21	0.23	0.12	0.53	19.26
6	>1.83	Surface	43.45	0.26	0.62	36.23	0.41	0.09	0.36	18.95
7	0.61	51	42.12	0.48	1.18	35.89	0.33	0.10	0.71	19.42

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EMPR AR 1904-G82,83; 1915-K28,K65  
 EMPR ASS RPT 16821  
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 EMPR FIELDWORK 1988, pp. 311-322; 2000, pp. 327-336  
 EMPR OF \*1987-13, pp. 54-57; 1989-24  
 EMR MIN BULL MR 223 B.C. 345  
 GSC ANN RPT 1899, Part A, pp. 71A-72A  
 GSC MEM 118, p. 29; 307, p. 79  
 GSC MAP 1082A  
 GSC SUM RPT 1898, pp. 10R-12R,15R; \*1915, pp. 50-61  
 WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24  
 DATE REVISED: 1988/10/18

CODED BY: GSB  
 REVISED BY: BG

FIELD CHECK: N  
 FIELD CHECK: N

MINFILE NUMBER: **104N 080**

NATIONAL MINERAL INVENTORY: 104N11 Au13

NAME(S): **GOLD 218A**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 00 N  
LONGITUDE: 133 22 07 W  
ELEVATION: 1440 Metres

NORTHING: 6615419  
EASTING: 591903

LOCATION ACCURACY: Within 500M

COMMENTS: Identified and located from GSC Map 218A.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

Pennsylvan.-Permian

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Ruby Mountain area is underlain by Mississippian to Triassic Cache Creek Group (Complex?) rocks consisting of sediments of the Upper Mississippian to Upper Pennsylvanian Kedadha Formation and mafic volcanics of the Mississippian to Pennsylvanian Nakina Formation. These are host to Pennsylvanian to Permian Atlin Ultramafic Allochthon and alaskite of the Late Cretaceous Surprise Lake Batholith. Tertiary-Quaternary olivine basalt and scoria overlie all other rock types on the eastern flank of Ruby Mountain and locally along Ruby Creek.

A gold occurrence is noted on Map 218A about 2 kilometres north of Surprise Lake and 2 kilometres west of Ruby Creek. The same map shows the underlying country rocks as consisting of ultramafics. No other information is available.

**BIBLIOGRAPHY**

GSC MAP \*218A  
GSC MEM 307  
GSC P 74-47  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/27

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 081**

NATIONAL MINERAL INVENTORY: 104N13 Mg1

NAME(S): **ATLIN ROAD**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N13W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 58 59 N  
LONGITUDE: 133 47 36 W  
ELEVATION: 762 Metres

NORTHING: 6650138  
EASTING: 567337

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Magnesite                      Limestone

**MINERALS**

SIGNIFICANT: Brucite  
ASSOCIATED: Calcite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Disseminated  
CLASSIFICATION: Replacement              Igneous-contact              Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Horsefeed	
Tertiary			Coast Plutonic Complex

LITHOLOGY: Limy Dolomite  
Marble  
Granite

HOSTROCK COMMENTS: The Cache Creek Group ranges in age from Mississippian to Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization              GRADE:

**CAPSULE GEOLOGY**

Early Tertiary granitic intrusives of the Coast Plutonic Complex form the dominant rock type along the northeast side of Atlin Lake. Immediately south of the Yukon Border and east of the Atlin Road high magnesian limestones of the Lower Pennsylvanian to Triassic Horsefeed Formation (Mississippian to Triassic Cache Creek Group (Complex?)) have been thermally metamorphosed at their contact with the Black Mountain granite. Brucitic marble is associated with the contact metamorphic zone.

**BIBLIOGRAPHY**

GSC MEM 307, p. 79  
GSC MAP 1082A: 1418A  
EMPR OF 1987-13, p. 50  
GSC P 74-47  
GSC OF 1565  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: BG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 082**

NATIONAL MINERAL INVENTORY: 104N8 Mg1

NAME(S): **HURRICANE CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 20 49 N  
LONGITUDE: 132 26 06 W  
ELEVATION: 1525 Metres

NORTHING: 6581495  
EASTING: 645857

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Magnesite                      Limestone

**MINERALS**

SIGNIFICANT: Brucite  
ASSOCIATED: Calcite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Disseminated  
CLASSIFICATION: Replacement              Igneous-contact              Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic Tertiary	Cache Creek	Horsefeed	Llangorse Batholith

LITHOLOGY: Limestone  
Marble  
Granite

HOSTROCK COMMENTS: The Cache Creek Group ranges in age from Mississippian to Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Taku Plateau  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization              GRADE:

**CAPSULE GEOLOGY**

Limestone and limestone breccias of the Lower Pennsylvanian to Triassic Horsefeed Formation (Mississippian to Triassic Cache Creek Group (Complex?)) are thermally metamorphosed at the contact with Early Tertiary Llangorse Batholith granitic intrusions. Marble containing brucite is associated with the contact alteration zones in the area east of Hurricane Creek and south of Hayes Peak.

**BIBLIOGRAPHY**

GSC MEM 307, p. 79  
GSC MAP 1082A; 1418A  
EMPR OF 1987-13, p. 50  
GSC P 74-47  
GSC OF 1565  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N





RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 826  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: BG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 084**

NATIONAL MINERAL INVENTORY: 104N11 U2

NAME(S): **FISHER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 29 N  
LONGITUDE: 133 26 26 W  
ELEVATION: 1890 Metres

NORTHING: 6619930  
EASTING: 587742

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Uranium                      Copper                      Tungsten

**MINERALS**

SIGNIFICANT: Wolframite      Arsenopyrite      Tetrahedrite      Pyrite      Zeunerite  
ALTERATION: Kaolinite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Cretaceous                      Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks                      Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1955  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Copper                      0.6600      Per cent  
Uranium                      0.0640      Per cent  
REFERENCE: Minister of Mines Annual Report 1955, page 7.

**CAPSULE GEOLOGY**

Quartz monzonite and alaskite of the Late Cretaceous Surprise Lake Batholith intrude the Upper Paleozoic Cache Creek Group consisting of argillite, quartzite and limestone and the Atlin Intrusions consisting of basic rocks enclosed in ultramafic masses of serpentinitized peridotite. Granitic rocks of the Coast Intrusions lie to the northeast.

Two northeast striking mineralized shear zones occur in kaolinized alaskite. Minerals include arsenopyrite, wolframite, pyrite, tetrahedrite, and zeunerite. A selected sample assayed 0.064 per cent uranium and 0.66 per cent copper (Annual Report 1955).

**BIBLIOGRAPHY**

EMPR AR \*1955-7-9  
GSC MAP 1082A  
GSC MEM 307  
EMPR MAP 22; 52 (with notes); 63  
EMPR ASS RPT 7610  
EMR MP CORPFILE (Jason Explorers Ltd.)  
GSC EC GEOL #16 (Rev.), p. 230  
GSC OF 551  
EMPR PF (Black, J.M., (1953): Atlin Placer Camp, Unpublished Report, 116 pages)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
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ENERGY AND MINERALS DIVISION

PAGE: 828  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR OF 1989-15; 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 085**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWBIRD**, MIR 8

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 04 N  
LONGITUDE: 132 53 06 W  
ELEVATION: 1800 Metres

NORTHING: 6618167  
EASTING: 619078

LOCATION ACCURACY: Within 500M  
COMMENTS: Showing (Assessment Report 6509).

COMMODITIES: Uranium                      Lead

**MINERALS**

SIGNIFICANT: Kasolite              Zeunerite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 75.4 +/- 2.5 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age dating from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY  
Uranium

YEAR: 1977

<u>GRADE</u>	<u>Per cent</u>
0.3840	

REFERENCE: Assessment Report 6509.

**CAPSULE GEOLOGY**

Uranium mineralization, consisting of kasolite in shears and patches of zeunerite, occurs in alaskite of the Cretaceous Surprise Lake Batholith. A grab sample assayed 0.384 per cent uranium (Assessment Report 6509).

**BIBLIOGRAPHY**

EMPR ASS RPT \*6509, 7610  
EMPR FIELDWORK \*1978, p. 106  
EMPR EXPL 1977-239  
GSC MEM 307  
GSC MAP 1082A  
EMPR P 1979-6, p. 92  
GSC OF 517  
EMPR MAP 52 (with notes)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 086**

NATIONAL MINERAL INVENTORY:

NAME(S): **DIXIE, MONT**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 36 04 N  
LONGITUDE: 133 11 21 W  
ELEVATION: 1800 Metres

NORTHING: 6608382  
EASTING: 602209

LOCATION ACCURACY: Within 500M

COMMENTS: Dixie showing (Assessment Report 6467).

COMMODITIES: Uranium                      Copper                      Fluorite                      Arsenic

**MINERALS**

SIGNIFICANT: Zeunerite      Arsenopyrite      Chalcopyrite      Fluorite      Topaz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER

Paleozoic-Mesozoic      Cache Creek

Undefined Formation

Surprise Lake Batholith

Upper Cretaceous

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Chert  
Argillite  
Limestone

HOSTROCK COMMENTS: Age date from Map 52 notes. The Cache Creek Group is Mississippian to Triassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1976

SAMPLE TYPE: Grab

COMMODITY

GRADE

Arsenic	0.7600	Per cent
Copper	0.0300	Per cent
Uranium	0.1050	Per cent

REFERENCE: Assessment Report 6467.

**CAPSULE GEOLOGY**

Alaskite and quartz monzonite of the Cretaceous Surprise Lake Batholith intrudes Mississippian to Triassic Cache Creek Group (Complex?) sediments consisting of chert, argillite and limestone. Near the contact the alaskites are sheared and altered to albite and clay-sericite. The alaskites contain up to 2 per cent fluorine and 15 per cent topaz (Assessment Report 6467).

A 30 metre wide radioactive zone in the alaskite contains vugs and fractures with zeunerite, arsenopyrite, and minor chalcopyrite. A grab sample assayed 0.105 per cent uranium, 0.76 per cent arsenic, and 0.03 per cent copper (Assessment Report 6467).

**BIBLIOGRAPHY**

EMPR EXPL 1977-240; 1978-269  
EMPR ASS RPT \*6467, 6848, 7610  
GSC MEM 307  
GSC MAP 1082A

EMPR MAP 52 (with notes)

DIAND OF \*1990-4

Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
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**BIBLIOGRAPHY**

1151-1154  
EMPR OF 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 087**

NATIONAL MINERAL INVENTORY: 104N10 Zn1

NAME(S): **CY 4**, WEIR MTN, WHI

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 39 44 N  
LONGITUDE: 132 59 26 W  
ELEVATION: 1860 Metres

NORTHING: 6615508  
EASTING: 613211

LOCATION ACCURACY: Within 500M

COMMENTS: Zone A Mineralization (Assessment Report 7556).

COMMODITIES: Uranium                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Kasolite              Wulfenite              Vandendriesscheite  
ASSOCIATED: Quartz              Magnetite  
ALTERATION: Hematite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Cretaceous                      Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis              YEAR: 1977  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Lead                      0.1100              Per cent  
Uranium                      0.1500              Per cent  
Zinc                      4.0000              Per cent

REFERENCE: Assessment Report 6898.

**CAPSULE GEOLOGY**

Mount Weir lies within the Surprise Lake Batholith, a Late Cretaceous lobe of the Coast Range Plutonics. The batholith consists of several phases of alaskite, quartz monzonite, and granite.

In Zone A, fractures filled with smoky quartz veins and hosting galena, sphalerite, magnetite and hematite occur in coarse-grained alaskite. A grab sample from a 20 centimetre wide, 40 centimetre long quartz vein assayed 0.15 per cent uranium, 0.11 per cent lead, and 4.0 per cent zinc (Assessment Report 6898).

In Zone C, about 300 metres to the south, a yellow-orange coloured zone of supergene alteration, exposed over an area 10 by 40 metres, contains kasolite, wulfenite, and vandendriesscheite. The mineralization likely leached from the highly fractured alaskite.

**BIBLIOGRAPHY**

EMPR ASS RPT 2332, 2333, 2334, 3730, 3731, \*6898, 7412, \*7556, 7610, 8413, 8638  
EMPR EXPL 1977-239; 1978-269; 1979-298  
EMPR P 1979-6, p. 92  
EMPR FIELDWORK \*1978, pp. 106,107  
GSC MEM 307  
GSC MAP 1082A  
EMPR GEOL \*1977-1981, p. 182



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR MAP 52 (with notes)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 088**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRA 5**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 46 49 N  
LONGITUDE: 133 16 06 W  
ELEVATION: 1700 Metres

NORTHING: 6628211  
EASTING: 597221

LOCATION ACCURACY: Within 500M  
COMMENTS: Drilling area (Assessment Report 7598).

COMMODITIES: Uranium                      Fluorite

**MINERALS**

SIGNIFICANT: Kasolite              Fluorite  
ASSOCIATED: Quartz  
ALTERATION: Limonite              Hematite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork  
CLASSIFICATION: Hydrothermal      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Gossan

HOSTROCK COMMENTS: Age dates are from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks              Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis              YEAR: 1979  
SAMPLE TYPE: Drill Core  
COMMODITY: Uranium                      GRADE: 0.0050 Per cent

COMMENTS: A 0.6 metre intersection.  
REFERENCE: Assessment Report 7598.

**CAPSULE GEOLOGY**

The area is underlain by alaskite of the Late Cretaceous Surprise Lake Batholith and by a few late porphyry and basaltic dykes. Weak to strong gossans are locally present in the area. Near the head of a cirque is a northeast trending zone with quartz veins, some of which contain kasolite, fluorite, limonite, hematite and manganese. The veins trend about 060 degrees, dip southeast, and are up to 0.7 metres wide. A drill hole intersected 0.005 per cent uranium over 0.6 metres (Assessment Report 7598).

**BIBLIOGRAPHY**

EMPR EXPL 1977-241; 1978-271; 1979-305  
EMPR ASS RPT 6426, 6885, \*7598, 7610, 7733  
GSC MAP 1082A  
GSC MEM 307  
EMPR MAP 52 (with notes)  
EMPR OF 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 089**

NATIONAL MINERAL INVENTORY: 104N10 Zn1

NAME(S): **CY 6**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 39 01 N  
LONGITUDE: 132 59 32 W  
ELEVATION: 1500 Metres

NORTHING: 6614176  
EASTING: 613158

LOCATION ACCURACY: Within 500M

COMMENTS: Located southwest of Caribou Creek in the southwest corner of the Cy 6 claim (Assessment Report 7556).

COMMODITIES: Zinc Iron Fluorite Lead

**MINERALS**

SIGNIFICANT: Sphalerite Magnetite Fluorite Galena

COMMENTS: Trace galena.

ASSOCIATED: Chlorite

ALTERATION: Silica Chlorite

ALTERATION TYPE: Silicific'n Chloritic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Industrial Min.

SHAPE: Bladed

DIMENSION: 0180 x 0120 x 0005 Metres

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Cretaceous

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Surprise Lake Batholith

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1979

SAMPLE TYPE: Grab

COMMODITY

GRADE

Fluorite

0.5500

Per cent

Lead

0.2000

Per cent

Zinc

0.1800

Per cent

REFERENCE: Assessment Report 7556.

**CAPSULE GEOLOGY**

This occurrence is located near the southern margin of the Surprise Lake Batholith which covers about 1100 square kilometres east and northeast of Atlin. The batholith is dated at 70.6 plus or minus 3.8 million years or Late Cretaceous. It is composed primarily of medium-grained, equigranular alaskite which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz and may or may not contain plagioclase and mafics. There are some coarse-grained, quartz-feldspar porphyritic varieties. The contacts between the various textural varieties are commonly gradational. Massive aplitic dykes crosscut the batholith. There are also some very coarse-grained pegmatitic zones within the alaskite with large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

Two different zones of mineralization occur on a steep ridge composed of alaskite, just south of Caribou Creek. These were examined and described in 1979 (Assessment Report 7556).

The first zone is a linear zone 4 to 5 metres wide containing

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## CAPSULE GEOLOGY

abundant sphalerite. This zone is exposed over a strike length of 180 metres and a vertical height of about 120 metres.

Thirty metres south of this zone is a second zone of highly friable fine-grained green rock containing up to 15 per cent magnetite and 20 per cent sphalerite. This zone was interpreted as mafic dykes intruding alaskite but was later identified as "chloritized alaskite veins". These "veins" are characterized by very fine-grained black cores of up to 90 per cent sphalerite locally. The intruded alaskite sometimes shows silicified contacts with these "veins", up to 1 metre wide. These "veins" strike at 048 degrees and dip 62 degrees north-west. A sample of this rock contained 0.2 per cent lead, 0.18 per cent zinc and 0.55 per cent fluorine.

Several diamond-drill holes were drilled in 1980, some encountering sections of "chloritized alaskite veins" over 20 metres wide. Locally these contained up to 50 per cent sphalerite, 25 per cent magnetite and a trace of galena (Assessment Report 8638).

## BIBLIOGRAPHY

EMPR FIELDWORK 1978, pp. 106,107  
EMPR ASS RPT 6898, 7412, \*7556, 8413, \*8638  
EMPR EXPL 1977-E239; 1978-E269; 1979-298  
EMPR MAP 52 (10 pages of notes)  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082  
EMPR OF 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 090**

NATIONAL MINERAL INVENTORY:

NAME(S): **PATO 2**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 59 N  
LONGITUDE: 133 17 51 W  
ELEVATION: 1620 Metres

NORTHING: 6621056  
EASTING: 595766

LOCATION ACCURACY: Within 500M  
COMMENTS: Sample location (Assessment Report 6469).

COMMODITIES: Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Arsenopyrite      Galena              Sphalerite

COMMENTS: Likely minerals present.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Cretaceous                      Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks              Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis              YEAR: 1976  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      51.8000      Grams per tonne  
Lead                      1.6200      Per cent  
Zinc                      1.0400      Per cent

REFERENCE: Assessment Report 6469.

**CAPSULE GEOLOGY**

Silver-lead-zinc mineralization occurs in a transition zone from medium to coarse-grained to porphyritic alaskite of the Late Cretaceous Surprise Lake Batholith. A sample assayed 51.8 grams per tonne silver, 1.62 per cent lead, and 1.04 per cent zinc (Assessment Report 6469).

**BIBLIOGRAPHY**

EMPR ASS RPT 6469  
GSC MEM 307  
GSC MAP 1082A  
EMPR EXPL 1978-270,271  
EMPR MAP 52 (with notes)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 091**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD STAR**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 52 N  
LONGITUDE: 133 42 43 W  
ELEVATION: 800 Metres

NORTHING: 6605467  
EASTING: 572748

LOCATION ACCURACY: Within 500M

COMMENTS: Adjoins Beavis prospect (104N 007) to the east; the geology is reported to be the same (Minister of Mines Annual Report 1904, page 79).

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Pyrite  
ALTERATION: Silica Carbonate  
COMMENTS: Listwanite alteration reported.

ALTERATION TYPE: Silicific'n Carbonate Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian Carboniferous	Cache Creek	Kedahda	Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
Listwanite  
Chert  
Argillite  
Felsic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1904  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 10.2900 Grams per tonne  
Gold 0.8600 Grams per tonne

REFERENCE: Minister of Mines Annual Report 1904, page 79.

**CAPSULE GEOLOGY**

This occurrence adjoins the Beavis prospect (104N 007) to the east and the geology is reported to be the same.  
A pyritic quartz vein is hosted within ultramafic rocks of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. The ultramafic rock can be both silicified and carbonate altered to a listwanitic-type alteration assemblage. The ultramafics intrude cherts and argillites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Mississippian to Triassic Cache Creek Group (Complex?). The quartz veins and alteration occur near the contact of the intrusions and the sediments. Felsic dykes cut the country rock and are associated with the veining.  
A shaft has been sunk to a depth of 10.7 metres on a well silicified structure. A sample of quartz from the dump contained 0.86 grams per tonne gold and 10.29 grams per tonne silver (Minister of Mines Annual Report 1904).

**BIBLIOGRAPHY**

EMPR FIELDWORK 1989 pp.311-322, pp.365-374; 1990 (in prep)  
EMPR OF 1989-15A, 1989-24  
EMPR PRELIM MAP 52

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 839  
REPORT: RGEN0100

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EMPR AR \*1904-79  
GSC MEM 37; 307  
GSC P 74-47  
GSC ANN RPT 1899, Vol. 12; 1901, Vol. 13  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1988/12/01  
DATE REVISED: 1990/10/04

CODED BY: GJP  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 092**

NATIONAL MINERAL INVENTORY:

NAME(S): **VOL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 45 18 N  
LONGITUDE: 133 25 04 W  
ELEVATION: 1360 Metres

NORTHING: 6625187  
EASTING: 588899

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Located from Assessment Report 7283.

COMMODITIES: Molybdenum                      Copper                      Tungsten

**MINERALS**

SIGNIFICANT: Molybdenite      Chalcopyrite      Pyrite      Arsenopyrite      Scheelite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Kedahda	
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Quartz Monzonite  
Granodiorite  
Cherty Argillite  
Siltstone  
Quartzite

HOSTROCK COMMENTS: Mineralization occurs in the intrusive near the contact with the sediments. Age date is from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The area is underlain by sediments of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation, of the Mississippian to Triassic Cache Creek Group (Complex?). These consist of an inter-bedded sequence of dark grey cherty argillite with calcareous bands, siltstones and quartzite. These rocks are intruded by Late Cretaceous Surprise Lake Batholith quartz monzonite to granodiorite. Extensive Pleistocene basaltic flows and scoria overlie granitic basement rock in the occurrence area.

Disseminated molybdenite is present in the intrusive near the contact with the sediments. Other minerals include pyrite, chalcopyrite, arsenopyrite and rare scheelite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*7283, 8048  
EMPR EXPL 1979-304  
GSC MEM 307  
GSC P 74-47  
EMPR MAP 52 (with notes)  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 093**

NATIONAL MINERAL INVENTORY:

NAME(S): **WMC**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 49 N  
LONGITUDE: 133 16 06 W  
ELEVATION: 1460 Metres

NORTHING: 6620789  
EASTING: 597415

LOCATION ACCURACY: Within 500M  
COMMENTS: Trench.

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Zeunerite  
ASSOCIATED: Quartz  
ALTERATION: Kaolinite Sericite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date is from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Zeunerite occurs in pyritic and clay altered alaskite of the Late Cretaceous Surprise Lake Batholith, near a small pendant of Permian Cache Creek Group volcanics and sediments. The rocks are sheared and contain kaolin, quartz, and sericite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*7479, 7610  
GSC MEM 307  
GSC MAP 1082A  
EMPR EXPL 1979-303  
GSC OF 551  
EMPR MAP 52 (with notes)  
EMPR OF 1989-15

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 094**

NATIONAL MINERAL INVENTORY:

NAME(S): **NAKINA RIVER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N02E 104N07E 104N08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 10 59 N  
LONGITUDE: 132 44 07 W  
ELEVATION: Metres

NORTHING: 6562632  
EASTING: 629406

LOCATION ACCURACY: Within 5 KM

COMMENTS: Several hundred square kilometres of Horsefeed Formation limestone and dolomite occur in the area of the confluence of the Nakina River and Horsefeed Creek.

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite Dolomite  
MINERALIZATION AGE: Pennsylvan.-Permian  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

**DEPOSIT**

CHARACTER: Stratiform  
CLASSIFICATION: Sedimentary  
DIMENSION: 1500

Massive  
Evaporite  
Metres

Industrial Min.  
STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic  
ISOTOPIC AGE: 300 Ma  
DATING METHOD: Fossil  
MATERIAL DATED: Fusulinids

GROUP

Cache Creek

FORMATION

Horsefeed

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone  
Calcarenite  
Dolomite  
Mafic Flow  
Tuff  
Chert  
Argillite

HOSTROCK COMMENTS: The Cache Creek Group ranges from Mississippian to Triassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

Limestone of the Lower Pennsylvanian to Triassic Horsefeed Formation (Cache Creek Group (Complex?)) underlies an extensive area stretching for 35 kilometres northeastward along the Nakina River and extending for up to 25 kilometres southeastward from the river to just southwest of Nakina Lake.

Overlying chert and argillite of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation forms some of the higher peaks in the region. A few lenses of mafic flows and tuffs are present within the limestone. The unit is estimated to be 1500 metres thick in this region. Near Nakina Lake the strata are warped into a series of large northwest trending folds.

The formation is comprised mostly of a Middle Pennsylvanian to Middle Permian limestone member at least 900 metres thick. This bed is composed of pale grey to pale buff grey, massive, fine grained, porcelaneous, crinoidal and foraminiferal, calcarenitic limestone that is rarely dolomitic. Oolites and chert nodules are also quite rare. The member is overlain by 180 metres of well bedded, pale grey to dark grey, very fine grained detrital limestone and dolomitic limestone. This member is in turn overlain by foraminiferal, calcarenitic limestone of Upper Permian age.

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GSC MEM 307 pp. 22-23  
GSC MAP 1082A: 1418A  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 843  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 095**

NATIONAL MINERAL INVENTORY:

NAME(S): **O'DONNEL**, O'DONNEL RIVER LIMESTONE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N05E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 19 29 N  
LONGITUDE: 133 31 07 W  
ELEVATION: 800 Metres

NORTHING: 6577148  
EASTING: 584302

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Magnesite Limestone

**MINERALS**

SIGNIFICANT: Magnesite Calcite

ALTERATION: Magnesite

COMMENTS: It is unclear if this is a sedimentary or replacement-  
alteration occurrence.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound Stratiform Massive  
CLASSIFICATION: Replacement Sedimentary Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Horsefeed	

LITHOLOGY: Limestone  
Magnesite

HOSTROCK COMMENTS: The Cache Creek Group is Mississippian to Triassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

Carbonate sediments of the Lower Pennsylvanian to Triassic Horsefeed Formation (Cache Creek Group (Complex?)) forms a gentle ridge between the O'Donnel and Pike Rivers. The formation consists mainly of pale grey, clean limestone approximately 900 metres thick. The limestone is commonly massive and in part recrystallized so that primary textures are obliterated (Monger, GSC Paper 74-47).

Although limestone comprises most of the stratigraphy, exposures at the O'Donnel River site have been described as high grade magnesite. The occurrence of local hot springs in the carbonates suggests a source of fluids for the alteration of limestones to magnesium carbonate.

**BIBLIOGRAPHY**

GSC P 73-18, p. 237; 74-47, p. 25  
EMPR AR 1915-K65  
EMPR OF 1987-13, p. 22  
GSC MAP 1082A; 1418A  
GSC MEM 307 pp. 22-23

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 096**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAKER**, ATLIN LAKE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N13W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 47 59 N  
LONGITUDE: 133 59 06 W  
ELEVATION: 1160 Metres

NORTHING: 6629543  
EASTING: 556955

LOCATION ACCURACY: Within 5 KM

COMMENTS: This limestone occurrence covers a large area west of Atlin Lake.

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Chalcedony Dolomite  
MINERALIZATION AGE: Paleozoic  
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

**DEPOSIT**

CHARACTER: Stratabound Stratiform  
CLASSIFICATION: Sedimentary Evaporite  
DIMENSION: 1500 Metres

Massive  
Industrial Min.  
STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Horsefeed	
ISOTOPIC AGE: 300 Ma			
DATING METHOD: Fossil			
MATERIAL DATED: Fusulinids			

LITHOLOGY: Limestone  
Mafic Flow  
Tuff  
Chert  
Dolomite

HOSTROCK COMMENTS: The Cache Creek Group ranges from Mississippian to Triassic in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

A large area of Lower Pennsylvanian to Triassic Horsefeed Formation limestone occurs between the upper reaches of Atlin Lake and Tagish Lake to the west. This Cache Creek Group (Complex?) formation consists mainly of limestone that ranges in thickness from 900 to 1500 metres and includes local bodies of basic flow rock, diabase and lithic tuff.

The rock is a massive, medium to pale grey, bioclastic limestone that has a faint brownish tinge. It is a typically crinoidal, fusulinid calcarenitic limestone that is generally recrystallized, producing either a fine-grained porcelaneous appearance or a finely crystalline rock with light and dark mottles (GSC Paper 74-47).

**BIBLIOGRAPHY**

EMPR IND MIN FILE (McCammon, J.W., 1973, Limestone Occurrences in B.C., p. 36 (in Ministry Library))  
GSC MAP 1082A; 1418A  
GSC MEM 307 pp. 22-23  
GSC P \*74-47, p. 27  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/30

CODED BY: GSB  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 097**

NATIONAL MINERAL INVENTORY:

NAME(S): **TESLIN LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N16W 104N15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 50 34 N  
LONGITUDE: 132 25 11 W  
ELEVATION: 914 Metres

NORTHING: 6636718  
EASTING: 644580

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centered on surface trace of 25 kilometre long limestone band just east of Hall Lake (GSC Map 1082A).

COMMODITIES: Limestone

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Dolomite Chalcedony

MINERALIZATION AGE: Permian

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

**DEPOSIT**

CHARACTER: Stratabound Stratiform Massive  
CLASSIFICATION: Sedimentary Evaporite Industrial Min.  
DIMENSION: 9999 x 3800 x 300 Metres STRIKE/DIP:  
COMMENTS: Dimension is 25,000 x 3,800 x 300 metres. Limestone trends northwest.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Permian

**GROUP**

Cache Creek

**FORMATION**

Teslin

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Limestone  
Calcarenite  
Dolomite  
Chert  
Argillite  
Mafic Flow

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Permian limestone of the Teslin Formation forms several prominent northwest trending ridges between Teslin and Galdys Lakes. The limestone and the enclosing, less resistant chert, argillite and mafic flows of the Upper Mississippian to Upper Pennsylvanian Kedahda and French Range Formations are warped into a series of northwest trending folds with near vertical axial surfaces. The limestone is up to 300 metres thick. The most prominent limestone band extends northwest from Snowdon Creek along the northeast side of Hall Creek for 25 kilometre, varying up to 3.8 kilometres in exposed width. A second 13 kilometre long band outcrops 9 kilometres southwest, between Hall and Gladys Lakes. The formation consists of a basal section of brown to buff weathering, tuffaceous calcarenitic limestone that is overlain by dark calcarenitic limestone and coquina containing shell fragments and forams with a few chert nodules in a fine lime mud matrix. This is overlain by pale grey weathering, dark grey to black, massive limestone of the youngest member of the formation.

**BIBLIOGRAPHY**

EMPR IND MIN FILE (McCammon, J.W., 1973, Limestone Occurrences in B.C. p. 36 (in Ministry Library))  
GSC MAP 1082A; 1418A  
GSC MEM 307 pp. 22-23  
GSC P 74-47, p. 11

DATE CODED: 1985/07/24  
DATE REVISED: 1989/12/18

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 098**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHUKSAN**, SURPRISE, DISCOVERY

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 20 N  
LONGITUDE: 133 28 54 W  
ELEVATION: 1500 Metres

NORTHING: 6599185  
EASTING: 585902

LOCATION ACCURACY: Within 500M  
COMMENTS: Located on Shuksan 2 claim.

COMMODITIES: Gold Silver Lead Zinc

**MINERALS**

SIGNIFICANT: Gold Pyrite Galena Pyrrhotite  
ASSOCIATED: Mariposite Chalcopyrite Silver Sphalerite  
ALTERATION: Carbonate Talc  
ALTERATION TYPE: Quartz-Carb. Carbonate Serpentin'zn  
MINERALIZATION AGE: Middle Jurassic

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal  
DIMENSION: 36 x 18 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Kedahda	
Carboniferous	Cache Creek	Nakina	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
Serpentinite  
Andesite  
Limestone  
Chert  
Listwanite

HOSTROCK COMMENTS: Listwanite may be present.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek

**INVENTORY**

ORE ZONE: VEIN REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Bulk Sample  
COMMODITY: Gold GRADE: 330.3500 Grams per tonne  
COMMENTS: A fifteen kilogram sample of a quartz vein was taken.  
REFERENCE: Assessment Report 11511.

**CAPSULE GEOLOGY**

The area is underlain by limestone, chert and andesite of the Mississippian to Triassic Cache Creek Group (Complex?). Monger (1975) assigns the sediments to the Upper Mississippian to Upper Pennsylvanian Kedahda Formation and the andesites to the Lower Mississippian to Middle Pennsylvanian Nakina Formation. These host the Pennsylvanian to Permian Atlin Ultramafic Allochthon (Aitken, 1959). The Atlin Ultramafic Allochthon is spatially related to the Nakina Formation and may be genetically related as well (Monger, GSC Paper 74-47). The ultramafics consist of serpentinite, carbonatized serpentinite (listwanite?) and gabbroic dykes. The serpentinite is talcose, carbonatized and quartz veined near its contact with the chert. These veins sometimes carry minor disseminated pyrite and mariposite.

In 1983 trenching exposed twelve subparallel gold bearing quartz veins that cut the carbonatized ultramafics near their contact with the chert. These highly fractured veins pinch and swell along a northwest strike, measuring between 4 and 90 centimetres in width, and dip steeply to the southwest. The veins appear to be bounded on

## CAPSULE GEOLOGY

the northwest by a northeast striking graphitic argillite shear zone. Visible gold appears in many of the veins, locally in spectacular amounts. Pyrite with minor chalcopyrite, silver, galena and sphalerite comprises less than 1 per cent of the vein.

The mineralized zone has a measured area of 36 metres (width) by 18 metres (length). Fifteen kilogram bulk samples taken from the quartz veins contained up to 330.35 grams per tonne gold. Carbonatized ultramafic wallrock chip samples assayed as high as 4.46 grams per tonne gold. The best drill hole interval from work done in 1984 was 16.87 grams per tonne gold over 0.46 metres.

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16006  
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GSC MAP 1082A  
GSC MEM 307  
GSC P 74-47  
DIAND OF \*1990-4  
GCNL #149, 1983; #115,#144, 1984; #79,#135,#174,#190, 1986  
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1151-1154  
Newton, D.C., (1985): A Study of Carbonate Alteration of Serpentine  
Around Gold and Silver Bearing Quartz Veins in Atlin Camp, B.Sc.  
Thesis, University of British Columbia

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 099**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE CREEK**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

Open Pit

MINING DIVISION: Atlin

LATITUDE: 59 35 18 N  
LONGITUDE: 133 19 22 W  
ELEVATION: 1320 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6606762  
EASTING: 594705

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Chromium

**MINERALS**

SIGNIFICANT: Gold Pyrite Chromite  
COMMENTS: Placer gold and chromite.  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pleistocene			Glacial/Fluvial Gravels

LITHOLOGY: Gravel

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This placer gold deposit occurs mainly on Wright Creek (see 104N 033) near its confluence with Eagle Creek. This area, and the area drained by these creeks is underlain by Pennsylvanian to Permian Kedahda Formation rocks of the Cache Creek Group. The deposit is directly underlain by buff to grey fine-grained schistose quartzite and dark grey massive graphitic argillites. About 2 kilometres north of this area is a body of ultramafic rock of the Atlin Intrusion and the contact of the Surprise Lake Batholith.

Most of the placer gold recovered is coarse and angular. It is found as small grains or irregular semi-massive patches within pieces of milky white quartz. Some pieces displayed cavities with slightly worn quartz crystals. Reddish hematitic staining of these fragments is common. These placers are recovered from the channel and the gravels on the southern bank. A less important second type of gold is found near bedrock. This type is well worn and rounded with little or no quartz. Disseminated cubes of pyrite up to 0.5 centimetres square are found in the argillites beneath these placer golds. Assays of the pyrite recovered as placers contained approximately 34 grams of gold per tonne of pyrite concentrate.

A north trending shear zone was found in argillite several hundred metres upstream from the confluence near the south bank of Wright Creek. This zone contained crushed quartz material and one large quartz vein ranging from 0.8 to 3.7 metres in width. No significant gold mineralization was found within this zone, although significant silver mineralization was (104N 047).

Nuggets of well worn chromite were found in the channel of Wright Creek for approximately 500 metres upstream from its confluence with Eagle Creek.

**BIBLIOGRAPHY**

EMPR ASS RPT 4551, 6510, 12622, \*13338  
EMPR EXPL \*1984-402  
EMPR BULL 28, p. 17  
EMPR P 1984-2  
GSC SUM RPT XII; XIII  
GSC P 74-47  
GSC MEM 307, p. 76  
EMPR GEM 1973-530; 1974-362

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 850  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR AR 1898-988; 1899-611,646,649,653; 1900-757,775,777,779; 1901-983; 1902-36,40; 1903-42,46; 1904-90,94; 1905-72,75; 1909-51; 1910-53; 1911-58; 1912-58; 1913-70; 1914-78,86; 1915-62; 1916-45; 1917-78; 1918-99; 1919-86,90; 1920-72; 1921-84; 1926-109; 1929-122; 1930-125; 1932-71; 1935-B28,G47; 1936-B60; 1937-B45; 1938-B29; 1939-103; 1940-88; 1941-83; 1942-84; 1955-82; 1956-138; 1957-73; 1959-146; 1967-294  
EMPR MISC PUB (Stratigraphy of the Placers in Atlin, Placer Mining Camp, P.J. & W.M. Proudlock, 1976)

DATE CODED: 1985/08/30  
DATE REVISED: 1988/11/30

CODED BY: AFW  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 100**

NATIONAL MINERAL INVENTORY:

NAME(S): **GV**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 30 55 N  
LONGITUDE: 133 28 26 W  
ELEVATION: 1462 Metres

NORTHING: 6598422  
EASTING: 586360

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Carbonate  
COMMENTS: Listwanite assemblage alteration minerals occur.  
ALTERATION TYPE: Quartz-Carb. Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Carboniferous  
Unknown  
Pennsylvan.-Permian

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal  
Atlin Ultramafic Allochthon

LITHOLOGY: Rhyolite  
Ultramafic  
Listwanite  
Argillite  
Andesite  
Limestone  
Chert

HOSTROCK COMMENTS: The host rock is a rhyolitic intrusive of unknown age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1984

COMMODITY

Gold

GRADE

9.3900

Grams per tonne

COMMENTS: The assay is from a 3.05 metre section of drill core.

REFERENCE: Assessment Report 13269.

**CAPSULE GEOLOGY**

The area is underlain by Upper Mississippian to Upper Pennsylvanian Kedahda Formation volcanics and sediments of the Mississippian to Triassic Cache Creek Group (Complex?). These consist of andesite, limestone, chert and pyritic argillite with quartz filled fractures. These host listwanite altered ultramafic bodies and a felsic body termed "rhyolite" by Claymore Resources. The ultramafic body is likely related to the Pennsylvanian to Permian Atlin Ultramafic Allochthon (Aitken, GSC Memoir 307). The ultramafic rocks are spatially related to the Pennsylvanian to Mississippian Nakina Formation (Cache Creek Group) and possibly genetically related as well (Monger, GSC Paper 74-47).

Gold mineralization is associated with the "rhyolite" and adjacent argillites. The "rhyolite" contains quartz filled fractures that show no visible sulphides. Gold values are highest where these veins are most dense. The overall pyrite content of this rock is less than 1 per cent. The best assay came from a drill hole set up on the "rhyolite" where a 3.05 metre section assayed 9.39 grams per tonne

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RUN TIME: 12:30:28

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ENERGY AND MINERALS DIVISION

PAGE: 852  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

gold (Assessment Report 13269). Sporadic gold/silver values were also obtained from the listwanites.

**BIBLIOGRAPHY**

EMPR ASS RPT 10537, 12051, \*13269  
EMPR EXPL 1981-320; 1983-551; 1984-402  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A; 1418A  
GCNL #42,#171,#183,#242, 1984; #6, 1985  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1985/09/19  
DATE REVISED: 1988/11/30

CODED BY: TGS  
REVISED BY: GJP

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104N 101**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANNA**, HELI

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 32 59 N  
LONGITUDE: 133 37 06 W  
ELEVATION: 1341 Metres

NORTHING: 6602078  
EASTING: 578107

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver Chromium

**MINERALS**

SIGNIFICANT: Pyrite Galena Gersdorffite Bismuthinite Tetradymite  
Sphalerite Chalcopyrite Pyrrhotite Millerite Gold  
Chromite

ASSOCIATED: Quartz  
ALTERATION: Talc Magnesite Siderite Quartz Chalcedony  
Mariposite Chromite Pyrite

COMMENTS: Listwanite.  
ALTERATION TYPE: Quartz-Carb. Serpentin'zn  
MINERALIZATION AGE: Middle Jurassic  
ISOTOPIC AGE: 169 +/- 6 DATING METHOD: Potassium/Argon MATERIAL DATED: Mariposite

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal Industrial Min.  
COMMENTS: Bulletin 108, p.24, Table 2.2 - probably dates age of mineralization.  
Also page 133.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Pennsylvan.-Permian Atlin Ultramafic Allochthon

LITHOLOGY: Talc Carbonate Schist  
Serpentinized Peridotite  
Listwanite  
Granitic Dike  
Basalt  
Dolomite

HOSTROCK COMMENTS: Same northeast trending steeply dipping fault zone as Goldstar (with same listwanite halo).

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Plutonic Rocks

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1984  
SAMPLE TYPE: Rock  
COMMODITY GRADE  
Silver 19.5800 Grams per tonne  
Gold 1.7500 Grams per tonne  
REFERENCE: Assessment Report 12385.

**CAPSULE GEOLOGY**

This occurrence is situated near the top of Monarch Mountain in an area underlain by serpentized peridotite of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. These rocks are spatially related to the Mississippian to Triassic Cache Creek Group rocks and Monger (GSC Paper 74-47) believes that they may be genetically related as well. The showings occur where these ultramafics have undergone a severe deformation and alteration associated with faulted, crumpled or brecciated zones. These rocks are highly altered (listwanitic) schistose ultramafics composed of talc, magnesite, siderite, quartz, chalcedony, mariposite, chromite and pyrite. A shear zone adjacent to this altered zone has been intruded by basaltic lavas. A granitic dyke approximately 10 metres thick is also reported. Rocks adjacent to this dike have similar talc-

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**CAPSULE GEOLOGY**

carbonate type alteration. Quartz veins cut the contacts of dike. Quartz veins up to 0.5 metre thick cut these altered ultramafic rocks and are reported to have a trend of 130 degrees with vertical dips. A sample of "quartz vein talc and/or carbonate bearing rocks" returned values of 1.75 grams per tonne gold and 19.58 grams per tonne silver (Assessment Report 12385).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12385  
EMPR BULL 108, pp. 19-20,22,24,133  
EMPR EXPL 1984-405  
EMPR PF (Canova Resources: Filing Statement, 1987)  
GSC MAP 1082A; 1418A  
GSC MEM 307  
GSC P 74-47  
Lueck, B.A., (1985): \*Geology of Carbonatized Fault Zones on the Anna Claims and their Relationship to Gold Deposits, B.Sc. Thesis, University of British Columbia

DATE CODED: 1985/09/10  
DATE REVISED: 2003/02/04

CODED BY: TGS  
REVISED BY: MPS

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104N 102**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRAHAM INLET**, TAKU INLET

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 59 N  
LONGITUDE: 133 57 06 W  
ELEVATION: 760 Metres

NORTHING: 6611013  
EASTING: 559118

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Magnesite

**MINERALS**

SIGNIFICANT: Magnesite  
ASSOCIATED: Plagioclase Calcite Dolomite Epidote  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stratabound  
CLASSIFICATION: Replacement Hydrothermal Industrial Min.  
TYPE: I17 Cryptocrystalline magnesite veins

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic Pennsylvan.-Permian	Cache Creek	Undefined Formation	Atlin Ultramafic Allochthon

LITHOLOGY: Alkalic Rock  
Schist  
Magnesite  
Peridotite

HOSTROCK COMMENTS: The Cache Creek Group is Mississippian to Triassic (Jurassic in southern B.C.) in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Graham Inlet magnesite is located 5.5 kilometres west of Taku on the south side of Table Mountain. Carbonatized outcrops, some of considerable extent and consisting principally of magnesian carbonate, contain veins several centimetres wide of relatively pure magnesite. The host rocks (Mississippian to Triassic Cache Creek Group ?) appear schistose, fine-grained and are greyish to dark green on fresh surface but weather to a rough surface with a bright, gossanous color. In thin section the magnesian carbonates are associated with plagioclase and minor amounts of calcite, dolomite, epidote and an unidentified iron mineral. Although the occurrence descriptions are limited, they seem similar in setting to those magnesite occurrences in the Atlin and Sloko River areas which are associated with the Pennsylvanian to Permian Atlin Ultramafic Allochthon which intrude into the volcanic-sedimentary stratigraphy.

**BIBLIOGRAPHY**

EMPR BULL 105  
EMPR FIELDWORK 1989 pp. 311-322, pp. 365-374; 1990 pp. 145-152  
EMPR OF 1987-13, 1989-15A, 1989-24  
EMPR PRELIM MAP 52  
GSC ANN RPT 1899, p. 21B  
GSC MAP 19-1957; \*94A; 1082A  
GSC MEM \*37, pp. 54-56; 307, pp. 36,79  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1986/10/14  
DATE REVISED: 1988/11/30

CODED BY: BG  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N





MINFILE NUMBER: **104N 104**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCKEE CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N05E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 28 29 N  
LONGITUDE: 133 30 36 W  
ELEVATION: 1280 Metres

NORTHING: 6593860  
EASTING: 584418

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Magnesite

**MINERALS**

SIGNIFICANT: Magnesite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon

LITHOLOGY: Alkalic Rock  
Peridotite  
Magnesite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

Brown weathering outcrops of magnesite occur near the headwaters of McKee Creek about twelve kilometres southeast of Atlin. This area is underlain by Mississippian to Triassic Cache Creek Group (Complex?) sediments that host several small plugs or stocks of Pennsylvanian to Permian Atlin Ultramafic Allochthon.

**BIBLIOGRAPHY**

GSC ANN RPT 1899, Part A, p. 72A; B, p. 21B  
GSC MAP 1082A  
EMPR OF 1987-13, p. 42  
GSC MEM 307  
GSC P 74-47  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1986/10/14  
DATE REVISED: 1988/11/30

CODED BY: BG  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 105**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUBY MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 59 N  
LONGITUDE: 133 25 06 W  
ELEVATION: 1300 Metres

NORTHING: 6619032  
EASTING: 589014

LOCATION ACCURACY: Within 5 KM  
COMMENTS:

COMMODITIES: Magnesite

**MINERALS**

SIGNIFICANT: Magnesite  
ASSOCIATED: Quartz Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stratabound  
CLASSIFICATION: Replacement Hydrothermal Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Paleozoic-Mesozoic  
Pennsylvan.-Permian  
Upper Cretaceous

**GROUP**

Cache Creek

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon  
Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Magnesite  
Peridotite  
Alkalic Rock  
Volcanic  
Sediment/Sedimentary  
Alaskite

HOSTROCK COMMENTS: The Cache Creek rocks are Mississippian to Triassic in age. Surprise Lake Batholith age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Ruby Mountain area is underlain by Mississippian to Triassic Cache Creek Group (Complex?) rock consisting of sediments of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation and mafic volcanics of the Mississippian to Pennsylvanian Nakina Formation. These are intruded by ultramafics of the Pennsylvanian to Permian Atlin Ultramafic Allochthon and alaskite of the Late Cretaceous Surprise Lake Batholith. The eastern flank of the mountain is overlain by Tertiary-Quaternary olivine basalt and scoria.

Small brown weathering outcroppings of magnesite are reported to occur in the drainage basins of Ruby, Birch and Boulder Creeks which drain into the western portion of Surprise Lake. The larger showings often host quartz veins and/or disseminated pyrite. Documentation of specific locations and geological character is poor.

**BIBLIOGRAPHY**

GSC ANN RPT 1899, Part B, p. 21B  
EMPR MAP 52 (with notes)  
GSC MAP 1082A  
EMPR OF \*1987-13, p. 42  
GSC P 74-47  
GSC MEM 307  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1986/10/14  
DATE REVISED: 1988/11/30

CODED BY: BG  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 105**

MINFILE NUMBER: **104N 106**

NATIONAL MINERAL INVENTORY:

NAME(S): **PATO 1**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 49 N  
LONGITUDE: 133 18 56 W  
ELEVATION: 1830 Metres

NORTHING: 6622576  
EASTING: 594711

LOCATION ACCURACY: Within 500M

COMMENTS: Shear zone (Assessment Report 6469).

COMMODITIES: Uranium                      Copper                      Arsenic

**MINERALS**

SIGNIFICANT: Zeunerite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER

Cretaceous-Tertiary

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Surprise Lake Batholith

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date is from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1976

SAMPLE TYPE: Rock

COMMODITY

GRADE

Arsenic

3.6000

Per cent

Copper

0.1970

Per cent

Uranium

0.0900

Per cent

REFERENCE: Assessment Report 6469.

**CAPSULE GEOLOGY**

Quartz monzonite and alaskite of the Late Cretaceous Surprise Lake Batholith intrude the Upper Paleozoic Cache Creek Group consisting of argillite, quartzite and limestone and the Atlin Intrusions consisting of basic rocks, enclosed in ultramafic masses of serpentinized peridotite.

A north northwest trending shear zone within the alaskite contains zeunerite and a rock sample assayed 0.197 per cent copper, 3.6 per cent arsenic, and 0.09 per cent uranium (Assessment Report 6469).

**BIBLIOGRAPHY**

EMPR EXPL 1978-270,271  
EMPR ASS RPT \*6469, 7610  
GSC MAP 1082A  
GSC MEM 307  
EMPR MAP 52 (with notes)  
EMPR OF 1989-15

DATE CODED: 1987/08/12  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 107**

NATIONAL MINERAL INVENTORY:

NAME(S): **MISTAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 49 N  
LONGITUDE: 133 18 06 W  
ELEVATION: 1770 Metres

NORTHING: 6624452  
EASTING: 595445

LOCATION ACCURACY: Within 500M

COMMENTS: Shear zone (Assessment Report 7480).

COMMODITIES: Silver                      Uranium                      Gold                      Lead

**MINERALS**

SIGNIFICANT: Arsenopyrite      Galena              Zeunerite              Sphalerite              Pyrite  
Fluorite              Manganite              Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Limonite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks              Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1978

COMMODITY	GRADE	
Silver	20.0000	Grams per tonne
Gold	0.4000	Grams per tonne
Uranium	0.0400	Per cent

REFERENCE: Assessment Report 7480.

**CAPSULE GEOLOGY**

A northeast trending limonitic shear and fracture zone cuts alaskite of the Late Cretaceous Surprise Lake Batholith. The alaskite, which is coarse-grained to porphyritic, lies in contact with ultramafic rocks of the Permo-Pennsylvanian Atlin intrusives and contains pendants and screens of Permian Cache Creek Group volcanics and sediments.

Within the shear zone are veins of quartz containing minor arsenopyrite, galena, sphalerite, chalcopyrite, manganese, fluorite, and possibly zeunerite. A sample of a vein assayed 0.04 per cent uranium, 20 grams per tonne silver, and 0.4 grams per tonne gold (Assessment Report 7480).

**BIBLIOGRAPHY**

EMPR ASS RPT \*7480, 7610  
EMPR EXPL 1979-304  
EMPR MAP 52 (with notes)  
GSC MEM 307  
GSC MAP 1082A  
GSC OF 551

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 861  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR OF 1989-15

DATE CODED: 1987/08/12  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 108**

NATIONAL MINERAL INVENTORY:

NAME(S): **D & D, DAVE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 45 44 N  
LONGITUDE: 133 16 26 W  
ELEVATION: 1750 Metres

NORTHING: 6626193  
EASTING: 596961

LOCATION ACCURACY: Within 500M  
COMMENTS: Trench (Assessment Report 7456).

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Kasolite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Gossan

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Channel  
COMMODITY: Uranium

YEAR: 1979

GRADE: 0.0032 Per cent

COMMENTS: Sample width is 0.8 metres.  
REFERENCE: Assessment Report 7456.

**CAPSULE GEOLOGY**

The area is underlain by alaskite of the Late Cretaceous Surprise Lake Batholith and locally by remnants of Upper Paleozoic cover rocks. A northeast trending pale limonitic gossan contains a zone of quartz veinlets. One of the veins contains kasolite and occurs within a strong gougy fault zone trending 020 degrees. A 0.8 metre trench sample assayed 0.0032 per cent uranium (Assessment Report 7456).

**BIBLIOGRAPHY**

EMPR ASS RPT 6885, \*7456, 7610  
GSC MEM 307  
GSC MAP 1082A  
EMPR MAP 52 (with notes)

DATE CODED: 1987/08/17  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 109**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRA 6**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 45 59 N  
LONGITUDE: 133 16 06 W  
ELEVATION: 1880 Metres

NORTHING: 6626665  
EASTING: 597261

LOCATION ACCURACY: Within 500M  
COMMENTS: Showing (Assessment Report 6885).

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Zeunerite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Zeunerite occurs in fine-grained alaskite of the Late Cretaceous Surprise Lake Batholith.

**BIBLIOGRAPHY**

EMPR ASS RPT 6426, \*6885, 7610, 7733  
EMPR EXPL 1977-241; 1978-271  
GSC MEM 307  
GSC MAP 1082  
GSC OF 551  
EMPR MAP 52 (with notes)

DATE CODED: 1987/08/17  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 110**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 47 29 N  
LONGITUDE: 133 15 26 W  
ELEVATION: 1480 Metres

NORTHING: 6629465  
EASTING: 597812

LOCATION ACCURACY: Within 500M  
COMMENTS: Trench (Assessment Report 6426).

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Gossan

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1976
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Uranium	0.0400 Per cent

REFERENCE: Assessment Report 6426.

**CAPSULE GEOLOGY**

The area is underlain by alaskite of the Late Cretaceous Surprise Lake Batholith and by a few late porphyry and basaltic dykes. Weak to strong gossans are locally present in the area.

Structurally controlled mineralization, consisting of uranium, fluorite and sulphide minerals, is associated with a gossan within the alaskite. Test pits encountered rock assays up to 0.04 per cent uranium (Assessment Report 6426).

**BIBLIOGRAPHY**

EMPR ASS RPT \*6426, 6885, 7610, 7733  
EMPR EXPL 1977-241; 1978-271  
GSC MEM 307  
GSC MAP 1082A  
EMPR MAP 52 (with notes)

DATE CODED: 1987/08/17  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 111**

NATIONAL MINERAL INVENTORY:

NAME(S): **CX 2**, TROUT LAKE GRABEN

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 49 N  
LONGITUDE: 132 50 06 W  
ELEVATION: 1000 Metres

NORTHING: 6612228  
EASTING: 622089

LOCATION ACCURACY: Within 500M

COMMENTS: Anomalous zone (Assessment Report 6448).

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Recent

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Sedimentary  
TYPE: B08 Surficial U

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith
ISOTOPIC AGE: 70.6 +/- 3.8 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			
Cenozoic			Postglacial Sediments

LITHOLOGY: Soil  
Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1977

COMMODITY	<u>GRADE</u>	
Uranium	0.0480	Per cent

COMMENTS: Organic rich lacustrine sediment sample.  
REFERENCE: Assessment Report 6448.

**CAPSULE GEOLOGY**

The area lies within alaskitic quartz monzonite of the Late Cretaceous Surprise Lake Batholith and along the western edge of the "Trout Lake graben". Organic-rich lacustrine sediments contain values to 0.048 per cent uranium (Assessment Report 6448). Sediment samples from nearby radioactive springs assayed up to 0.15 per cent uranium (Journal of Geochemical Exploration, 1981).

**BIBLIOGRAPHY**

EMPR ASS RPT \*6448, 6710, 6823, 7610  
EMPR EXPL 1977-238; 1978-267  
EMPR MAP 52 (with notes)  
GSC OF 517  
GSC MEM 307  
GSC MAP 1082A  
JGE \*1981, Vol. 14, pp. 49-68  
World Mining, May 1978, p. 90  
Culbert, R.R. (1979): Uranium Equilibrium - Disequilibrium as Observed in the Natural Environment in British Columbia, Royal Commission Uranium Mining, Accession List #20175, 15 pages with Appendices  
Culbert, R.R. and Leighton, D.G. (1988): \*Young Uranium; in Unconventional Uranium Deposits, Ore Geology Reviews, Vol. 3, pp.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 866  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

313-330

DATE CODED: 1987/08/14  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 112**

NATIONAL MINERAL INVENTORY:

NAME(S): **MIR 7**, GRABEN AREA, DELTA POOL,  
TROUT LAKE GRABEN, MIR SPRINGS, HUSSEL

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:  
LATITUDE: 59 38 19 N  
LONGITUDE: 132 49 36 W  
ELEVATION: 1030 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Delta pool (Assessment Report 6776).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6613171  
EASTING: 622529

COMMODITIES: Uranium                      Copper                      Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite      Galena              Sphalerite  
ASSOCIATED: Pyrite  
ALTERATION: Sericite              Chlorite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Unconsolidated              Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic              Sedimentary  
TYPE: B08      Surficial U                      I05      Polymetallic veins Ag-Pb-Zn±Au

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cenozoic  
Upper Cretaceous

GROUP

Undefined Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Soil

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1978

COMMODITY

Silver

GRADE

4.8000

Grams per tonne

Copper

0.1500

Per cent

Uranium

0.0050

Per cent

COMMENTS: A one metre sample.  
REFERENCE: Assessment Report 6905.

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core

YEAR: 1978

COMMODITY

Silver

GRADE

4.8000

Grams per tonne

Copper

0.1500

Per cent

Uranium

0.0050

Per cent

COMMENTS: From a 1 metre drill hole sample.  
REFERENCE: Assessment Report 6905.

**CAPSULE GEOLOGY**

The area is underlain by alaskitic quartz monzonite of the Late Cretaceous Surprise Lake Batholith. The rocks are commonly interlayered with aplitic and pegmatitic phases. The 'Trout Lake graben' trends northerly across the area.

The Graben area contains several radioactive springs and pools with high radon values. A sample of the Delta pool analysed 82,856 picocuries per litre radon gas. A nearby soil sample assayed 0.11 per

## CAPSULE GEOLOGY

cent uranium, 0.62 per cent copper, 0.54 per cent lead, and 15.8 grams per tonne silver (Assessment Report 6776).

A drill hole in the area encountered a 2 metre radioactive zone with sericite, chlorite, pyrite and chalcopyrite. A 60 centimetre sample assayed 0.009 per cent uranium oxide and 1 metre sample assayed 0.005 per cent uranium, 4.8 grams per tonne silver, and 0.15 per cent copper (Assessment Report 6905). Minor galena and sphalerite were also encountered.

## BIBLIOGRAPHY

- EMPR EXPL 1977-239; 1978-268  
EMPR ASS RPT 6468, \*6776, \*6905, 7610  
EMPR FIELDWORK \*1978, p. 106  
EMPR GEOLOGY \*1977-1981, p. 183  
EMPR MAP 52 (with notes)  
GSC MEM 307  
GSC MAP 1082A  
GSC OF 517; 551  
IAEA TECDOC 322 (Surficial Uranium Deposits, Technical Document, Vienna, 1984), pp. 179-191  
JGE \*Vol. 14 (1981), pp. 49-68  
Culbert, R.R. (1979): Uranium Equilibrium - Disequilibrium as Observed in the Natural Environment in British Columbia, Royal Commission Uranium, Accession List #20175, 15 pages with Appendices.  
Culbert, R.R. and Leighton, D.G. (1988): \*Young Uranium; in Unconventional Uranium Deposits, Ore Geology Reviews, Vol. 3, pp. 313-330.

DATE CODED: 1987/08/13  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 113**

NATIONAL MINERAL INVENTORY:

NAME(S): **MIR 3, RADON CIRQUE, TROUT LAKE GRABEN,  
MIR SPRINGS, HUSSEL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 59 N  
LONGITUDE: 132 50 06 W  
ELEVATION: 1470 Metres

NORTHING: 6614392  
EASTING: 622019

LOCATION ACCURACY: Within 500M  
COMMENTS: Test pit (Assessment Report 6776).

COMMODITIES: Silver                      Lead                      Zinc                      Uranium                      Thorium

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Autunite              Chalcopyrite              Pyrrargyrite  
ASSOCIATED: Magnetite              Hematite              Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Unconsolidated  
CLASSIFICATION: Hydrothermal              Epigenetic              Sedimentary  
TYPE: I05              Polymetallic veins Ag-Pb-Zn±Au              B08              Surficial U

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Cretaceous                      Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite  
Quartz Monzonite  
Soil

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1977  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      531.4000              Grams per tonne  
Lead                      12.3000              Per cent  
Uranium                      0.0550              Per cent  
Zinc                      3.1000              Per cent  
REFERENCE: Assessment Report 6776.

**CAPSULE GEOLOGY**

The area is underlain by alaskitic quartz monzonite of the Cretaceous Surprise Lake Batholith. The rocks are commonly interlayered with aplitic and pegmatitic phases. To the east, the "Trout Lake graben", a northerly trending feature, brings roof rocks to the valley bottom.

A test pit on the Radon Cirque area uncovered galena, sphalerite, and minor chalcopyrite in veins within alaskite. Also associated with the sulphides are magnetite, hematite, pyrrargyrite, and secondary manganese and uranium. A grab sample assayed 12.3 per cent lead, 3.1 per cent zinc, 531.4 grams per tonne silver and 0.055 per cent uranium (Assessment Report 6776). Subsequent drilling intersected minor autunite and fluorite minerals, with the best assay being 0.016 per cent uranium over 1.2 metres (Assessment Report 6905).

Several springs in the area are high in radon. One sample measured 64,189 picocuries per litre radon (Assessment Report 6776). Soil samples in the area assayed up to 0.12 per cent uranium and 0.07 per cent thorium. Aquatic moss samples assayed up to 0.17 per cent uranium and 0.08 per cent thorium (Journal of Geochemical Exploration, 1981).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 870  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR ASS RPT 6362, \*6776, \*6905, 7610  
EMPR FIELDWORK \*1978, p. 106  
EMPR EXPL 1977-239; 1978-268  
EMPR GEOL 1977-1981, p. 183  
EMPR MAP 52 (with notes)  
GSC MEM 307  
GSC MAP 1082A  
GSC OF 517  
IAEA TECDOC 322 (Surficial Uranium Deposits, Technical Document,  
Vienna, 1984) pp. 179-191  
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Culbert, R.R. (1979): Uranium Equilibrium - Disequilibrium as  
Observed in the Natural Environment in British Columbia, Royal  
Commission Uranium Mining, Accession List #20175, 15 pages with  
Appendices  
Culbert, R.R. and Leighton, D.G. (1988): \*Young Uranium; in  
Unconventional Uranium Deposits, Ore Geology Reviews, Vol. 3,  
pp. 313-330

DATE CODED: 1987/08/13  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 114**

NATIONAL MINERAL INVENTORY:

NAME(S): **CX**, TROUT LAKE GRABEN, SANO LAKE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 59 N  
LONGITUDE: 132 47 06 W  
ELEVATION: 920 Metres

NORTHING: 6618196  
EASTING: 624712

LOCATION ACCURACY: Within 500M  
COMMENTS: Anomalous zone.

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Recent

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Sedimentary  
TYPE: B08 Surficial U

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith
ISOTOPIC AGE: 70.6 +/- 3.8 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			
Cenozoic			Postglacial Sediments

LITHOLOGY: Soil  
Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks  
Cache Creek  
PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE  
REPORT ON: N  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
YEAR: 1977  
COMMODITY: Uranium  
GRADE: 0.1400 Per cent  
COMMENTS: Organic rich lacustrine sediment sample.  
REFERENCE: Assessment Report 6448.

**CAPSULE GEOLOGY**

The area is underlain by alaskitic quartz monzonite of the Late Cretaceous Surprise Lake Batholith and the western margin of the "Trout Lake graben".  
Organic-rich lacustrine sediments contain up to 0.14 per cent uranium (Assessment Report 6448).

**BIBLIOGRAPHY**

EMPR ASS RPT \*6448, 6497, 6710, 6823, 7610  
EMPR EXPL 1977-238; 1978-267  
EMPR MAP 52 (with notes)  
GSC OF 517  
GSC MEM 307  
GSC MAP 1082A  
JGE \*1981, Vol. 14, pp. 49-68  
World Mining, May 1978, p. 90  
Culbert, R.R. (1979): Uranium Equilibrium - Disequilibrium as Observed in the Natural Environment in British Columbia, Royal Commission Uranium Mining, Accession List #20175, 15 pages with Appendices  
Culbert, R.R. and Leighton, D.G. (1988): \*Young Uranium; in Unconventional Uranium Deposits, Ore Geology Reviews, Vol. 3,

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

pp. 313-330

DATE CODED: 1987/08/14  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 115**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUPA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N14E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 49 09 N  
LONGITUDE: 133 08 26 W  
ELEVATION: 1300 Metres

NORTHING: 6632735  
EASTING: 604272

LOCATION ACCURACY: Within 500M

COMMENTS: Radioactive swamp (Assessment Report 6908).

COMMODITIES: Uranium

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Recent

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Sedimentary  
TYPE: B08 Surficial U

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith
ISOTOPIC AGE: 70.6 +/- 3.8 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			
Cenozoic			Postglacial Sediments

LITHOLOGY: Unconsolidated Soil  
Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The area is underlain by alaskite of the Late Cretaceous Surprise Lake Batholith which is overlain by Recent till and glacial debris.

A north-south lineament contains strongly radioactive soils. Soil samples assayed up to 0.15 per cent uranium (Assessment Report 6908). This area likely represents the downhill dispersion of uranium in soil.

**BIBLIOGRAPHY**

EMPR ASS RPT 6494, \*6908  
EMPR MAP 52 (with notes)  
GSC MEM 307  
GSC MAP 1082A  
Culbert, R.R. (1979): Uranium Equilibrium - Disequilibrium as Observed in the Natural Environment in British Columbia, Royal Commission Uranium Mining, Accession List #20175, 15 pages with Appendices

DATE CODED: 1987/08/17  
DATE REVISED: 1988/11/30

CODED BY: LDJ  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 116**

NATIONAL MINERAL INVENTORY:

NAME(S): **CABIN SILVER, JULIA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 37 N  
LONGITUDE: 133 29 38 W  
ELEVATION: 1180 Metres

NORTHING: 6612685  
EASTING: 584904

LOCATION ACCURACY: Within 500M

COMMENTS: New occurrence exposed in bank of Birch Creek.

COMMODITIES: Silver                      Lead                      Zinc                      Gold

**MINERALS**

SIGNIFICANT: Galena              Chalcopyrite              Arsenopyrite              Sphalerite

COMMENTS: Galena and chalcopyrite are most abundant.

ASSOCIATED: Quartz              Galena

COMMENTS: Mineralization hosted in quartz veins.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Epigenetic

COMMENTS: Vein attitudes are variable.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Carboniferous  
Pennsylvan.-Permian

**GROUP**

Cache Creek

**FORMATION**

Nakina

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon

LITHOLOGY: Andesite  
Basalt  
Quartz Calcite Vein  
Ultramafic

HOSTROCK COMMENTS: Quartz veins hosted in Nakina basalts very near a body of Atlin Ultramafic Allochthon rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

SAMPLE TYPE: Grab

YEAR: 1984

**COMMODITY**

COMMODITY	GRADE	
Silver	538.3000	Grams per tonne
Gold	0.0700	Grams per tonne
Lead	0.9600	Per cent
Zinc	0.1400	Per cent

COMMENTS: One of several samples from the vein.

REFERENCE: Assessment Report 13643.

**CAPSULE GEOLOGY**

The Cabin Silver occurrence is located approximately half way along Birch Creek northwest of the west end of Surprise Lake. It is about 15 kilometres northeast of Atlin. The occurrence was discovered in 1984 during a surface exploration programme but no follow-up work has been carried out on it.

The showing occurs within mafic volcanic and ultramafic rocks of the Mississippian to Triassic Cache Creek Group (Complex?). Massive, dark green andesitic to basaltic flows of the Lower Mississippian to Middle Pennsylvanian Nakina Formation occur with narrow bodies of variable altered ultramafic rocks of the Atlin Ultramafic Allochthon. This may represent sill-like bodies coeval with the mafic flows. The occurrence is very near the southern margin of the Early Cretaceous Fourth of July Creek Batholith.

The showing comprises three quartz-calcite veins which are around 50 centimetres wide and have varying attitudes. One of the veins contains visible galena, chalcopyrite, pyrite, arsenopyrite, and sphalerite. One sample contained 583 grams per tonne silver,

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**CAPSULE GEOLOGY**

0.96 per cent lead, 0.14 per cent zinc, and 0.07 grams per tonne gold. A 20 centimetre vein sample contained 1.37 grams per tonne gold (Assessment Report 13643). The veins are exposed in the bank of Birch Creek.

**BIBLIOGRAPHY**

GSC MEM 307  
GSC P 74-47  
EMPR ASS RPT \*13643, 16240  
EMPR EXPL 1985-C399; 1987-C393  
GSC MAP 1082A  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1988/04/29  
DATE REVISED: 1988/10/17

CODED BY: MHG  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 117**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARVEY**, MCKEE CREEK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N05E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 28 23 N  
LONGITUDE: 133 32 54 W  
ELEVATION: 914 Metres

NORTHING: 6593627  
EASTING: 582251

LOCATION ACCURACY: Within 500M

COMMENTS: Identified from Assessment Report 6464.

COMMODITIES: Lead                      Copper

**MINERALS**

SIGNIFICANT: Galena              Chalcopyrite      Pyrite              Arsenopyrite  
ASSOCIATED: Quartz  
ALTERATION: Carbonate              Clay  
ALTERATION TYPE: Quartz-Carb.              Argillic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork                      Vein                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic  
DIMENSION: 0025                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Carboniferous  
Pennsylvan.-Permian

GROUP

Cache Creek

FORMATION

Kedahda

IGNEOUS/METAMORPHIC/OTHER

Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
Listwanite  
Chert

HOSTROCK COMMENTS: Mineralized stockwork occurs in Cache Creek chert, as well as Atlin Ultramafic Allochthon rocks. Listwanite may or may not be present.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The McKee Creek area is underlain primarily by cherts and argillites of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation, Cache Creek Group. These are intruded by ultramafic plugs of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. Mafic greenstone of the Lower Mississippian to Middle Pennsylvanian Nakina Formation (Cache Creek Group) underlies the Kedahda Formation and some exposures are found at lower elevations.

North trending shear zones, developed in chert and ultramafic rock, were exposed by hydraulic placer mining in McKee Creek, just below its confluence with Eldorado Creek. The Ore zone is 25 metres wide and of unknown length. A second similar zone is present about 150 metres to the northeast of the first. The zones are characterized by pervasive carbonate alteration (listwanite?) of the ultramafics and by intense weathering to red and yellow clay and blue chloritic mud. Blue mariposite coatings occur on fault breccia fragments.

Quartz stockworks occur in the shear zones and host disseminated pyrite, arsenopyrite, and minor galena and chalcopyrite. Chip samples taken on the shear zone did not contain significant quantities of gold.

**BIBLIOGRAPHY**

EMPR ASS RPT 5799, \*6324, \*6464, \*11912, 13134, 13307, 14336, 14507, 15620  
EMPR GEM 1969-375; 1970-483; 1971-446; 1972-570; 1973-529; 1974-363  
EMPR EXPL 1975-E76; 1977-E238; 1983-550; 1984-400; 1985-C397; 1987-C392  
GSC MEM 307  
GSC P 74-47  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from

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**BIBLIOGRAPHY**

the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1988/10/07  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 118**

NATIONAL MINERAL INVENTORY:

NAME(S): **UTOPIA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 20 N  
LONGITUDE: 133 35 53 W  
ELEVATION: 808 Metres

NORTHING: 6606463  
EASTING: 579162

LOCATION ACCURACY: Within 500M

COMMENTS: Located at site of Diamond Drill Hole 3 and 6 (Assessment Report 15693).

COMMODITIES: Lead                      Zinc                      Chromium

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite  
ASSOCIATED: Quartz              Carbonate  
ALTERATION: Serpentine              Silica              Carbonate  
ALTERATION TYPE: Serpentin'zn              Silicific'n              Carbonate              Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork              Vein  
CLASSIFICATION: Hydrothermal              Epigenetic              Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Carboniferous  
Pennsylvan.-Permian

**GROUP**

Cache Creek

**FORMATION**

Nakina

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon

LITHOLOGY: Basalt  
Ultramafic  
Chert  
Limestone  
Argillite  
Listwanite

HOSTROCK COMMENTS: Listwanite may or may not be present.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The area is underlain by rocks of the Pennsylvanian to Permian Atlin Ultramafic Allochthon, Lower Mississippian to Middle Pennsylvanian Nakina Formation basalt (Cache Creek Group) and Upper Mississippian to Upper Pennsylvanian Kedahda Formation limestone, chert and argillite. The ultramafics are commonly serpentinized, carbonatized and silicified. The andesite is sometimes weakly carbonatized and contains up to 1 per cent pyrite. The occurrence of listwanite is possible.

Diamond drilling in 1986 encountered quartz stockwork within all rock types. Quartz-carbonate veinlets in carbonatized basalt contain pyrite, galena and sphalerite. Gold values are not significant. Minor chromite occurs in ultramafic rock.

**BIBLIOGRAPHY**

EMPR ASS RPT \*15693  
EMPR EXPL 1985-C398  
GSC P 74-47  
GSC MEM 307  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1988/10/11  
DATE REVISED: 1988/11/08

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 119**

NATIONAL MINERAL INVENTORY:

NAME(S): **KRAN II**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N15W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 46 08 N  
LONGITUDE: 132 56 10 W  
ELEVATION: 1680 Metres

NORTHING: 6627477  
EASTING: 615909

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Tin                      Copper                      Zinc                      Iron

**MINERALS**

SIGNIFICANT:	Cassiterite	Chalcopyrite	Sphalerite	Magnetite
ASSOCIATED:	Magnetite	Quartz		
ALTERATION:	Magnetite	Chlorite		
ALTERATION TYPE:	Chloritic			
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER:	Vein	Disseminated	
CLASSIFICATION:	Hydrothermal	Epigenetic	Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date is from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1980
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Tin	0.3500      Per cent

REFERENCE: Assessment Report 9342.

**CAPSULE GEOLOGY**

This tin occurrence is located within the Surprise Lake Batholith near its northern margin. The batholith covers about 1100 square kilometres east and northeast of Atlin and is dated at 70.6 plus or minus 3.8 million years (Late Cretaceous). It is composed primarily of medium-grained, equigranular alaskite which is essentially a leucocratic granite with microcline and orthoclase with subordinate quartz and may or may not contain plagioclase and mafics. There are some coarse-grained quartz-feldspar porphyritic varieties. The contacts between the various textural varieties are commonly gradational. Massive aplitic dykes crosscut the batholith. There are also some very coarse-grained pegmatitic zones within the alaskite with large quartz and feldspar crystals and books of biotite. The width of these zones varies considerably, but the contacts are almost always sharp.

Several rusty alteration zones, up to 2 metres wide, occur on cliffs south of a major east flowing creek. These zones are related to a series of dykes of fine-grained granitic rock from 2 to 5 metres in width. These zones are characterized by abundant chlorite and magnetite, and minor sphalerite, chalcopyrite and quartz veins that carry minor cassiterite.

One grab sample assayed 0.35 per cent tin (Assessment Report 9342).

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR ASS RPT 7345, 8171, \*9342  
EMPR EXPL 1979-299; 1980-500  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A  
EMPR MAP 52 (with notes)

DATE CODED: 1988/07/08  
DATE REVISED: 1988/11/30

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104N 120**

NATIONAL MINERAL INVENTORY:

NAME(S): **O-1**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 36 06 N  
LONGITUDE: 133 22 18 W  
ELEVATION: 1220 Metres

NORTHING: 6608178  
EASTING: 591908

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the southeast corner of the O-1 claim (Assessment Report 16312).

COMMODITIES: Copper

Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Sphalerite  
ALTERATION: Serpentine Carbonate Talc  
ALTERATION TYPE: Quartz-Carb. Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Pennsylvan.-Permian

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic  
Listwanite

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The area is underlain by Mississippian to Triassic Cache Creek Group rock consisting primarily of mafic volcanics of the Mississippian to Pennsylvanian Nakina Formation and cherts and argillite of the Carboniferous Kedahda Formation. These rocks are intruded by ultramafics of the Pennsylvanian to Permian Atlin Allochthon.

The ultramafics are characterized by serpentinization, carbonatization and the development of talc locally.

Intensely altered ultramafics (listwanite?) on the O-1 claims are reported to contain 1 to 5 per cent pyrite, minor chalcopyrite and sphalerite. Significant amounts of quartz veining are also present. Samples taken did not contain significant amounts of gold (Assessment Report 16312).

**BIBLIOGRAPHY**

EMPR ASS RPT \*16312  
EMPR EXPL 1987-C394  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1988/10/17  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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MINFILE NUMBER: **104N 121**

NATIONAL MINERAL INVENTORY:

NAME(S): **SLOKO COAL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N04W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 04 29 N  
LONGITUDE: 133 47 37 W  
ELEVATION: Metres

NORTHING: 6548997  
EASTING: 569157

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located south of Sloko Lake (Geological Survey of Canada Memoir 307, page 67).

COMMODITIES: Coal

**MINERALS**

SIGNIFICANT: Coal

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound  
CLASSIFICATION: Fossil Fuel

Layered  
Sedimentary

Massive

Stratiform

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Cretaceous-Tertiary

**GROUP**

Sloko

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Sandstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

Coal seams less than 1.5 centimetres thick occur interbedded with Tertiary-Cretaceous Sloko Group sandstone south of Sloko Lake. The sedimentary beds have very limited lateral extent. The quality of the coal is reported to be very good (Annual Report 1908). Float coal was found near the southeastern summit of the Sloko Mountains and at a point to the northeast of and overlooking the lower east end of Sloko Lake (GSC Summary Report 1910).

**BIBLIOGRAPHY**

EMPR AR \*1908-J51  
GSC MEM \*307, p. 67  
GSC SUM RPT \*1910, pp. 56-58  
EMPR P 1986-5

DATE CODED: 1988/10/20  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 121**

MINFILE NUMBER: **104N 122**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUFF, VULCAN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 36 N  
LONGITUDE: 133 30 35 W  
ELEVATION: 1400 Metres

NORTHING: 6621913  
EASTING: 583804

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of the Atlin Ruffner Mine (Assessment Report 10179).

COMMODITIES: Silver                      Gold                      Molybdenum                      Zinc                      Lead  
Copper

**MINERALS**

SIGNIFICANT: Molybdenite      Sphalerite      Galena      Chalcopyrite      Pyrite

Arsenopyrite

ASSOCIATED: Quartz

ALTERATION: Silica      Chlorite

ALTERATION TYPE: Silicific'n      Chloritic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated

CLASSIFICATION: Syngenetic                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Unknown

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Middle Jurassic

Fourth of July Creek Batholith

ISOTOPIC AGE: 171 +1/-5 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Diorite  
Quartz Monzonite

HOSTROCK COMMENTS: Mineralized diorite dykes of unknown affinity occur in the Fourth of July Creek Batholith. Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Silver	49.0300	Grams per tonne
Gold	0.1700	Grams per tonne
Lead	0.3000	Per cent
Zinc	1.6400	Per cent

COMMENTS: An average from five drill holes over 1.95 metres.

REFERENCE: Assessment Report 10179.

**CAPSULE GEOLOGY**

The Ruff showing is underlain by quartz monzonite of the Jurassic Fourth of July Creek Batholith. Lamprophyre dykes occur in fault shear zones that have steep north dips.

Two steeply dipping diorite dykes cut the intrusive in an east-west direction. The dykes are approximately 75 metres apart. 1). The Ruff dyke strikes 85 degrees, dips 81 degrees north and is typically 2 metres wide. The dark green diorite is mineralized with quartz, pyrite, sphalerite, molybdenite, arsenopyrite and minor chalcopyrite. Molybdenite is also found in silicified fractures in the intrusive country rock of the hangingwall. Four drill holes through the structure gave an average assay of 0.215 per cent molybdenite, 0.46 per cent lead, 1.5 per cent zinc, 104.92 grams per tonne silver and 1.10 grams per tonne gold over 2.20 metres (Assessment Report 10179).

2). The Vulcan dyke strikes 75 degrees, dips 75 degrees north and is

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**CAPSULE GEOLOGY**

typically 2 metres wide. The diorite is fractured and locally brecciated, sheared and chloritic. Elsewhere it is silicified and massive. The structure is mineralized with pyrite, sphalerite, arsenopyrite and minor chalcopyrite. Five drill holes through the dyke gave an average assay of 0.30 per cent lead, 1.64 per cent zinc, 49.03 grams per tonne silver and 0.17 grams per tonne gold over 1.95 metres (Assessment Report 10179).

**BIBLIOGRAPHY**

EMPR ASS RPT 8718, \*10179, 13549  
EMPR EXPL 1980-503; 1981-226  
GSC MEM 307  
GSC P 74-47  
N MINER Oct.15, 1981; Feb.4, 1982  
GCNL #26,#230, 1980; #19, 1982  
GSC SUM RPT 1910, pp. 52-54  
EMPR FIELDWORK 1990 (in prep.)

DATE CODED: 1988/10/24  
DATE REVISED: 1988/12/01

CODED BY: GJP  
REVISED BY: GJP

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 123**

NATIONAL MINERAL INVENTORY:

NAME(S): **OMEGA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 52 N  
LONGITUDE: 133 28 55 W  
ELEVATION: 1600 Metres

NORTHING: 6620587  
EASTING: 585397

LOCATION ACCURACY: Within 500M

COMMENTS: Located at about 1600 metres elevation on a north facing slope of Vulcan Creek valley (Assessment Report 2203).

COMMODITIES: Copper Molybdenum Lead Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Molybdenite Galena Sphalerite Arsenopyrite  
Pyrite

ASSOCIATED: Quartz

ALTERATION: Silica Epidote

ALTERATION TYPE: Silicific'n Epidote

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Middle Jurassic

Fourth of July Creek Batholith

ISOTOPIC AGE: 171 +1/-5 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite  
Quartz Feldspar Porphyry

HOSTROCK COMMENTS: Age date from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Omega showing occurs in granodiorite of the Jurassic Fourth of July Creek Batholith. The occurrence is located in the southeast corner of the batholith near the Mount Leonard Boss; a small stock which is part of, but separated from, the Late Cretaceous Surprise Lake Batholith. Quartz feldspar porphyry dykes, up to 1 metre wide, intrude the country rock.

Alteration consists of silicification and epidotization. Arsenopyrite, pyrite, chalcopyrite, molybdenite, galena and some sphalerite are found in quartz veins and siliceous zones up to 9 metres wide.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2203  
EMPR AR 1968-23; 1969-28  
EMPR MAP 52 (with notes)  
EMPR FIELDWORK 1990 (in prep.)  
GSC MEM 307  
GSC P 74-47

DATE CODED: 1988/11/24  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 124**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEREYE ASBESTOS**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 43 N  
LONGITUDE: 133 19 25 W  
ELEVATION: 1750 Metres

NORTHING: 6620523  
EASTING: 594310

LOCATION ACCURACY: Within 500M

COMMENTS: Located between Ruby and Cracker Creeks (Assessment Report 7278).

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Tremolite  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Pennsylvan.-Permian

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon

LITHOLOGY: Ultramafic

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

This asbestos occurrence is located at the headwaters of Cracker Creek which drains eastward into the north end of Surprise Lake.

The area is underlain primarily by porphyritic alaskite to quartz monzonite of the Early Cretaceous Surprise Lake Batholith. These rocks have intruded Pennsylvanian to Permian serpentized peridotites of the Atlin Ultramafic Allochthon and Mississippian to Triassic Cache Creek Group rocks. The Cache Creek Group is represented by cherts and argillites of the Carboniferous Kedahda Formation and greenstone of the Mississippian to Pennsylvanian Nakina Formation. The ultramafics are spatially related to Nakina Formation mafic volcanics and, according to Monger (GSC Paper 74-47), they may also be genetically related.

Veins of tremolite asbestos cut the ultramafic body in the northwestern part of the Pereye claim (Assessment Report 7278). The veins are from 0.5 to 4.0 millimetres wide and have a density of 6 veins per metre.

**BIBLIOGRAPHY**

EMPR EXPL 1979-302  
EMPR ASS RPT 2541, \*7278, 8049  
EMPR OF 1995-25  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A  
GSC OF 1565

DATE CODED: 1988/10/25  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 125**

NATIONAL MINERAL INVENTORY: 104N11 Au14

NAME(S): **LITTLE EDNA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 29 N  
LONGITUDE: 133 28 00 W  
ELEVATION: 1400 Metres

NORTHING: 6616184  
EASTING: 586359

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 8 kilometres up Birch Creek from its mouth (GSC Summary Report, 1899).

COMMODITIES: Copper                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite      Pyrite              Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Carboniferous  
Pennsylvan.-Permian

**GROUP**

Cache Creek

**FORMATION**

Nakina

**IGNEOUS/METAMORPHIC/OTHER**

Atlin Ultramafic Allochthon

LITHOLOGY: Black Fine Grained Rock  
Mafic Volcanic  
Ultramafic

HOSTROCK COMMENTS: The host rock is described as a stratified fine-grained, black rock.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Little Edna occurrence is reported to be located on the east fork of Birch Creek, 8 kilometres from the mouth of the creek.

The area is underlain by mafic volcanics of the Lower Mississippian to Middle Pennsylvanian Nakina Formation, Cache Creek Group, and ultramafic rock of the Pennsylvanian to Permian Atlin Ultramafic Allochthon. The Mount Leonard Boss, a small stock which is part of, but separated from, the Late Cretaceous Surprise Lake Batholith, intrudes the country rock to the northeast of the area of interest.

A quartz vein 1.8 to 2.4 metres wide strikes north-northeast and dips 85 degrees west through a stratified series of hard, black, fine-grained rock. The vein contains pyrite, pyrrhotite and chalcopyrite. Samples were reported to contain some gold and silver (GSC Annual Report, Vol. XII, Part B, 1899).

**BIBLIOGRAPHY**

GSC ANN RPT \*1899, Vol. XII, Pt.A, p. 70; Pt.B, p. 45

GSC SUM RPT \*1899, p. 70A

GSC MEM 307

GSC P 74-47

GSC MAP 1082A

EMPR MAP 52 (with notes)

DIAND OF \*1990-4

Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1988/11/02  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 126**

NATIONAL MINERAL INVENTORY:

NAME(S): **ATLIN MAGNETITE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 09 N  
LONGITUDE: 133 19 09 W  
ELEVATION: 1838 Metres

NORTHING: 6621334  
EASTING: 594540

LOCATION ACCURACY: Within 500M

COMMENTS: Station CRE-199, Energy, Mines and Petroleum Atlin Project MD1201, 1988.

COMMODITIES: Iron Copper

**MINERALS**

SIGNIFICANT: Magnetite Chalcopyrite  
COMMENTS: Significant bodies of massive magnetite.  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive Stratabound  
CLASSIFICATION: Skarn Replacement Epigenetic Industrial Min.  
SHAPE: Irregular  
DIMENSION: 0010 x 0001 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Cache Creek	Kedahda	
Pennsylvan.-Permian			Atlin Ultramafic Allochthon
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Marble  
Limestone  
Chert  
Ultramafic  
Serpentinized Peridotite  
Granite

HOSTROCK COMMENTS: In limestone, closely associated with chert, near ultramafics, near margin of Surprise Lake Batholith. Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Cache Creek  
COMMENTS: Central facies belt of Monger (1975) of Atlin terrane.

**CAPSULE GEOLOGY**

This magnetite-rich showing is located 27 kilometres northeast of Atlin, 2 kilometres east of the headwaters of Cracker Creek, north of Surprise Lake. It is shown on Christopher and Pinsent's (Map 52, 1979) map of the Ruby Creek-Boulder Creek area (Adanac-Molybdenum deposit).

Mineralization occurs in recrystallized limestone or impure chert or at their contact, in Upper Mississippian to Upper Pennsylvanian Kedahda Formation sediments, sandwiched between a large body of ultramafic rocks (Atlin Ultramafic Allochthon) and the Late Cretaceous Surprise Lake granitic batholith. The granite is about 200 metres to the east and the mineralization is likely due to skarnification of the limestone. The rich magnetite may be related to the serpentinized peridotite which occurs within 15 metres of the deposit.

The mineralization itself is black or dark maroonish-brown, hackley weathering, siliceous, and conspicuous due to bright green malachite derived from the associated chalcopyrite. Magnetite octahedra reach 3 millimetres. The zone is 0.5 to 1.0 metre thick and occupies a gully in the cliff. It does not appear to be faulted.



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 889  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR MAP 52 (with notes)  
EMPR OF 1998-8-M, pp. 1-74  
GSC MAP 1082A  
GSC MEM 307  
GSC P 74-47  
DIAND OF \*1990-4

Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1988/11/02  
DATE REVISED: / /

CODED BY: CRE  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK:

MINFILE NUMBER: **104N 127**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUBY MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 13 N  
LONGITUDE: 133 22 58 W  
ELEVATION: 1734 Metres

NORTHING: 6617657  
EASTING: 591050

LOCATION ACCURACY: Within 500M

COMMENTS: Station CRE-172, Energy, Mines and Petroleum Resources Atlin Project MD1201, 1988. See also occurrence 104N 057, Dam.

COMMODITIES: Lead

**MINERALS**

SIGNIFICANT: Arsenopyrite Pyrite Galena

COMMENTS: In quartz vein in faulted fracture.

ASSOCIATED: Quartz

COMMENTS: Yellow stain from secondary alteration of arsenopyrite?

ALTERATION TYPE: Silicific'n Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Concordant

CLASSIFICATION: Hydrothermal Epigenetic

DIMENSION:

STRIKE/DIP: 242/65N

TREND/PLUNGE:

COMMENTS: Attitude of quartz vein.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Carboniferous

Upper Cretaceous

**GROUP**

Cache Creek

**FORMATION**

Kedahda

**IGNEOUS/METAMORPHIC/OTHER**

Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Limy Chert

Limestone

HOSTROCK COMMENTS: Associated with volcanics and ultramafics near the Surprise Lake Batholith contact. Age date from Map 52.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

COMMENTS: Central facies belt of Monger (1975) of Atlin terrane.

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The showing is located 22 kilometres northeast of Atlin, on the north trending ridge 900 metres south of Ruby Mountain, north of Surprise Lake.

Mineralization occurs in a roughly concordant quartz vein in cherts and limestone of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation of the Mississippian to Triassic Cache Creek Group (Complex?). These rocks occupy a ridge within the granitic Mount Leonard Boss (related to the 70.6 plus or minus 3.8 million year Surprise Lake Batholith) and may form a roof pendant in the stock. Discontinuous bodies of volcanic and ultramafic rocks also occur in the vicinity of the showing.

The quartz vein is about 20 centimetres thick, strikes 242 degrees, dips 65 degrees to the north and is rich in arsenopyrite and pyrite. It is rusty weathering and has a pale yellow alteration stain due to the oxidation of these sulphides. The margins of the vein are strongly gossanous and are probably sheared.

The closest margin of the Mount Leonard Boss is only about 150 metres east of the showing and the vein may be related to the intrusion. Large quartz veins at the granite's margin are common in the area.

Galena also occurs at this locality as shown on Christopher and Pinsent's map (Map 52) of the Ruby Creek-Boulder Creek area (Adanac-molybdenum deposit).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 891  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MAP 1082A  
GSC P 74-47  
GSC MEM 307  
EMPR MAP 52 (10 pages of notes)  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from  
the Cache Creek Terrane, British Columbia, in Geology V. 15, pp.  
1151-1154

DATE CODED: 1988/11/02  
DATE REVISED: / /

CODED BY: CRE  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK:

MINFILE NUMBER: **104N 128**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUARTZ CREEK, D & D**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 03 N  
LONGITUDE: 133 08 58 W  
ELEVATION: 1630 Metres

NORTHING: 6612124  
EASTING: 604348

LOCATION ACCURACY: Within 500M

COMMENTS: Location from Assessment Report 7448.

COMMODITIES: Copper                      Lead                      Zinc                      Tungsten                      Fluorite

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Galena	Sphalerite	Wolframite	Fluorite
ALTERATION:	Limonite	Manganite			
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Quartz Creek showing is located on steep bluffs on the north side of the creek, near its headwaters. The creek flows westward into Surprise Lake, approximately 35 kilometres northeast of Atlin.

The creek is located well within the Late Cretaceous Surprise Lake Batholith which covers about 1100 square kilometres northeast of Atlin. This alaskitic body has intruded into Upper Paleozoic volcanic and sedimentary rocks of the Cache Creek Group.

The area was prospected for uranium in 1979 and geologists at that time noted that the Quartz Creek bluffs are locally limonitic, manganiferous, and in places exhibit a pale green alteration. Traces of fluorite are present as well as minor amounts of chalcopyrite, galena, sphalerite and wolframite. No uranium is noted along this part of Quartz Creek.

**BIBLIOGRAPHY**

EMPR MAP 52 (with notes)  
EMPR ASS RPT \*7448  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A; 1418A  
EMPR OF 1991-17; 1992-16

DATE CODED: 1988/12/01  
DATE REVISED: 1988/12/01

CODED BY: SED  
REVISED BY: SED

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104N 129**

NATIONAL MINERAL INVENTORY:

NAME(S): **B & B**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 04 N  
LONGITUDE: 133 07 22 W  
ELEVATION: 1500 Metres

NORTHING: 6615909  
EASTING: 605746

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Location from Assessment Report 7353.

COMMODITIES: Lead

**MINERALS**

SIGNIFICANT: Galena Pyrite  
ALTERATION: Limonite Manganite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Surprise Lake Batholith
ISOTOPIC AGE:	70.6 +/- 3.8 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The B & B showing is located on the north side of Horse (formerly Moose) Creek, near its headwaters. The creek flows westward into Surprise Lake, 35 kilometres northeast of Atlin.

The creek is located well within the Late Cretaceous Surprise Lake Batholith which covers about 1100 square kilometres northeast of Atlin. This alaskitic body has intruded into Upper Paleozoic volcanic and sedimentary rocks of the Cache Creek Group.

The area was prospected for uranium in 1979 and at that time geologists noted northeast trending shear zones. Locally, the rocks are limonitic and manganiferous. Traces of pyrite and galena have been noted. Uranium was identified only as small amounts in soils near the creek.

**BIBLIOGRAPHY**

EMPR MAP 52 (with notes)  
EMPR ASS RPT \*7353  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A; 1418A

DATE CODED: 1988/12/01  
DATE REVISED: / /

CODED BY: SED  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 130**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRANITE CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 48 N  
LONGITUDE: 133 08 03 W  
ELEVATION: 1600 Metres

NORTHING: 6622818  
EASTING: 604910

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Location from Assessment Report 7350.

COMMODITIES: Tungsten                      Lead

**MINERALS**

SIGNIFICANT: Wolframite              Galena  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated              Vein  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Surprise Lake Batholith

ISOTOPIC AGE: 70.6 +/- 3.8 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Alaskite

HOSTROCK COMMENTS: Age date from Map 52 notes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Granite (formerly Horse) Creek showing is located south of the creek near the headwaters. The creek flows westward into the northern end of Surprise Lake, approximately 35 kilometres northeast of Atlin.

The creek is located well within the Late Cretaceous Surprise Lake Batholith which covers about 1100 square kilometres northeast of Atlin. This alaskitic body has intruded into Upper Paleozoic volcanic and sedimentary rocks of the Cache Creek Group.

This area was prospected for uranium in 1978 and geologists at that time noted traces of wolframite and some minor quartz veining within the creek bed. Minor amounts of galena were also present in outcrops south of the creek. No uranium was noted along this part of Granite Creek.

**BIBLIOGRAPHY**

EMPR MAP 52 (with notes)  
EMPR ASS RPT \*7350  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A  
EMPR OF 1991-17

DATE CODED: 1988/12/01  
DATE REVISED: / /

CODED BY: SED  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 131**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT CARTER, PET**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 53 29 N  
LONGITUDE: 133 36 21 W  
ELEVATION: 1615 Metres

NORTHING: 6640137  
EASTING: 578014

LOCATION ACCURACY: Within 500M

COMMENTS: Located immediately east of Mount Carter (Area 1); Pet claims (Assessment Report 9812).

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite              Malachite  
ASSOCIATED: Quartz  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                              Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Cache Creek	Kedahda	
Middle Jurassic			Fourth of July Creek Batholith
ISOTOPIC AGE: 171 +1/-5 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Alkali Granite  
Aplite Dike  
Chert

HOSTROCK COMMENTS: Molybdenite occurs in plutonic rocks; malachite occurs in sedimentary rock. Date is from Fieldwork 1990.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Teslin Plateau  
TERRANE: Plutonic Rocks                      Cache Creek

**CAPSULE GEOLOGY**

Minor molybdenite flakes occur in quartz veins in alkali granite of the Jurassic Fourth of July Creek Batholith. These are usually associated with aplitic dykes.

A roof pendant composed of chert of the Upper Mississippian to Upper Pennsylvanian Kedahda Formation (Mississippian to Triassic Cache Creek Group (Complex?)), 75 metres wide, occurs within the batholithic rocks. The presence of malachite is common on fresh and weathered surfaces. Quartz veinlets are reported to permeate the pendant rock.

**BIBLIOGRAPHY**

EMPR MAP 52 (with notes)  
EMPR ASS RPT \*9812  
EMPR FIELDWORK 1990 (in prep.)  
GSC MEM 307  
GSC P 74-47  
GSC MAP 1082A; 1418A  
DIAND OF \*1990-4  
Cordey, F. et al (1987): Significance of Jurassic Radiolarions from the Cache Creek Terrane, British Columbia, in Geology V. 15, pp. 1151-1154

DATE CODED: 1988/12/01  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:





MINFILE NUMBER: **104N 133**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAGISH COAL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 33 59 N  
LONGITUDE: 133 56 06 W  
ELEVATION: 760 Metres

NORTHING: 6603605  
EASTING: 560177

LOCATION ACCURACY: Within 1 KM

COMMENTS: Identified from Energy, Mines and Petroleum Resources Paper 1986-5,  
Coal in Northwestern British Columbia.

COMMODITIES: Coal

**MINERALS**

SIGNIFICANT: Coal  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Layered                      Stratabound  
CLASSIFICATION: Fossil Fuel                      Sedimentary

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Jurassic  
Cretaceous-Tertiary

**GROUP**

Laberge  
Sloko

**FORMATION**

Undefined Formation  
Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Conglomerate  
Sandstone  
Sediment/Sedimentary  
Volcanic

HOSTROCK COMMENTS: It is not known which Group hosts the Coal. Triassic (?) volcanics  
(sediments?) occur to the immediate north also.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Inklin

Overlap Assemblage

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Coal was reported to occur on the south side of Graham Inlet about 8.0 kilometres southwest of Taku Landing, but its existence has not been confirmed (Paper 1986-5).

The area south of Tagish Inlet is underlain primarily by volcanics and sediments of the Jurassic Laberge Group. Overlying this and exposed at higher elevations are volcanics, conglomerate and sandstone of the Cretaceous or Tertiary Sloko Group. North of Tagish Lake exist undifferentiated rocks consisting mainly of volcanics of probable Triassic age.

**BIBLIOGRAPHY**

EMPR P 1986-5  
GSC MEM 307  
GSC MAP 1082A; 1418A

DATE CODED: 1988/12/01  
DATE REVISED: / /

CODED BY: GJP  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104N 134**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAYBREAK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N11W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 39 N  
LONGITUDE: 133 18 47 W  
ELEVATION: 1575 Metres

NORTHING: 6620415  
EASTING: 594907

LOCATION ACCURACY: Within 500M

COMMENTS: Wrigglite skarn near the Pereye Tungsten (104N 016) occurrence  
(Fieldwork 1991, Ray, G. et al (in press)).

COMMODITIES: Tin                      Fluorite                      Beryllium                      Tungsten

**MINERALS**

SIGNIFICANT:	Magnetite	Fluorite	Vesuvianite	Gahnite	Cassiterite
ASSOCIATED:	Garnet				
ALTERATION:	Clinozoisite Pyrite	Garnet Biotite	Fluorite	Vesuvianite	Magnetite
ALTERATION TYPE:	Skarn				
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Layered	Disseminated	Vein
CLASSIFICATION:	Skarn	Epigenetic	
SHAPE:	Tabular		
MODIFIER:	Folded	Sheared	

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Paleozoic  
Upper Cretaceous

GROUP

Cache Creek

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Surprise Lake Batholith

LITHOLOGY: Schistose Biotite Hornfels  
Skarn  
Marble  
Greenstone  
Schistose Hornfels Meta Sediment/Sedimentary  
Mafic Tuff  
Leucocratic Quartz Monzonite Sill  
Leucocratic Quartz Monzonite Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

The Daybreak occurrence was recently discovered by an Atlin prospector, Mr. W. Wallis, and is of interest because it includes ribbon banded "wrigglite" skarn. It is situated at an elevation of 1550 to 1600 metres, east of Ruby Creek and 1 kilometre south of the Atlin Magnetite skarn (104N 126).

The area is underlain by altered greenstone, schistose hornfelsic metasediment and minor mafic tuff and marble of the Upper Paleozoic Cache Creek Group. These are intruded by several large, irregular sills and dykes of leucocratic quartz monzonite that are cut by narrow quartz veins, some of which carry minor fluorite. The sills and dykes are probably related to the nearby satellite stock of the Upper Cretaceous Surprise Lake batholith.

West and southwest of the occurrence there is a large area of garnet-pyroxene-biotite exoskarn, with lesser amounts of unaltered intrusive. This skarn contains layers and irregular veins, up to 0.3 metre thick, of orange-red garnet and green pyroxene that cut a schistose biotite hornfels. The eastern end of the skarn is covered scree that contains numerous large boulders of layered wrigglite skarn. Wrigglite was not seen in outcrop but some of the float represents frost-heaved boulders, suggesting that it subcrops in the immediate vicinity.

The wrigglite skarn is characterized by thin, rhythmic mineral layering; each layer is either green, brown or black, depending upon the quantity of fluorite, vesuvianite, garnet or magnetite present; these are lined with elongated crystals of green clinozoisite. Microprobe and x-ray diffraction studies by the Geological Survey of

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## CAPSULE GEOLOGY

Canada (S.B. Ballantyne, personal communication, 1991) indicate the wrigglite contains gahnite and trace cassiterite, and is enriched in beryllium. No beryl has yet been identified, and it is likely that much of the beryllium is contained as a non-essential element within the vesuvianite and garnet.

The term "wrigglite" to describe rhythmically layered skarn was first used by Askins (1976) and later by Kwak and Askins (1981) although the texture has been recognized since the early part of this century. Kwak (1987) discusses the origin of wrigglite textures and notes it is a characteristic of iron the fluorine-rich tin skarns, most of which contain fluorine in excess of 9 per cent by volume. Wrigglite skarns are commonly associated with fault structures, unlike most tin skarns which generally form at deep levels, they are believed to develop in relatively near-surface conditions such as over the cupolas of high-level granites (Kwak, 1987). Thus, its presence of the fluorine-beryllium-tin skarn assemblages at both the Daybreak and Silver Diamond (104N 069) occurrences are characteristic of highly evolved granitic melts derived from continental crust. This indicates the oceanic Cache Creek Terrane may be underlain by continental basement in the Atlin area.

## BIBLIOGRAPHY

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EMPR OF 1989-159; 1992-16; 1998-8-M, pp. 1-74

DATE CODED: 1991/11/19  
DATE REVISED: / /

CODED BY: ICLW  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104N 135**

NATIONAL MINERAL INVENTORY:

NAME(S): **TESLIN LAKE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104N16W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 58 48 N  
LONGITUDE: 132 22 58 W  
ELEVATION: 690 Metres

NORTHING: 6652073  
EASTING: 646045

LOCATION ACCURACY: Within 500M

COMMENTS: Along east shore of northern Teslin Lake, 2 kilometres south of the Yukon border.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Mississippian			Big Salmon Complex

LITHOLOGY: Tuff  
Quartz Sericite Schist  
Siltstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey

PHYSIOGRAPHIC AREA: Teslin Plateau

**CAPSULE GEOLOGY**

Along east shore of northern Teslin Lake, 2 kilometres south of the Yukon border, a series of mafic to felsic tuffaceous rocks, quartz-sericite schists and siltstones are exposed along a kilometre-long section of lakeshore. All are phyllitic to schistose and relict textures are rare. Several zones display widespread pyrite and traces of chalcopyrite. For example, at the south end of the outcrop belt a 20-metre thickness of locally strongly pyritic felsic metatuff is sandwiched between mafic metatuff. The gossanous layers are up to 30 centimetres thick and typically contain 10 per cent or more pyrite. Chalcopyrite occurs as sparse centimetre-sized clots and irregular stringers. It is evident at several localities that the zone has been previously sampled. Analysis of a single grab sample yielded 2.2 per cent copper and 28 ppm silver (Fieldwork 1997, page 6-17).

**BIBLIOGRAPHY**

EM FIELDWORK 1997, pp. 6-1-6-20; 1999, pp. 47-70  
GSC MAP 1082A; 1418A  
GSC P 74-47

DATE CODED: 1999/11/18  
DATE REVISED: 1999/11/18

CODED BY: MGM  
REVISED BY: LDJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104N 136**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOSS'ALUN**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104N02W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 01 17 N  
LONGITUDE: 132 54 11 W  
ELEVATION: 1300 Metres

NORTHING: 6544322  
EASTING: 620381

LOCATION ACCURACY: Within 500M

COMMENTS: GPS of discovery location within 10 metres.

COMMODITIES: Copper                      Tellurium                      Cobalt

**MINERALS**

SIGNIFICANT: Chalcopyrite      Pyrite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Concordant                      Stratabound                      Breccia                      Discordant  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Cache Creek	Nakina	

LITHOLOGY: Mafic Volcaniclastic  
Gabbro  
Chert  
Basalt  
Ultramafic

HOSTROCK COMMENTS: The Cache Creek Complex ranges in age from Early Mississippian to Lower Jurassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Taku Plateau

**CAPSULE GEOLOGY**

Mitch Mihalynuk of the Ministry of Energy and Mines discovered massive sulphide mineralization during regional mapping in the Atlin area in August 2002. The Joss'alun occurrence was discovered as part of a mapping program conducted under the joint federal and provincial Atlin Targeted Geoscience Initiative.

The Joss'alun discovery is located approximately 75 kilometres by air, southeast of Atlin. Access is by helicopter and the closest road access is a very rough, fire abatement road that ends at Kuthai Lake, 30 kilometres northwest of the occurrence.

The area is underlain by submarine basalt flows, flow breccia, tuffaceous rocks and comagmatic mafic intrusive rocks of the oceanic Cache Creek complex. Textures displayed by the unit along strike of the Joss'alun occurrence confirm a submarine setting as pillow basalt, radiolarian-bearing Fe-rich chert and laminated interpillow micrite are well displayed. The mafic unit is structurally underlain by very dense and magnetic ultramafic rocks of the Nahlin body, interpreted as part of the ancestral Earth's mantle. Unconformably overlying the basalt is a unit comprised of very immature sedimentary rocks, mainly conglomerates, derived from both local and exotic sources.

Mineralization consists of a series of stacked, apparently conformable lenses of semi-massive chalcopyrite and lesser pyrite, which are hosted by a dominantly mafic volcaniclastic unit. Individual lenses exceed 3 metres in strike length and are up to 90 centimetres thick.

The mineralized discovery zone is approximately 190 metres in an east to west direction and 120 metres in a north to south direction. Some thin chalcopyrite veins (up to 5 centimetres thick) are clearly discordant. Sulphides in the lenses appear brecciated. Sparse blebs of chalcopyrite have been observed in outcrop up to 1 kilometre away, along the trend of the host rocks in the discovery zone.

Samples assayed up to 9.77 per cent copper in grab, 3.35 per cent copper over a 90-centimetre chip, and 6.65 per cent copper over a 35-centimetre chip (Mitch Mihalynuk, September 2002).

Copper Ridge Explorations Inc. acquired 100 per cent interest in the Joss'alun in 2002.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 902  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EM FIELDWORK 2001, p. 5-18, pp. 19-29  
EM GEOFILE 2002-6  
EM OF 1996-11  
GSC MEM 307  
PERS COMM Mitch Milalynuk, September 13, 2002  
PR REL Copper Ridge Explorations Inc., Dec.16, 2002; Imperial  
Metals Corp. Nov.27, 2002

DATE CODED: 2002/09/09  
DATE REVISED: 2002/09/10

CODED BY: MGM  
REVISED BY: MGM

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1040 001**

NATIONAL MINERAL INVENTORY: 104015,105B2 Pb1

NAME(S): **HOLLIDAY-DISCOVERY**, SWITCHBACK, HOLLIDAY RANSOM,  
SANDY 40, EVA, KLONDIKE SILVER,  
DENIS

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:  
LATITUDE: 59 59 44 N  
LONGITUDE: 130 33 46 W  
ELEVATION: 1800 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Discovery vein - Abbott; pers comm. 1986.

Underground

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6651946  
EASTING: 412826

COMMODITIES: Silver Gold Lead Zinc Copper

**MINERALS**

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite Sericite Kaolinite Quartz Pyrite  
Anglesite

COMMENTS: Vein alteration envelope up to 30 metres wide.  
AGE: Tertiary Age postulated in Abbott (1983).

ALTERATION TYPE: Chloritic Sericitic Argillic Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Tabular  
MODIFIER: Faulted

DIMENSION: STRIKE/DIP: 027/55E TREND/PLUNGE:  
COMMENTS: Attitude from Yukon Expl. and Geol. (1983), p. 141. Other sources  
give vertical dip.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Cretaceous \_\_\_\_\_ Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
Granodiorite  
Quartz Vein  
Mafic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1979  
SAMPLE TYPE: Bulk Sample  
COMMODITY GRADE  
Silver 532.0100 Grams per tonne  
Gold 1.3000 Grams per tonne  
Copper 0.1600 Per cent  
Lead 29.1000 Per cent  
Zinc 13.9000 Per cent

COMMENTS: Hand cobbed shipment of 14 tonnes from the Pit (104O 017) and  
Discovery veins.

REFERENCE: Department of Indian and Northern Affairs, 1983.





MINFILE NUMBER: **1040 002**

NATIONAL MINERAL INVENTORY: 104O15,105B2 Pb1

NAME(S): **HOLLIDAY-SHIPMENT**, HOLLIDAY RANSOM, EVA,  
MOLLY, SANDY, KLONDIKE SILVER,  
CHINESE

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:  
LATITUDE: 59 59 39 N  
LONGITUDE: 130 33 16 W  
ELEVATION: 1554 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Shipment vein - Abbott, pers. comm. 1986.

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6651780  
EASTING: 413287

COMMODITIES: Silver Gold Lead Zinc

**MINERALS**

SIGNIFICANT: Galena Sphalerite Pyrite Hematite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite Sericite Kaolinite Hematite  
COMMENTS: Alteration envelopes about 25 centimetres wide.  
AGE: Tertiary Age postulated in Abbott (1983).  
ALTERATION TYPE: Chloritic Sericitic Argillic Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Tabular  
MODIFIER: Sheared  
DIMENSION: 0030 x 0001 Metres STRIKE/DIP: 065/90 TREND/PLUNGE:  
COMMENTS: Attitude for Shipment Veins.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
Granodiorite  
Quartz Vein  
Mafic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar

**INVENTORY**

ORE ZONE: HOLLIDAY REPORT ON: Y  
CATEGORY: Inferred YEAR: 1983  
QUANTITY: 36287 Tonnes  
COMMODITY GRADE  
Silver 427.2000 Grams per tonne  
Lead 14.9500 Per cent  
Zinc 20.7800 Per cent

COMMENTS: These reserves likely include the Discovery (104O 001), Shipment,  
and Pit (104O 017) veins.  
REFERENCE: George Cross News Letter No.43, 1983.

**CAPSULE GEOLOGY**

The Shipment veins, located on the Klondike Silver property near the Yukon-British Columbia border, are five narrow quartz veins exposed in shear zones of the Cretaceous Cassiar Batholith quartz monzonite. These veins, which are vertical and strike between 065 and 090 degrees, are exposed in trenches for about 30 metres and are up to 25 centimetres in width. Argillic, chloritic and sericitic alteration envelopes may be mineralized with galena, sphalerite and pyrite. Inferred ore of 36,287 tonnes grades 427.2 grams per tonne silver, 14.95 per cent lead and 20.78 per cent zinc (George Cross News Letter No.43, 1983). These reserves likely include the Discovery (104O 001), Shipment, and Pit (104O 017) veins.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 906  
REPORT: RGEN0100

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EMPR FIELDWORK 2000-03, pp. 51-66  
EMPR GEM 1972-559; 1973-516; 1974-352  
EMPR OF 1998-10  
EMPR PF (\*Holliday, 1983, DIAND, \*Yukon Exploration and Geology, pp.  
141-142  
EMR MIN BULL MR 223 B.C. 346  
EMR MP CORPFILE (Yukon Ranges Exploration Ltd.; Emperor Mines Ltd.;  
Cone Mt. Mines Ltd.; Sundance Gold Ltd.)  
GSC MAP 10-1960; 18-1968; 7001G  
GSC OF 561  
GSC P \*68-55, p. 35  
GCNL #43, 1983  
\*Abbott, G. (1983): Silver-bearing veins and replacement deposits  
of the Rancheria District, Yukon Exploration and Geology, DIAND,  
pp. 34-44

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: 1040 002

MINFILE NUMBER: **1040 003**

NATIONAL MINERAL INVENTORY: 104016 Ag2

NAME(S): **SILVERTIP**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 54 59 N  
LONGITUDE: 130 21 06 W  
ELEVATION: 1600 Metres

NORTHING: 6642871  
EASTING: 424420

LOCATION ACCURACY: Within 500M

COMMENTS: Silvertip upper adit (#2 zone). See Midway (1040 038).

COMMODITIES: Silver                      Lead                      Zinc                      Tin                      Gold

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Tetrahedrite              Stannite              Pyrite

                  Chalcopyrite              Cerussite

ASSOCIATED: Calcite              Quartz              Siderite              Barite

ALTERATION: Limonite              Siderite              Hematite              Anglesite

ALTERATION TYPE: Oxidation              Silicific'n

MINERALIZATION AGE: Unknown

ISOTOPIC AGE: 97.3 +/- 3.4 Ma              DATING METHOD: Potassium/Argon              MATERIAL DATED: Muscovite

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal              Epigenetic              Replacement

DIMENSION: 0012 x 0010              Metres              STRIKE/DIP:

COMMENTS: Northeast to east trending, steep-dipping faults and fractures contain oxidized mineralization. Dating by Bradford and Goodwin, Fieldwork 1987.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER

Middle Devonian      McDame                      Undefined Formation

DATING METHOD: Fossil

MATERIAL DATED: Fossils in limestone

LITHOLOGY: Limestone  
Dolomite  
Sediment/Sedimentary  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: UNDERGROUND

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1968

SAMPLE TYPE: Channel

COMMODITY

GRADE

Silver                      195.4000              Grams per tonne

Lead                      6.2000              Per cent

Zinc                      2.9000              Per cent

COMMENTS: Average for 21 channel samples across 3 to 10 metre widths (#2 zone).

REFERENCE: Minister of Mines Annual Report 1968, page 26.

**CAPSULE GEOLOGY**

The Silvertip prospect is located south of the Midway Deposit on a branch of the Tootsee River called Silvertip Creek. Galena, sphalerite, and tetrahedrite replacement mineralization occur in highly oxidized zones in the Mid-Devonian McDame Group limestone just west of a fault zone separating McDame carbonates from a down-dropped block of Upper Devonian to Mississippian Earn Group clastic sediments. A sulphide zone 12 metres in length was exposed underground, but surface mineralization is generally oxidized, with residual galena and minor sphalerite. Stannite has been identified in the sulphide assemblage, and a magmatic-hydrothermal source is suspected. The average grade for 21 channel samples across 3 to 10 metre widths is 195.4 grams per tonne silver, 6.2 per cent lead and 2.9 per cent zinc (Minister of Mines Annual Report 1968, page 26).

## BIBLIOGRAPHY

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GSC EC GEOL \*28, p. 79  
GSC MAP 18-1968  
GSC OF 561  
GSC P \*68-55, p. 34; \*68-70, p. 8  
\*Yukon Exploration and Geology, 1983, DIAND, pp. 34-44

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 004**

NATIONAL MINERAL INVENTORY: 104016 Ag1

NAME(S): **AMY, MARBACO, GEM,  
FLO - LEO, FOSCO, RANCHERIA,  
AMI**

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104016W  
BC MAP:  
LATITUDE: 59 55 39 N  
LONGITUDE: 130 29 46 W  
ELEVATION: 1380 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Upper adit.

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6644282  
EASTING: 416373

COMMODITIES: Silver                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Arsenopyrite      Freibergite      Pyrite  
                  Pyrrhotite  
ASSOCIATED: Quartz      Calcite      Siderite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Concordant  
CLASSIFICATION: Replacement  
                  TYPE: J01 Polymetallic manto Ag-Pb-Zn  
                  SHAPE: Tabular  
                  MODIFIER: Folded  
DIMENSION: 170 x 2                      Metres                      STRIKE/DIP: 120/60S                      TREND/PLUNGE:  
COMMENTS: Sulphide zone attitude.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cambrian-Ordovician	Kechika	Undefined Formation	

LITHOLOGY: Marble  
                  Phyllite  
                  Calc-silicate Hornfels  
                  Granitic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: AMY                      REPORT ON: Y  
CATEGORY: Combined                      YEAR: 1973  
QUANTITY: 72431 Tonnes  
COMMODITY                      GRADE  
Silver                      366.7000      Grams per tonne  
Lead                      2.8400      Per cent  
Zinc                      6.0300      Per cent

COMMENTS: Measured and indicated reserves.  
REFERENCE: Statement of Material Facts 88-81, Marbaco Resources Ltd.

**CAPSULE GEOLOGY**

The Amy-Marbaco deposit, in northwest British Columbia, is a galena and sphalerite body formed by replacement mineralization in concordant zones of tightly folded Cambro-Ordovician Kechika Group metasediments. Sulphide zones averaging 1.8 metres wide occur primarily in marble units in a phyllite-calc-silicate hornfels-quartzite package. Mineralization, consisting of sphalerite, galena, pyrite, arsenopyrite and freibergite can be traced along strike for 170 metres. Smaller pyrrhotite-rich zones also occur. The Kechika sequence is cut by several late-stage muscovite tourmaline granite dykes associated with the Cassiar Batholith. One of these dykes gives a potassium-argon age of 97.3 plus or minus 3.4 million years (Fieldwork 1987, pages 353-362).

Measured and indicated reserves are 72,431 tonnes grading 366.7 grams per tonne silver, 6.03 per cent zinc, and 2.84 per cent lead (Statement of Material Facts 88-81, Marbaco Resources Ltd.).

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GSC OF 561  
GSC P 68-55, p. 34; 68-70, Table 1, p. 8  
GCNL #35, 1982; #43, 1983; #191,#232, 1985; #90, 1986  
DIAND 1983, pp. 34-44  
WWW [http://www.infomine.com/index/properties/AMY\\_html](http://www.infomine.com/index/properties/AMY_html)  
EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 005**

NATIONAL MINERAL INVENTORY: 10409 W1

NAME(S): **BLUE LIGHT**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O09W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 38 59 N  
LONGITUDE: 130 28 06 W  
ELEVATION: Metres

NORTHING: 6613318  
EASTING: 417240

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Tungsten                      Beryllium                      Fluorite                      Tin

**MINERALS**

SIGNIFICANT: Scheelite      Fluorite      Beryl      Magnetite      Pyrite

Fluorapatite  
COMMENTS: Magnetite-pyrite lenses with tin separate from main showing.  
Tin mineral not referenced.

ASSOCIATED: Diopside      Quartz      Garnet      Amphibole

ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn                      Epigenetic                      Industrial Min.

SHAPE: Irregular

MODIFIER: Faulted

DIMENSION: 0030 x 0002                      Metres                      STRIKE/DIP:

COMMENTS: Bedding strikes north to north-northwest, dipping steeply to west,  
with a roughly conformable fault zone and foliation.                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous Eocene	Undefined Group	Oblique Creek	Unnamed/Unknown Informal

LITHOLOGY: Garnet Diopside Skarn  
Augen Gneiss  
Pelitic Hornfels  
Pegmatitic Dike  
Quartzitic/Quartzose Hornfels  
Pelitic Schist  
Marble  
Diorite  
Granodiorite  
Muscovite Quartz Monzonite

HOSTROCK COMMENTS: Main showing in augen gneiss; may be a deformed sill related to early dioritic intrusions.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains

TERRANE: Overlap Assemblage

METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Amphibolite

COMMENTS: Metamorphism both pre- and syn- mineralization.

**CAPSULE GEOLOGY**

The main showing of the Blue Light prospect, in northwest British Columbia occurs in the Mississippian-Pennsylvanian meta-sedimentary Oblique Creek Formation in an embayment on the west side of the Cassiar Batholith. Scheelite occurs as disseminations and coarse aggregates in quartz-amphibole and diopside-garnet skarn lenses up to 1.5 metres thick within a 15 metre wide sheeted zone of augen gneiss and pelitic hornfels. Late pegmatite dykes crosscut the metasediments and intrusive phases. The mineralization is associated with an Eocene granitic intrusion (Nelson et al, Fieldwork 1987). The dykes contain fluorite, fluorapatite and minor beryl. The zone of discontinuous tungsten mineralization is exposed for a length of 30 metres. South of this, magnetite-quartz-pyrite lenses up to 3 metres thick occur in a quartzitic hornfels, roughly parallel to bedding. These contain up to 0.89 per cent tin.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

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**BIBLIOGRAPHY**

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Light Claims, Spartan Explorations Ltd. Report)  
GSC P 66-2, pp. 48,49; \*68-55, p. 35; \*68-70, p. 9  
GSC EC GEOL \*28, pp. 80,81  
EMPR AR 1968-33  
EMR MP RESFILE (MR-W-301.000)  
EMR MP CORPFILE (Spartan Explorations Ltd.)  
EMPR EXPL 1980-506  
GSC MAP \*18-1968  
EMPR ASS RPT \*7937  
EMPR FIELDWORK 1987, pp. 525-527  
GSC OF 561  
EMPR OF 1991-17; 1992-16

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JN

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **1040 006**

NATIONAL MINERAL INVENTORY: 104015 Sb1

NAME(S): **TAN, PLATE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 51 49 N  
LONGITUDE: 130 42 56 W  
ELEVATION: 1067 Metres

NORTHING: 6637466  
EASTING: 403924

LOCATION ACCURACY: Within 1 KM

COMMENTS: Original vein occurrence - east side of creek.

COMMODITIES: Antimony

**MINERALS**

SIGNIFICANT: Stibnite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Limonite Goethite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Folded Faulted  
COMMENTS: Variable foliation in metasediments; fracturing is well-developed with main fracture set trending north.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvanian			Unnamed/Unknown Informal
Middle Jurassic			Nome Lake Batholith

ISOTOPIC AGE: 183 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende, Biotite

LITHOLOGY: Quartz Monzonite  
Granodiorite  
Diorite  
Phyllite  
Quartz Vein  
Quartzite  
Siltstone  
Limestone  
Graphitic Chlorite Schist

HOSTROCK COMMENTS: Date +/- 9 Ma. Pennsylvanian(?) sediments include quartzite, siltstone, phyllite, graphitic chlorite schist and limestone.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Pre-mineralization  
GRADE: Amphibolite

**CAPSULE GEOLOGY**

In the Cassiar Mountains of northern British Columbia (Plate claims), a folded and faulted assemblage of Pennsylvanian(?) quartzite, phyllite, siltstone and limestone is intruded by stocks, dykes and sills of quartz monzonite, granodiorite and diorite related to the Middle Jurassic Nome Lake Batholith. Stibnite and pyrite occur in a quartz vein 0.2 metres wide. Limonite and goethite occur replacing pyrite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*3045, \*8304, \*9207  
EMPR EXPL 1979-312; 1980-507  
EMPR FIELDWORK 2000-03, pp. 51-66  
EMPR GEM 1971-56  
EMPR OF 1998-10  
GSC MAP \*18-1968  
GSC OF 561

RUN DATE: 26-Jun-2003  
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*GEOLOGICAL SURVEY BRANCH*  
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**BIBLIOGRAPHY**

GSC P 68-55; \*69-2A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 007**

NATIONAL MINERAL INVENTORY: 10405 Cu1

NAME(S): **IRV 101**, IRV 103

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104005E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 19 44 N  
LONGITUDE: 131 42 36 W  
ELEVATION: 1700 Metres

NORTHING: 6579812  
EASTING: 345819

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of showings.

COMMODITIES: Copper                      Lead                      Molybdenum

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Bornite	Galena	Molybdenite	
ASSOCIATED:	Quartz	Orthoclase	Tourmaline	Epidote	
ALTERATION:	Epidote	Chlorite	Sericite	Malachite	Powellite
ALTERATION TYPE:	Propylitic	Oxidation			
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted                      Fractured  
COMMENTS: Main fracture trend is east.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Christmas Creek Batholith

LITHOLOGY: Diorite  
Quartz Diorite  
Quartz Orthoclase Vein  
Basaltic Dike

HOSTROCK COMMENTS: Plutonic rocks are intruded by generally east trending steeply dipping Tertiary basaltic dykes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

On the Tanzilla Plateau in northwest British Columbia (Irv claims), chalcopyrite, bornite and minor galena and molybdenite occur as plates in quartz-orthoclase veins averaging 0.6 centimetres wide in hornblende diorite and quartz diorite of the Middle Jurassic Christmas Creek Batholith. The veins contain accessory tourmaline and epidote. Chalcopyrite also occurs in xenoliths and hornblende clots in the host intrusives. Malachite and powellite are common. Propylitic alteration is pervasive. Basaltic dykes trending east and with steep dips cut the plutonic rocks.

**BIBLIOGRAPHY**

EMPR GEM 1971-54  
EMPR BULL \*19, p. 41  
EMPR ASS RPT \*3209  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 008**

NATIONAL MINERAL INVENTORY: 10405 Cu1

NAME(S): **IRV 22**, IRV 57, IRV 96

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104005E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 19 29 N  
LONGITUDE: 131 41 36 W  
ELEVATION: 1525 Metres

NORTHING: 6579310  
EASTING: 346748

LOCATION ACCURACY: Within 500M  
COMMENTS: Centre of showing.

COMMODITIES: Copper                      Lead                      Molybdenum

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Bornite	Galena	Molybdenite	
ASSOCIATED:	Quartz	Orthoclase	Tourmaline	Epidote	
ALTERATION:	Epidote	Chlorite	Sericite	Malachite	Powellite
ALTERATION TYPE:	Propylitic	Oxidation			
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
SHAPE: Tabular  
MODIFIER: Fractured  
COMMENTS: Main fracture trend is east.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Christmas Creek Batholith

LITHOLOGY: Diorite  
Quartz Diorite  
Quartz Orthoclase Vein  
Basaltic Dike

HOSTROCK COMMENTS: Plutonic rocks are intruded by generally east trending, steeply dipping Tertiary basaltic dykes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

On the Tanzilla Plateau of northern British Columbia, (Irv claims), chalcopyrite, bornite and minor galena and molybdenite occur as plates in quartz-orthoclase veins averaging 0.6 centimetres wide in hornblende diorite and quartz diorite of the Middle Jurassic Christmas Creek Batholith. The veins contain accessory tourmaline and epidote. Chalcopyrite also occurs in xenoliths and hornblende clots in the host intrusives. Malachite and powellite are common. Propylitic alteration is pervasive. Basaltic dykes trending east and steeply dipping cut the plutonic rocks.

**BIBLIOGRAPHY**

EMPR GEM 1971-54  
EMPR ASS RPT \*3209, \*3210  
EMPR BULL \*19, p. 41  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 009**

NATIONAL MINERAL INVENTORY: 10405 Cu2

NAME(S): **PEN 1**, PEN 2, PEN 4

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104005E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 18 39 N  
LONGITUDE: 131 43 26 W  
ELEVATION: 5000 Metres

NORTHING: 6577835  
EASTING: 344947

LOCATION ACCURACY: Within 500M  
COMMENTS: Centre of showing.

COMMODITIES: Copper                      Lead                      Molybdenum

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Bornite	Galena	Molybdenite	
ASSOCIATED:	Quartz	Orthoclase	Tourmaline	Epidote	
ALTERATION:	Epidote	Chlorite	Sericite	Malachite	Powellite
ALTERATION TYPE:	Propylitic		Oxidation		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
DIMENSION:  
COMMENTS: The attitude is common for veins, joints.

STRIKE/DIP: 060/70S                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Christmas Creek Batholith

LITHOLOGY: Diorite  
Quartz Diorite  
Quartz Orthoclase Vein  
Basaltic Dike

HOSTROCK COMMENTS: Plutonic rocks are intruded by generally east-west trending, steeply dipping Tertiary basaltic dykes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Tanzilla Plateau  
TERRANE: Plutonic Rocks

**CAPSULE GEOLOGY**

On the Tanzilla Plateau in northern British Columbia chalcopyrite, bornite and minor galena and molybdenite occur as plates in quartz-orthoclase veins averaging 0.6 centimetres wide in hornblende diorite and quartz diorite of the Middle Jurassic Christmas Creek Batholith. The veins contain accessory tourmaline and epidote. Chalcopyrite also occurs in xenoliths and hornblende clots. One 0.3 metre wide quartz vein in a cirque wall south of Loon Lake (Pen 1) contains abundant coarse molybdenite. Malachite and powellite are common. Propylitic alteration is pervasive and basaltic dykes, trending east and steeply dipping cut the older intrusives.

**BIBLIOGRAPHY**

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EMPR ASS RPT \*3210  
EMPR BULL \*19, p. 41  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 010**

NATIONAL MINERAL INVENTORY: 10406 Mo1

NAME(S): **SWAN**, TAHOOTS CREEK

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104006W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 29 N  
LONGITUDE: 131 18 06 W  
ELEVATION: 1500 Metres

NORTHING: 6572908  
EASTING: 368836

LOCATION ACCURACY: Within 500M  
COMMENTS: Showings.

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite Pyrite Magnetite Arsenopyrite

ASSOCIATED: Quartz  
ALTERATION: Chlorite

COMMENTS: Chlorite-coated fractures occur in a 150 by 300 metre crackle zone.  
Occurrence is fractured and brecciated.

ALTERATION TYPE: Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia Disseminated  
CLASSIFICATION: Hydrothermal Porphyry Epigenetic

SHAPE: Irregular  
MODIFIER: Fractured Other

COMMENTS: Northwest and northeast-trending veins and fractures.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Glundebery Batholith

LITHOLOGY: Granite  
Quartz Feldspar Porphyry  
Alaskite  
Diorite  
Quartz Vein  
Felsic Dike  
Basic Dike  
Quartz Brecciated Vein

HOSTROCK COMMENTS: Intrusives cut by felsic and mafic dykes.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

The Swan porphyry occurrence on the Tanzilla Plateau in northern British Columbia is underlain by granite, quartz feldspar porphyry, alaskite, and diorite of the Late Cretaceous Glundebery Batholith. Molybdenite occurs as coarse rosettes in 2 to 10 centimetre wide quartz veins and as fine-grained disseminations in brecciated quartz veins up to 35 centimetres wide. The breccia veins strike northeast. Other quartz-molybdenite and quartz-molybdenite-arsenopyrite-pyrite-magnetite veinlets occur in a northwest trending mineralized zone. Chlorite occurs along fractures. Felsic and basic dykes cut the intrusive.

**BIBLIOGRAPHY**

EMPR GEM 1970-31; 1971-55; 1972-559  
EMPR EXPL 1975-E192; \*1976-E196  
EMPR ASS RPT 3211, 3971, 6012  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 011**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARSENAULT, TOP**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O13E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 48 14 N  
LONGITUDE: 131 42 40 W  
ELEVATION: 1400 Metres

NORTHING: 6632682  
EASTING: 347914

LOCATION ACCURACY: Within 500M  
COMMENTS: Near middle of Arsenault claim block.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Pyrrhotite	Pyrite		
ASSOCIATED:	Actinolite	Chlorite	Quartz	Epidote	Calcite
ALTERATION:	Chlorite	Epidote	Sericite		
ALTERATION TYPE:	Propylitic		Sericitic		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Concordant	Disseminated		
CLASSIFICATION:	Skarn	Volcanogenic	Replacement	Epigenetic
TYPE:	K01 Cu skarn			
SHAPE:	Irregular			
MODIFIER:	Folded			
COMMENTS:	Host rocks are complexly folded and faulted.			

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Simpson Peak Batholith
Mississippian			Big Salmon Complex

LITHOLOGY: Gneiss  
Schist  
Skarn  
Quartz Vein  
Granodiorite  
Basic Dike  
Felsic Dike  
Marble

HOSTROCK COMMENTS: Complexly deformed metasediment/metavolcanic package intruded by various dykes.

**GEOLOGICAL SETTING**

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Nisutlin Plateau
TERRANE:	Dorsey		
METAMORPHIC TYPE:	Contact Regional	RELATIONSHIP:	Pre-mineralization
COMMENTS:	Metamorphism both pre- and syn-mineralization.		GRADE: Amphibolite

**CAPSULE GEOLOGY**

On the Nisutlin Plateau in northern British Columbia this copper occurrence is hosted by complexly deformed metasediments and meta-volcanics of Mississippian(?) Big Salmon Complex. These rocks have undergone amphibolite-grade regional metamorphism, in the course of at least two phases of deformation, and are now a variety of schists and gneisses. Granodiorite of the Early Jurassic Simpson Peak Batholith outcrops in the southeast portion of the property. A variety of basic and felsic dykes crosscut the deformed rocks. Disseminated to layered chalcopyrite, pyrrhotite, and pyrite occur in chlorite-actinolite schist and appear to be concentrated in fold hinges, indicating a possible remobilized volcanogenic origin. Chalcopyrite, pyrrhotite, and pyrite also occur as disseminations in skarn, marble and calcareous metasediments adjacent to mafic dykes and as blebs in vein quartz, indicating an epigenetic origin.

**BIBLIOGRAPHY**

EM EXPL 1999-19-31  
EM FIELDWORK 1997, pp. 6-1-6-20; 1999, pp. 27-46,47-70, 315-318  
EMPR ASS RPT \*1149, \*2976, \*3014, \*3502, \*8022, 10411  
EMPR EXPL 1980-507  
EMPR GEM 1971-55

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 920  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR OF 1999-2  
EMPR PF (\*Sawyer, J.B. (1977): Report on the Arsenault Claims Copper  
Prospect Jennings River Area; report for Rebel Developments)  
GSC MAP 18-1968  
GSC OF 561  
GSC P \*68-55, p. 35

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1040 012**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAKE, SANDY 35**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 58 49 N  
LONGITUDE: 130 32 36 W  
ELEVATION: Metres

NORTHING: 6650219  
EASTING: 413870

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Near middle of claim.

COMMODITIES: Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Sphalerite  
ASSOCIATED: Quartz  
ALTERATION: Sericite              Chlorite  
ALTERATION TYPE: Sericitic              Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared                      Other  
COMMENTS: North trending fracturing and mineralization.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Cassiar Batholith

LITHOLOGY: Porphyritic Biotite Quartz Monzonite  
Quartz Vein  
Gabbroic Dike  
Breccia

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
COMMENTS: Cassiar Batholith part of interior metamorphic-plutonic belt.

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Located in the Cassiar Mountains of northern British Columbia, the Lake occurrence consists of quartz stringers with galena and sphalerite in a north trending shear zone in locally porphyritic biotite quartz monzonite of the Cassiar Batholith. A vertical dipping gabbroic dyke about 3 metres wide parallels the mineralized zone. Intrusives within the shear zone are brecciated, sericitized and chloritized.

**BIBLIOGRAPHY**

EMPR ASS RPT \*3844, 14165  
EMPR FIELDWORK 2000-03, pp. 51-66  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55  
DIAND 1983, pp. 34-44

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 013**

NATIONAL MINERAL INVENTORY: 104016 Mo1

NAME(S): **NANCY**, TOOT, LAKE

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 58 29 N  
LONGITUDE: 130 25 36 W  
ELEVATION: 1680 Metres

NORTHING: 6649455  
EASTING: 420367

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Main mineralized zone.

COMMODITIES: Molybdenum                      Lead                      Zinc                      Tungsten

**MINERALS**

SIGNIFICANT: Molybdenite      Galena              Sphalerite              Scheelite              Pyrite

                    Pyrrhotite      Chalcopyrite

ASSOCIATED: Quartz

ALTERATION: Quartz              Sericite              Garnet              Diopside              Idocrase

                    Calcite

ALTERATION TYPE: Sericitic                      Skarn                      Propylitic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Discordant                      Disseminated

CLASSIFICATION: Hydrothermal              Porphyry                      Skarn

SHAPE: Irregular

MODIFIER: Fractured

COMMENTS: Bedding dips moderately to steeply southeast.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Cambrian-Ordovician  
Cretaceous

**GROUP**

Kechika

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

Cassiar Batholith

**LITHOLOGY:**

Hornfels  
Garnet Diopside Idocrase Skarn  
Quartz Monzonite  
Aplite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Hornfels

**CAPSULE GEOLOGY**

The mineralization on the Toot 1 and 2 and Lake 8 to 11 claims in the Cassiar Mountains of northern British Columbia is hosted by Cambro-Ordovician Kechika Group sediments which have been intruded and hornfelsed by Mid-Cretaceous quartz monzonite of the Cassiar Batholith. Molybdenite occurs in quartz veins averaging 5 to 10 centimetres wide in strongly fractured, sericitized zones in the intrusives, within 100 metres of the contact. Galena, sphalerite and pyrite occur in minor amounts. Calc-silicate hornfels units adjacent to the batholith are cut by quartz veins and contain garnet-diopside-idocrase-calcite skarn zones with minor pyrrhotite and scheelite.

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EMPR ASS RPT \*7257, \*8125  
EMPR EXPL 1979-315; 1980-511,512  
GSC P \*68-70, p. 9; \*68-55, p. 35  
GSC MAP \*18-1968  
EMPR FIELDWORK 1986, p. 190; 1987, pp. 525-527  
DIAND 1983, pp. 34-44  
GSC OF 561  
EMPR OF 1991-17  
EMPR MP MAP 1992-12

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 014**

NATIONAL MINERAL INVENTORY: 104011 W1

NAME(S): **SHAR 5-6, NOME LAKE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O11W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 39 09 N  
LONGITUDE: 131 07 21 W  
ELEVATION: Metres

NORTHING: 6614624  
EASTING: 380386

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Tungsten

**MINERALS**

SIGNIFICANT: Scheelite Pyrite Pyrrhotite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Discordant  
CLASSIFICATION: Skarn Epigenetic  
COMMENTS: Bedding strikes from 040 degrees to 110 degrees, dipping moderately northwest to south.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous Jurassic	Unnamed/Unknown Group	Unnamed/Unknown Formation	Nome Lake Batholith

ISOTOPIC AGE: 183 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite, hornblende

LITHOLOGY: Meta Sediment/Sedimentary  
Granite  
Granodiorite  
Skarn  
Basic Volcanic  
Quartzite  
Graphitic Pelite

HOSTROCK COMMENTS: Date plus or minus 9 Ma.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Contact  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Syn-mineralization  
GRADE: Hornfels

**CAPSULE GEOLOGY**

In the Cassiar Mountains of northwestern British Columbia, located on the Shar 5-6 claims, Carboniferous sediments and minor basic volcanics are intruded by Early Jurassic granite and granodiorite of the Nome Lake Batholith. Scheelite occurs as disseminations with pyrrhotite in skarns near the intrusive contact. Elsewhere, disseminated pyrite occurs in quartzite and graphitic pelites. The bedding of the sediments strikes from 040 to 110 degrees with moderate dips from northwest to south.

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GSC MAP \*18-1968  
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GSC OF 561  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 015**

NATIONAL MINERAL INVENTORY: 104016 Pb1

NAME(S): **BERG**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 57 39 N  
LONGITUDE: 130 23 36 W  
ELEVATION: 1550 Metres

NORTHING: 6647868  
EASTING: 422195

LOCATION ACCURACY: Within 500M  
COMMENTS: Trenches.

COMMODITIES: Silver                      Lead                      Zinc                      Barite

**MINERALS**

SIGNIFICANT:	Galena	Sphalerite	Pyrite	Barite
ASSOCIATED:	Quartz	Barite		
ALTERATION:	Limonite	Pyrolusite	Hydrozincite	Cerussite
ALTERATION TYPE:	Silicific'n	Carbonate		Oxidation
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER:	Breccia	Discordant
CLASSIFICATION:	Epigenetic	Industrial Min.
SHAPE:	Irregular	

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Devonian-Mississipp.	Earn	Undefined Formation	

LITHOLOGY: Shale  
Siltstone  
Breccia  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Hornfels

**CAPSULE GEOLOGY**

The Berg showing, located in the Cassiar Mountains of northern British Columbia, contains iron-manganese gossans and oxidized lead-zinc-silver mineralization in brecciated, silicified Earn Group shales and siltstones in a screen overlying a thick package of McDame Group carbonates. The occurrence contains hydrozincite, cerussite and barite. Galena, sphalerite and pyrite have also been reported.

**BIBLIOGRAPHY**

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GSC P \*68-55, p. 35  
GSC MAP \*18-1968  
EMPR FIELDWORK 1986, p. 191; 1987, pp. 525-527  
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EMPR MP MAP 1992-12

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 016**

NATIONAL MINERAL INVENTORY: 104013 W1

NAME(S): **LOGTUNG**, LOG JAM CREEK, B.C. ZONE,  
JAM 2

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104013E  
BC MAP:  
LATITUDE: 59 59 44 N  
LONGITUDE: 131 36 06 W  
ELEVATION: 1700 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Diamond-drill holes in the B.C. zone.

MINING DIVISION: Atlin  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6653770  
EASTING: 354891

COMMODITIES: Tungsten                      Molybdenum                      Bismuth                      Copper

**MINERALS**

SIGNIFICANT: Scheelite                      Molybdenite                      Chalcopyrite                      Bismuthinite                      Wolframite  
ASSOCIATED: Quartz                      Pyrite                      Beryl                      Fluorite                      Arsenopyrite  
ALTERATION: Garnet                      Diopside                      Biotite                      Hornblende  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Paleocene

**DEPOSIT**

CHARACTER: Stockwork                      Vein                      Breccia  
CLASSIFICATION: Hydrothermal                      Porphyry                      Skarn  
TYPE: L07 Porphyry W                      K07                      Mo skarn  
SHAPE: Tabular  
MODIFIER: Folded                      Fractured  
DIMENSION: 4500 x 1000                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Mineralization is associated with an elongate dome whose axial trace trends northeast and has a strike parallel to the north flank of the monzonitic granite.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER

Cretaceous                      58 Ma +/- 6 Ma                      Uranium/Lead                      Logtung Stock  
DATING METHOD:  
MATERIAL DATED: zircon  
Proterozoic-Paleoz.                      Nisling Assemblage

LITHOLOGY: Monzonitic Granite  
Felsic Dike  
Graphitic Argillite  
Quartzite  
Phyllite  
Dolomite  
Limestone

HOSTROCK COMMENTS: Age date from Stewart, 1983.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Nisutlin Plateau  
TERRANE: Dorsey  
METAMORPHIC TYPE: Contact                      Regional                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: LOGTUNG                      REPORT ON: Y  
CATEGORY: Unclassified                      YEAR: 1983  
QUANTITY: 162000000 Tonnes  
COMMODITY                      GRADE  
Molybdenum                      0.0300                      Per cent  
Tungsten                      0.1000                      Per cent  
REFERENCE: CIM Special Volume 37, page 274.

**CAPSULE GEOLOGY**

The Logtung deposit located on the Nisutlin Plateau in northern British Columbia is associated with Early Cretaceous monzonitic granite of the Logtung stock and a Cretaceous felsic dyke complex which have intruded hornfelsed metasediments of the Paleozoic to Proterozoic Nisling Assemblage. The sediments, which notably lack carbonates, consist of graphitic argillites and quartzites, phyllites, dolomite and limestone.

## CAPSULE GEOLOGY

Several phases of fracture-hosted mineralization are related to multiple intrusive events. Early quartz-molybdenite-scheelite veins are related to a monzonitic granite intrusion and occur along the west flank of the Logtung stock for a distance of 1.5 kilometres. Later quartz-pyrite-scheelite veins are spatially and genetically related to a felsic dyke complex north of the British Columbia-Yukon border. Finally, a 4.5 by 1.0 kilometre area of polymetallic sheeted veins trends northeast, on both sides of the border, and is centred on the felsic dyke complex. This system is zoned from quartz, beryl, scheelite, chalcopyrite, bismuthinite and molybdenite, with wolframite and fluorite veins occurring in the southwest part of the zone to lead-zinc-silver veins with abundant arsenopyrite and minor tin in the northwest (north of British Columbia-Yukon border).

Pervasive hydrothermal alteration is not widespread; silicification occurs as limited vein halos which form larger zones in areas of high vein density. Hornfelsing and skarning of surrounding sediments preceded hydro-fracturing and vein and breccia mineralization indicating the porphyritic nature of the deposit. Garnet-diopside alteration halos around quartz-molybdenite-scheelite veins; biotite and hornblende alteration zones occur around polymetallic sheeted zones in the southwest region of the deposit. The Logtung Monzogranite stock is younger than expected, a previous Rb/Sr date on possible the same unit is 110 +/- 2 Ma.

Mineralization is associated with an elongate dome with an axial trace trending northeast, parallel to the strike of the north flank of monzogranite. Bedding in the sediments strikes northeast.

Unclassified reserves at Logtung are 162 million tonnes grading 0.03 per cent molybdenum and 0.1 per cent tungsten (CIM Special Volume 37, page 274).

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GSC OF 561  
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GCNL #120,#132,#179, 1978; #4,#46,#163,#219,#248, 1979; #116, 1980; #36, 1981  
N MINER Apr 6, Sept 14, 1978; Mar 22, 1979; Jul.10, Aug.7, 1980  
W MINER Nov 1981; May 1982  
Abbott, J.G. (1981a): Geology of Seagull tin district, Yukon Geology and Exploration 1979-1980, DIAND, pp. 32-44  
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Noble, S.R. (1982): \*Petrology and fluid inclusion study of W-Mo mineralization at the Logtung deposit, south-central Yukon Territory; unpublished M. Sc. Thesis, Univ. Toronto, p. 286  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 017**

NATIONAL MINERAL INVENTORY: 104015 Pb1, 105B2

NAME(S): **PIT, SANDY, HOLLIDAY RANSOM,  
KLONDIKE SILVER, KEY**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104015E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 59 44 N  
LONGITUDE: 130 33 16 W  
ELEVATION: 1550 Metres

NORTHING: 6651935  
EASTING: 413290

LOCATION ACCURACY: Within 500M  
COMMENTS: Pit Vein, Abbott, pers comm 1986.

COMMODITIES: Silver                      Lead                      Zinc                      Gold                      Copper

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite              Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite              Sericite  
ALTERATION TYPE: Chloritic              Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted  
DIMENSION:  
COMMENTS: Attitude of vein. Tertiary age postulated by Abbott (1983) has not been demonstrated, and there is evidence that mineralization is mid-Cretaceous (Personal Communication, J. Bradford, 1988).

STRIKE/DIP: 100/50S

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cretaceous                                                                Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
Granodiorite  
Quartz Vein  
Mafic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
COMMENTS: Cassiar Batholith is part of interior metamorphic-plutonic belt.

**INVENTORY**

ORE ZONE: STOCKPILE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1979  
SAMPLE TYPE: Bulk Sample  
COMMODITY                      GRADE  
Silver                      532.0100              Grams per tonne  
Gold                      1.3000              Grams per tonne  
Copper                      0.1600              Per cent  
Lead                      29.1000              Per cent  
Zinc                      13.9000              Per cent

COMMENTS: Hand cobbed shipment of 14 tonnes from the Pit and Discovery (Switchback) (1040 001) veins.

REFERENCE: Department of Indian and Northern Affairs (1983).

**CAPSULE GEOLOGY**

On the Klondike Silver property in the Cassiar Mountains on the Yukon-British Columbia border, the Pit Vein occurs in granodiorite of the Cassiar Batholith about 200 metres north of the Shipment Vein (1040 002). The vein is about 15 centimetres wide and consists of quartz with massive pyrite, galena and sphalerite, and is exposed in a trench for 15 metres. Gently plunging slickensides are visible in granodiorite along the vein margin. Some ore from this vein was included in a hand-cobbed, 14 tonne shipment, taken in 1979, which assayed 1.30 grams per tonne gold, 532.01 grams per tonne silver, 29.1 per cent lead, 13.9 per cent zinc and 0.16 per cent copper (Department of Indian and Northern Affairs, 1983) (see

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**CAPSULE GEOLOGY**

Discovery, 1040 001). A chlorite and sericite alteration halo the vein.

**BIBLIOGRAPHY**

EMPR PF (\*Holliday, Yukon Exploration and Geology, 1983, DIAND, pp. 141-142)  
\*Abbott, G. (1983): Silver-bearing Veins and Replacement Deposits of the Rancheria District, Yukon Exploration and Geology, DIAND, pp. 34-44  
EMPR AR 1948-60; \*1949-69,70  
GSC 68-55, p. 35  
EMPR EXPL 1972-559; 1973-516; 1974-352  
EMR MP CORPFILE (Yukon Ranges Exploration Ltd.; Emperor Mines Ltd.; Cone Mt. Mines Ltd.; Sundance Gold Ltd.)  
GSC MAP 10-1960; 18-1968; 7001G  
EMPR ASS RPT \*3844, 5095, 14165  
GSC OF 561  
EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1040 018**

NATIONAL MINERAL INVENTORY: 10409 Cr1

NAME(S): **ICE LAKE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104009E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 33 28 N  
LONGITUDE: 130 00 17 W  
ELEVATION: Metres

NORTHING: 6602593  
EASTING: 443214

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Near Chromite Mountain.

COMMODITIES: Chromium

**MINERALS**

SIGNIFICANT: Chromite  
ASSOCIATED: Olivine Pyroxene Plagioclase  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive Layered Podiform Disseminated  
CLASSIFICATION: Magmatic Syngenetic Industrial Min.  
COMMENTS: Dunite layers trend about 110 degrees near Ice Lake.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian			Blue River Ultramafite
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Dunite  
Peridotite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Near Chromite Mountain in the Cassiar Mountains of northern British Columbia, semi-massive chromite and plagioclase(?) occur within banded peridotite and dunite of the Mississippian(?) Blue River ultramafite, within Division II of the Sylvester Allochthon. The chromite occurs within dunitic lenses and pods which are up to 15 centimetres thick and 15 metres long. The largest zone of chromite concentration is associated with dunite bands in the vicinity of Ice Lake where they trend about 110 degrees. The main occurrence is on the east side of Ice Lake and there is a second occurrence on the northwest side of the ridge northwest of the lake.

**BIBLIOGRAPHY**

EMR MP CORPFILE (\*Kelowna Mines Hedley Ltd.)  
GSC P \*64-48, p. 14  
GSC MAP \*17-1964; \*18-1968  
EMPR AR 1955-63A; 1956-64A  
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GSC MEM 319, pp. 69,110  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: HM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 019**

NATIONAL MINERAL INVENTORY: 10405 Asb1

NAME(S): **ATSUTLA RANGE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O06W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 18 59 N  
LONGITUDE: 131 26 56 W  
ELEVATION: Metres

NORTHING: 6577845  
EASTING: 360619

LOCATION ACCURACY: Within 5 KM

COMMENTS: Based on Bulletin 19, page 21, and GSC Map 18-1968.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Pennsylvan.-Permian	Undefined Group	Kedahda	

LITHOLOGY: Serpentinite  
Chrysotile Vein  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

On the Atsula Range of the Tanzilla Plateau of northern British Columbia, a steeply dipping, serpentinite body about 2 kilometres long and 90 metres wide occurs conformably to the trend of a Permo-Carboniferous metasedimentary sequence of the Kedahda Formation. In a few places the serpentinite is intersected by narrow veinlets of cross-fibre chrysotile.

**BIBLIOGRAPHY**

EMPR BULL \*19, p. 21  
EMPR OF 1995-25  
GSC MAP \*18-1968  
GSC P 68-55  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 020**

NATIONAL MINERAL INVENTORY: 104O1, 104O8 Fe1

NAME(S): **ASH MOUNTAIN SE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O08W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 15 09 N  
LONGITUDE: 130 28 41 W  
ELEVATION: 1833 Metres

NORTHING: 6569103  
EASTING: 415709

LOCATION ACCURACY: Within 1 KM

COMMENTS: Occurrence from Bulletin 19, pages 42,43.

COMMODITIES: Tungsten Magnetite

**MINERALS**

SIGNIFICANT: Scheelite Magnetite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn Replacement Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous Cretaceous	Undefined Group	Oblique Creek	Parallel Creek Batholith

ISOTOPIC AGE: 78 +/- 4 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Skarn  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Contact  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Syn-mineralization  
GRADE: Hornfels

**CAPSULE GEOLOGY**

On the southeast side of Ash Mountain in the Cassiar Mountains of northwestern British Columbia, skarn has been formed at one place along the contact between the Late Cretaceous Parallel Creek Batholith and sediments of the Carboniferous Oblique Creek Formation. Skarn fragments with large amounts of magnetite and traces of scheelite have been found in talus (Watson and Mathews, 1944, p. 43). The Parallel Creek Batholith has been dated by potassium/argon dating of biotite to be 78 plus or minus 4 million years. This intrusive event led to skarn formation.

**BIBLIOGRAPHY**

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GSC P \*68-55, p. 35  
GSC MAP 18-1968  
GSC OF 561  
EMPR ASS RPT 8306  
EMPR OF 1991-17  
Chevron File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 021**

NATIONAL MINERAL INVENTORY: 10407 W1

NAME(S): **ASH MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104007E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 17 29 N  
LONGITUDE: 130 31 51 W  
ELEVATION: 1800 Metres

NORTHING: 6573501  
EASTING: 412799

LOCATION ACCURACY: Within 1 KM  
COMMENTS: From Bulletin 19, page 42.

COMMODITIES: Tungsten Tin Beryllium

**MINERALS**

SIGNIFICANT: Scheelite Diopside Vesuvianite  
ASSOCIATED: Quartz Diopside Calcite Garnet  
ALTERATION: Garnet Vesuvianite Diopside  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Skarn Epigenetic Replacement Industrial Min.  
COMMENTS: Lenticular limestone bed dips 80 degrees to west.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Undefined Group	Oblique Creek	
Cretaceous			Parallel Creek Batholith

ISOTOPIC AGE: 78 +/- 4 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Mica Quartzite  
Limestone  
Skarn  
Granite  
Quartz Vein

HOSTROCK COMMENTS: Date plus or minus 4 Ma.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Contact  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Syn-mineralization  
GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1944  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Beryllium 0.0120 Per cent  
Tin 0.5000 Per cent  
Tungsten 2.2000 Per cent

COMMENTS: Location of samples is vague. Commodity is WO3.  
REFERENCE: Bulletin 19, page 43.

**CAPSULE GEOLOGY**

On the northern side of Ash Mountain in the Cassiar Mountains of northern British Columbia, lenticular bodies of limestone dipping 80 degrees west occur within micaceous quartzite of the Carboniferous Oblique Creek Formation. The limestone has been skarnified in zones of contact with the Late Cretaceous Parallel Creek Batholith. Scheelite occurs as disseminations or with quartz in crosscutting veinlets. Selected samples of vein material run up to 2.2 per cent WO3. Up to 0.5 per cent tin occurs in clinopyroxene and garnet, probably substituting for iron. Vesuvianite contains up to 0.012 per cent beryllium (assays taken from Bulletin 19, pages 42,43).

**BIBLIOGRAPHY**

EMPR BULL \*19, pp. 42,43  
GSC EC GEOL \*28, p. 81; \*23, p. 56

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 933  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

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skarn in the Cassiar District, Northern B.C., The Canadian Miner-  
alogist, V. 9, pp. 358-370  
GSC P \*68-55, p. 35; \*68-70, pp. 9,11; \*69-2A  
W MINER Feb 1979, p. 18  
EMPR FIELDWORK 1978, p. 108  
GSC MAP \*18-1968  
EMPR PF (Canadian Superior Expl. Ltd.: Geological Maps, 1978)  
GSC OF 561  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 022**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASH MOUNTAIN - AP**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O07E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 18 59 N  
LONGITUDE: 130 31 06 W  
ELEVATION: Metres

NORTHING: 6576268  
EASTING: 413575

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Near centre of AP claims.

COMMODITIES: Tungsten Tin

**MINERALS**

SIGNIFICANT: Scheelite Pyrite Diopside Garnet  
ASSOCIATED: Quartz  
ALTERATION: Garnet Vesuvianite Diopside  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn Replacement Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Undefined Group	Oblique Creek	
Cretaceous			Parallel Creek Batholith

ISOTOPIC AGE: 78 +/- 4 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Quartzite  
Argillite  
Limestone  
Skarn  
Granite

HOSTROCK COMMENTS: Date plus or minus 4 Ma.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Dorsey  
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1980  
SAMPLE TYPE: Grab  
COMMODITY  
Tungsten GRADE 0.1500 Per cent  
COMMENTS: Commodity is WO3.  
REFERENCE: Assessment Report 8196.

**CAPSULE GEOLOGY**

On Ash Mountain in the Cassiar Mountains of northern British Columbia, discontinuous skarn lenses occur in limestones within folded, faulted and metamorphosed argillites and quartzites of the Carboniferous Oblique Creek Formation, intruded by granites of the Late Cretaceous Parallel Creek Batholith. Disseminated scheelite occurs in various skarns, with grab sample assays running to 0.15 per cent WO3 (Assessment Report 8196). Anomalous tin values are probably due to tin substituting for iron in skarn silicates.

**BIBLIOGRAPHY**

EMPR EXPL 1978-E274; 1980-505  
EMPR GEOLOGY \*1977-1981, p. 185  
EMPR ASS RPT \*7378, \*8196  
GSC P 68-55  
GSC MAP 18-1968  
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**BIBLIOGRAPHY**

EMPR OF 1991-17

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DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 023**

NATIONAL MINERAL INVENTORY: 10407,8 Pb1

NAME(S): **PARALLEL CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O07E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 19 59 N  
LONGITUDE: 130 31 06 W  
ELEVATION: 1850 Metres

NORTHING: 6578123  
EASTING: 413617

LOCATION ACCURACY: Within 1 KM  
COMMENTS: From Bulletin 19, page 42.

COMMODITIES: Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Sphalerite  
ASSOCIATED: Calcite  
ALTERATION: Garnet              Vesuvianite              Calcite              Diopside  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Skarn                      Replacement                      Epigenetic  
COMMENTS: North to northeast dipping.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Mississippian Cretaceous	Undefined Group	Oblique Creek	Parallel Creek Batholith

ISOTOPIC AGE: 78 +/- 4 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Limestone  
Garnet Vesuvianite Diopside Skarn  
Granite

HOSTROCK COMMENTS: Date plus or minus 4 Ma.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Dorsey  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**CAPSULE GEOLOGY**

Near Parallel Creek in the Cassiar Mountains of northwestern British Columbia, north to northeast dipping limestone beds of Oblique Creek Formation are intruded and skarnified by Late Cretaceous granites of the Parallel Creek Batholith. Skarn containing garnet, vesuvianite, diopside and calcite is sparsely mineralized with disseminated galena and sphalerite. Several hundred parts per million tin occurs in various skarns in the area (probably in garnet or clinopyroxene?).

**BIBLIOGRAPHY**

EMPR BULL \*19, pp. 42,43  
GSC EC GEOL \*28, p. 81  
GSC P \*68-55, p. 35  
EMPR ASS RPT \*8196  
GSC MAP 18-1968  
GSC OF 561

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REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



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MINFILE NUMBER: **1040 024**

NATIONAL MINERAL INVENTORY: 104O13 Au1

NAME(S): **RAM**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O13E 104O13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 48 49 N  
LONGITUDE: 131 44 56 W  
ELEVATION: 1400 Metres

NORTHING: 6633851  
EASTING: 345841

LOCATION ACCURACY: Within 1 KM

COMMENTS: Near centre of Ram 12 claim (National Mineral Inventory file).

COMMODITIES: Gold Copper

**MINERALS**

SIGNIFICANT: Gold Chalcopyrite Telluride  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous			Big Salmon Complex

LITHOLOGY: Gneiss

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Amphibolite

**CAPSULE GEOLOGY**

Near Swift Lake in the Cassiar Mountains of northwestern British Columbia, a shear zone contains chalcopyrite, native gold, and tellurides (Geology, Exploration and Mining, 1972, p. 559).

Geological Survey of Canada mapping indicates that Carboniferous, Big Salmon Complex gneiss underlies the Ram showing.

**BIBLIOGRAPHY**

EMPR ASS RPT 4094  
EMPR GEM 1972-559  
GSC MAP \*18-1968  
GSC OF 561  
GSC P 68-55

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 024**

MINFILE NUMBER: **1040 025**

NATIONAL MINERAL INVENTORY:

NAME(S): **GAZOO - KNOB HILL**, TOOZAZA CREEK, PCP

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O09E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 37 19 N  
LONGITUDE: 130 13 56 W  
ELEVATION: Metres

NORTHING: 6609954  
EASTING: 430489

LOCATION ACCURACY: Within 500M  
COMMENTS: Knob showing.

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite              Chalcopyrite  
ASSOCIATED: Quartz  
ALTERATION: Clay                      Sericite              Chlorite  
ALTERATION TYPE: Argillic              Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                              Stockwork                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic                      Porphyry  
SHAPE: Irregular  
MODIFIER: Faulted                              Fractured

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                              FORMATION                              IGNEOUS/METAMORPHIC/OTHER  
Cretaceous                              \_\_\_\_\_                              \_\_\_\_\_                              Cassiar Batholith

LITHOLOGY: Biotite Quartz Monzonite  
Quartz Vein

HOSTROCK COMMENTS: Foliated biotite quartz monzonite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1979  
SAMPLE TYPE: Chip  
COMMODITY                              GRADE  
Molybdenum                              0.2500                      Per cent

COMMENTS: Average of two 10 metre chip samples. Commodity assayed as MoS2.  
REFERENCE: Assessment Report 7148.

**CAPSULE GEOLOGY**

Near Toozaza Creek in the Cassiar Mountains of northwestern British Columbia, foliated biotite quartz monzonite of the Cassiar Batholith contains 1 to 12 centimetre wide crosscutting quartz veins at a density of 1 per metre over 50 metres. Molybdenite occurs as bands of rosettes and disseminations in the veins and chalcopyrite and molybdenite occur disseminated in the quartz-monzonite. Two 10 metre chip samples across the veins averaged 0.25 per cent MoS2 (Assessment Report 7148). Several intrusive phases and fault zones occur in the vicinity. Argillic and sericitic alteration are associated with the veins.

**BIBLIOGRAPHY**

EMPR EXPL 1978-E274  
EMPR ASS RPT \*7148  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 026**

NATIONAL MINERAL INVENTORY:

NAME(S): **AUGUST**, NORTH CIRQUE, BEN,  
ZIP

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104005E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 20 44 N  
LONGITUDE: 131 34 56 W  
ELEVATION: Metres

NORTHING: 6581378  
EASTING: 353158

LOCATION ACCURACY: Within 1 KM  
COMMENTS: North cirque showing.

COMMODITIES: Silver                      Lead                      Zinc                      Copper                      Tin  
Gold

**MINERALS**

SIGNIFICANT: Arsenopyrite      Boulangerite      Galena      Sphalerite      Chalcopyrite  
Stannite      Tetrahedrite      Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Sericite      Chlorite      Clay      Calcite  
ALTERATION TYPE: Sericitic      Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork  
CLASSIFICATION: Hydrothermal      Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted                      Fractured

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Pennsylvan.-Permian      Undefined Group                      Kedahda                      Christmas Creek Batholith  
Middle Jurassic

LITHOLOGY: Chert  
Argillite  
Quartzite  
Hornfels  
Quartz Diorite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane                      PHYSIOGRAPHIC AREA: Tanzilla Plateau  
TERRANE: Cache Creek  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1978  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      702.8000      Grams per tonne  
Gold                      1.4700      Grams per tonne  
Tin                      0.1500      Per cent

COMMENTS: Sample from 10 to 18 centimetre wide quartz veins.  
REFERENCE: Assessment Report 6957.

**CAPSULE GEOLOGY**

In the Atsula Range of the Cassiar Mountains of northwestern British Columbia, Permo-Carboniferous chert, argillite and quartzite of the Kedahda Formation are intruded and hornfelsed by quartz diorite dykes related to the Christmas Creek Batholith. The sediments are strongly fractured and contain quartz veins with pyrite. Veining at one showing is adjacent to the intrusive-metasediment contact. Two quartz veins about 30 centimetres wide and 150 metres and 10 metres long, contain pyrite-arsenopyrite-boulangerite mineralization with minor sphalerite, galena, chalcopyrite, stannite, and tetrahedrite. Selected samples from one vein ran 413.1 to 702.8 grams per tonne silver and 0.41 to 1.47 grams per tonne gold. Tin values up to 0.15 per cent have been reported in vein material (assay values taken from Assessment Report 6957). Chloritic and

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**CAPSULE GEOLOGY**

sericitic alteration halos are associated with the veins.

**BIBLIOGRAPHY**

EMPR ASS RPT \*6957, \*7685, \*8174, \*8382, \*8441  
EMPR EXPL 1977-E242; 1979-308; 1980-504,505  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55  
Falconbridge File

DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 027**

NATIONAL MINERAL INVENTORY: 10409 Mo1

NAME(S): **GAZOO - SOUTHEAST GULLEY**, TOOZAZA CREEK

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O09E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 36 59 N  
LONGITUDE: 130 13 26 W  
ELEVATION: Metres

NORTHING: 6609327  
EASTING: 430948

LOCATION ACCURACY: Within 500M  
COMMENTS: Southeast gulley.

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite              Chalcopyrite              Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Sericite                      Chlorite                      Clay  
ALTERATION TYPE: Argillic                      Sericitic                      Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                                      Stockwork                                      Disseminated  
CLASSIFICATION: Hydrothermal                      Epigenetic                                      Porphyry  
SHAPE: Irregular  
MODIFIER: Faulted  
COMMENTS: Northeast and northwest-trending faults.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Cassiar Batholith

LITHOLOGY: Biotite Quartz Monzonite  
                    Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Near Toozaza Creek in the Cassiar Mountains of northwestern British Columbia, foliated biotite quartz monzonite of the Cassiar Batholith contains 0.5 to 8.0 centimetre wide quartz-pyrite-sericite veins at a density of 1 per metre over 100 metres and locally vein density reaches 6 per metre. Fine-grained disseminated molybdenite occurs in 10 per cent of the veins. Several intrusive phases and fault zones occur in the vicinity. Chalcopyrite and molybdenite are disseminated in the quartz-monzonite. Argillic alteration is pervasive, sericitic alteration envelopes veins and chlorite occurs as fracture fillings.

**BIBLIOGRAPHY**

EMPR ASS RPT \*7148  
EMPR EXPL 1978-E274  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 028**

NATIONAL MINERAL INVENTORY:

NAME(S): **JENNINGS RIVER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O13E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 59 29 N  
LONGITUDE: 131 36 06 W  
ELEVATION: Metres

NORTHING: 6653306  
EASTING: 354872

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Fluorite Beryllium

**MINERALS**

SIGNIFICANT: Fluorite Beryl  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Logtung Stock

LITHOLOGY: Felsic Dike  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey

PHYSIOGRAPHIC AREA: Nisutlin Plateau

**CAPSULE GEOLOGY**

Near Logjam Creek on the Nisutlin Plateau of northwestern British Columbia, fluorite and beryl are accessory minerals in quartz veins in felsic dykes. Fluorite occurs especially in the southwest part of a zone of sheeted dykes which is part of a felsic dyke complex extending north of the Yukon-British Columbia border and which are related to the Early Cretaceous Logtung Stock. Blue-green beryl occurs as slender prismatic crystals up to 3 centimetres long. The occurrence forms part of the Logtung tungsten molybdenum porphyry system (1040 016).

**BIBLIOGRAPHY**

GSC P \*60-21, p. 6; 68-55  
EMPR PF (\*Noble, S.R. et al (1984): The Logtung large tonnage low-grade W (scheelite)-Mo porphyry deposit, south-central Yukon Territory, EG V. 79, pp. 848-868)  
GSC MAP 18-1968  
GSC OF 561  
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DATE REVISED: 1988/10/31

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REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 029**

NATIONAL MINERAL INVENTORY: 10403 Fe1

NAME(S): **SHEEPHORN CREEK, MAG**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O03W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 13 59 N  
LONGITUDE: 131 19 36 W  
ELEVATION: 1555 Metres

NORTHING: 6568320  
EASTING: 367249

LOCATION ACCURACY: Within 5 KM  
COMMENTS: From Bulletin 19, page 41.

COMMODITIES: Magnetite

**MINERALS**

SIGNIFICANT: Magnetite  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive  
CLASSIFICATION: Pegmatite Industrial Min.  
COMMENTS: Magnetite in pegmatites is reported in the area (Bulletin 19, page 41).

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Glundebery Batholith

ISOTOPIC AGE: 74 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende

LITHOLOGY: Granite  
Pegmatite

HOSTROCK COMMENTS: Date +/- 4 Ma.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cache Creek  
COMMENTS: Adjacent to Upper Triassic Shonektaw Formation (Quesnellia).

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Large pieces of magnetite float are abundant in a pass at 1555 metres elevation, between the heads of Glundebery and Sheephorn Creeks. Nearby, a lens of massive magnetite, a few inches thick and a few feet long, occurs in silicified, coarse-grained granite of the Late Cretaceous Glundebery Batholith. Magnetite has also been reported in pegmatites in the area.

**BIBLIOGRAPHY**

EMPR BULL \*19, p. 41  
GSC MAP \*18-1968  
GSC P 68-55; \*71-2  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 030**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAGI**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 57 59 N  
LONGITUDE: 130 39 06 W  
ELEVATION: Metres

NORTHING: 6648819  
EASTING: 407787

LOCATION ACCURACY: Within 5 KM  
COMMENTS: Within Pagi claim block.

COMMODITIES: Copper                      Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite      Galena              Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Tabular  
MODIFIER: Fractured

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
Granodiorite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Nisutlin Plateau

**CAPSULE GEOLOGY**

Near Allen Creek on the Nisutlin Plateau of northwestern British Columbia, quartz veins with pyrite, chalcopyrite and galena occupy fractures in quartz monzonite and granodiorite of the Cretaceous Cassiar Batholith.

**BIBLIOGRAPHY**

EMPR AR 1968-33  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
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REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



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MINFILE NUMBER: **1040 031**

NATIONAL MINERAL INVENTORY: 10406 Fe1

NAME(S): **TAHOOTS CREEK**, KEDAHDA LAKE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104006W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 19 59 N  
LONGITUDE: 131 19 06 W  
ELEVATION: 1525 Metres

NORTHING: 6579434  
EASTING: 368112

LOCATION ACCURACY: Within 5 KM  
COMMENTS: From Bulletin 19, pages 41,43.

COMMODITIES: Magnetite

**MINERALS**

SIGNIFICANT: Magnetite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal      Disseminated Epigenetic      Pegmatite      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Glundebery Batholith

ISOTOPIC AGE: 74 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Hornblende

LITHOLOGY: Pegmatitic Granite  
Diorite

HOSTROCK COMMENTS: Date +/- 4 Ma. Pegmatitic hornblende granite contains abundant dioritic inclusions.

**GEOLOGICAL SETTING**

TECTONIC BELT: Intermontane  
TERRANE: Cache Creek  
COMMENTS: Adjacent to Upper Triassic Shonektaw Formation (Quesnellia).

PHYSIOGRAPHIC AREA: Tanzilla Plateau

**CAPSULE GEOLOGY**

Narrow veinlets of magnetite a few inches long were observed in pegmatitic granite of the Late Cretaceous Glundebery Batholith at an elevation of 1525 metres. The occurrence is located on a spur about 10 kilometres east of the head of Kedahda Lake on the Tanzilla Plateau of northwestern British Columbia. The diorite adjacent to the granite contains large, disseminated magnetite grains (Watson and Mathews (1944), pp. 41,43).

**BIBLIOGRAPHY**

EMPR BULL \*19, pp. 41,43  
GSC MAP \*18-1968  
GSC P 68-55; \*71-2  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 031**

MINFILE NUMBER: **1040 032**

NATIONAL MINERAL INVENTORY:

NAME(S): **GUNNAR BERG**, SUE, JCS

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 59 19 N  
LONGITUDE: 130 23 36 W  
ELEVATION: 1575 Metres

NORTHING: 6650961  
EASTING: 422260

LOCATION ACCURACY: Within 500M

COMMENTS: Southern trench near intrusive contact.

COMMODITIES: Silver                      Lead                      Zinc                      Tungsten                      Molybdenum

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Scheelite              Molybdenite  
ASSOCIATED: Quartz  
ALTERATION: Wollastonite              Chlorite              Talc  
ALTERATION TYPE: Skarn              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Skarn                      Replacement                      Epigenetic  
SHAPE: Irregular  
MODIFIER: Other  
COMMENTS: Sediments dip moderately to steeply east or southeast. Shape modifier is breccia.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Lower Devonian                                                                Tapioca Sandstone

LITHOLOGY: Dolomite  
Quartzite  
Argillite  
Skarn  
Quartzitic/Quartzose Breccia  
Skarn Breccia

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: TRENCH                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1984  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Silver                      429.1800                      Grams per tonne  
COMMENTS: Chip sample over 12.1 metres in a trench.  
REFERENCE: George Cross Newsletter #235, Dec. 6, 1984.

**CAPSULE GEOLOGY**

On a branch of the Tootsee River near the Yukon-British Columbia border, banded and brecciated skarn, outcrops within a package of east to southeast dipping Lower Devonian Tapioca Sandstone dolomite, quartzite, and argillite just east of the Cassiar Batholith. Fine disseminated scheelite occurs throughout the skarn zones close to a quartzite-dolomite contact. Molybdenite occurs on fracture planes in one skarn and in quartz veins in the intrusive. A quartzite breccia zone, about 46 metres in length, contains blebs of galena and/or sphalerite. Two discontinuous chip samples taken across 12 metres contained a value of 429.3 grams per tonne silver (George Cross Newsletter #235, Dec. 06, 1984). Several trenches expose mineralization near the ridge crest.

**BIBLIOGRAPHY**

Abbott, G. (1983): \*Silver-bearing veins and replacement deposits of the Rancheria District, DIAND, Yukon Expl. and Geology, p. 36  
GCNL #189,#191,#198,#199,#206,#222,#235, 1984; #110,#120,#161,

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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PAGE: 947  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

#189, 1985  
GSC P \*44-25, p. 18; 68-55  
GSC MAP 18-1968  
EMPR EXPL 1979-315; 1980-512; 1983-557  
EMPR ASS RPT 7870, \*11400, \*14348  
EMPR FIELDWORK 1986, p. 191; 1987, pp. 525-527  
N MINER Nov.22, 1984  
GSC OF 561  
EMPR OF 1991-17  
EMPR MP MAP 1992-12

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

MINFILE NUMBER: **1040 033**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCK**, LUCKY

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 59 24 N  
LONGITUDE: 130 27 06 W  
ELEVATION: Metres

NORTHING: 6651186  
EASTING: 419009

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Silver                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT:	Galena	Sphalerite	Tetrahedrite	Pyrite	Chalcopyrite
ASSOCIATED:	Quartz				
ALTERATION:	Chlorite	Sericite	Calcite	Quartz	Limonite
	Saussurite	Carbonate			
ALTERATION TYPE:	Chloritic	Sericitic		Oxidation	
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Cassiar Batholith

ISOTOPIC AGE: 105 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Muscovite

LITHOLOGY: Saussurite Granodiorite  
Quartz Carbonate Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Plutonic Rocks  
COMMENTS: Cassiar Batholith part of interior metamorphic-plutonic belt.

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1985  
SAMPLE TYPE: Drill Core  
COMMODITY: Silver                      GRADE: 433.0000                      Grams per tonne

COMMENTS: Upper 1.5 metres of 4.5 metre wide vein.  
REFERENCE: Assessment Report 14165.

**CAPSULE GEOLOGY**

On a branch of the Tootsee River near the Yukon-British Columbia border (Klondike-Silver property), silver-bearing oxidized chlorite-clay gouge/alteration zones and quartz-carbonate veins occur in sheared, saussuritized granodiorite of the Cassiar Batholith. Sulphides are generally oxidized but galena and minor sphalerite and tetrahedrite are found locally. One drill intersection of 4.5 metres of quartz-carbonate vein and sericite-limonite-chlorite alteration assayed 433 grams per tonne silver over 1.5 metres, with the next 1.5 metre interval assaying 8.0 grams per tonne silver (Assessment Report 14165).

**BIBLIOGRAPHY**

EMPR GEM 1972-560; 1973-517; 1974-352  
EMPR ASS RPT 3843, 5095, \*14165  
GSC P 68-55  
GSC MAP 18-1968  
EMPR FIELDWORK 1986, p. 191; 1987, pp. 353-360, 525-527  
Yukon Geology and Exploration, 1983, DIAND, pp. 34-44  
GSC OF 561

MINFILE NUMBER: **1040 033**

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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*GEOLOGICAL SURVEY BRANCH*  
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REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR MP MAP 1992-12

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 034**

NATIONAL MINERAL INVENTORY:

NAME(S): **RANCHERIA**, ROOT 1

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 58 19 N  
LONGITUDE: 130 24 46 W  
ELEVATION: 1690 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6649129  
EASTING: 421136

LOCATION ACCURACY: Within 500M

COMMENTS: Skarn zones on ridge (Assessment Report 8566).

COMMODITIES: Tremolite                      Wollastonite                      Molybdenum                      Tungsten                      Lead  
Zinc

**MINERALS**

SIGNIFICANT: Tremolite                      Wollastonite                      Molybdenite                      Scheelite                      Galena

Sphalerite

COMMENTS: Minor galena and sphalerite.

ASSOCIATED: Quartz

ALTERATION: Tremolite                      Wollastonite                      Diopside                      Actinolite                      Carbonate

Powellite

ALTERATION TYPE: Skarn

Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive

Disseminated

Vein

Breccia

CLASSIFICATION: Skarn

Hydrothermal

Epigenetic

Industrial Min.

DIMENSION: 825 x 250

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Sediments dip 40 to 50 degrees southeast and trend northeast. The first skarn zone is 850 metres long and up to 250 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Paleozoic  
Cretaceous

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Cassiar Batholith

**LITHOLOGY:**

Limestone  
Quartzite  
Biotite Carbonate Hornfels  
Skarn  
Quartz Monzonite  
Diabase Dike  
Cherty Carbonate Breccia

HOSTROCK COMMENTS: Diabase dykes associated with skarn in Ordovician to Devonian sediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Syn-mineralization

GRADE: Hornfels

**CAPSULE GEOLOGY**

The Rancheria occurrence is located 17 kilometres southeast of Rancheria, 3.5 kilometres south of the Yukon border, on a branch of the Tootsee River.

The area is underlain by northeast trending Ordovician to Devonian sediments intruded by quartz monzonite of the Cretaceous Cassiar batholith. The sediments, dipping 40 to 50 degrees southeast, comprise black and grey limestones and light and dark quartzites. These are altered to biotite-carbonate hornfels and garnet-diopside skarn adjacent to the batholith. The width of the skarn alteration, exceeding 1 kilometre in places, suggests that the quartz monzonite dips southeast under the sediments.

Tremolite and wollastonite mineralization outcrop 600 to 900 metres southeast of the quartz monzonite. A zone of tremolite-diopside-carbonate skarn outcrops over a strike length of 825 metres, varying up to 250 metres in width on surface. It is comprised mostly of tremolite with some outcrops containing actinolite, diopside and wollastonite, at the northern end. This skarn is interbedded with quartzite along its northwest edge and bounded to the southeast by a diabase dyke. Wollastonite-bearing skarn outcrops over a strike length of 630 metres in a narrow zone along the southeast contact of the same dyke.

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## CAPSULE GEOLOGY

A second zone of tremolite-diopside-carbonate skarn, 850 metres long, outcrops along strike 1500 metres southwest of the first zone. Surface widths vary up to 350 metres. Several westward trending diabase dykes, up to 35 metres wide, cut this zone. The skarn is comprised mostly of tremolite with minor actinolite and diopside. It is interbedded with quartzite to the northwest and flanked by grey limestone to the southeast. Wollastonite is present in the limestone south of the skarn zone, adjacent to a diabase dyke.

Erratically mineralized quartz veins, 0.01 to 1 metre wide, occur in the intrusives and contain molybdenite. The skarns contain disseminated scheelite, molybdenite and powellite, which are often associated with fractures. One brecciated chert-carbonate zone adjacent to the intrusives contains blebs of galena and sphalerite.

## BIBLIOGRAPHY

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EMPR ASS RPT \*7673, \*8566, \*11400  
EMPR OF \*1991-17  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561  
GCNL #189, #191, #198, #199, #206, #222, #235, 1984; #110, #120, #161, #189, 1985  
N MINER Nov.22, 1984  
EMPR MP MAP 1992-12

DATE CODED: 1985/07/24  
DATE REVISED: 1991/09/08

CODED BY: GSB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 035**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOOTS 1**, CIRQUE 2

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 57 24 N  
LONGITUDE: 130 36 51 W  
ELEVATION: 1675 Metres

NORTHING: 6647685  
EASTING: 409854

LOCATION ACCURACY: Within 500M

COMMENTS: Cirque 2 showing north of Amber Lake.

COMMODITIES: Silver                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Sphalerite      Galena  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia  
CLASSIFICATION: Hydrothermal      Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted                      Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cretaceous                                                                Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
              Quartz Vein  
              Breccia  
              Lamprophyre Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Nisutlin Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1979

COMMODITY	GRADE	
Silver	225.3000	Grams per tonne
Lead	0.9300	Per cent
Zinc	3.9000	Per cent

REFERENCE: Assessment Report 8061.

**CAPSULE GEOLOGY**

On Tootsee Ridge on the Nisutlin Plateau of northwestern British Columbia, quartz monzonite of the Cassiar Batholith is faulted and intruded by lamprophyre dykes. Faults strike about 020 degrees, with near-vertical dips. Dykes trend about 035 degrees. Quartz vein breccia contains sphalerite and galena. A grab sample assayed 225.3 grams per tonne silver, 3.9 per cent zinc, and 0.93 per cent lead (Assessment Report 8061).

**BIBLIOGRAPHY**

EMPR ASS RPT \*8061  
GSC P 68-55  
GSC MAP 18-1968  
Yukon Exploration and Geology, DIAND, 1983, pp. 34-44  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/01

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1040 036**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAR 1**, SHAR 2

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 56 14 N  
LONGITUDE: 130 37 36 W  
ELEVATION: 1700 Metres

NORTHING: 6645537  
EASTING: 409103

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Shear zones, south end of Shar 1.

COMMODITIES: Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite              Epidote              Clay  
ALTERATION TYPE: Propylitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared  
DIMENSION:  
COMMENTS: Attitude of mineralized shear zones.

STRIKE/DIP: 045/90S

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cretaceous                                                                                     Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
                    Quartz Vein  
                    Diabase Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Nisutlin Plateau

**CAPSULE GEOLOGY**

On Tootsee Ridge on the Nisutlin Plateau in northwestern British Columbia, mineralized quartz-filled shear zones (strike 045 and dip 90 degrees south) with sparse pyrite, galena and sphalerite occur in quartz monzonite of the Cassiar Batholith. The shear zones trend northeast. Porphyritic intrusive phases and late diabase dykes are also associated with the quartz monzonite. Propylitic alteration of the plutonic host rock is associated with the hydrothermal event.

**BIBLIOGRAPHY**

EMPR EXPL 1980-509  
EMPR ASS RPT \*9205  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/01

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 037**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAN, HAT, REB,  
RAN 2**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104016W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 47 24 N  
LONGITUDE: 130 29 36 W  
ELEVATION: 1830 Metres

NORTHING: 6628968  
EASTING: 416183

LOCATION ACCURACY: Within 500M  
COMMENTS: Vein system, north end of Ran 2.

COMMODITIES: Silver                      Lead                      Zinc                      Bismuth

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite              Chalcopyrite              Molybdenite  
                  Argentite              Bismuthinite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite              Sericite              Quartz              Kaolin  
COMMENTS: Chloritic vein selvages and envelopes common.  
ALTERATION TYPE: Chloritic                      Oxidation                      Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted                      Fractured  
COMMENTS: Shear zones commonly strike 030 to 040 degrees and have vertical dips.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cretaceous

LITHOLOGY: Quartz Monzonite  
                  Granodiorite  
                  Augen Gneiss  
                  Granitic Dike  
                  Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: Silver

GRADE: 3800.0000      Grams per tonne

COMMENTS: Grab sample from vein.  
REFERENCE: Fieldwork 1986, page 191.

**CAPSULE GEOLOGY**

Near the mouth of Plate Creek in the Cassiar Mountains in northwestern British Columbia, a stockwork system of white, coarse to microcrystalline quartz veins up to 15 centimetres in width occurs irregularly over an area of approximately 5 square kilometres, within quartz monzonite, granodiorite and augen gneiss of the Cassiar Batholith. Mineralization within the veins consists of pyrite and less commonly galena, sphalerite, chalcopyrite, molybdenite and rare argentite ranging from disseminated to massive clots. Bismuthinite has also been reported. Much of the pyrite has weathered out, leaving boxwork textures. Mineralization is associated with late, medium-grained granitic dykes, and sericite alteration. Chloritic vein selvages and envelopes are common. The Hat claims, (staked in 1986) adjoin the Ran claims, and enclose part of the same system. A grab sample of a vein on the Ran claims, containing visible argentite, contained values of 3800 grams per tonne silver (Fieldwork 1986, page 191). The granodiorite and quartz monzonite are sheared and fractured, with shear zones striking from 030 to 040 degrees and

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**CAPSULE GEOLOGY**

dipping vertically.

**BIBLIOGRAPHY**

EMPR ASS RPT 8307, \*9345, \*10104, \*10870  
EMPR EXPL 1980-508; 1982-407  
EMPR FIELDWORK 1986, p. 191; 1987, pp. 525-527; 2000-03, pp.  
51-66  
EMPR MP MAP 1992-12  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/01

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 038**

NATIONAL MINERAL INVENTORY: 104016 Ag4

NAME(S): **SILVERTIP**, MIDWAY, SILVER CREEK,  
DISCOVERY, DISCOVERY NORTH, SILVER CREEK EXTENSION

STATUS: Developed Prospect

Underground

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104016W

BC MAP:

LATITUDE: 59 55 38 N

LONGITUDE: 130 20 32 W

ELEVATION: 1250 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Mine portal, located near the Tootsee River in the Cassiar Mountains just south of the Yukon-British Columbia border. See also Silvertip (1040 003).

UTM ZONE: 09 (NAD 83)

NORTHING: 6644067

EASTING: 424973

COMMODITIES: Zinc Silver Lead Gold Tin  
Copper

**MINERALS**

SIGNIFICANT: Galena Sphalerite Freibergite Pyrrargyrite Stannite  
Pyrite Argentite Boulangerite Arsenopyrite Marcasite  
Cassiterite Chalcopyrite Pyrrhotite Geocronite Franckeite

ASSOCIATED: Quartz Calcite Barite

ALTERATION: Quartz Dolomite Sericite

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive Stratabound Vein Breccia  
CLASSIFICATION: Sedimentary Replacement  
TYPE: J01 Polymetallic manto Ag-Pb-Zn E14 Sedimentary exhalative Zn-Pb-Ag  
SHAPE: Irregular  
MODIFIER: Faulted  
DIMENSION: 600 x 300 x 11 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Discovery zone.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Middle Devonian McDame Undefined Formation  
DATING METHOD: Fossil  
MATERIAL DATED: Fossils  
Devonian-Mississipp. Earn Undefined Formation

LITHOLOGY: Limestone  
Dolomite  
Mudstone  
Wacke  
Breccia  
Mafic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

COMMENTS: Miogeoclinal wedge.

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SILVERTIP

REPORT ON: Y

CATEGORY: Combined YEAR: 1998  
QUANTITY: 2570000 Tonnes  
COMMODITY GRADE  
Silver 325.0000 Grams per tonne  
Lead 6.4000 Per cent  
Zinc 8.8000 Per cent  
Gold 0.6300 Grams per tonne

COMMENTS: Based on a 1997 drilling program. Includes measured, indicated and inferred.

REFERENCE: Northern Miner, February 23, 1998 and GCNL No. 10, 1998.

INVENTORY

ORE ZONE: SILVERTIP REPORT ON: Y  
CATEGORY: Inferred YEAR: 1998  
QUANTITY: 1450000 Tonnes  
COMMODITY GRADE  
Silver 284.0000 Grams per tonne  
Lead 5.4000 Per cent  
Zinc 8.3000 Per cent  
Gold 0.4600 Grams per tonne

REFERENCE: GCNL No. 10 (Jan.15), 1998.

ORE ZONE: SILVERTIP REPORT ON: Y  
CATEGORY: Indicated YEAR: 1998  
QUANTITY: 1120000 Tonnes  
COMMODITY GRADE  
Silver 378.0000 Grams per tonne  
Lead 7.7000 Per cent  
Zinc 9.5000 Per cent  
Gold 0.8500 Grams per tonne

COMMENTS: Measured and indicated.  
REFERENCE: GCNL No. 10 (Jan.15), 1998.

CAPSULE GEOLOGY

The Silvertip deposit is located near the Tootsee River in the Cassiar Mountains just south of the Yukon-British Columbia border. The deposits occur in a carbonate and clastic sedimentary sequence of the Cassiar terrane, which has been intruded into the west by the mid-Cretaceous Cassiar batholith. The sediments include the Kechika, Sandpile, McDame and Earn groups. The deposits are situated on the west limb of a broad, open, northwest trending synclinorium, the core of which is occupied by volcanics, sediments and ultramafic rocks of the Devonian-Triassic Sylvester Allochthon. Massive sulphide zones in the Midway deposits occur in limestones of the upper part (Unit MLS) of the mid-Devonian McDame Group. This unit is unconformably overlain by clastic sediments of the Upper Devonian-Mississippian Earn Group, which consists of two upward-coarsening sequences of turbiditic flows. Several exhalative horizons, consisting of fine-grained massive to laminated silica and/or barite, with pyrite, sphalerite and minor galena occur in the Earn Group sediments. Two of these, the Upper and Discovery zones, occur near the base of the second cycle, and contain lead-zinc-silver mineralization. Sulphides within the exhalite zones are restricted in extent although exhalites are wide-spread and may be stratigraphically correlatable.

The McDame/Earn groups contact is a pronounced erosional surface, with carbonates below the contact strongly affected by Late Devonian karstification. The unconformity cuts across 165 metres of McDame limestone stratigraphy near the deposit. Uplift and erosion and karst development in Late Devonian time was accompanied by high-angle block faulting, which made the carbonates a better aquifer for meteoric waters. Breccias at Midway include carbonate mosaic breccias, and solution-collapse breccias which include Earn Group clasts. Vein mineralization occurs throughout the McDame and Earn groups. Veins vary from hairline fractures to 20 centimetre widths, and consist of quartz, calcite, pyrite, galena and sphalerite.

Mafic dykes of unknown age occur in the Midway area, and are commonly sericitized in the vicinity of the deposits. Potassium-argon dating of sericitized Earn Group sediments and quartz feldspar porphyry dykes about 2 kilometres southeast of the deposit give ages of about 66 million years. The source of mineralizing fluids has not been identified, although the high silver content of the deposits and tin mineralization indicate a probable magmatic origin. Earn Group mudstones above the unconformity locally confined mineralizing fluids to the underlying limestones, with sulphide deposition occurring as open-space filling and replacement of carbonates.

The Silver Creek zone contains two high-grade core zones, Silver Creek North and Silver Creek South. Massive sulphide mineralization consists of pyrite (and associated marcasite and pyrrhotite), sphalerite and galena, with lesser freibergite, pyrargyrite, argentite, boulangerite, stannite, arsenopyrite, cassiterite, chalcopyrite and quartz-carbonate gangue. Lead sulphantimonides have also been identified. Sulphide textures indicate several phases of brecciation, replacement and open-space drusy growth. The southern part of the zone is characterized by freibergite and pyrargyrite and very fine-grained colloform pyrite, while the northern part is marked by abundant lead sulphantimonides and by the absence of

## CAPSULE GEOLOGY

freibergite, pyrargyrite, pyrrhotite and colliform pyrite. Indicated ore reserves for the Silver Creek zone, in 1985, were 2,847,920 tonnes grading 446.4 grams per tonne silver, 8.45 per cent lead and 10.21 per cent zinc (Assessment Report 13259).

The Discovery deposit occurs about 300 metres east of the Silver Creek North core zone. Massive and brecciated sulphides occur in several zones in the McDame limestones. Mineralization consists of pyritic, pyrrhotitic and base-metal massive sulphide (greater than 50 per cent sphalerite and galena) zones. These zones vary in thickness from 0.2 to 2.3 metres. Sulphides also occur as matrix to both sulphide and carbonate clast breccias. "Trash" breccias commonly occur toward the base of mineralized intersections. Metal distribution relations are not well known for the Discovery deposit. The Discovery zone, in 1985, was thought to contain 3,813,307 tonnes of indicated ore grading 371.7 grams per tonne silver, 13.34 per cent zinc and 5.4 per cent lead (Assessment Report 13259).

It is now known that the Silver Creek and Discovery zones are actually the same with a lower grade mineralized zone in between.

Mineable reserves estimated by previous operators in the Silver Creek (North and South) zone were 1,377,000 tonnes grading 317 grams per tonne silver, 5.8 per cent lead and 8.3 per cent zinc (Imperial Metals Corporation Annual Report 1996, page 7).

Imperial Metals Corp. reported that a recent 8600 metre drilling program has outlined 2 new zones of high grade, massive sulphide mineralization. High grade, near-surface mineralization was intersected immediately north of the Silver Creek zone in an area now called the Silver Creek Extension zone. The second new zone, Discovery North, is 150 metres north of the Discovery zone (T. Schroeter, personal communication, 1997).

The 1997 drilling program led to a resource estimate of 2.57 million tonnes grading 8.8 per cent zinc, 6.4 per cent lead, 325 grams per tonne silver and 0.63 grams per tonne gold. This includes measured and indicated of 1,120,000 tonnes grading 378 grams per tonne silver, 7.7 per cent lead, 9.5 per cent zinc and 0.85 gram per tonne gold and inferred of 1,450,000 grading 284 grams per tonne silver, 5.4 per cent lead, 8.3 per cent zinc and 0.46 grams per tonne gold (Northern Miner, February 23, 1998 and GCNL No. 10, 1998).

Silvertip Mining Corporation, a subsidiary of Imperial, submitted an Environmental Assessment Application in 1998. Peruvian Gold Ltd. is acquiring by option a 60 per cent interest in this property. Drilling (2000 metres) is planned in 1999 to test geophysical anomalies (CSAMT) outlined in 1998. Hole 3 intersected 318 grams per tonne silver, 8.65 per cent zinc and 5.53 per cent lead over 31.4 metres (Northern Miner, October 18, 1999). This is the thickest intercept encountered on the property to date and is reported to represent a different style of mineralization from that previously encountered on the property.

Dewatering of the underground workings was initiated in October 1999 and completed before the end of November. All rehabilitation was completed before year end with the drilling equipment on site and ready to be mobilized in the first week of January 2000. A total of 3210 metres of diamond drilling were completed in early February 2000. Silver Standard Resources acquired the property in 2002.

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1,14,21, Aug.9, Oct.4,25, Nov.15, 1984; Feb.21, Mar.7, May 23,  
June 6,20, July 25, Sept.9, Oct.21, 1985; June 23,30, July 28,  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/01

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **1040 039**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOOTSEE STAR**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 54 49 N  
LONGITUDE: 130 17 46 W  
ELEVATION: 1600 Metres

NORTHING: 6642500  
EASTING: 427521

LOCATION ACCURACY: Within 500M  
COMMENTS: Trenches.

COMMODITIES: Lead                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Limonite              Jarosite              Silica  
ALTERATION TYPE: Silicific'n              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Irregular  
MODIFIER: Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                                                Sylvester Allochthon

LITHOLOGY: Chert  
Argillite  
Limestone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon is a Devonian to Triassic oceanic assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: VEINLETS                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1986  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      35.3000                      Grams per tonne  
Lead                      0.1200                      Per cent  
Zinc                      30.2000                      Per cent

COMMENTS: Grab sample of quartz veinlets within a shear.  
REFERENCE: Fieldwork 1986, page 191.

**CAPSULE GEOLOGY**

Near the Tootsee River in the Cassiar Mountains just south of the Yukon-British Columbia border, a narrow shear zone in cherts, limestones and argillites of the Sylvester Allochthon contains quartz veinlets with disseminated galena, sphalerite and pyrite. A grab sample assayed 35.3 grams per tonne silver, 30.2 per cent zinc, and 0.12 per cent lead (Fieldwork 1986, page 191). The showing has been oxidized and silicified.

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RUN TIME: 12:30:28

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EMPR MP MAP 1992-12

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/01

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

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PAGE: 962  
REPORT: RGEN0100

MINFILE NUMBER: **1040 040**

NATIONAL MINERAL INVENTORY:

NAME(S): **KILT, KEY, KILT 1**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O08W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 20 54 N  
LONGITUDE: 130 16 06 W  
ELEVATION: Metres

NORTHING: 6579527  
EASTING: 427871

LOCATION ACCURACY: Within 500M  
COMMENTS: Kilt 1 claim showings.

COMMODITIES: Zinc                      Lead                      Silver                      Copper

**MINERALS**

SIGNIFICANT:	Sphalerite	Galena	Chalcopyrite	Pyrite	Pyrrhotite
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Quartz	Sericite	Chlorite		
ALTERATION TYPE:	Sericitic				
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein                      Stratiform                      Concordant  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Replacement  
DIMENSION: 0020 x 0001                      Metres                      STRIKE/DIP:  
COMMENTS: Strata strikes north-northwest, dips steeply to the west, and are locally isoclinally folded, with fold axis plunging gently to the north.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Devonian-Mississipp.	Earn	Undefined Formation	

LITHOLOGY: Graphitic Shale  
Limestone  
Cherty Carbonate  
Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Near the Cottonwood River in the Cassiar Mountains of north-western British Columbia, Devono-Mississippian Earn Group siliceous or graphitic black shale and limestone contains scattered, discontinuous chert-carbonate lenses. The lenses are 0.3 to 1.0 metres wide and contain sphalerite, galena, chalcopyrite, pyrite, and pyrrhotite. One chert-carbonate bed contained 5 to 10 per cent lead-zinc over a 20 metre strike length. Sericitic alteration is associated with faulting.

The strata strike north-northwest, dip steeply to the west, and are locally isoclinally folded, with fold axis plunging gently to the north.

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GSC OF 561  
EMPR OF 2000-22

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/01

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 040**

MINFILE NUMBER: **1040 041**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAP**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O09E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 42 49 N  
LONGITUDE: 130 05 06 W  
ELEVATION: Metres

NORTHING: 6620016  
EASTING: 438961

LOCATION ACCURACY: Within 500M  
COMMENTS: Near centre of Cap claims.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT:	Pyrite	Pyrrhotite			
ASSOCIATED:	Quartz	Barite	Pyrolusite		
ALTERATION:	Chlorite	Quartz	Serpentine	Mariposite	Manganite
ALTERATION TYPE:	Silicific'n		Quartz-Carb.	Oxidation	
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Stockwork	Stratiform
CLASSIFICATION:	Hydrothermal	Epigenetic	
SHAPE:	Irregular		
MODIFIER:	Faulted		
COMMENTS:	Joints, fractures, veinlets in Sylvester Group rocks trend northeast perpendicular to fold axis in underlying sediments.		

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Serpentinite  
Quartz Vein  
Listwanite

HOSTROCK COMMENTS: The Sylvester Allochthon is a Devonian to Triassic oceanic assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Cassiar Mountains
TERRANE:	Slide Mountain		
METAMORPHIC TYPE:	Regional	RELATIONSHIP:	Pre-mineralization
		GRADE:	Greenschist

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Chip		
COMMODITY	Gold	GRADE	0.7540 Grams per tonne
COMMENTS:	One metre wide sample.		
REFERENCE:	Assessment Report 11494.		

**CAPSULE GEOLOGY**

The property is near Toozaza Creek in the Cassiar Mountains in northwestern British Columbia, east of the Cassiar Batholith. It is underlain by the metavolcanics and metasediments of the Sylvester Allochthon Assemblage and underlying Earn Group sediments. Joints, fractures, and veinlets in Sylvester Allochthon rocks trend northeast perpendicular to fold axis in underlying sediments. Quartz veins and stockworks are associated with zones of silicified greenstone trending northeast. Disseminated pyrite (up to 5 per cent), pyrrhotite and manganese oxide occur in the quartz veinlets and the sulphides are associated with anomalous gold and arsenic values. Listwanite zones with quartz veinlets up to 5 centimetres wide also occur in serpentinites on the property. The best assay from a chip sample over one metre assayed 0.754 grams per tonne gold (Assessment Report 11494).

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GSC OF 561

DATE CODED: 1986/02/24  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 042**

NATIONAL MINERAL INVENTORY:

NAME(S): **CUB**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 56 09 N  
LONGITUDE: 130 30 06 W  
ELEVATION: 1400 Metres

NORTHING: 6645217  
EASTING: 416083

LOCATION ACCURACY: Within 500M  
COMMENTS: Sulphide zone, DS1 claim.

COMMODITIES: Silver                      Zinc                      Lead                      Gold

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite  
ASSOCIATED: Quartz              Calcite              Siderite  
ALTERATION: Quartz              Limonite  
ALTERATION TYPE: Silicific'n              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Concordant                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic                      Replacement  
SHAPE: Tabular  
MODIFIER: Fractured                      Sheared  
DIMENSION:                      STRIKE/DIP: 135/60W                      TREND/PLUNGE:  
COMMENTS: Attitude for sulphide zone conformable to foliation.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cambrian-Ordovician      Kechika                      Undefined Formation

DATING METHOD: Fossil

LITHOLOGY: Limestone  
Siltstone  
Phyllite  
Greenstone  
Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1984  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE                      Grams per tonne  
Silver                      32.6000                      Per cent  
Lead                      2.6400                      Per cent  
Zinc                      4.9400                      Per cent  
COMMENTS: 1.5 metre sample from DDH-84-6.  
REFERENCE: Assessment Report 13376.

**CAPSULE GEOLOGY**

Near the mouth of the Tootsee River in the Cassiar Mountains of northwestern British Columbia, vein and replacement mineralization occur in sheared Cambro-Ordovician Kechika Group phyllites, siltstones and limestone in an embayment on the east side of the Cassiar Batholith. The trend of mineralization, foliation and bedding are roughly conformable and dip moderately southwest. Greenstone meta-volcanics or sills occur in the sequence. Mineralization occurs as disseminations, stringers and laminations of galena, sphalerite, pyrite and siderite in silicified, partly oxidized zones in phyllite or limestone. A diamond-drill hole intersection of about 1.5 metres assayed 32.6 grams per tonne silver, 2.64 per cent lead, and 4.94 per cent zinc (Assessment Report 13376).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
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ENERGY AND MINERALS DIVISION

PAGE: 966  
REPORT: RGEN0100

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GSC MAP 18-1968  
EMPR PF (International Prospector and Developer Magazine, Dec. 1985)  
GSC OF 561  
EMPR MP MAP 1992-12

DATE CODED: 1986/02/14  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 043**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAR 7**, SHAR 8

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O11E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 43 29 N  
LONGITUDE: 131 09 06 W  
ELEVATION: Metres

NORTHING: 6622717  
EASTING: 379003

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Molybdenum Tungsten Copper

**MINERALS**

SIGNIFICANT: Molybdenite Scheelite Chalcopyrite Pyrite Magnetite  
ASSOCIATED: Quartz  
ALTERATION: Epidote Chlorite Hematite Limonite K-Feldspar  
COMMENTS: Local K-feldspar alteration is crosscut by quartz veining.  
ALTERATION TYPE: Propylitic Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Hydrothermal Epigenetic Porphyry  
SHAPE: Tabular  
MODIFIER: Fractured Sheared  
DIMENSION: 0500 x 0500 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Mineralized area.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE    GROUP    FORMATION    IGNEOUS/METAMORPHIC/OTHER  
Middle Jurassic             Simpson Peak Batholith

LITHOLOGY: Quartz Monzonite  
Granite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca    PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Dorsey

**CAPSULE GEOLOGY**

Near the mouth of Redfish Creek on a branch of McNaughton Creek in the Cassiar Mountains of northwestern British Columbia, sheared, medium to coarse-grained quartz monzonite of the Simpson Peak Batholith is intruded by k-feldspar-rich phases. Quartz veins up to 3 metres wide cut these late granite intrusives and contain pyrite, molybdenite and rare scheelite and chalcopyrite. Molybdenite also occurs in fractures, in intrusives, with pyrite and magnetite. Mineralized veins trend east and are about 3 metres apart. The mineralized area is 500 by 500 metres, and appears to constitute a weak porphyry system. Locally, k-feldspar alteration is crosscut by quartz veining. Propylitic alteration is associated with quartz veining.

**BIBLIOGRAPHY**

EMPR EXPL 1979-311; 1980-507  
EMPR ASS RPT \*8270, \*9301  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561  
EMPR OF 1991-17

DATE CODED: 1986/02/12  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 044**

NATIONAL MINERAL INVENTORY:

NAME(S): **GAZOO - CENTRAL STOCK**, TOOZAZA CREEK

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O09E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 37 39 N  
LONGITUDE: 130 13 51 W  
ELEVATION: Metres

NORTHING: 6610571  
EASTING: 430579

LOCATION ACCURACY: Within 500M  
COMMENTS: Central Stock showing.

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite      Chalcopyrite      Pyrite  
ASSOCIATED: Quartz              Fluorite              Chalcedony      Calcite  
ALTERATION: Sericite           Chlorite              Clay  
ALTERATION TYPE: Argillic                      Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic                      Porphyry  
SHAPE: Irregular  
MODIFIER: Faulted                      Other

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cretaceous                      \_\_\_\_\_                      \_\_\_\_\_                      Cassiar Batholith

LITHOLOGY: Breccia  
Vein  
Foliated Biotite Quartz Monzonite  
Biotite Muscovite Quartz Monzonite  
Porphyritic Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
COMMENTS: Interior metamorphic-plutonic complex.

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Near Toozaza Creek in the Cassiar Mountains of northwestern British Columbia, a 750 metre long stock of biotite-muscovite quartz monzonite intrudes foliated biotite quartz monzonite of the Cassiar Batholith and is locally cut by quartz veins. Four small plugs of porphyritic quartz monzonite intrude the stock. The contact between the foliated intrusive and the stock is faulted. One of the contact-faults trends northwest and contains fluorite, calcite, chalcedony and quartz-pyrite-sericite veins and breccia and gouge zones up to 15 metres wide. Molybdenite and chalcopyrite occur in quartz-pyrite veins, in fault breccia zones, and as disseminations in the host intrusives. A large northeast-trending fault zone is the locus of intense argillic-sericitic alteration.

**BIBLIOGRAPHY**

EMPR EXPL 1978-E274  
EMPR ASS RPT \*7148  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1986/02/13  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: MM

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1040 045**

NATIONAL MINERAL INVENTORY:

NAME(S): **GAZOO - SOUTHWEST STOCK**, TOOZAZA CREEK

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O09E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 36 59 N  
LONGITUDE: 130 14 06 W  
ELEVATION: Metres

NORTHING: 6609338  
EASTING: 430321

LOCATION ACCURACY: Within 500M  
COMMENTS: Southwest stock.

COMMODITIES: Molybdenum                      Beryllium

**MINERALS**

SIGNIFICANT: Molybdenite              Beryl  
ASSOCIATED: Quartz  
ALTERATION: Sericite              Chlorite              Clay  
COMMENTS: Associated with veins, along fault margins.  
ALTERATION TYPE: Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic              Porphyry              Industrial Min.  
SHAPE: Tabular  
MODIFIER: Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Cassiar Batholith

LITHOLOGY: Biotite Muscovite Quartz Monzonite  
Vein  
Foliated Biotite Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
COMMENTS: Interior metamorphic-plutonic belt.

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Near Toozaza Creek in the Cassiar Mountains of northwestern British Columbia, foliated biotite quartz monzonite of the Cassiar Batholith is intruded by a biotite-muscovite quartz monzonite stock. The stock is well-jointed but generally unaltered. Molybdenite occurs in quartz veins cutting the stock. One quartz vein contains beryl. Sericite alteration occurs along fault margins.

**BIBLIOGRAPHY**

EMPR EXPL 1978-E274  
EMPR ASS RPT \*7148  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1986/02/13  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 046**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOOTS 2**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 56 19 N  
LONGITUDE: 130 37 06 W  
ELEVATION: 1700 Metres

NORTHING: 6645680  
EASTING: 409572

LOCATION ACCURACY: Within 1 KM

COMMENTS: Occurrence is south of Amber Lake (Assessment Report 8435).

COMMODITIES: Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena                      Sphalerite  
ASSOCIATED: Quartz  
ALTERATION: Sericite                      Kaolinite                      Chlorite  
ALTERATION TYPE: Sericitic                      Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cretaceous                                                                                     Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
                    Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Nisutlin Plateau

**INVENTORY**

ORE ZONE: VEINS

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1980

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	487.9000	Grams per tonne
Lead	0.4600	Per cent
Zinc	0.1600	Per cent

COMMENTS: Grab sample from quartz veins.  
REFERENCE: Assessment Report 8435.

**CAPSULE GEOLOGY**

South of Amber Lake in the Cassiar Mountains of northwestern British Columbia, quartz veins, 10 and 15 centimetres in width, occur in sheared quartz monzonite of the Cassiar Batholith. The veins contain silver, galena and sphalerite. Sericitic alteration is associated with veining. Grab samples assayed up to 487.9 grams per tonne silver, 0.46 per cent lead and 0.16 per cent zinc (Assessment Report 8435).

**BIBLIOGRAPHY**

EMPR ASS RPT \*8061, \*8435  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1986/02/19  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: MM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 047**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARSENAULT EAST**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O13E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 48 29 N  
LONGITUDE: 131 40 49 W  
ELEVATION: 1555 Metres

NORTHING: 6633075  
EASTING: 349662

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Actinolite    Garnet            Quartz            Epidote            Calcite  
                 Magnetite

MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Disseminated              Vein  
CLASSIFICATION: Skarn                      Replacement  
SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic  
Mississippian

Simpson Peak Batholith  
Big Salmon Complex

LITHOLOGY: Limestone  
                 Tuff  
                 Quartzite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Nisutlin Plateau

RELATIONSHIP:

GRADE: Amphibolite

**CAPSULE GEOLOGY**

On the east flank of Mount Francis, near the eastern limit of the now lapsed Arsenault I claim, is a moderately steeply east-dipping, strongly deformed section of decimetre thick interbeds (?) of limestone and tuff. These are infolded with clean quartzite. Within the carbonate, near the quartzite contact, is a well developed vein replacement zone of garnet-epidote-quartz-calcite-magnetite-actinolite-chalcopyrite. The zone is 2.5 metres wide and is exposed for 10 metres along strike. Chalcopyrite is concentrated in the northern third of the zone in pods and irregular veins up to 4 centimetres wide and as much as 30 centimetres long. Mineralized chips collected across the 2.5 metre wide zone yielded 4.6 per cent copper, 0.3 per cent zinc, 9.5 grams per tonne silver, 322 ppm cobalt, 26 ppm cadmium and 115 ppm bismuth (Fieldwork 1997, page 6-17).

**BIBLIOGRAPHY**

EM \*FIELDWORK 1997, pp. 6-1-6-20  
GSC MAP 18-1968  
GSC OF 561

DATE CODED: 1999/11/18  
DATE REVISED: / /

CODED BY: MGM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1040 048**

NATIONAL MINERAL INVENTORY: 104016 Ag5

NAME(S): **SILVERKNIFE**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104O16W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 56 29 N  
LONGITUDE: 130 21 48 W  
ELEVATION: Metres

NORTHING: 6645668  
EASTING: 423826

LOCATION ACCURACY: Within 500M  
COMMENTS: Discovery drill hole.

COMMODITIES: Silver                      Lead                      Zinc                      Gold

**MINERALS**

SIGNIFICANT:	Galena	Sphalerite	Pyrrargyrite	Tetrahedrite	Pyrite
ASSOCIATED:	Quartz	Calcite	Siderite		
ALTERATION:	Quartz				
ALTERATION TYPE:	Silicific'n	Oxidation			
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Stratabound		
CLASSIFICATION:	Hydrothermal	Epigenetic	Replacement	
DIMENSION:	0137 x 0005	Metres	STRIKE/DIP:	TREND/PLUNGE:
COMMENTS:	Gentle southward dip.			

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Rosella	
Cambrian-Ordovician	Kechika	Undefined Formation	

LITHOLOGY: Limestone  
Dolomite  
Marble  
Phyllite  
Dolomitic Sandstone  
Sediment/Sedimentary  
Hornfels

**GEOLOGICAL SETTING**

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Cassiar Mountains
TERRANE:	Cassiar		

**INVENTORY**

ORE ZONE:	DRILLHOLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1986
SAMPLE TYPE:	Drill Core		
COMMODITY		GRADE	
Silver		511.0000	Grams per tonne
Gold		3.7000	Grams per tonne
Lead		12.2500	Per cent
Zinc		4.8000	Per cent

COMMENTS: Weighted average assay values. Drill indicated and inferred reserves of 362,880 tonnes, no grade stated.

REFERENCE: Energy, Mines and Resources MR 223, 1989.

**CAPSULE GEOLOGY**

Just north of the Midway deposit in northwestern British Columbia, Lower Cambrian Rosella Formation (Atan Group) marbles and overlying Cambro-Ordovician Kechika Group biotite hornfels dip gently to the south. The Rosella Formation consists of limestone, dolomite, marble, phyllite and dolomitic sandstone. Hornfels has been dated at 98.9 million years indicating a buried outlier of the Cassiar Batholith may be close by.

Rosella Formation marbles are cut by galena-sphalerite-calcite-pyrite-siderite-pyrrargyrite-tetrahedrite bearing veinlets and replaced by banded sulphides. A strike length of 137 metres and true thickness of 4.6 metres is reported for the mineralized section.

Weighted average assay values up to 511 grams per tonne silver, 3.7 grams per tonne gold, 12.25 per cent lead, and 4.8 per cent zinc

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**CAPSULE GEOLOGY**

are reported and drill indicated and inferred reserves are 362,880 tonnes with no grade stated (Energy, Mines and Resources MR 223, 1989).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12036, \*13366, \*14737  
EMPR EXPL 1983-557  
EMPR FIELDWORK 1986, p. 191; 1987, pp. 525-527  
EMPR MIN EXPL REV 1985, p. 9  
EMPR MP MAP 1992-12  
EMR MR 223, 1989  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55  
GCNL #1,#113,#151, 1984; #1,#56,#82,#98,#103,#118,#122,#134,#149,  
#178,#188,#189,#195,#200,#204,#210,#223,#238,#245, 1985; #84,#105,  
#189,#213, 1987; #219, 1989  
N MINER June 20, 1985; Feb. 17, May 18, 1986; May 11, Nov. 16, 1987  
V STOCKWATCH Jan.30, 1986; May 22, Jun. 29, 1987  
WWW <http://www.infomine.com/>

DATE CODED: 1986/02/20  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 049**

NATIONAL MINERAL INVENTORY: 104015 W1

NAME(S): **BEAR**, REG, FLY,  
AG

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104015E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 56 44 N  
LONGITUDE: 130 31 56 W  
ELEVATION: Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6646339  
EASTING: 414401

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Trenches on Bear claims.

COMMODITIES: Tungsten                      Molybdenum                      Lead

**MINERALS**

SIGNIFICANT: Scheelite                      Molybdenite                      Galena  
ASSOCIATED: Garnet                      Diopside  
ALTERATION: Garnet                      Diopside                      Powellite  
ALTERATION TYPE: Skarn                      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound                      Concordant                      Disseminated  
CLASSIFICATION: Skarn                      Epigenetic  
SHAPE: Tabular

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Cambrian-Ordovician      Kechika                      Undefined Formation  
DATING METHOD: Fossil

LITHOLOGY: Garnet Diopside Skarn  
Phyllite  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**CAPSULE GEOLOGY**

Near the mouth of the Tootsee River by the British Columbia-Yukon border, trenching has exposed two stratabound skarn bodies up to 1.0 metre wide and 10 metres apart, conformable to steeply south dipping, Cambro-Ordovician Kechika Group(?) limestone and inter-bedded phyllite. Fine to coarse-grained garnet-diopside skarn contains scheelite, molybdenite, powellite and minor galena.

**BIBLIOGRAPHY**

EMPR ASS RPT \*7539, \*11309, \*13852  
EMPR FIELDWORK 2000-03, pp. 51-66  
EMPR OF 1991-17  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55

DATE CODED: 1986/02/19  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 050**

NATIONAL MINERAL INVENTORY:

NAME(S): **EWEN BARITE**

MINING DIVISION: Liard

STATUS: Developed Prospect

REGIONS: British Columbia

NTS MAP: 104O16E

BC MAP:

LATITUDE: 59 59 25 N

LONGITUDE: 130 11 56 W

ELEVATION: 350 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Barite horizon, 600 metres south of the B.C.- Yukon border and 82 kilometres north-northwest of Cassiar (Assessment Report 9912, Map 3).

UTM ZONE: 09 (NAD 83)

NORTHING: 6650934

EASTING: 433112

COMMODITIES: Barite

**MINERALS**

SIGNIFICANT: Barite

ASSOCIATED: Calcite

COMMENTS: Limestone pods.

ALTERATION: Sericite Limonite

ALTERATION TYPE: Sericitic Oxidation

MINERALIZATION AGE: Devonian-Mississipp.

**DEPOSIT**

CHARACTER: Stratiform Concordant

CLASSIFICATION: Sedimentary Exhalative

TYPE: E17 Sediment-hosted barite

SHAPE: Bladed

MODIFIER: Faulted

DIMENSION: 200 x 70 x 7 Metres

COMMENTS: Deposit strikes 155 degrees for 200 metres and dips southwest along a dip slope at 24 degrees.

Massive

Syngenetic

Industrial Min.

STRIKE/DIP: 155/24S

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP

Devonian-Mississipp.

DATING METHOD: Fossil

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Siliceous Black Argillite  
Barite  
Limestone  
Siltstone  
Slate  
Sandstone  
Chert Pebble Conglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: EWEN

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1982

QUANTITY: 181000 Tonnes

COMMODITY

GRADE

Barite

89.0000 Per cent

COMMENTS: Reserves for a deposit of 130-metre strike length containing highly accessible, high-quality barite, with a spec. grav. of 4.2 grams/cc.

REFERENCE: Assessment Report 11020, page 51.

**CAPSULE GEOLOGY**

The Ewen Barite prospect is situated 600 metres south of the B.C.-Yukon border, about 82 kilometres north-northwest of Cassiar.

This area, between the Tootsie River and Big Creek near the Yukon border, is underlain by a turbiditic sequence of slate, siltstone, sandstone and chert-pebble conglomerate of the Upper Devonian to Lower Mississippian Earn Group, which unconformably overlies platformal carbonates of the Middle Devonian McDame Group. The succession is structurally overlain by an internally imbricated suite of oceanic and lower crustal rocks of the Devonian to Triassic Sylvester Allochthon. Siliceous to baritic exhalites tend to be

## CAPSULE GEOLOGY

found in this area within the Earn Group.

A stratiform sedimentary exhalative barite horizon strikes 155 degrees for about 200 metres within Earn Group sediments and dips approximately 24 degrees southwest along a dip slope. The horizon is underlain by siliceous black argillite, overlain by siltstone and is truncated by a fault to the north. The deposit is 70 metres wide and has an average thickness of 7 metres.

The barite is fine grained, light grey to white and moderately to poorly laminated to lenticular. Pods and nodules of medium grey limestone and limonite are locally present. Fine sericitic partings are common. The deposit is estimated to contain 181,000 tonnes of easily accessible, high quality barite grading 89 per cent BaSO<sub>4</sub> over a strike length of 130 metres (Assessment Report 11020, page 51). Specific gravities of the barite averaged around 4.2 grams per cubic centimetre (Assessment Report 11020, page 20).

The deposit was geologically mapped, sampled and drilled (4 holes totaling 29.6 metres) by Amax of Canada Ltd. in 1981 and 1982, while under option from Regional Resources Ltd.

## BIBLIOGRAPHY

- EMPR ASS RPT 9912, \*11020
- EMPR FIELDWORK 1986, pp. 181-192; 1987, pp. 249-253, 525-527
- EMPR OF 1987-5
- GSC P 68-55; 91-1A, pp. 27-31
- GSC MAP 18-1968
- GSC OF 561
- ANNUAL REPORT \*Regional Resources Inc., 1982/83 p. 6
- EMPR MP MAP 1992-12
- EMPR OF 2000-22

DATE CODED: 1986/02/20  
DATE REVISED: 1991/06/07

CODED BY: JB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **1040 051**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAR 6**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O11W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 38 59 N  
LONGITUDE: 131 08 06 W  
ELEVATION: Metres

NORTHING: 6614338  
EASTING: 379672

LOCATION ACCURACY: Within 500M  
COMMENTS: Shale bed (Assessment Report 8271).

COMMODITIES: Uranium                      Copper                      Fluorite

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Concordant  
CLASSIFICATION: Sedimentary                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Carboniferous	Undefined Group	Unnamed/Unknown Formation	

LITHOLOGY: Graphitic Shale  
Quartzite  
Meta Pelite  
Phyllite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:                      GRADE:

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1979
SAMPLE TYPE: Grab	
COMMODITY	<u>GRADE</u>
Copper	0.0720 Per cent
Fluorite	0.1250 Per cent
Uranium	0.0090 Per cent

REFERENCE: Assessment Report 8271.

**CAPSULE GEOLOGY**

Near Nome Lake in the Cassiar Mountains of northwestern British Columbia, the showing, on the Shar 6 claim, is underlain by intercalated west dipping quartzites, phyllites, metapelites, and graphitic shales of Carboniferous Age. Jurassic quartz monzonite of the Nome Lake Batholith lies to the east.

A radioactive graphitic shale zone, up to 3.5 metres wide, is enclosed within quartzite. Rock samples assayed up to 0.009 per cent uranium, 0.072 per cent copper, and 0.125 per cent fluorine (Assessment Report 8271).

**BIBLIOGRAPHY**

EMPR ASS RPT 8271  
EMPR EXPL 1979-311  
GSC MAP 18-1968  
GSC P 68-55  
GSC OF 561  
EMPR OF 1992-16

DATE CODED: 1987/08/19  
DATE REVISED: 1988/11/01

CODED BY: LDJ  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 052**

NATIONAL MINERAL INVENTORY:

NAME(S): **PERRY BARITE** PARRY BARITE

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O16E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 58 18 N  
LONGITUDE: 130 10 58 W  
ELEVATION: 914 Metres

NORTHING: 6648846  
EASTING: 433973

LOCATION ACCURACY: Within 500M

COMMENTS: Centered on barite horizon, 1.5 kilometres south of the B.C.-Yukon border and 80.5 kilometres north-northwest of Cassiar (Assessment Report 9912, Map 3).

COMMODITIES: Barite

**MINERALS**

SIGNIFICANT: Barite  
MINERALIZATION AGE: Devonian-Mississipp.

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary              Exhalative                      Industrial Min.  
SHAPE: Tabular  
MODIFIER: Folded                      Faulted  
DIMENSION: 350 x 11                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Barite horizon strikes 350 metres along keel of northwest trending syncline and averages 11 metres thick.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Devonian-Mississipp.      Earn                      Unnamed/Unknown Formation

LITHOLOGY: Siltstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar

**INVENTORY**

ORE ZONE: SHOWING                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1982  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Barite                      90.3500      Per cent  
COMMENTS: Average grade based on continuous chip sampling across 11 metre thickness.  
REFERENCE: Assessment Report 11020, page 52.

**CAPSULE GEOLOGY**

The Perry Barite showing occurs 1.5 kilometres south of the B.C.-Yukon border, about 80.5 kilometres north-northwest of Cassiar. This deposit is 1.5 kilometres southwest of and on strike with the Ewen Barite prospect (104P 050).  
This area between the Tootsie River and Big Creek near the Yukon border is undlain by a turbiditic sequence of slate, siltstone, sandstone and chert-pebble conglomerate of the Upper Devonian to Lower Mississippian Earn Group, which unconformably overlies platformal carbonates of the Middle Devonian McDame Group. The succession is structurally overlain by an internally imbricated suite of oceanic and lower crustal rocks of the Devonian to Triassic Sylvester Allochthon. Siliceous to baritic exhalites tend to be found in this area within the Earn Group.  
A pure, bedded barite exhalite occurs in siltstone of the Earn Group. The deposit is folded about a northwest trending syncline that is truncated by a shallow dipping thrust fault. The horizon is exposed over a length of 350 metres and averages 11 metres thick. A series of continuous chip samples taken across bedding averaged 90.35 per cent BaSO4 (Assessment Report 11020, p. 52).  
The deposit was geologically mapped and sampled by Amax of Canada Ltd. in 1981 and 1982, while under option from Regional Resources Ltd.

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RUN TIME: 12:30:28

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EMPR ASS RPT 9912, \*11020  
EMPR FIELDWORK \*1986, pp. 181-192; 1987, pp. 249-253, 525-527  
EMPR OF 1987-5  
GSC P 68-55  
GSC MAP 18-1968  
GSC OF 561  
EMPR MP MAP 1992-12  
EMPR OF 2000-22

DATE CODED: 1991/06/07  
DATE REVISED: 1991/06/07

CODED BY: PSF  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **1040 053**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRINKLE QUARTZITE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 48 57 N  
LONGITUDE: 131 46 06 W  
ELEVATION: 1220 Metres

NORTHING: 6634144  
EASTING: 344761

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mississippian			Big Salmon Complex

LITHOLOGY: Quartzite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Nisutlin Plateau

RELATIONSHIP:

GRADE: Amphibolite

**CAPSULE GEOLOGY**

An occurrence of minor sulphide mineralization and copper staining occurs on the west end of the low ridge containing the Arsenault showing (1040 011). The locality is below tree line about 2 kilometres west of the old exploration camp where a few chalcopyrite veins up to a centimetre thick occur within the upper third of a 10-metre cliff exposure of crinkle quartzite. No signs of prior sampling are evident.

**BIBLIOGRAPHY**

EM FIELDWORK 1997, pp. 6-1-6-20  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55

DATE CODED: 1999/11/18  
DATE REVISED: / /

CODED BY: MGM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1040 054**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGHWAY 97**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O13E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 54 30 N  
LONGITUDE: 131 31 22 W  
ELEVATION: 890 Metres

NORTHING: 6643891  
EASTING: 358919

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite Chalcopyrite  
ASSOCIATED: Quartz Chlorite Magnetite  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mississippian			Big Salmon Complex

LITHOLOGY: Greenstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Nisutlin Plateau

RELATIONSHIP:

GRADE: Amphibolite

**CAPSULE GEOLOGY**

Extensive upgrading and straightening of Highway 97 in 1988 resulted in a number of new roadcut exposures and some extensive outcrop in burrow pits. In one new exposure, about 3.5 kilometres west of Swan Lake, a 3-metre wide gossanous zone occurs within the greenstone unit. Several north-northwest trending quartz-chlorite-magnetite-pyrite-chalcopyrite veins cut the zone. The veins attain a maximum thickness of 30 centimetres. There is no sign of this zone having been previously sampled. Mineralized chips collected across a 1.5 metre true thickness that is 80 per cent vein material returned 0.2 per cent copper, 165 ppm cobalt, 210 ppm arsenic and 45 ppm tungsten (Fieldwork 1997, page 6-18).

**BIBLIOGRAPHY**

EM FIELDWORK 1997, pp. 6-1-6-20; 1999, pp. 27-46, 47-70  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55

DATE CODED: 1999/11/18  
DATE REVISED: / /

CODED BY: MGM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1040 055**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT HAZEL CRINKLE QUARTZITE** CRINKLE QUARTZITE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104O13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 57 39 N  
LONGITUDE: 131 52 06 W  
ELEVATION: 1370 Metres

NORTHING: 6650521  
EASTING: 339855

LOCATION ACCURACY: Within 1 KM

COMMENTS: Southeast and northwest side of Mount Hazel.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcocite  
ASSOCIATED: Quartz Specularite  
MINERALIZATION AGE:

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I06 Cu±Ag quartz veins

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mississippian			Big Salmon Complex

LITHOLOGY: Quartzite  
Tuff  
Greenstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Dorsey  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Nisutlin Plateau

RELATIONSHIP:

GRADE: Amphibolite

**CAPSULE GEOLOGY**

An occurrence of minor sulphide mineralization and copper staining occurs at the peak of Mount Hazel. Deformed chalcocite and specularite occur as fist-sized patches in a 0.9 metre thick bull quartz vein on the southeast side of Mount Hazel near the contact between crinkle quartzite and tuffaceous rocks of the greenstone unit. A similarly mineralized vein occurs on the northwest side of the peak, although it could be an along-strike continuation of the southeast vein.

**BIBLIOGRAPHY**

EM FIELDWORK 1997, pp. 6-1-6-20  
GSC MAP 18-1968  
GSC OF 561  
GSC P 68-55

DATE CODED: 1999/11/18  
DATE REVISED: 1999/11/25

CODED BY: MGM  
REVISED BY: LDJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 001**

NATIONAL MINERAL INVENTORY: 104P12 Ni1

NAME(S): **BLUE RIVER NICKEL**, HEAZLEWOOD, ICE RIVER,  
PURITCH

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:  
LATITUDE: 59 32 59 N  
LONGITUDE: 129 59 06 W  
ELEVATION: 1600 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS:

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6601679  
EASTING: 444315

COMMODITIES: Nickel

**MINERALS**

SIGNIFICANT: Heazlewoodite Pentlandite  
ASSOCIATED: Olivine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Disseminated  
CLASSIFICATION: Magmatic

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

**STRATIGRAPHIC AGE**

Upper Paleozoic

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Blue River Ultramafite

LITHOLOGY: Peridotite  
Dunite  
Serpentinite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY

**GRADE**

Nickel 0.2400 Per cent

COMMENTS: Average of 30 samples over 4 square kilometres.

REFERENCE: Property File, McDougall, J.J. (1954).

**CAPSULE GEOLOGY**

The upper section of Heazlewood Creek in the Cassiar Mountains has incised through partly serpentinized dunites and peridotites of the Blue River ultramafic body. The original showing consisted of nodular material, likely a nickel-iron alloy, in serpentinite. Medium to fine-grained heazlewoodite, a nickel sulphide, occurs locally with minor pentlandite. Most of the nickel in samples, averaging 0.24 per cent nickel, occurs in olivine (Property File, McDougall, J.J., 1954). Chrysotile fibre has not been reported from the occurrence.

**BIBLIOGRAPHY**

GSC P \*64-48, p. 14  
EMPR PF (\*McDougall, J.J. (1954): Report on Exploration and prospecting possibilities, Yukon and Northern British Columbia; Sketch map in 104P General File)  
EMPR OF 1988-10  
GSC MEM \*319, p. 110  
GSC MAP \*17-1964; 1110A  
CANMET IR 69-26  
EMPR AR 1968-34  
EMPR GEM 1970-34  
EMPR FIELDWORK 1979, pp. 89,90; 1987, pp. 232-243,245-248

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RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

EMPR MP MAP 1992-11

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 002**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZUS, BLUE RIVER, CHRYSOTILE,  
OLIVINE, BEN, TANYA,  
NOVA, SUN CREEK**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 59 23 49 N  
LONGITUDE: 129 46 36 W  
ELEVATION: 1830 Metres

NORTHING: 6584511  
EASTING: 455894

LOCATION ACCURACY: Within 500M

COMMENTS: From Minister of Mines Annual Report 1951, Figure 15, page 210.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.  
COMMENTS: Chrysotile veinlets commonly less than 1.0 millimetre wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Serpentinite  
Rodingite Dike  
Argillite  
Chrysotile Vein

HOSTROCK COMMENTS: Mississippian-Permian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1983

SAMPLE TYPE: Drill Core

COMMODITY: Asbestos GRADE: 4.7000 Per cent

COMMENTS: Visual assay over 3.0 metres from Drill Hole P-4.

REFERENCE: Assessment Report 11324.

**CAPSULE GEOLOGY**

Near Zus Mountain in the Cassiar Mountain Range an arc-shaped, north-trending, body of serpentinite is exposed over a length of 4.5 kilometres and a width of 0.5 to 1.3 kilometres structurally overlying Upper Paleozoic Sylvester Allochthon metasediments and metavolcanics. Cross-fibre chrysotile occurs in veinlets, generally less than 2.5 millimetres in width and commonly less than 1.0 millimetre. The veinlets are widely scattered and strike in all directions, with a slightly dominant northwest trend. The serpentinite body is cut by numerous rodingite dykes. A visual assay over 3 metres of drill core from Hole P-4 grades 4.7 per cent asbestos (Assessment Report 11324).

**BIBLIOGRAPHY**

EMPR AR 1950-209, \*1951-209-211, 1960-128, 1965-257  
EMPR ASS RPT 103, \*702, \*8607, 10818, \*11324, 14649  
EMPR EXPL 1982-410; 1986-C470  
EMPR FIELDWORK 1987, pp. 245-248; 1988 pp.323-337  
EMPR MP MAP 1992-13  
EMPR OF 1995-25

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GSC MEM 319  
GSC MAP 1110A  
Harms, T.A., (1986): Structural and Tectonic Analysis of the  
Sylvester Allochthon, Northern British Columbia, Implications  
for Paleogeography and Accretion, Ph. D. Thesis, University of  
Arizona  
Placer Dome File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 003**

NATIONAL MINERAL INVENTORY: 104P5 Mo1

NAME(S): **LAMB MOUNTAIN**, STAR, WINDY

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 23 19 N  
LONGITUDE: 129 53 42 W  
ELEVATION: Metres

NORTHING: 6583667  
EASTING: 449162

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Tungsten                      Molybdenum                      Magnetite

**MINERALS**

SIGNIFICANT:	Scheelite	Molybdenite	Magnetite	Pyrrhotite
ALTERATION:	Garnet	Diopside	Tremolite	
ALTERATION TYPE:	Skarn			
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER:	Podiform	Disseminated		
CLASSIFICATION:	Skarn	Igneous-contact	Hydrothermal	Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Rosella	
DATING METHOD:	Fossil		
Upper Cretaceous			Lamb Mountain Stock
ISOTOPIC AGE:	73.9 +/- 2.5 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Marble  
Calc-silicate Hornfels  
Quartz Monzonite Porphyry  
Greisen  
Magnetite Garnet Skarn  
Garnet Diopside Skarn  
Actinolite Skarn

**GEOLOGICAL SETTING**

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Cassiar Mountains
TERRANE:	Cassiar		
METAMORPHIC TYPE:	Contact	RELATIONSHIP:	Syn-mineralization
		GRADE:	Hornfels

**CAPSULE GEOLOGY**

Near Lamb Mountain in the Cassiar Mountains, an extensive skarn zone is developed in Lower Cambrian Atan Group, in the Rosella Formation marbles adjacent to the Late Cretaceous Lamb Mountain quartz monzonite porphyry stock. At the intrusive contact magnetite-garnet skarn has formed and further from the contact garnet-diopside skarn with pyrrhotite lenses is present. At some distance from the intrusion the skarn contains abundant tremolite. Scheelite occurs in the magnetite skarn and pyrrhotite lenses. Two chip samples across 3 metres, from trenches in magnetite skarn, assayed 0.2 per cent tungsten, 0.07 per cent copper, 0.01 per cent zinc and 0.01 per cent tin. Greisen pods with molybdenite occur along the intrusive-carbonate contact. An extensive zone of retrograde actinolite skarn contains molybdenite rosettes.

**BIBLIOGRAPHY**

EMPR GEOLOGY 1977-81, pp. 188,189  
EMPR FIELDWORK \*1978, p. 56, \*1979, pp. 82-85, \*1980, p. 48; 1988 pp. 323-337  
EMPR AR 1961-6; 1962-6  
EMPR EXPL 1979-321; 1980-518  
EMR MP CORPFILE (Fort Reliance Minerals Ltd.)  
GSC MAP \*1110A  
EMPR ASS RPT \*7242, \*7965  
GSC MEM 319  
EMPR OF 1991-17

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**BIBLIOGRAPHY**

EMPR MP MAP 1992-13

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DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 004**

NATIONAL MINERAL INVENTORY: 104P5 Ag1

NAME(S): **CONTACT**

STATUS: Past Producer  
 REGIONS: British Columbia  
 NTS MAP: 104P05W  
 BC MAP:  
 LATITUDE: 59 19 11 N  
 LONGITUDE: 129 52 23 W  
 ELEVATION: 1880 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS:

Underground

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6575980  
 EASTING: 450308

COMMODITIES: Silver                      Lead                      Zinc                      Bismuth                      Tungsten  
 Magnetite                      Manganese

**MINERALS**

SIGNIFICANT: Galena                      Sphalerite                      Chalcopyrite                      Tetrahedrite                      Molybdenite  
 Arsenopyrite                      Dyscrasite                      Antimony                      Bismuthinite                      Pyrargyrite  
 Pyrrhotite                      Silver                      Albandite                      Scheelite                      Cosalite  
 Magnetite  
 ASSOCIATED: Calcite                      Quartz                      Rhodonite                      Pyrite  
 ALTERATION: Dolomite                      Garnet                      Scapolite  
 ALTERATION TYPE: Carbonate                      Skarn  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
 CLASSIFICATION: Hydrothermal                      Skarn                      Igneous-contact                      Industrial Min.  
 SHAPE: Tabular  
 COMMENTS: Veins in limestone strike approximately east and dip 75 to 80 degrees south and are up to 1.2 metres wide.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Hadrynian Upper Cretaceous	Ingenika	Stelkuz	Contact Stock

LITHOLOGY: Calc-silicate Hornfels  
 Marble  
 Vein  
 Quartz Monzonite  
 Quartz Feldspar Porphyry  
 Aplite Dike  
 Garnet Scapolite Skarn

HOSTROCK COMMENTS: Veins crosscut marble unit.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
 TERRANE: Cassiar  
 METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**CAPSULE GEOLOGY**

This past producer is 3 kilometres west of the Cassiar Asbestos Mine. A north-trending, moderately east-dipping unit of Hadrynian-Ingenika Group (Stelkuz Formation) marble and hornfels lies between the Late Cretaceous Contact quartz monzonite and Cassiar Stock quartz feldspar porphyry and quartz monzonite. Two 70 to 80 degree striking fissure veins, up to 1.2 metres in width, crosscut the marbles. Manganiferous magnetite, galena, sphalerite and pyrite are the dominant minerals present. Molybdenite, pyrrhotite, arsenopyrite, chalcopyrite, tetrahedrite, alabandite, bismuthinite, dyscrasite, native silver and bismuth occur as accessory minerals. Gangue consists of calcite, quartz and rhodonite. Quartz veins also occur in Contact Stock intrusives. They strike southeast and dip to the north-east at low angles and contain pyrite, molybdenite, bismuthinite, scheelite and cosalite. A small pyrrhotite lens with minor chalcopyrite occurs in garnet-scapolite skarn in marble, about 30 metres from the Cassiar Stock. Late aplite dykes cut the intrusives. The mine produced 10,451 grams of silver, 25 kilograms of copper, and 1,947 kilograms of lead from 25 tonnes of ore in 1956 (Mineral Policy Branch).

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EMPR AR 1955-10; 1956-A47  
EMPR ASS RPT \*7520, \*8077, \*8265, \*9406, \*10512  
EMPR EXPL 1979-320; 1980-518  
EMPR FIELDWORK 1978, pp. 51-60; 1979, pp. 80-88; 1988, pp. 323-337  
EMPR GEM 1969-40  
EMPR MP MAP 1992-13  
EMPR OF 1991-17; 1998-8-M, pp. 1-74  
GSC MAP \*1110A  
GSC MEM \*319, pp. 119,120  
McDougall, J.J. (1954): \*The telescoped silver-lead-zinc deposits  
of the Contact Group mineral claims, McDame map-area, British  
Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y



## CAPSULE GEOLOGY

The lowest horizon occurs just above the Sylvester basal thrust fault, and contains a serpentinite thrust slice that hosts the Cassiar and McDame (104P 084) deposits. There were two episodes of faulting postulated with asbestos forming during the change from normal to dextral motion on a north trending fault that transects the serpentinite ("45 degree shear").

The Cassiar pit occupies a zone of anomalous structure, with a north trending high angle fault (Marble Creek fault) juxtaposing bedded chert (Sylvester) to the east and graptolitic Ordovician-Silurian Road River Group slate to the west. The latter is complexly imbricated with slivers of dolostone (Lower Devonian Tapioca sandstone or Middle Devonian McDame Group) below the Sylvester basal thrust.

The Cassiar orebody is roughly crescent-shaped with northeast and southeast trending horns. The orebody as a whole dips about 45 degrees east and measures approximately 600 by 150 by 150 metres. North striking, east dipping thrusts and shears slice the orebody into a number of massive blocks with well-developed systems of conjugate joints, most of which contain long cross fibre chrysotile. The orientation of joint systems within successive blocks varies widely, but tends to favour two directions, north-northwest to north-northeast, and east-southeast.

The orebody is a fibre-bearing zone containing upwards of 10 per cent cross fibre chrysotile asbestos varying in length up to 3 centimetres. Most veins are the two-fibre type, with a central parting. The short fibre component is also significant economically. There are two generations of asbestos veins with different orientations. Magnetite is abundant in partings and along vein walls. Pyrite and jade also occur within the serpentinite.

Post-vein shearing is most apparent in the footwall of the deposit. In country rocks near the orebody, there are many steeply dipping veins with quartz, tremolite, talc, zoisite and carbonates.

Reserves at the Cassiar Asbestos mine were exhausted in June 1989, after 38 years of production. Stockpiled ore (1.4 million tonnes) from the pit supplied sufficient millfeed while the McDame deposit was being prepared for production. The McDame deposit commenced production in February, 1991. Large, unknown quantities of jade were also produced over the years.

Reserves at the Cassiar mine are approximately 17 million tonnes grading 4.2 per cent asbestos and 23.5 per cent magnesium in a low-grade stockpile (waste from the former dry-milling operation) determined by drilling on 30 metre centres in the mid-1980s (P. Wojdak, personal communication, 1994 and Exploration and Mining in BC 1998, page 25).

Jedway Enterprises recovered 50 tonnes of jade from the old Cassiar Asbestos dumps in 1998. Cassiar Mining Inc., a wholly owned subsidiary of Minroc Mines Inc., expected to produce at a rate of 1000 tonnes of asbestos fibre per month from August to October 1998. A total of 20,000 tonnes was shipped. Minroc is conducting a feasibility study to assess magnesium recovery in the tailings. Minroc changed its name to Cassiar Mines & Metals Inc. in June 1999.

In July 1999, Aluminum of Korea Ltd. (KORALU) entered into an agreement with Cassiar to acquire 35 per cent of the Magnesium Metal Project. The serpentine stockpile of 20 million tonnes contains 3630 million kilograms of magnesium metal and 700 million kilograms of chrysotile fibre (Cassiar Mines & Metals Inc., Press Release, December 27, 1999). In April 2000, Cassiar changed its name to Cassiar Magnesium Inc. In 2000, Cassiar Magnesium Inc. dry milled surface stockpiles of chrysotile, with approximately 6 million tonnes of 7 per cent fibre outlined, to produce 60 to 70 tonnes per day of long and intermediate fibre. The dry mill facility was damaged by fire in December 2000 and production has been suspended.

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EMPR FIELDWORK 1978, pp. 51-60; 1979, pp. 80-88; 1987, pp. 245-248; 1988, pp. 323-337; 1989 p. 223-228  
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DATE CODED: 1985/07/24  
DATE REVISED: 1991/08/08

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 006**

NATIONAL MINERAL INVENTORY: 104P5 Ag2

NAME(S): **MAGNO, CASSIAR SILVER, MARBLE CREEK,  
 SILVER QUEEN, CROWN POINT, GRAHAM,  
 MIDDLE D, MARBLE BASIN, MCMULLAN**

STATUS: Developed Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104P05W  
 BC MAP:  
 LATITUDE: 59 15 29 N  
 LONGITUDE: 129 50 05 W  
 ELEVATION: 1500 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS: Middle West zone.

MINING DIVISION: Liard  
 UTM ZONE: 09 (NAD 83)  
 NORTHING: 6569085  
 EASTING: 452403

COMMODITIES: Silver                      Lead                      Zinc                      Magnetite                      Gold

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Magnetite              Pyrrhotite              Pyrite  
 ASSOCIATED: Siderite              Dolomite              Pyrolusite              Quartz  
 ALTERATION: Dolomite              Chlorite              Rhodochrosite              Smithsonite              Hydrozincite  
 ALTERATION TYPE: Carbonate              Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
 CLASSIFICATION: Replacement              Hydrothermal              Industrial Min.  
 TYPE: J01              Polymetallic manto              Ag-Pb-Zn  
 SHAPE: Irregular  
 MODIFIER: Faulted  
 DIMENSION: 915 x 12              Metres              STRIKE/DIP:  
 COMMENTS: Main zone strikes east-west and dips 70 to 80 degrees north. Shoots are 60 to 90 metres long and up to 8 metres wide.              TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE              GROUP              FORMATION              IGNEOUS/METAMORPHIC/OTHER  
 Lower Cambrian              Atan              Undefined Formation

LITHOLOGY: Dolomite  
 Limestone  
 Intermediate Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca              PHYSIOGRAPHIC AREA: Cassiar Mountains  
 TERRANE: Cassiar  
 METAMORPHIC TYPE: Contact              RELATIONSHIP:              GRADE: Hornfels

**INVENTORY**

ORE ZONE: MAGNO WEST              REPORT ON: N  
 CATEGORY: Inferred              YEAR: 1981  
 QUANTITY: 200487 Tonnes  
 COMMODITY              GRADE  
 Silver              198.8000              Grams per tonne  
 Lead              5.4000              Per cent  
 Zinc              3.4000              Per cent  
 COMMENTS: The zone has an average width of 2.8 metres. Total inferred reserves are 349,265 tonnes.  
 REFERENCE: Assessment Report 9548.

ORE ZONE: MAGNO MID              REPORT ON: N  
 CATEGORY: Unclassified              YEAR: 1981  
 QUANTITY: 77100 Tonnes  
 COMMODITY              GRADE  
 Lead              9.4300              Per cent  
 Zinc              5.3400              Per cent  
 Silver              258.5000              Grams per tonne  
 REFERENCE: C.J. Blooman, Shell Internal Report 1981.



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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 007**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIRD**, VOLLAUG EAST

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 12 59 N  
LONGITUDE: 129 37 36 W  
ELEVATION: 1400 Metres

NORTHING: 6564316  
EASTING: 464223

LOCATION ACCURACY: Within 1 KM

COMMENTS: From Mandy (1937), p. 1, Property File.

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Carbonate  
COMMENTS: Rusty (oxidized) vein material.  
ALTERATION TYPE: Carbonate Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal  
COMMENTS: Two sets of veins occur, one set striking 073 degrees and dipping 37 degrees north and the other set striking 066 degrees and dipping 69 degrees southeast.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Pyrite Carbonatized Tuff  
Quartz Vein

HOSTROCK COMMENTS: These Mississippian to Permian rocks are typical oceanic assemblages.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

Near the headwaters of Finlayson Creek in the Cassiar Mountains, rusty vein quartz occurs in two trench exposures in pyritized, carbonatized tuffs of the Upper Paleozoic Sylvester Allochthon. Quartz in the west exposure reaches a width of 1.2 metres and contains inclusions of tuff. No sulphides are reported. Quartz in the exposure 12 metres to the east, varies from 2.7 to 4.6 metres in width, with a well-defined hangingwall and gradational footwall. Rusty vein material from the east exposure assayed trace amounts of gold and silver. This occurrence probably refers to the eastern extension of the Vollaug vein (104P 057).

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 008**

NATIONAL MINERAL INVENTORY: 104P4 Cu1

NAME(S): **LANG CREEK**, VINES, BASS,  
LARK, ALTA 5

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 13 59 N  
LONGITUDE: 129 46 06 W  
ELEVATION: 1060 Metres

NORTHING: 6566256  
EASTING: 456157

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Zinc                      Gold                      Silver                      Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Chalcocite      Pyrite      Pyrrhotite

Marcasite  
ALTERATION: Malachite      Azurite

ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound                      Concordant                      Massive  
CLASSIFICATION: Volcanogenic  
TYPE: G05 Cyprus massive sulphide Cu (Zn)  
SHAPE: Regular  
COMMENTS: Shallow dip.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                                                Sylvester Allochthon

LITHOLOGY: Cherty Argillite  
Greenstone

HOSTROCK COMMENTS: These Mississippian to Permian rocks comprise a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Post-mineralization      GRADE: Greenschist

**INVENTORY**

ORE ZONE: LENS                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1978
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	36.0000      Grams per tonne
Gold	1.7000      Grams per tonne
Copper	1.8400      Per cent
Lead	0.1200      Per cent
Zinc	0.7700      Per cent

COMMENTS: Inferred grab sample; sample taken over 1.0 metre interval.  
REFERENCE: Fieldwork 1978, page 57.

**CAPSULE GEOLOGY**

A shallow dipping conformable, massive sulphide lens up to 2 metres thick occurs in cherty argillite of the Sylvester Allochthon which is interbedded with greenstone. Mineralization consists of pyrrhotite, pyrite, chalcopyrite, sphalerite, marcasite and chalcocite. Malachite and azurite occur in patches on outcrops. A sample across 1.0 metre assayed 1.7 grams per tonne gold, 36 grams per tonne silver, 1.84 per cent copper, 0.12 per cent lead and 0.77 per cent zinc (Fieldwork 1978, page 57). About 27,000 tonnes have been outlined, grading 1.52 per cent copper and 0.90 per cent zinc (Assessment Report 7912).

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EMPR EXPL 1979-317,318; 1980-513

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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**BIBLIOGRAPHY**

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1981, pp. 156-161; 1987, pp. 245-248; 1988 pp.339-344  
EMPR OF 1999-2  
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Mines Ltd., See Ray, 104P 040)  
EMR MP CORPFILE (\*Crown Point Expl. Ltd.; Coast Silver Mines Ltd.)  
GSC MAP 381A; 1110A  
GSC MEM 194; 319

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 009**

NATIONAL MINERAL INVENTORY:

NAME(S): **REO, GEORGE, PAIGE**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 15 09 N  
LONGITUDE: 129 43 06 W  
ELEVATION: 1040 Metres

NORTHING: 6568389  
EASTING: 459033

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT:	Gold	Tetrahedrite	Chalcopyrite	Pyrite
ASSOCIATED:	Quartz	Ankerite	Graphite	
ALTERATION:	Quartz	Ankerite	Mariposite	
ALTERATION TYPE:	Quartz-Carb.			
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Fractured Sheared  
DIMENSION: 0180 Metres STRIKE/DIP:  
COMMENTS: Veins are up to 5 metres wide. Gold carrying veins trend 090 to 115 degrees. TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Quartz Vein  
Sediment/Sedimentary

HOSTROCK COMMENTS: These Mississippian to Permian rocks comprise a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: DRILLHOLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1981  
SAMPLE TYPE: Drill Core  
COMMODITY  
Silver 149.6000 Grams per tonne  
Gold 8.5800 Grams per tonne  
COMMENTS: The sample width is 1.0 metre.  
REFERENCE: Assessment Report 9548.

**CAPSULE GEOLOGY**

Approximately 10 kilometres east of the town of Cassiar, an extensive area of quartz veining occurs in Sylvester Allochthon greenstones intercalated with sediments. A zone over 180 metres wide, striking northeast, contains abundant veins, stringers and lenticular masses of quartz. The veins vary from massive white bull quartz to sheared quartz with graphitic seams and vuggy quartz with tetrahedrite, pyrite and chalcopyrite. The veins are up to 5 metres wide and have quartz-carbonate-mariposite alteration envelopes. Two ages of quartz are evident. The older veins, which carry the gold values, are massive and trend 090 to 115 degrees; younger veins trend at 045 degrees and truncate these veins. A 1.0 metre sample of drill core assayed 149.6 grams per tonne silver and 8.58 grams per tonne gold (Assessment Report 9548).

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EMPR ASS RPT \*7912, \*9262, \*9548



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RUN TIME: 12:30:28

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ENERGY AND MINERALS DIVISION

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**BIBLIOGRAPHY**

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pp. 245-248; 1988 pp.323-337  
EMPR EXPL 1980-513,514  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
Harms, T.A., (1986): Structural and Tectonic Analysis of the  
Sylvester Allochthon, Northern British Columbia, Implications  
for Paleogeography and Accretion, Ph. D. Thesis, University of  
Arizona  
EMPR MP MAP 1992-13

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 010**

NATIONAL MINERAL INVENTORY: 104P5 Cu3

NAME(S): **HOPEFULL**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 15 49 N  
LONGITUDE: 129 42 21 W  
ELEVATION: 1050 Metres

NORTHING: 6569619  
EASTING: 459759

LOCATION ACCURACY: Within 500M

COMMENTS: Veins just north of Troutline Creek, Assessment Report 12560.

COMMODITIES: Gold Silver Copper Zinc

**MINERALS**

SIGNIFICANT:	Gold	Tetrahedrite	Chalcopyrite	Sphalerite	Pyrite
ASSOCIATED:	Quartz	Ankerite			
ALTERATION:	Quartz	Ankerite	Mariposite	Pyrite	
ALTERATION TYPE:	Quartz-Carb.		Pyrite		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted Fractured  
DIMENSION: 0240 Metres STRIKE/DIP: 085/80S TREND/PLUNGE:  
COMMENTS: Dominant vein attitude. Strike length of vein exposure is 240 metres.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Quartz Vein

HOSTROCK COMMENTS: These Mississippian to Permian rocks comprise a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Slide Mountain	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

North of McDame Lake on Troutline Creek in the Cassiar Mountains, this area is underlain by Upper Paleozoic Sylvester Allochthon greenstones, with associated tuffaceous lenses. Greenstones were originally pillow lavas. The greenstones are cut by vertical to steeply south-dipping, east-trending quartz veins with a dominant strike of 85 degrees and a dip of 80 degrees south. They are exposed along strike for 240 metres. Quartz-ankerite-mariposite-pyrite alteration is extensive. Vein widths up to 3 metres have been exposed. Mineralization consists of pyrite, tetrahedrite, chalcopyrite, sphalerite and gold.

**BIBLIOGRAPHY**

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GSC MEM 194; \*319, p. 119  
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Arizona  
EMPR MP MAP 1992-13

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 011**

NATIONAL MINERAL INVENTORY: 104P5 Au2

NAME(S): **MACK**, GLEN HOPE, HIGH GRADE

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:  
LATITUDE: 59 16 19 N  
LONGITUDE: 129 42 21 W  
ELEVATION: 1060 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6570547  
EASTING: 459769

COMMODITIES: Gold Silver Copper Zinc

**MINERALS**

SIGNIFICANT:	Gold	Tetrahedrite	Chalcopyrite	Pyrite	Arsenopyrite
ASSOCIATED:	Sphalerite				
ALTERATION:	Quartz	Ankerite			
ALTERATION TYPE:	Quartz	Ankerite	Mariposite	Pyrite	
MINERALIZATION AGE:	Quartz-Carb.		Pyrite		
	Unknown				

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au  
SHAPE: Tabular  
MODIFIER: Faulted Fractured  
DIMENSION: 300 Metres STRIKE/DIP:  
COMMENTS: Dominant vein strike is to the east. Dimension is strike length exposure of veins. TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Quartz Vein

HOSTROCK COMMENTS: These Mississippian to Permian rocks comprise a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Slide Mountain	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: VEINS REPORT ON: Y  
CATEGORY: Inferred YEAR: 1985  
QUANTITY: 9072 Tonnes  
COMMODITY: Gold GRADE  
8.5700 Grams per tonne  
REFERENCE: George Cross News Letter No.13, 1985.

**CAPSULE GEOLOGY**

At the junction of Troutline and Quartzrock Creeks, this showing is underlain by Sylvester Allochthon greenstones, with associated tuffaceous lenses. Greenstones were originally pillow lavas. A series of subparallel, east-trending, vertical quartz veins outcrops over a strike length of about 300 metres. Quartz-ankerite-pyrite-mariposite alteration is extensive. Mineralization consists of pyrite, tetrahedrite, chalcopyrite, sphalerite and gold. Arsenopyrite has also been reported. A 1984 drill intersection assayed 6.1 grams per tonne per tonne gold over 4.5 metres (George Cross Newsletter #8, 1985). Reserves (1985) are estimated at 9072 tonnes grading 8.57 grams per tonne gold (George Cross News Letter No.13, 1985). The Northern Miner (March 28, 1988) reports a best assay for the No. 2 vein grading 27.90 grams per tonne gold over a 1.5 metre interval. This vein is in close proximity to the 104P 011 occurrence.

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 012**

NATIONAL MINERAL INVENTORY: 104P5 Au1

NAME(S): **TAURUS**, CASSIAR, CORNUCOPIA,  
COPCO, HANNA, 88 HILL,  
TAURUS WEST, HIGHWAY, HANNAH,  
CUSAC

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

Underground

MINING DIVISION: Liard

LATITUDE: 59 16 28 N  
LONGITUDE: 129 41 22 W  
ELEVATION: 1150 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6570815  
EASTING: 460706

LOCATION ACCURACY: Within 500M

COMMENTS: The mine is located on Quartzrock Creek, approximately 9 kilometres east of Cassiar.

COMMODITIES: Gold Silver Zinc Copper

**MINERALS**

SIGNIFICANT: Pyrite Tetrahedrite Sphalerite Chalcopyrite Gold  
ASSOCIATED: Quartz Calcite Pyrite Graphite Arsenopyrite  
ALTERATION: Silica Pyrite Carbonate  
ALTERATION TYPE: Silicific'n Carbonate  
MINERALIZATION AGE: Lower Cretaceous  
ISOTOPIC AGE: 132 - 136 Ma DATING METHOD: Argon/Argon MATERIAL DATED: Hydrothermal sericite - quartz

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
TYPE: I01 Au-quartz veins  
SHAPE: Tabular  
MODIFIER: Faulted Sheared  
DIMENSION: Metres STRIKE/DIP: 085/55S TREND/PLUNGE:  
COMMENTS: Vein strike and dips have a 5 to 10 degree range. Thought to be age of mineralization.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic-Mesozoic Sylvester Allochthon

LITHOLOGY: Andesite  
Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist  
COMMENTS: Located within the Sylvester Allochthon.

**INVENTORY**

ORE ZONE: TAURUS WEST REPORT ON: Y  
CATEGORY: Inferred YEAR: 1996  
QUANTITY: 25134000 Tonnes  
COMMODITY: Gold GRADE: 0.6700 Grams per tonne  
COMMENTS: Drill inferred reserve of the Taurus West zone as of December 1996.  
REFERENCE: George Cross News Letter No.78 (April 23), 1997.

ORE ZONE: 88 HILL REPORT ON: Y  
CATEGORY: Indicated YEAR: 1999  
QUANTITY: 11361095 Tonnes  
COMMODITY: Gold GRADE: 1.0800 Grams per tonne  
COMMENTS: Drill indicated resource using a minimum cutoff grade. Using a higher minimum cutoff grade, 88 Hill contains a drill indicated resource of 8,553,087 tonnes grading 1.28 grams per tonne gold.  
REFERENCE: Press Release, Cusac Gold Mines Ltd., June 22, 1999.



## CAPSULE GEOLOGY

to 150 metres, strikes approximately 070 degrees and dips 20 degrees to the southeast. The quartz vein structures within it (which carry higher grades) trend northerly and are steeply dipping. The "stratabound" zone includes a higher grade portion (2 to 3 grams per tonne gold) within an average grade of 1 gram per tonne gold, based on a cutoff grade of approximately 0.75 gram per tonne gold. Based on results to date, a consultant to the company estimates the size of the gold deposit to be at least 130 million tonnes grading 0.95 gram per tonne gold (Information Circular 1996-1, page 18).

In July 1996, Cyprus relinquished its agreement as the size of the Taurus deposit failed to meet the company's requirements. International Taurus began an infill reverse circulation program at 25-metre centres on the 88 Hill zone. It also completed further trenching on the zone. Thirty-six reverse circulation and 4 diamond-drill holes were put down on the 88 Hill zone; drilling extended the zone 300 metres to the west. The zone remains open to the southeast and west.

Close-spaced drilling in the 88 Hill zone during 1996 outlined a drill indicated reserve of 13,725,350 tonnes grading 1.01 grams per tonne gold. In addition, wide-spaced drilling further west of the 88 Hill zone, in the Taurus West zone, has outlined a drill inferred reserve of 25,134,000 tonnes grading 0.67 gram per tonne gold (George Cross News Letter No.78 (April 23), 1997).

Cusac Gold Mines Ltd. acquired the property in 1998. In 1999, they announced a mineral inventory of over 50 million grams of gold. Economic gold mineralization at the surface in six contiguous zones, based on 130 drill holes (18,638 metres), totals 62,397,477 tonnes grading 0.8 gram per tonne gold. Cusac proposes a start-up operation in the central part of the gold deposit (the 88 Hill zone). When grade perimeters are applied cutting high assays and using a minimum cutoff grade, 88 Hill contains a drilled indicated resource of 11,361,095 tonnes grading 1.08 grams per tonne gold. Using a higher minimum cutoff grade, 88 Hill contains a drilled indicated resource of 8,553,087 tonnes grading 1.28 grams per tonne gold. Parts of three zones, including 88 Hill, have a drilled indicated resource of 23,439,899 tonnes grading 1.07 grams per tonne gold. (Press Release, Cusac Gold Mines Ltd., June 22, 1999).

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DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/04

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104P 013**

NATIONAL MINERAL INVENTORY: 104P5 Au5

NAME(S): **KLONDIKE FR, TAURUS**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 01 N  
LONGITUDE: 129 40 09 W  
ELEVATION: 1130 Metres

NORTHING: 6569969  
EASTING: 461853

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Pyrite Arsenopyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz  
ALTERATION TYPE: Silicific'n Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Fractured  
DIMENSION:

STRIKE/DIP: 090/70S

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Basalt  
Quartz Vein  
Sediment/Sedimentary  
Cherty Phyllite

HOSTROCK COMMENTS: The Sylvester Allochthon is a typical oceanic assemblage of Mississippian to Permian age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
YEAR: 1947

COMMODITY	GRADE	
Gold	5.4900	Grams per tonne

COMMENTS: Taken from 1.0 metre of well-fractured quartz. Trace silver is present.

REFERENCE: Minister of Mines Annual Report 1947, page 72.

**CAPSULE GEOLOGY**

Slightly southeast of the Taurus Mine, a white quartz vein 0.6 to 0.9 metre wide occurs in sheared altered basalt of the Upper Paleozoic Sylvester Allochthon close to a contact with sediments which are exposed at lower elevations. The vein strikes approximately east and dips 65 to 70 degrees south. Mineralization consists of pyrite, minor arsenopyrite and tetrahedrite. These are associated with silicification and oxidation. A sample across 1.0 metre of well-fractured quartz assayed 5.49 grams per tonne gold (Minister of Mines Annual Report 1947, page 72).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1010  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 014**

NATIONAL MINERAL INVENTORY: 104P5 Au4

NAME(S): **SNOWY CREEK**, LEGGS, IONA

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 03 N  
LONGITUDE: 129 39 15 W  
ELEVATION: 1130 Metres

NORTHING: 6570022  
EASTING: 462709

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold Pyrite  
ASSOCIATED: Quartz Ankerite  
ALTERATION: Quartz Sericite Ankerite  
ALTERATION TYPE: Quartz-Carb. Sericitic Oxidation  
MINERALIZATION AGE: Unknown  
ISOTOPIC AGE: 131 +/- 5 Ma DATING METHOD: Potassium/Argon MATERIAL DATED: Sericite

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Fractured

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Quartz Vein  
Basalt

HOSTROCK COMMENTS: The Sylvester Allochthon of Mississippian-Permian age is a typical oceanic assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**CAPSULE GEOLOGY**

The Snowy Creek showing is underlain by Sylvester Allochthon greenstones (altered basalt). These are cut by two quartz-carbonate alteration zones, 50 and 40 metres wide, containing subparallel quartz veins. The upper zone contains six northeast striking quartz veins, from 0.1 to 1.2 metres wide. Free gold is reported in oxidized pyritic material. The lower zone contains nine quartz veins 0.3 to 0.5 metres wide and several stringers striking approximately parallel to the upper zone veins. These veins are part of a mineralized belt approximately 5 kilometres long and 150 metres wide, extending south-westward through Wing's Canyon (104P 015) and beyond.

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 014**

MINFILE NUMBER: **104P 015**

NATIONAL MINERAL INVENTORY: 104P5 Au3

NAME(S): **WING'S CANYON**, RED ROCK, WING GOLD,  
TAURUS

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:  
LATITUDE: 59 15 49 N  
LONGITUDE: 129 41 26 W  
ELEVATION: 1040 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Canyon vein occurrence.

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6569610  
EASTING: 460630

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Pyrite Arsenopyrite  
ASSOCIATED: Quartz Ankerite  
ALTERATION: Quartz Ankerite Limonite  
ALTERATION TYPE: Quartz-Carb. Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted Sheared  
DIMENSION: STRIKE/DIP: 073/60S TREND/PLUNGE:  
COMMENTS: Attitude of quartz vein system.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Basalt  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon of Mississippian-Permian age, is a typical oceanic assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1984  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 411.1000 Grams per tonne  
Gold 15.0900 Grams per tonne  
COMMENTS: Selected sample of honeycomb quartz and limonite.  
REFERENCE: Assessment Report 12627.

**CAPSULE GEOLOGY**

Near the mouth of Quartzrock Creek, in Wing Canyon, strongly sheared and carbonate altered Sylvester Allochthon basalt is cut by numerous quartz veins, lenses and stringers in a zone almost 200 metres wide. The attitude of the zone is about 073/60 south. The zone is cut by a major northwest-trending fault. The veins are locally ribbon-structured and may have slickensided walls and quartz-carbonate alteration. Sulphides, mainly pyrite and tetrahedrite, are scarce. One shear zone contains quartz stringers with arsenopyrite. Fine gold has been panned from accumulations of oxidized material. A selected sample of honeycomb quartz and limonite contained 15.09 grams per tonne gold and 411.4 grams per tonne silver (Assessment Report 12627).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1013  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 016**

NATIONAL MINERAL INVENTORY: 104P4 Au6

NAME(S): **ROCKY RIDGE** VAN

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 54 N  
LONGITUDE: 129 40 06 W  
ELEVATION: 975 Metres

NORTHING: 6567896  
EASTING: 461880

LOCATION ACCURACY: Within 500M

COMMENTS: Showings, south side of canyon on lower Troutline Creek.

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Chalcopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Limonite  
ALTERATION TYPE: Silicific'n Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared Faulted  
COMMENTS: Veins vary between 0.6 to 0.9 metres in width and trend northeast to southeast.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE    GROUP    FORMATION    IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                        Sylvester Allochthon

LITHOLOGY: Greenstone  
Shale  
Quartz Vein  
Basalt  
Tuff

HOSTROCK COMMENTS: The Sylvester Allochthon of Mississippian-Permian age is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**CAPSULE GEOLOGY**

North of McDame Lake the Rocky Ridge showing occurs in faulted, sheared and altered Sylvester Allochthon basalt flows, tuffs and overlying shales. Numerous northeast-southeast trending quartz veins, with associated silicification, occur mainly in the volcanics and contain pyrite, tetrahedrite and minor chalcopyrite. Veins vary between 0.6 to 0.9 metres in width. Free gold has been reported in veins and oxidized stringers.

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1015  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 017**

NATIONAL MINERAL INVENTORY: 104P4 Au4

NAME(S): **GOLD HILL**, CAMP, LAKESHORE,  
LAKEVIEW

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:  
LATITUDE: 59 14 19 N  
LONGITUDE: 129 40 21 W  
ELEVATION: 975 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6566815  
EASTING: 461631

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Ankerite  
ALTERATION TYPE: Silicific'n Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted Sheared  
COMMENTS: Veins vary in width from 0.7 to 2.0 metres, trend northeast and have steep dips.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Tuff  
Greenstone  
Quartz Vein  
Basalt

HOSTROCK COMMENTS: The Sylvester Allochthon of Mississippian-Permian age is a typical oceanic assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: VEIN  
REPORT ON: N  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab  
COMMODITY: GRADE  
Silver 123.1000 Grams per tonne  
Gold 0.3400 Grams per tonne  
COMMENTS: Lakeview vein across 1.1 metre. Veins north of Lakeview assayed 4.18 grams per tonne gold over 1.8 metre.  
REFERENCE: Assessment Report 9116.

**CAPSULE GEOLOGY**

The Gold Hill occurrence is located on McDame Lake. The area is underlain by Upper Paleozoic Sylvester Allochthon massive basalt flows and tuffs. Sheared, silicified and carbonate-altered volcanics are cut by a series of northeast trending, steeply dipping quartz veins, which parallel the main jointing trend. Veins vary in width from 0.7 to 2.0 metres. A north trending vein with 10 to 15 per cent disseminated pyrite can be traced for 200 metres and is cut by a fault at its south end. The veins contain tetrahedrite and native gold. The Lakeview vein assayed 0.34 grams per tonne gold and 123.1 grams per tonne silver across 1.1 metres, while a vein to the north of this assayed 4.18 grams per tonne gold over 1.8 metres (Assessment Report 9116).



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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 018**

NATIONAL MINERAL INVENTORY: 104P4 Au2

NAME(S): **NORA, DAVIS, CAMP,  
NORAH**

STATUS: Past Producer                      Open Pit  
REGIONS: British Columbia  
NTS MAP: 104P04E

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 59 14 29 N  
LONGITUDE: 129 39 26 W  
ELEVATION: 945 Metres

NORTHING: 6567116  
EASTING: 462506

LOCATION ACCURACY: Within 500M  
COMMENTS: Davis vein. See capsule geology for production.

COMMODITIES: Gold                      Silver                      Copper

**MINERALS**

SIGNIFICANT: Gold                      Tetrahedrite                      Pyrite  
COMMENTS: Gold in vuggy fractures near vein/wallrock contacts.  
ASSOCIATED: Quartz  
ALTERATION: Quartz                      Ankerite  
ALTERATION TYPE: Silicific'n                      Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
DIMENSION: 0200 x 0001                      Metres                      STRIKE/DIP: 070/75S                      TREND/PLUNGE:  
COMMENTS: Attitude and dimension of Davis vein.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                                                Sylvester Allochthon

LITHOLOGY: Greenstone  
Tuff  
Quartz Vein  
Basalt  
Pillow Lava

HOSTROCK COMMENTS: The Sylvester Allochthon of Mississippian-Permian age is a typical oceanic assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1975  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE  
Gold                      34.9700                      Grams per tonne  
COMMENTS: Diamond drill hole 75-7. Sample over 0.6 metre.  
REFERENCE: Assessment Report 5704.

**CAPSULE GEOLOGY**

On McDame Lake, this past producer occurs in an area underlain by grey-green aphanitic to sandy textured basalt flow and tuffs of the Upper Paleozoic Sylvester Allochthon. Discontinuous rinds, possibly flattened or irregularly shaped pillows, occur north of the Davis vein. The volcanics, which locally exhibit a sub-brecciated or crackle texture, have been silicified and have undergone carbonate alteration. The Davis vein follows a curved joint plane striking northeast and dipping steeply to the south. The vein has a width of 0.7 metres and a strike length of 200 metres. The vein consists of vuggy white quartz with free gold (in vugs near the vein/wallrock contacts) tetrahedrite and pyrite. Drilling by New Coast Silver in 1975 (Diamond Drill Hole 75-7) reported an assay of 34.97 grams per tonne gold across 0.6 metres, but assay values are generally erratic (Assessment Report 5704). Production reported for the Norah claims in 1940 was 40.8 tonnes yielding 1,371 grams of gold (Index #3, page 207).

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Arizona

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N



## CAPSULE GEOLOGY

least four north-northeast striking faults have dislocated the vein so that the west side has moved relatively north.

The Vollaug vein has at least 3 ore zones differentiated, but the indicated ore reserves in 1986 for the whole vein were 154,040 tonnes grading 11.00 grams per tonne gold and 11.7 grams per tonne silver (Map 66).

Production is included with the Erickson mine (104P 029). See also the Wildcat (104P 057) occurrence, which is the faulted segments of the eastern continuation of the Vollaug vein, 2 kilometres south of the main Erickson mine.

Drilling on the surface of the previously mined Vollaug vein, Cusac Gold Mines intersected significant values in nine holes. The vein is estimated to contain a proven, probable and possible reserve of 39,366 tonnes grading 15.43 grams per tonne gold (Northern Miner - October 14, 1996).

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DATE CODED: 1985/07/24  
DATE REVISED: 1996/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 020**

NATIONAL MINERAL INVENTORY: 104P6 Ag1

NAME(S): **HASKINS MOUNTAIN**, SNOW, HASKINS-REED,  
REED-HASKINS

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:  
LATITUDE: 59 20 29 N  
LONGITUDE: 129 29 36 W  
ELEVATION: 1730 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6578171  
EASTING: 471938

COMMODITIES: Silver                      Zinc                      Lead                      Tin                      Copper  
                    Beryllium

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Chalcopyrite      Pyrrhotite      Arsenopyrite  
                    Beryl  
ASSOCIATED: Garnet  
ALTERATION: Garnet  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive  
CLASSIFICATION: Skarn                      Epigenetic                      Hydrothermal                      Replacement  
SHAPE: Irregular  
MODIFIER: Faulted                      Folded  
COMMENTS: Mineralization occurs on a fault plane trending northwest.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD: Hadrynian	Fossil Ingenika	Undefined Formation	

LITHOLOGY: Siltstone  
Limestone  
Pyrrhotite Garnet Skarn  
Granite  
Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1949  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE  
Silver                      67.2000                      Grams per tonne  
Lead                      4.5000                      Per cent  
Zinc                      9.0000                      Per cent  
COMMENTS: Grade over 3.6 metres.  
REFERENCE: Assessment Report 48.

**CAPSULE GEOLOGY**

On Mount Haskin, an isolated synclinal outlier of Lower Cambrian Atan Group limestone, underlain by siltstone, occurs near the summit. To the east lies the Eocene Mount Haskins granite stock. A northwest trending fault along the northeast end of the limestone separates Atan Group rocks from Proterozoic(?) Ingenika Group clastics to the northeast.

Massive pyrrhotite-rich garnet skarn occurs at the carbonate-clastic contact, along the fault zone and in several stratigraphically lower horizons in the upper 30 metres of the siltstone. Mineralization includes abundant sphalerite and lesser amounts of chalcopyrite, galena, arsenopyrite and beryl (D. Hora, personal communication, 1993). One drill intersection assayed 67.2 grams per

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**CAPSULE GEOLOGY**

tonne silver, 9.0 per cent zinc and 4.5 per cent lead over 3.6 metres (Assessment Report 48). Tin assays are significant (about 0.1 per cent, Barnhill 1982).

**BIBLIOGRAPHY**

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 021**

NATIONAL MINERAL INVENTORY: 104P6 Zn3

NAME(S): **JOE REED**, IRON CAP

MINING DIVISION: Liard

STATUS: Developed Prospect

REGIONS: British Columbia

NTS MAP: 104P06W

BC MAP:

LATITUDE: 59 17 39 N

LONGITUDE: 129 25 36 W

ELEVATION: 1370 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 09 (NAD 83)

NORTHING: 6572886

EASTING: 475697

COMMODITIES: Silver                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrite              Arsenopyrite

ASSOCIATED: Quartz              Calcite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Breccia

CLASSIFICATION: Hydrothermal              Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Tabular

MODIFIER: Faulted                      Sheared

DIMENSION: 0170 x 0061 x 0002 Metres              STRIKE/DIP: 180/75W

TREND/PLUNGE:

COMMENTS: Steeply west dipping vein can be traced along north trending fault plane.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Cambrian

GROUP

Atan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Quartzite  
Limestone  
Dolomite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: JOE REED

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1956

QUANTITY: 36284 Tonnes

COMMODITY

GRADE

Silver

219.3900      Grams per tonne

Lead

5.5000      Per cent

Zinc

4.1400      Per cent

REFERENCE: Property File - Kruzick, 1980.

ORE ZONE: JOE REED

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1956

QUANTITY: 36284 Tonnes

COMMODITY

GRADE

Silver

219.3900      Grams per tonne

Lead

5.5000      Per cent

Zinc

4.1400      Per cent

REFERENCE: Property File - Kruzick, 1980.

**CAPSULE GEOLOGY**

On the south slope of Mount Reed, Lower Cambrian Atan Group quartzite, limestone and dolomite are cut by a persistent north-trending fault. A steeply west-dipping quartz vein averaging 1.5 metres wide can be traced along strike for 170 metres within the fault zone, locally along the clastic-carbonate contact. Footwall carbonates are brecciated. Sulphide mineralization consists of galena, sphalerite, arsenopyrite and pyrite.

Indicated ore for the Joe Reed zone in 1956 was 36,284 tonnes



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**CAPSULE GEOLOGY**

grading 219.39 grams per tonne silver, 5.5 per cent lead, and 4.14 per cent zinc; also 36,284 tonnes inferred reserves at the same grade (Property File - Kruzick 1980).

**BIBLIOGRAPHY**

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EMR MP CORPFILE (Yukon Ranges Expl. Ltd.; Brettland Mines Ltd.; Glen Copper Mines Ltd.; Pacific Petroleums Ltd.; Gulf Titanium Ltd.)  
EMR MIN BULL MR 223 B.C. 357  
EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 022**

NATIONAL MINERAL INVENTORY: 104P6 Pb1

NAME(S): **MCDAME BELLE** CARIBOO, YELLOWJACK

STATUS: Past Producer  
 REGIONS: British Columbia  
 NTS MAP: 104P06W  
 BC MAP:  
 LATITUDE: 59 16 14 N  
 LONGITUDE: 129 22 36 W  
 ELEVATION: 790 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6570240  
 EASTING: 478530

COMMODITIES: Silver                      Lead                      Zinc                      Copper                      Tungsten

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Chalcopyrite              Scheelite              Pyrite  
 Pyrrhotite  
 COMMENTS: Possibly scapolite present.  
 ASSOCIATED: Calcite              Garnet              Diopside              Tremolite  
 ALTERATION: Garnet              Diopside              Tremolite              Hematite  
 ALTERATION TYPE: Skarn              Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Podiform                      Massive                      Disseminated  
 CLASSIFICATION: Skarn                      Hydrothermal                      Epigenetic                      Replacement  
 TYPE: K02      Pb-Zn skarn  
 SHAPE: Irregular  
 MODIFIER: Folded                      Faulted  
 DIMENSION: 0180 x 0052 x 0015              Metres                      STRIKE/DIP: 100/75S                      TREND/PLUNGE:  
 COMMENTS: Attitude for Cariboo Zone. Dimension for Yellowjack zone. Massive pods or veins at argillite-limestone contact.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Dolomite  
 Limestone  
 Quartzite  
 Garnet Diopside Skarn  
 Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
 TERRANE: Cassiar  
 METAMORPHIC TYPE: Contact  
 PHYSIOGRAPHIC AREA: Cassiar Mountains  
 RELATIONSHIP:  
 GRADE: Hornfels

**INVENTORY**

ORE ZONE: YELLOWJACK                      REPORT ON: Y  
 CATEGORY: Unclassified                      YEAR: 1965  
 QUANTITY: 5442 Tonnes  
 COMMODITY                      GRADE  
 Silver                      257.1000              Grams per tonne  
 Copper                      0.2000              Per cent  
 Lead                      4.2000              Per cent  
 Zinc                      1.2000              Per cent  
 REFERENCE: Minister of Mines Annual Report 1965, pages 14,15.

ORE ZONE: CARIBOO                      REPORT ON: Y  
 CATEGORY: Indicated                      YEAR: 1965  
 QUANTITY: 27210 Tonnes  
 COMMODITY                      GRADE  
 Silver                      294.8100              Grams per tonne  
 Copper                      0.3500              Per cent  
 Lead                      3.6000              Per cent  
 Zinc                      3.0000              Per cent  
 COMMENTS: 90,720 tonnes indicated at unstated grade includes 27,210 tonnes at above grades.  
 REFERENCE: Minister of Mines Annual Report 1965, pages 14,15.

## CAPSULE GEOLOGY

McDame Creek Canyon cuts through a Lower Cambrian succession of Atan Group limestones, dolomites and minor quartzite and argillite, which strikes 125 degrees and dips 55 degrees southwest. The canyon follows a northeast trending, steeply dipping fault zone, which is cut by northwest striking faults. Several mineralized skarn zones occur along the creek. The Cariboo Zone is 9 metres wide, with an attitude of 100/75 south. Mineralization, consisting of galena, sphalerite, pyrite, pyrrhotite, chalcopyrite, and minor hematite and scheelite, occurs as massive lenses conformable to bedding, as disseminations in footwall garnet diopside skarn zones, and as cross-cutting fracture fillings, scapolite has also been noted. The Yellowjack Zone, near the head of the canyon, is localized along a fault zone 180 metres long and as wide as 15 metres, striking 160 to 180 degrees dipping 70 to 80 degrees west. Mineralization extends on the surface over a length of 12 metres and a width of 3 metres and has been drilled to a depth of 52 metres.

It is postulated that the Cariboo zone represents the central facies of skarn mineralization, and that the Caribou, Yellowjack, and Canyon Top zones were contiguous and have been offset by movement on the McDame Creek Fault. As well, the China and North Creek veins were once in close proximity and represent veins distal to the central skarn facies.

In 1965, indicated reserves for the Cariboo zone were 27,210 tonnes grading 294.81 grams per tonne silver, 3.6 per cent lead, 3.0 per cent zinc and 0.35 per cent copper. For the Yellowjack zone unclassified reserves were 5,442 tonnes grading 257.10 grams per tonne silver, 4.2 per cent lead, 1.2 per cent zinc and 0.2 per cent copper (Minister of Mines Annual Report 1965, pages 14,15).

In 1966, 0.907 tonnes of ore was mined with production of 1,244 grams silver, 148 kilograms lead and 104 kilograms zinc.

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- EMR MIN BULL MR 223 B.C. 358
- GSC MAP 381A; \*1110A
- GSC MEM \*319, p. 114; 194
- ECON GEOL \*Vol.79, No.5, August 1984
- Falconbridge File
- EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 023**

NATIONAL MINERAL INVENTORY: 104P3 Ba1

NAME(S): **CARLICK, BILL**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P03E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 12 19 N  
LONGITUDE: 129 13 06 W  
ELEVATION: 820 Metres

NORTHING: 6562931  
EASTING: 487531

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Lead                      Zinc                      Barite

**MINERALS**

SIGNIFICANT:	Galena	Barite	Sphalerite	Pyrite	Azurite
ASSOCIATED:	Siderite				
ALTERATION:	Malachite	Azurite			
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Massive	Disseminated		
CLASSIFICATION:	Hydrothermal	Replacement	Epigenetic	Industrial Min.
SHAPE:	Irregular			
DIMENSION:	0180	Metres	STRIKE/DIP:	TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Undefined Formation	

LITHOLOGY: Limestone  
Dolomite  
Argillaceous Limestone  
Felsic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1949
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Silver		24.0000	Grams per tonne
Lead		6.8000	Per cent

COMMENTS: Sample over 2.7 metres. 10.6 per cent lead was reported over 1.5 metres.

REFERENCE: Minister of Mines Annual Report 1949, pp. A71,A72.

**CAPSULE GEOLOGY**

North of McDame post, near Atan Lake, the Carlick showing is underlain by Lower Cambrian Atan Group limestone, argillaceous limestone and dolomite striking east-southeast and dipping steeply to the south.

Felsic dykes have intruded the sediments along a zone trending 105 degrees. Disseminated to massive galena, barite, siderite and small amounts of pyrite, sphalerite, malachite and azurite occur as lensoidal replacements of limestone adjacent to the intrusives. The mineralized zone is exposed discontinuously over a distance of 180 metres. Assays reported include 24.0 grams per tonne silver and 6.8 per cent lead over 2.7 metres and 10.6 per cent lead over 1.5 metres (Minister of Mines, Annual Report 1949, pp. A71-A72).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1029  
REPORT: RGEN0100

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GSC MEM \*319, p. 113; 194

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 024**

NATIONAL MINERAL INVENTORY: 104P7 Be1

NAME(S): **CASSIAR BERYL**, HORSERANCH RANGE

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P07W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 20 59 N  
LONGITUDE: 128 51 26 W  
ELEVATION: 1525 Metres

NORTHING: 6579004  
EASTING: 508120

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Beryllium

**MINERALS**

SIGNIFICANT: Beryl  
ASSOCIATED: Quartz Feldspar Muscovite Tourmaline Garnet  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Pegmatite Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Proterozoic-Cambrian	Horseranch	Undefined Formation	
ISOTOPIC AGE: 2.22 Ga			
DATING METHOD: Zircon			
MATERIAL DATED: Detrital Zircon			

LITHOLOGY: Pegmatite  
Quartzite  
Mica Schist

HOSTROCK COMMENTS: 2.22 Ga is suggested to be the age of the source rocks for the sediments (Erdmer and Baadsgard, 1987).

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Liard Lowland  
RELATIONSHIP:  
GRADE: Amphibolite

**CAPSULE GEOLOGY**

The fault bounded Horseranch Range is located approximately 85 kilometres south of Watson Lake, Yukon Territories. It has been suggested that these rocks may form a metamorphic core complex (Plint, Fieldwork 1987). The area is underlain by moderately west-dipping sedimentary and foliated metamorphic rocks of the Cambrian and/or earlier Horseranch Group. Pegmatite dykes, commonly parallel to foliation, intrude quartzites and mica schists in a zone 750 metres wide and 5 kilometres long. The pegmatites are composed of feldspar, quartz, muscovite, lesser amounts of tourmaline and garnet and minor pale-green beryl. Pegmatites are rarely zoned, with muscovite-tourmaline-rich margins and quartz-rich cores. Beryl occurs as hexagonal prisms 0.5 to 1.0 centimetres across and 1 to 2 centimetres long. Overall average beryllium content of the pegmatite was visually estimated to be less than 0.1 per cent (Minister of Mines, Annual Report 1955, pp. 9,10).

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: KC

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 025**

NATIONAL MINERAL INVENTORY: 104P4 Au3

NAME(S): **PETE** TURMOIL, MEADOW LAKE

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 104P04E  
 BC MAP:  
 LATITUDE: 59 09 36 N  
 LONGITUDE: 129 40 42 W  
 ELEVATION: 1250 Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS: Pete vein.

MINING DIVISION: Liard  
 UTM ZONE: 09 (NAD 83)  
 NORTHING: 6558065  
 EASTING: 461210

COMMODITIES: Gold Silver Copper Zinc Lead

**MINERALS**

SIGNIFICANT:	Gold	Tetrahedrite	Chalcopyrite	Sphalerite	Pyrite			
	Galena	Arsenopyrite						
ASSOCIATED:	Quartz							
ALTERATION:	Quartz	Magnesite	Graphite	Pyrite	Serpentinite			
	Malachite							
ALTERATION TYPE:	Silicific'n		Quartz-Carb.	Pyrite		Serpentin'zn		Oxidation
MINERALIZATION AGE:	Unknown							

**DEPOSIT**

CHARACTER: Vein  
 CLASSIFICATION: Hydrothermal Epigenetic  
 DIMENSION: 0090 Metres STRIKE/DIP:  
 COMMENTS: Alteration zone with parallel veins strikes about 060, dipping steeply. TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
 Argillite  
 Graphitic Quartz Vein  
 Listwanite

HOSTROCK COMMENTS: The Sylvester Allochthon is an oceanic assemblage of Mississippian to Permian volcanics, sediments and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Slide Mountain	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

These vein occurrences are located on Pooley Creek east of Needlepoint Mountain, about 5 kilometres south of the Cusac Mine site.

In this area Upper Paleozoic Sylvester Allochthon greenstones and argillites are cut by northeast to east trending quartz veins and adjacent quartz-carbonate alteration zones. The veins range up to 1.8 metres in width and consist of white quartz and minor grey and blue quartz with graphitic stringers, tetrahedrite, chalcopyrite, galena, arsenopyrite, pyrite, sphalerite and gold. The gold is associated with finely disseminated to blebby tetrahedrite and less commonly with chalcopyrite. In a few samples free gold was found associated with galena (Grant, 1981). Veins have been traced over 90 metres along strike. A large body of listwanite occurs near the showing. The host rocks are silicified and malachite has been noted in the veins.

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/18

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104P 026**

NATIONAL MINERAL INVENTORY: 104P4 Be1

NAME(S): **LOW GRADE**, DAVIS BERYL

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 08 19 N  
LONGITUDE: 129 46 26 W  
ELEVATION: 1450 Metres

NORTHING: 6555743  
EASTING: 455718

LOCATION ACCURACY: Within 500M  
COMMENTS: From Map, Property File.

COMMODITIES: Beryllium                      Zinc                      Bismuth                      Tin                      Magnetite

**MINERALS**

SIGNIFICANT:	Danalite	Sphalerite	Bismuth	Pyrrhotite	Magnetite
ASSOCIATED:	Chlorite	Fluorite	Quartz		
ALTERATION:	Chlorite	Garnet	Diopside		
ALTERATION TYPE:	Skarn				
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Disseminated	Massive			
CLASSIFICATION:	Skarn	Hydrothermal	Epigenetic	Industrial Min.	

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD: Fossil			
Cretaceous			Cassiar Batholith

LITHOLOGY: Limestone  
Magnetite Garnet Diopside Skarn  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Cassiar	
METAMORPHIC TYPE: Contact	RELATIONSHIP: Syn-mineralization      GRADE: Hornfels

**CAPSULE GEOLOGY**

On the west side of Needlepoint Mountain, Lower Cambrian Atan Group impure limestone is altered to black magnetite-rich skarn in a zone about 90 metres long adjacent to granitic rocks of the Cassiar Stock.

The skarn is partly banded, with magnetite, chlorite, garnet, diopside, and irregular patches of quartz and fluorite. Danalite, a beryllium-iron silicate of the helvite group, occurs as small grains, clusters, and stringers up to 2 centimetres long. It is accompanied by a few small grains of native bismuth. Overall beryllium content of the occurrence is considerably less than one per cent (McDougall, 1954). Up to 0.038 per cent tin is reported from spectroscopic analysis. Mineralization also includes sphalerite and pyrrhotite.

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/18

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 027**

NATIONAL MINERAL INVENTORY: 104P3 Cu1

NAME(S): **KIRK**, FOUR MILE RIVER

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P03E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 02 14 N  
LONGITUDE: 129 09 36 W  
ELEVATION: Metres

NORTHING: 6544208  
EASTING: 490818

LOCATION ACCURACY: Within 500M  
COMMENTS: Junction Kirk 1-4.

COMMODITIES: Copper Silver Zinc Lead

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Sphalerite	Galena	Pyrite
ASSOCIATED:	Quartz	Ankerite	Epidote	
ALTERATION:	Silica	Ankerite	Malachite	Specularite
ALTERATION TYPE:	Quartz-Carb.		Oxidation	
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER: Disseminated Massive  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared  
COMMENTS: Shears trend northwest-southeast, dipping steeply northeast to vertical.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Chlorite Schist  
Limestone  
Cherty Conglomerate

HOSTROCK COMMENTS: The Sylvester Allochthon in this area is a Mississippian to Permian assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Slide Mountain	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization
	GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1978
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	99.4100 Grams per tonne
Copper	1.0100 Per cent
Lead	0.3900 Per cent
Zinc	1.1000 Per cent

COMMENTS: Chip sample over 3 metres.  
REFERENCE: Assessment Report 7113.

**CAPSULE GEOLOGY**

On the Four Mile River, near Frontline Creek, the Kirk showing is underlain by greenstone, chlorite schist, limestone and chert-pebble conglomerate of the Upper Paleozoic Sylvester Allochthon. Mineralized, northwest trending, silicified or carbonatized shear zones from 1 to 9 metres in width, with quartz, epidote and ankerite, occur adjacent to a schistose metavolcanic-carbonate contact. Mineralization consists of pyrite, chalcopyrite, sphalerite, galena, specular hematite and malachite. A chip sample over 3 metres assayed 99.41 grams per tonne silver, 1.01 per cent copper, 0.39 per cent lead and 1.10 per cent zinc over 9 metres (Assessment Report 7113).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1035  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/18

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 028**

NATIONAL MINERAL INVENTORY: 104P1 Cu1

NAME(S): **HIDDEN VALLEY**, BURDEN

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P01E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 02 54 N  
LONGITUDE: 128 00 21 W  
ELEVATION: Metres

NORTHING: 6545858  
EASTING: 557036

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Quartz Ankerite  
ALTERATION: Ankerite  
ALTERATION TYPE: Carbonate Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive Breccia  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Irregular  
MODIFIER: Sheared  
COMMENTS: Northwest to northeast trending faults, and dipping 25 to 65 degrees southwest.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cambrian-Ordovician	Kechika	Undefined Formation	
DATING METHOD:	Fossil		

LITHOLOGY: Limestone  
Calcareous Phyllite  
Dolomite  
Quartz Vein  
Breccia

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Dease Plateau  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**CAPSULE GEOLOGY**

The Hidden Valley Creek area, east of Deadwood Lake, is underlain by Cambro-Ordovician Kechika Group limestones, dolomites and phyllites. The rocks are cut by numerous northwest to northeast trending faults, some of which are marked by reddish-weathering, brecciated rocks. Mineralization consists of small amounts of massive chalcopyrite with pyrite and iron carbonates (ankerites) in lenticular quartz veins between slaty limestone and calcareous phyllite. The mineralized zone strikes northwest and dips 25 to 65 degrees southwest. A 12 metre width is exposed in a creek.

**BIBLIOGRAPHY**

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/18

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 029**

NATIONAL MINERAL INVENTORY: 104P4 Au7

NAME(S): **ERICKSON, JENNIE, MAURA, ALISON, DEASE, GOLDIE, BEAR, DEVINE, MCDAME, CAITLIN, MCDAME LAKE, KELLY, ERICKSON GOLD, MARY, MAIN MINE, TABLE MOUNTAIN**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:  
LATITUDE: 59 13 01 N  
LONGITUDE: 129 40 19 W  
ELEVATION: 1450 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Jennie vein, located 12 kilometres southeast of Cassiar. See also Table Mountain (104P 070).

Open Pit    Underground    MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6564403  
EASTING: 461639

COMMODITIES: Gold                      Silver                      Copper                      Zinc

**MINERALS**

SIGNIFICANT: Gold              Chalcopyrite              Tetrahedrite              Sphalerite              Covellite  
Pyrite              Arsenopyrite  
ASSOCIATED: Quartz              Graphite              Calcite  
ALTERATION: Malachite              Azurite  
ALTERATION TYPE: Quartz-Carb.              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic              Mesothermal  
TYPE: I01 Au-quartz veins              T01    Tailings  
SHAPE: Tabular  
MODIFIER: Faulted              Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic-Mesozoic                      Sylvester Allochthon

LITHOLOGY: Greenstone  
Pillow Basalt  
Serpentinite  
Argillite  
Listwanite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional              RELATIONSHIP:              GRADE: Greenschist

**INVENTORY**

ORE ZONE: TAILINGS                      REPORT ON: Y  
CATEGORY: Indicated                      YEAR: 1998  
QUANTITY: 700880 Tonnes  
COMMODITY                      GRADE  
Gold                      1.2500              Grams per tonne  
COMMENTS: Mine tailings from the 1979-1988 period; 70 per cent recoverable (Cusac Gold Mines Ltd.).  
REFERENCE: Exploration in BC 1998, p. 24 and GCNL #203, 1998.

ORE ZONE: ERICKSON                      REPORT ON: Y  
CATEGORY: Inferred                      YEAR: 1991  
QUANTITY: 199562 Tonnes  
COMMODITY                      GRADE  
Gold                      22.9000              Grams per tonne  
Silver                      11.3000              Grams per tonne  
COMMENTS: Potential mineral resource for the property. Silver grade estimated from production recovery.  
REFERENCE: George Cross News Letter No.243 (December 19), 1991.

## CAPSULE GEOLOGY

The Erickson mine, located 12 kilometres southeast of Cassiar began production on the Jennie vein in 1978.

Gold and silver-bearing white quartz veins occur in the Sylvester Allochthon, which is in this area of Upper Paleozoic age. The Sylvester Allochthon is a fault bounded imbricate assemblage of Devonian to Triassic regionally metamorphosed (greenschist facies) oceanic rocks thrust over autochthonous North American sediments. In this area, the assemblage consists of greenstones, pillow metabasalts, serpentinite, listwanite and argillites. West plunging veins occur on both limbs of a synclinal fold with an east trending axis.

Two types of gold-bearing structures occur. Cymoidal quartz-filled sheared fault structures dip north or south forming ore where they pass from competent to incompetent rock types. The Jennie, Maura, Alison and Caitlin veins belong to this type. The Devine, Bear, Goldie and Dease are tension fracture veins. The McDame is a late-stage vein consisting of layered dolomite, clear quartz, pyrite and calcite. The Kelly vein, just north of the Bear vein, is presently in the exploration phase. Veins are up to 5 metres thick with alteration envelopes commonly being 1 to 15 metres thick.

Mineralization in the Erickson veins consists of pyrite, tetrahedrite, chalcopyrite, sphalerite, arsenopyrite, covellite and gold. The gold is associated with chalcopyrite and tetrahedrite as well as occurring along in quartz-bearing fractures. Tetrahedrite occurs as blebs and fine disseminations with associated chalcopyrite. Malachite and azurite staining is common in the veins.

Listwanite, and less common carbon-bearing alteration envelopes, are well developed. Where quartz veins cut or lie directly underneath a listwanite zone, the gold values for that portion of the vein increase. Dussell (1986) proposed that "ore solution infiltrated and metasomatized bodies of partially serpentinized peridotite producing a listwanite. Gold precipitation was then triggered by a decrease in sulphur activity when the ore solution reacted with the listwanite parent".

To date, Erickson Gold Mining Corporation has produced 489,780 tonnes of ore grading 15.6 grams per tonne gold and 11.31 grams per tonne silver (includes the Vollaug (104P 019), Wildcat (104P 057) and Table Mountain (104P 070) (A. Boronowski, personal communication, 1988).

The potential mineral resource for the property is 199,562 tonnes grading 22.9 grams per tonne gold (George Cross News Letter No. 243, 1991).

Total Energold Corp. suspended production at the Erickson mine in late October, 1988. See Table Mountain for subsequent production in the area.

Cusac Gold Mines Ltd. estimates mine tailings from the 1979 to 1988 period contains 700,880 tonnes averaging 1.25 grams per tonne gold which is 70 per cent recoverable (Exploration in BC 1998, page 24 and GCNL #203 (Oct.22), 1998).

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- EMPR ENG INSP Annual Report 1990
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- EMPR MER 1984-7; 1985-9
- EMPR MIN STATS 1985, pp. 47, 48; 1987, pp. 36, 37, 65, 66; 1990, pp. 5, 26, 68
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#93,#100,#148,#183,#216, 1984; #49,#88, 1985; #18, 1986; #94,  
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(Aug.20), #203(Oct.22), 1998  
N MINER Oct.17,28,Nov.15, 1977; Jan.4,19,May 19,Jun.8,Aug.1,16,28,  
Oct.31,Nov.24, 1978; Oct.18, 1979; Mar.11,May 27,Sept.30, 1982;  
Jan.20,Jul.28,Oct.6,20,Nov.10,Dec.22, 1983; May 17,31,Aug.9,  
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PR REL Cusac Gold Mines Ltd., Sept.3, Oct.17, 1997; Oct.21, 1998  
VAN M RPT Feb. 1987  
W MINER Apr.,Nov., 1979; Dec., 1980; Jun., 1984  
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EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/18

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 030**

NATIONAL MINERAL INVENTORY: 104P6 Au3

NAME(S): **MCDAME CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:  
LATITUDE: 59 16 29 N  
LONGITUDE: 129 26 06 W  
ELEVATION: 780 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS: From GSC Map 1110A (accompanies GSC Memoir 319).

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6570724  
EASTING: 475208

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Tertiary			Glacial/Fluvial Gravels
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Glacial Fluvial Gravel  
Quartzite  
Argillite  
Limestone  
Quartz Vein

HOSTROCK COMMENTS: Mississippian-Permian Sylvester Allochthon metasediments underly glacial/fluvial gravels.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

McDame Creek lies in a broad, glaciofluvial drift-filled valley which parallels the northeast margin of the Early Cretaceous Cassiar granitic batholith. The underlying rocks are quartzites, argillites and limestones of the Sylvester Allochthon (Mississippian-Permian) which strike east-southeast and dip steeply north. The boulders in McDame Creek are composed of quartzite, limestone, volcanic breccia and granite. The gold was noted to be most abundant in the bottom 1.2 metres of gravel, which occurs as 6 metre thick lenses on top of sand. The total depth of material exceeds 30 metres (deepest drill hole). The source of the placer gold is gold quartz veins (up to 2.5 metres wide) found in abundance within the Sylvester Allochthon rocks between Pooley and Quartzrock Creeks. McDame Creek was worked from 1874 to 1949; by 1945, 1818 kilograms (64,117 ounces) of gold were recovered (Bulletin 28).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1041  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/18

CODED BY: GSB  
REVISED BY: MM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 031**

NATIONAL MINERAL INVENTORY: 104P6 Au2

NAME(S): **DENNIS CREEK PLACERS**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:  
LATITUDE: 59 20 59 N  
LONGITUDE: 129 25 06 W  
ELEVATION: 1050 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6579070  
EASTING: 476210

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Tertiary			Glacial/Fluvial Gravels
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Glacial Fluvial Gravel  
Meta Sediment/Sedimentary  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon is the probable source of the placer gold and is Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Placer gold recovered from Dennis Creek, northwest of McDame, probably originated from gold quartz veins found in metasediments of the Sylvester Allochthon (Mississippian-Permian). The placer was worked from 1876 to 1885, yielding 21 kilograms (751 ounces) of gold (Bulletin 28).

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GSC MAP 1110A  
EMPR OF 1988-32  
EMPR EXPL 1989, pp. 229-236

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: MM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 032**

NATIONAL MINERAL INVENTORY: 104P6 Au1

NAME(S): **ROSELLA CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 26 29 N  
LONGITUDE: 129 26 36 W  
ELEVATION: 1050 Metres

NORTHING: 6589286  
EASTING: 474856

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location on GSC Map 1110A (GSC Memoir 319).

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Tertiary  
Upper Paleozoic

Glacial/Fluvial Gravels  
Sylvester Allochthon

LITHOLOGY: Glacial Fluvial Gravel  
Meta Sediment/Sedimentary  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon (probable source of gold) is Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

The probable source of placer gold in Rosella (Bear) Creek, northwest of McDame, is gold quartz veins found in metasedimentary rocks of the Sylvester Allochthon (Mississippian to Permian). Worked from 1876 to 1915 (sporadically), the creek yielded 12.2 kilograms (432 ounces) of gold (Bulletin 28).

**BIBLIOGRAPHY**

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GSC MAP 1110A  
EMPR OF 1988-32  
EMPR EXPL 1989, pp. 229-236

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: MM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 033**

NATIONAL MINERAL INVENTORY:

NAME(S): **WALKER CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P01W  
BC MAP:  
LATITUDE: 59 02 59 N  
LONGITUDE: 128 17 06 W  
ELEVATION: 1050 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS: Location on GSC Map 1110A (GSC Memoir 319).

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6545808  
EASTING: 541019

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cambrian-Ordovician	Kechika	Undefined Formation	
Tertiary			Glacial/Fluvial Gravels

LITHOLOGY: Glacial Fluvial Gravel  
Calcareous Shale  
Phyllite  
Limestone  
Greenstone  
Slate

HOSTROCK COMMENTS: Sediments are incompetent and tightly folded. Greenstones are highly altered and may be intrusive.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

Most of Walker Creek, east of Deadwood Lake, is underlain by incompetent and highly folded Kechika Group rocks (Cambro-Ordovician) including phyllitic limestones, calcareous phyllites, black slate-argillite, limestones and highly altered greenstones (possibly intrusive). Dolomites and sandstones of the Sandpile Group (Devonian-Silurian) underlie the head of Walker Creek to the east. Walker Creek is steep sided and lacking in benches and the depth to bedrock is 2 to 5 metres. It contains large boulders which have been glacially transported from the southeast. The lower 3 kilometres of the creek (10 kilometres total length) was the most productive; in periods from 1876-1890 and 1916-1920, 46.1 kilograms (1628 ounces) of gold was extracted (Bulletin 28). The source of the placer gold is unknown; it was probably transported by northeast moving ice, since volcanic rocks to the southwest contain gold-quartz veins.

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1886; 1887  
GSC MAP 1110A  
EMPR OF 1988-32  
EMPR EXPL 1989, pp. 229-236

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: MM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 034**

NATIONAL MINERAL INVENTORY: 104P4 Au5

NAME(S): **HUNTER, THERESA**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 10 49 N  
LONGITUDE: 129 32 31 W  
ELEVATION: 1400 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6560252  
EASTING: 469027

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location taken from Mandy, J.T. (1937): Hunter Group EMPR Special Report in Property File.

COMMODITIES: Gold Silver Copper Zinc

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Chalcopyrite Pyrite Sphalerite  
ASSOCIATED: Quartz Ankerite Graphite Talc  
ALTERATION: Quartz Ankerite  
ALTERATION TYPE: Silicific'n Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal  
SHAPE: Tabular  
MODIFIER: Folded Faulted  
COMMENTS: Shear zone is north trending.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic Sylvester Allochthon

LITHOLOGY: Argillite  
Serpentinite  
Tuff  
Quartz Vein  
Listwanite  
Greenstone

HOSTROCK COMMENTS: The Sylvester Allochthon in this area is a Mississippian-Permian oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: VEINS REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1988  
SAMPLE TYPE: Drill Core  
COMMODITY GRADE  
Gold 5.4500 Grams per tonne  
COMMENTS: Over a 0.5 metre interval Mandy (1937) reports erratic values up to 6.86 grams per tonne gold and 13.7 grams per tonne silver.  
REFERENCE: Assessment Report 17613.

**CAPSULE GEOLOGY**

Southeast of the main Erickson mine, a wide north trending shear zone occurs near a contact between Sylvester Allochthon argillites and tuffs. Tuffs have been regionally metamorphosed to greenstone. Within the shear zone, north to northeast-trending, quartz veins, tetrahedrite, chalcopyrite, sphalerite and gold. The veins consist of white quartz, locally graphitic and ribboned, ankerite and talcose or argillaceous inclusions. Gouge and slickensides along vein walls indicate movement subsequent to quartz deposition. The most important veins in the area are the Hunter and Theresa. Assays as high as 6.86 grams per tonne gold and 13.7 grams per tonne silver are reported from grab samples, but values are erratic (Property File - Mandy, J.T. (1937): Hunter Group, EMPR Special Report). Surface chip sampling of the veins resulted in assays up to

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**BIBLIOGRAPHY**

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Camp, Geology and Metallogeny of Northwestern British Columbia,  
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Dussell, E., (1986): Listwanites and Their Relationship to Gold Min-  
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Thesis, Western Washington University

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 035**

NATIONAL MINERAL INVENTORY: 104P4 Mo2

NAME(S): **CASSIAR MOLY**, ANGEL, ELOISE,  
X, RUSTY

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104P04W  
BC MAP:  
LATITUDE: 59 12 29 N  
LONGITUDE: 129 52 06 W  
ELEVATION: 2000 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: The deposit is approximately 5 kilometres south of Cassiar (Fieldwork 1980).

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6563542  
EASTING: 450414

COMMODITIES: Molybdenum                      Copper

**MINERALS**

SIGNIFICANT: Molybdenite              Chalcopyrite              Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Sericite              Powellite              Rutile              Quartz  
ALTERATION TYPE: Greisen  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Stockwork  
CLASSIFICATION: Porphyry                      Hydrothermal                      Epigenetic  
DIMENSION: 460 x 460                      Metres                      STRIKE/DIP:  
COMMENTS: Mineralization scattered over 460 by 460 metre area.                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Troutline Creek Stock

ISOTOPIC AGE: 73.6 +/- 2.5 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Quartz Monzonite  
Quartz Porphyry  
Alaskite Dike  
Aplite Dike  
Quartz Feldspar Porphyry Dike  
Pegmatite

HOSTROCK COMMENTS: Megacrystic biotite-hornblende quartz monzonite and equigranular quartz monzonite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Approximately five kilometres south of Cassiar, the Cassiar Moly deposit occurs in the Late Cretaceous Troutline Creek quartz monzonite stock, at the eastern margin of the Cassiar batholith. Intrusive phases include a pink megacrystic porphyry, a coarse-grained porphyry, a grey porphyry and a finer-grained equigranular leucocratic quartz monzonite. All textural variants have gradational contacts. Alaskite, aplite and quartz-feldspar porphyry dykes and segregations occur throughout. Molybdenite occurs as small rosettes and flakes in the fine-grained intrusives and in fractures and joints with pyrite within quartz-feldspar porphyries and adjoining megacrystic porphyries. The main mineralized zone trends north to northeast, following the main joint and fault trend. Locally, quartz-rich pegmatite pods up to 12 metres in size contain coarse molybdenite crystals or, rarely quartz-sericite-rutile-molybdenite greisen. Chalcopyrite occurs in minor amounts along fractures and as disseminations. Powellite has been identified in sericitic rocks. Stockworks and breccia zones are generally absent. Mineralization is scattered over a 460 by 460 metre area with local high grades over narrow widths. The overall grade is low (0.026 per cent molybdenum) across 100 metres (Energy, Mines and Resources Mineral Bulletin Mr 223, 1989).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1048  
REPORT: RGEN0100

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1988 pp. 339-344  
EMPR ASS RPT \*1700, \*2265, \*7206, \*8009, \*8277  
EMPR AR 1967-26; 1968-36  
EMPR MAP 65 (1989)  
EMPR GEM 1969-41  
EMPR EXPL 1976-E198; 1979-318; 1980-516  
W MINER Feb., Mar., Apr., Jun., 1979  
GSC MEM 319  
GSC MAP 1110A  
EMPR PF (Brown, C.J., (1980): Report of Physical Work, Son Group;  
Bloomer, Christopher: The Casmo Deposit-A Geological Overview of  
a Late Cretaceous Molybdenite Deposit in Northern British Columbia  
(date unknown)  
EMPR GEOL 1977-81, pp. 188-189  
EMR MIN BULL MR 223, 1989

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 036**

NATIONAL MINERAL INVENTORY: 104P5 Asb3

NAME(S): **MOON**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 24 09 N  
LONGITUDE: 129 41 36 W  
ELEVATION: 1675 Metres

NORTHING: 6585077  
EASTING: 460633

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Serpentine Chrysotile  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Peridotite  
Serpentinite  
Vein  
Rodingite Dike

HOSTROCK COMMENTS: The Sylvester Allochthon in this area, Mississippian to Permian in age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**CAPSULE GEOLOGY**

In an area 8 kilometres northeast of Cassiar, peridotite of the Upper Paleozoic Sylvester Allochthon is altered to serpentinite near a rodingite dyke. Silky chrysotile fibre up to 60 millimetres long has been reported to occur in ribbon veins.

**BIBLIOGRAPHY**

EMPR ASS RPT \*702, \*8607, 14649  
EMPR FIELDWORK 1987, pp. 245-248; 1988 pp.323-337  
EMPR EXPL 1986-C470  
EMPR MP MAP 1992-13  
EMPR OF 1995-25  
GSC MEM 319  
GSC MAP 1110A  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications for Paleogeography and Accretion, Ph.D. Thesis, University of Arizona

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 037**

NATIONAL MINERAL INVENTORY:

NAME(S): **M**, HUNTSMAN, CANADA GIRL

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 54 N  
LONGITUDE: 129 50 51 W  
ELEVATION: 1760 Metres

NORTHING: 6568012  
EASTING: 451661

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 7912, Fig. 7.

COMMODITIES: Molybdenum Tungsten

**MINERALS**

SIGNIFICANT: Molybdenite Pyrite Scheelite  
ASSOCIATED: Quartz Gypsum Fluorite  
ALTERATION: Quartz Sericite Clay Garnet Diopside  
ALTERATION TYPE: Actinolite Skarn  
MINERALIZATION AGE: Sericitic Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic Skarn  
SHAPE: Tabular  
MODIFIER: Fractured  
COMMENTS: Mineralized fractures strike east and dip gently north.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian Cretaceous	Atan	Undefined Formation	Cassiar Batholith

ISOTOPIC AGE: 72.5 +/- 2.5 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Quartz Monzonite  
Hornfels  
Garnet Actinolite Skarn

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP:  
GRADE: Hornfels

**CAPSULE GEOLOGY**

Approximately 3 kilometres due south of Cassiar, molybdenum mineralization occurs in Late Cretaceous Cassiar Stock quartz monzonite adjacent to a contact with Lower Cambrian Atan Group hornfels. The contact strikes approximately northwest-southeast. Molybdenum occurs as disseminations and fine-grained fracture fillings with sericite, pyrite, gypsum, quartz and fluorite. The fractures strike east and dip gently north. A small garnet-diopside, garnet-actinolite skarn, with trace scheelite in quartz veinlets, occurs northeast of the contact in Atan Group hornfels.

**BIBLIOGRAPHY**

EMPR ASS RPT 277, \*7912  
EMPR FIELDWORK \*1978, pp. 52,56,57; 1979, pp. 80-88; 1988 pp.339-344  
EMPR EXPL 1979-319  
EMR MP CORPFILE (\*Fort Reliance Minerals)  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 038**

NATIONAL MINERAL INVENTORY: 104P6 Zn1

NAME(S): **HASKIN MOUNTAIN SE. JOEM, RAIN,  
B ZONE, DAKO, HASKINS-REED,  
REED-HASKINS, BRETT, DAN,  
HOT LAKE, DEBBY, DELLA MINES,  
DELLA B**

MINING DIVISION: Liard

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 19 49 N  
LONGITUDE: 129 28 06 W  
ELEVATION: 1500 Metres

NORTHING: 6576923  
EASTING: 473351

LOCATION ACCURACY: Within 1 KM  
COMMENTS: See also Joem (104P 059).

COMMODITIES: Zinc Lead Silver Copper Bismuth

**MINERALS**

SIGNIFICANT: Sphalerite Chalcopyrite Galena Pyrrhotite Bismuth  
Pyrite Bismuthinite  
ASSOCIATED: Garnet  
ALTERATION: Garnet  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Massive  
CLASSIFICATION: Skarn Replacement Hydrothermal Industrial Min.  
TYPE: K02 Pb-Zn skarn  
SHAPE: Tabular  
MODIFIER: Folded Faulted  
DIMENSION: 0400 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Undefined Formation	
Eocene			Mount Haskin Stock

ISOTOPIC AGE: 50.9 +/- 1.5 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Limestone  
Chert  
Argillite  
Granitic Dike  
Skarn  
Hornfels  
Granitic Sill

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: DELLA B

REPORT ON: Y

CATEGORY: Combined  
QUANTITY: 1723652 Tonnes  
COMMODITY

YEAR: 1996

COMMODITY	GRADE
Zinc	3.0000 Per cent
Copper	0.5200 Per cent
Bismuth	0.2400 Per cent
Silver	62.4000 Grams per tonne

COMMENTS: Developed and inferred reserve.  
REFERENCE: GCNL #151 (Aug.7), 1997.

**INVENTORY**

ORE ZONE: BRETT REPORT ON: Y  
 CATEGORY: Indicated YEAR: 1997  
 QUANTITY: 453600 Tonnes  
 COMMODITY Zinc GRADE 10.0000 Per cent

COMMENTS: Drill indicated (9 holes).  
 REFERENCE: Demand Gold Ltd., GCNL #223(Nov.20), 1997.

ORE ZONE: HASKIN MOUNTAIN SE REPORT ON: Y  
 CATEGORY: Inferred YEAR: 1969  
 QUANTITY: 226775 Tonnes  
 COMMODITY Silver GRADE 49.7000 Grams per tonne  
Copper 0.1000 Per cent  
Lead 4.0000 Per cent  
Zinc 5.5000 Per cent

COMMENTS: Estimate based on trenching and 4 drillholes. Combined lead-zinc  
 9.4 per cent.  
 REFERENCE: Northern Miner - December 25, 1969.

**CAPSULE GEOLOGY**

On the east side of Mt. Haskin, mineralization occurs in a northwest trending belt of Lower Cambrian Atan Group limestones, chert and argillite. West dipping strata are locally deformed by small folds and steep faults trending both parallel and transverse to bedding. Base metal-rich garnet skarn lenses with pyrrhotite, sphalerite, chalcopyrite, some pyrite, galena and supposedly native bismuth and bismuthinite occur along carbonate-hornfels contacts and near contacts with granitic dykes and sills related to the Eocene Mount Haskins Stock. Both massive and disseminated sulphides occur. The "B" zone mineralization extends 400 metres on strike, but continuity is disrupted by faulting.

Reserves estimated from trenching and four drill holes are 226,775 tonnes grading 49.7 grams per tonne silver, and 9.4 per cent combined lead and zinc (Northern Miner - December 25, 1969).

In 1994, Dan and Guil Brett prospected and sampled the property as the Debby claims, formerly Della Mines. Demand Gold Ltd. acquired the property in 1997 and conducted exploration and drilling.

Work on the Brett massive sulphide zone comprised 14 kilometres of soil sampling, 14 kilometres of magnetometer surveying and nine diamond drill holes. This work defined a drill inferred reserve of 453,600 tonnes grading 10 per cent zinc (GCNL #223(Nov.20), 1997).

Work also outlined three areas of strongly anomalous lead, zinc and silver mineralization. The areas include the Dan Zone, located off the north-western corner of the Brett Grid and two large areas within the Hot Lake Grid. A 2.0-metre chip sample from the Dan Zone returned 5 per cent zinc. The two areas of anomalous soil geochemistry within the Brett Grid documented lead up to 9,082 ppm and silver up to 34.9 ppm; background lead values average 122 ppm (GCNL #223 (Nov.10), 1997).

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 EMPR EXPL 1976-E199; 1997-17  
 EMPR GEM 1969-41; 1970-34; 1971-57; \*1972-561,562; 1973-518,519;  
 1974-354,355  
 N MINER May 8, May 22, Jun.19, Jul.17, Sept.18, Dec.25, 1969  
 W MINER Apr., 1969; Feb., 1979  
 EMR MIN BULL MR 223 B.C. 356  
 EMR MP CORPFILE (Spartan Explorations Ltd.; Della Mines Ltd.; ISO  
 Mines Ltd.)  
 GSC MAP 381A; 1110A  
 GSC MEM 194; 319  
 GCNL #106(June 3), #151(Aug.7), #223(Nov.20), 1997  
 Christopher, P.A., White, W.H., and Harakel, J.E., (1972): \*Age of  
 Molybdenum and Tungsten Mineralization in Northern British  
 Columbia, CJES, V. 9, pp. 1727-1730  
 EMPR OF 1998-10

DATE CODED: 1985/07/24  
 DATE REVISED: 1998/08/24

CODED BY: GSB  
 REVISED BY: LDJ

FIELD CHECK: N  
 FIELD CHECK: N

MINFILE NUMBER: **104P 039**

NATIONAL MINERAL INVENTORY: 104P6 Zn2

NAME(S): **LUNA**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 19 19 N  
LONGITUDE: 129 27 06 W  
ELEVATION: Metres

NORTHING: 6575989  
EASTING: 474293

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Sphalerite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound  
CLASSIFICATION: Replacement              Skarn              Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Limestone  
Skarn

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Cassiar	
METAMORPHIC TYPE: Contact	RELATIONSHIP:              GRADE: Hornfels

**CAPSULE GEOLOGY**

On the east side of Mt. Haskin, galena-sphalerite replacement mineralization is reported in Lower Cambrian Atan Group limestone. Limestones contain some skarn alteration.

**BIBLIOGRAPHY**

EMPR AR 1967-26; 1968-36  
EMPR GEM 1969-42; 1970-35  
GSC MEM 194; 319  
GSC MAP 381A; 1110A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 040**

NATIONAL MINERAL INVENTORY: 104P5 Mo3

NAME(S): **RAY**, CHAPPARAL

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 09 N  
LONGITUDE: 129 51 51 W  
ELEVATION: 1700 Metres

NORTHING: 6570344  
EASTING: 450741

LOCATION ACCURACY: Within 500M

COMMENTS: From map in 1968 report by Sevensma (Property File).

COMMODITIES: Molybdenum Silver

**MINERALS**

SIGNIFICANT: Molybdenite  
ASSOCIATED: Quartz Feldspar  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Disseminated  
CLASSIFICATION: Pegmatite

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Cretaceous

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Cassiar Batholith

ISOTOPIC AGE: 73.6 +/- 2.5 Ma  
DATING METHOD: Potassium/Argon

LITHOLOGY: Porphyritic Quartz Monzonite  
Pegmatite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1968

COMMODITY	GRADE	
Silver	3.4300	Grams per tonne
Molybdenum	0.3900	Per cent

COMMENTS: Chip sample across 2.1 metres.

REFERENCE: Property File (Sevensma, P.H. (1968) Chapparel Mines Ltd.; Ray Group.

**CAPSULE GEOLOGY**

A 2 metre wide pegmatite pod with coarse-grained molybdenite rosettes occurs in Late Cretaceous porphyritic quartz monzonite of the Cassiar Batholith.

A sample across 2.1 metres assayed 0.39 per cent molybdenum and 3.43 grams per tonne silver (Property File, Sevensma, P.H., 1968).

**BIBLIOGRAPHY**

EMPR PF (\*Sevensma, P.H., (1968): Chapparel Mines Ltd.; Ray Group, 17 pages)  
EMPR FIELDWORK \*1978, pp. 52,56; \*1979-84  
EMPR AR 1968-35  
EMPR GEM 1969-40  
EMPR ASS RPT 1962  
EMPR MP MAP 1992-13  
EMR MP CORPFILE (Chapparel Mines Ltd.)  
GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1985/07/24  
DATE REVISED: 1986/03/06

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 041**

NATIONAL MINERAL INVENTORY: 104P5 Cu2

NAME(S): **LUCKY SHOT**, AL, DEKALB 6

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 18 19 N  
LONGITUDE: 129 33 55 W  
ELEVATION: 1370 Metres

NORTHING: 6574182  
EASTING: 467812

LOCATION ACCURACY: Within 500M  
COMMENTS: Trenches located.

COMMODITIES: Gold Copper

**MINERALS**

SIGNIFICANT:	Gold	Chalcopyrite	Pyrite	Pyrrhotite	Pentlandite
ASSOCIATED:	Quartz				
ALTERATION:	Quartz	Mariposite	Ankerite	Malachite	Limonite
ALTERATION TYPE:	Quartz-Carb.		Oxidation		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Disseminated
CLASSIFICATION:	Hydrothermal	Epigenetic
SHAPE:	Tabular	
MODIFIER:	Folded	Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Greywacke  
Chert  
Quartz Vein  
Hornblende Feldspar Porphyry  
Ultramafic  
Listwanite

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area, Mississippian to Permian in age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Cassiar Mountains
TERRANE:	Slide Mountain		
METAMORPHIC TYPE:	Regional	RELATIONSHIP:	Pre-mineralization
		GRADE:	Greenschist

**INVENTORY**

ORE ZONE:	TRENCH	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1981
SAMPLE TYPE:	Grab		
COMMODITY	Gold	GRADE	
		2.9000	Grams per tonne
COMMENTS:	Sample from trench.		
REFERENCE:	Assessment Report 10170.		

**CAPSULE GEOLOGY**

Approximately 4 kilometres southwest of Mt. Haskin, north of McDame Creek, the Lucky Shot showing is underlain by Upper Paleozoic Sylvester Allochthon cherts, greywacke, greenstones and ultramafics which are folded and faulted and intruded by a small hornblende-feldspar porphyry stock. Quartz veins with pyrite, pyrrhotite, chalcopyrite, malachite, limonite and gold values up to 2.9 grams per tonne (Assessment Report 10170) have been exposed by trenching. The showing is adjacent to the Blue Dome fault, which contains ultramafic bodies, locally altered to listwanite. Chalcopyrite and pentlandite are reported to occur as disseminations and vein fillings in the vicinity.

**BIBLIOGRAPHY**

EMPR ASS RPT \*9573, \*10170, \*11002, \*12498  
EMPR AR 1968-35  
EMPR GEM 1969-42

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1056  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR EXPL 1980-520; 1981-223; 1982-409  
EMPR FIELDWORK 1987, pp. 245-248; 1988 pp.323-337  
EMPR MP MAP 1992-13  
GSC MEM 194; 319  
GSC MAP 381A; 1110A

Harms, T.A., (1986): Structural and Tectonic Analysis of the  
Sylvester Allochthon, Northern British Columbia, Implications for  
Paleogeography and Accretion, Ph.D. Thesis, University of Arizona

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **104P 042**

NATIONAL MINERAL INVENTORY: 104P3 Cu2

NAME(S): **RAM**, APPLEJACK

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P03W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 44 N  
LONGITUDE: 129 24 51 W  
ELEVATION: 1390 Metres

NORTHING: 6567469  
EASTING: 476375

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Tetrahedrite  
ASSOCIATED: Quartz  
ALTERATION: Azurite Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Epigenetic Disseminated  
CLASSIFICATION: Hydrothermal  
SHAPE: Tabular  
MODIFIER: Fractured Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Argillite  
Schist  
Tuff  
Quartz Vein

HOSTROCK COMMENTS: In this area the Sylvester Allochthon is Mississippian to Permian in age and is comprised of metasediments, metavolcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1969
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		1587.4000	Grams per tonne
Copper		5.3800	Per cent

REFERENCE: Assessment Report 2593.

**CAPSULE GEOLOGY**

Near Mount Pendelton, 2.0 kilometres south of McDame Creek, Upper Paleozoic Sylvester Allochthon argillites, schists and tuffs are folded into an anticlinal structure which plunges southeast. The showing is a zone of intense fracturing with tetrahedrite-bearing quartz veins. The quartz carries inclusions of schist and tuff and is locally laced with veinlets, patches and disseminations of tetrahedrite. Two grab samples of mineralized material assayed 1587.4 and 171.4 grams per tonne silver and 5.38 and 0.5 per cent copper (Assessment Report 2593).

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EMPR GEM 1969-42,43  
EMPR ASS RPT \*2593  
EMPR AR 1900-783-785  
GSC MAP 381A; \*1110A  
EMPR FIELDWORK 1987, pp. 245-248; 1988 pp.323-337  
GSC MEM 194; 319  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1058  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

for Paleogeography and Accretion, Ph. D. Thesis, University of  
Arizona

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 043**

NATIONAL MINERAL INVENTORY: 104P6 Mo1

NAME(S): **MOUNT REED, DOME**

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104P06W  
 BC MAP:  
 LATITUDE: 59 18 09 N  
 LONGITUDE: 129 26 36 W  
 ELEVATION: 1400 Metres  
 LOCATION ACCURACY: Within 1 KM  
 COMMENTS:

MINING DIVISION: Liard  
 UTM ZONE: 09 (NAD 83)  
 NORTHING: 6573820  
 EASTING: 474753

COMMODITIES: Molybdenum                      Tungsten                      Zinc                      Lead                      Copper  
 Magnetite

**MINERALS**

SIGNIFICANT: Molybdenite                      Scheelite                      Magnetite                      Sphalerite                      Pyrite  
                     Arsenopyrite                      Chalcopyrite                      Galena  
 ASSOCIATED: Quartz                      Garnet                      Diopside                      Fluorite                      Wollastonite  
                     Andradite                      Plagioclase  
 ALTERATION: Garnet                      Diopside                      Phlogopite                      Chondrodite                      Vesuvianite  
                     Clay                      Muscovite  
 ALTERATION TYPE: Skarn                      Argillic  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Massive                      Stockwork  
 CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Industrial Min.  
 SHAPE: Irregular  
 MODIFIER: Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	
Eocene			Mount Reed Stock

ISOTOPIC AGE: 49.6 +/- 1.9 Ma  
 DATING METHOD: Potassium/Argon

LITHOLOGY: Siltstone  
 Quartzite  
 Dolomite  
 Argillite  
 Fluorite Scheelite Garnet Skarn  
 Granite  
 Pyroxene Hornfels  
 Magnetite Garnet Diopside Skarn  
 Vesuvianite Garnet Skarn  
 Pyrrhotite Garnet Skarn

HOSTROCK COMMENTS: Granite porphyry, aplite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
 TERRANE: Cassiar  
 METAMORPHIC TYPE: Contact  
 PHYSIOGRAPHIC AREA: Cassiar Mountains  
 RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**CAPSULE GEOLOGY**

Approximately 1.0 kilometre north of McDame Creek, on Mount Reed, Lower Cambrian Atan Group siltstones, quartzites, dolomites and argillites are intruded by the Eocene Mount Reed granitic stock. A contact aureole extends about 0.5 kilometres around the stock, with metamorphic conditions having attained pyroxene-hornfels facies adjacent to the stock. Early northwest trending faults parallel stratigraphy and the long axis of the intrusion, and these faults are cut by later northeast trending faults.

The main stage of skarn development produced inner and outer zoned systems in metacarbonate rocks. The inner system progresses outward from massive magnetite skarn with garnet, diopside and rare molybdenum-rich scheelite to concentrically banded skarn with clinopyroxene, phlogopite, magnetite, chondrodite, vesuvianite and minor molybdenite-rich scheelite and molybdenite, to stockwork skarn of ludwigite-magnetite and magnesium-silicate veinlets. The outer system of characteristically banded skarn progresses outward from wollastonite skarn to andradite-pyroxene (-fluorite) skarn, to pyroxene-rich skarn. Scheelite, but not molybdenite, occurs in outer

## CAPSULE GEOLOGY

skarn zones.

Later stage skarn consists of tabular vesuvianite-garnet bodies crosscutting both inner and outer zones. These are associated with narrow quartz veins and coarse, interstitial molybdenum-poor scheelite and molybdenite.

Endoskarn development occurs along the margins of the stock and in granitic dykes and consists of fine-grained garnet, clinopyroxene fluorite and scheelite.

Metapelitic hornfelses adjacent to carbonate beds or along fractures have also undergone skarn alteration, consisting of diopside-plagioclase-quartz skarn and scheelite-bearing quartz veinlets with biotite envelopes.

The southeastern part of the Mount Reed Stock is cut by a weak molybdenite-pyrite-quartz stockwork, with muscovite vein envelopes. Argillic alteration is well-developed in the western part of the stock.

At least two small massive pyrrhotite-garnet skarn bodies occur just west of the stock near carbonate-hornfels contacts. Sphalerite and minor chalcopyrite, galena and arsenopyrite occur in these bodies.

Several sphalerite-bearing quartz veins occur in the area near the periphery of the mineralizing system (see 104P 021).

## BIBLIOGRAPHY

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Barnhill, S.J. (1982): \*Geology and genesis of tungsten-molybdenum mineralization at Mt. Reed-Mt. Haskin, Northern British Columbia, M. Sc. Thesis, Queen's University, Kingston, Ont. p. 197  
Christopher, P.A., White, W.H. and Harakal, J.E. (1972): \*Age of molybdenum and tungsten mineralization in Northern British Columbia, CJES, Vol. 9, pp. 1727-1734  
EMPR AR 1956-11  
EMPR GEM 1969-42; 1970-35  
EMPR EXPL 1978-E278; 1979-322; 1980-521  
EMPR FIELDWORK \*1979, pp. 128-129  
EMR MP CORPFILE (Glen Copper Mines Ltd.; Brettland Mines Ltd.; Pacific Petroleum Ltd.)  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
EMPR PF (\*Hirst, P.E., (1969): Report on the Iron Cap, Dome, Pi and A.G. Mamba claims in the Mount Reed area of the Cassiar District, British Columbia; 104P 021, 043)  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 044**

NATIONAL MINERAL INVENTORY:

NAME(S): **UPPER D**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 29 N  
LONGITUDE: 129 50 36 W  
ELEVATION: 1400 Metres

NORTHING: 6570947  
EASTING: 451936

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 7912, Fig. 8.

COMMODITIES: Silver                      Lead                      Zinc                      Gold                      Magnetite

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Magnetite              Pyrite              Pyrrhotite  
ASSOCIATED: Rhodochrosite      Pyrolusite  
ALTERATION: Dolomite              Chlorite              Calcite  
ALTERATION TYPE: Carbonate              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic              Replacement              Industrial Min.  
TYPE: H07 Sn-Ag veins  
SHAPE: Irregular  
MODIFIER: Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Limestone  
Dolomite  
Quartzite  
Vein  
Limestone Breccia

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1981
SAMPLE TYPE: Drill Core	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	240.0000      Grams per tonne
Gold	0.0690      Grams per tonne
Lead	4.7300      Per cent
Zinc	4.7400      Per cent

COMMENTS: Drill hole intersection of 7.6 metres.  
REFERENCE: Assessment Report 9548.

**CAPSULE GEOLOGY**

Approximately 1.0 kilometre southwest of Cassiar, Lower Cambrian Atan Group limestones are strongly faulted and dolomitized. The dolomite contains patches and scales of rhodochrosite and chlorite, while unaltered limestone is brecciated with stringers of calcite. Vein and replacement mineralization consists of galena, sphalerite, magnetite, pyrite, pyrrhotite and pyrolusite. The best drill intersection reported is 7.6 metres grading 240 grams per tonne silver, 4.74 per cent zinc, 4.73 per cent lead and 0.069 grams per tonne gold (Assessment Report 9548).

**BIBLIOGRAPHY**

EM EXPL 1999-19-31  
EMPR AR 1968-35  
EMPR ASS RPT 1962, \*7912, \*9262, \*9548  
EMPR EXPL 1980-513,514

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1062  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR FIELDWORK 1978, pp. 51-60; 1979, pp. 80-88; 1988 pp.323-337  
EMPR GEM 1969-40  
EMPR MP MAP 1992-13  
GSC MAP 1110A  
GSC MEM 319

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 045**

NATIONAL MINERAL INVENTORY: 104P13 Cu1

NAME(S): **ACE**, ONE ACE MOUNTAIN

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P13E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 50 49 N  
LONGITUDE: 129 36 06 W  
ELEVATION: Metres

NORTHING: 6634519  
EASTING: 466286

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Bornite Chalcopyrite Chalcocite  
ASSOCIATED: Quartz  
ALTERATION: Malachite Azurite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Irregular  
MODIFIER: Fractured  
DIMENSION: 5000 x 225 Metres STRIKE/DIP: 060/40N TREND/PLUNGE:  
COMMENTS: Zone of mineralized quartz veins is striking northeast.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD:	Fossil		

LITHOLOGY: Limestone  
Quartzite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

The occurrence is underlain by Lower Cambrian Atan Group limestones and quartzites on the southwest flank of One Ace Mountain about 10 kilometres south of the Yukon-British Columbia border. Spotty mineralization occurs along a zone 5 kilometres long, paralleling the northeast-striking limestone-quartzite contact and about 150 to 300 metres within the limestone. Closely spaced quartz veins and lenses contain bornite, chalcopyrite, chalcocite, malachite and azurite. Individual veins within the zone show no apparent structural control.

**BIBLIOGRAPHY**

EMPR AR 1967-26  
EMPR PF (\*Budinski, D. (1967): Bob Clary's Copper prospect, One Ace Mountain, British Columbia; Letter to Dr. McCartney from W.N. Plumb, 1973)  
GSC MAP 1110A  
GSC MEM 319

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 046**

NATIONAL MINERAL INVENTORY: 104P4 Zn1

NAME(S): **RICH, NEED**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P04W  
BC MAP:  
LATITUDE: 59 08 29 N  
LONGITUDE: 129 47 21 W  
ELEVATION: 1525 Metres  
LOCATION ACCURACY: Within 5 KM  
COMMENTS: Centre of claim block.

Underground

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6556063  
EASTING: 454847

COMMODITIES: Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Freibergite              Sphalerite              Pyrargyrite  
ASSOCIATED: Quartz  
ALTERATION: Sericite  
ALTERATION TYPE: Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Irregular  
MODIFIER: Faulted  
DIMENSION: 0100 x 0001              Metres              STRIKE/DIP:              TREND/PLUNGE:  
COMMENTS: Veins are associated with east trending faults.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Hadrynian	Ingenika	Undefined Formation	

LITHOLOGY: Limestone  
Quartz Vein  
Diabase Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar

**CAPSULE GEOLOGY**

On the western flank of Needlepoint Mountain, silver-lead-zinc veins are associated with east trending faults in Hadrynian Ingenika Group limestones. One vein, up to 1 metre wide, can be traced over a length of 100 metres. Limestones locally exhibit breccia features and an east trending diabase dyke occurs in the vicinity. Mineralization consists of galena, sphalerite, freibergite and traces of pyrargyrite.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1978, p. 57; 1979, pp. 80-88; 1988 pp.339-344  
EMPR PF (\*Plumb, B. (1974): The never-ending search, The Cassiar  
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GCNL #207, 1986  
GSC MAP 381A; 1110A  
EMPR EXPL 1979-320; 1987-C400

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 047**

NATIONAL MINERAL INVENTORY: 104P3 Ba2

NAME(S): **ATAN**, SKI, ADAIR

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P03E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 11 59 N  
LONGITUDE: 129 12 16 W  
ELEVATION: 760 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6562309  
EASTING: 488322

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Barite                      Lead                      Zinc                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Barite              Galena              Sphalerite              Tetrahedrite              Chalcopyrite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform  
CLASSIFICATION: Sedimentary              Syngenetic              Industrial Min.  
SHAPE: Irregular  
MODIFIER: Faulted  
DIMENSION:

STRIKE/DIP: 127/52W              TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Lower Cambrian      Atan                      Undefined Formation

LITHOLOGY: Limestone  
Dolomite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

Near Atan Lake, Lower Cambrian Atan Group carbonates and clastics, strike 120 to 135 degrees and dip 45 to 60 degrees south-west. Northeast trending faults are common. Trenching and drilling in a limestone-dolomite horizon about 600 metres northwest of the west end of Atan Lake encountered barite lenses, with knots of galena and minor chalcocite, tetrahedrite and chalcopyrite. One trench exposed 7.3 metres of barite. Drilling elsewhere in the vicinity intersected bands of stratiform sphalerite.

**BIBLIOGRAPHY**

EMPR AR 1967-26; 1968-35  
EMPR ASS RPT \*1813, \*4581, \*5945, \*6438  
EMPR EXPL 1976-E196; 1977-E244; 1978-E276  
EMPR GEM 1969-43; 1970-37; 1971-56; 1972-561; 1973-540  
EMPR PF (\*Cochrane, D.R. (1971): Intermediate economic geology report on the Atan Lake Property; \*McCammon, J.W. (1973): Correspondence concerning Atan Barite; \*Cochrane, D.R. (1973): Report on the Atan Lake Property; Base map, Gravity Maps, 1973; \*Cochrane, D.R. (1973): Geophysical report on the gravity survey of the Atan Lake barite occurrence; \*Quinn, H.A. (1974): Report on the Atan Lake property; \*Tournigan Mining Explorations Ltd. (1974): Report to shareholders; A Capital Cost Estimate of the Production of Atan Lake Barite for Tournigan Mining Expl. Ltd., Wright Engineers Ltd., 1973; Mistry, N. (1972): Comprehensive Geology Report on the Atan Lake Property)  
EMR MP CORPFILE (Tournigan Mining Expl. Ltd., 1971)  
GSC MAP 381A; 1110A  
GSC MEM 194; 319  
GSC P 91-1A, pp. 27-31  
GCNL #49, #88, #106, #117, #127, #136, 1976; #18, 1980

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1066  
REPORT: RGEN0100

MINFILE NUMBER: **104P 048**

NATIONAL MINERAL INVENTORY: 104P4 Mo3

NAME(S): **VINES LAKE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 12 34 N  
LONGITUDE: 129 48 21 W  
ELEVATION: 1550 Metres

NORTHING: 6563652  
EASTING: 453985

LOCATION ACCURACY: Within 5 KM  
COMMENTS: From map, Fieldwork 1978, p. 52.

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Cassiar Batholith

LITHOLOGY: Quartz Monzonite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Near Vines Lake, minor molybdenite occurs within quartz-monzonite of the Cretaceous Cassiar Batholith noted on GSC Map 1110A and Cassiar Map (A. Panteleyev, Fieldwork 1978).

**BIBLIOGRAPHY**

GSC MEM 194; \*319  
GSC MAP 381A; \*1110A  
EMPR FIELDWORK \*1978, pp. 51-60; 1979, pp. 80-88; 1988 pp.339-344

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 048**

MINFILE NUMBER: **104P 049**

NATIONAL MINERAL INVENTORY: 104P12,13 Cu1

NAME(S): **SHAWN**, CAPTAIN LAKE BARITE

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P12W 104P13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 44 41 N  
LONGITUDE: 129 46 06 W  
ELEVATION: Metres

NORTHING: 6623232  
EASTING: 456815

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Barite Copper

**MINERALS**

SIGNIFICANT: Barite Chalcopyrite  
ALTERATION: Hematite Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform Concordant  
CLASSIFICATION: Hydrothermal Syngenetic Industrial Min.  
SHAPE: Tabular  
DIMENSION: 0120 x 0035 x 0001 Metres STRIKE/DIP: 040/75W TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Silurian-Devonian Sandpile Undefined Formation

LITHOLOGY: Dolomite  
Sandstone  
Limestone  
Dolomitic Breccia  
Dolomitic Siltstone  
Chert

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

Near Captain Lake, this property was originally recognized as a copper prospect (GSC Map 1110A, McDame). Recent work (1982) has outlined a 120 metre long zone of bedded barite over 35 metres wide in north-striking, steeply west-dipping Silurian-Devonian Sandpile Group sandstones, dolomite, dolomitic breccias, dolomitic siltstones, limestone and chert. Coarse barite beds up to 1 metre thick are interbedded with dolomitic siltstone and dolomite breccias. Minor amounts of chalcopyrite occur in small hematitic zones with malachite.

**BIBLIOGRAPHY**

GSC MAP \*1110A  
EMPR ASS RPT 8627, \*10334  
EMPR EXPL 1981-239  
EMPR FIELDWORK 1987, pp. 232-243  
GSC MEM 319  
EMPR OF 1988-10  
EMPR MP MAP 1992-11  
EMPR OF 2000-22

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: HWM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 050**

NATIONAL MINERAL INVENTORY: 104P5 Cu1

NAME(S): **TROUTLINE CREEK**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 15 39 N  
LONGITUDE: 129 46 56 W  
ELEVATION: Metres

NORTHING: 6569358  
EASTING: 455401

LOCATION ACCURACY: Within 5 KM  
COMMENTS: From GSC Map 1110A.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone

HOSTROCK COMMENTS: In this area the oceanic Sylvester Allochthon is Mississippian to Permian age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: GRADE: Greenschist

**CAPSULE GEOLOGY**

Geological Survey of Canada Map 1110A shows a copper occurrence in Upper Paleozoic Sylvester Allochthon greenstone, located near Troutline Creek south of Mount McDame. No other information available. This occurrence could be the same as the Lang Creek (104P 008) copper occurrence. Recent mapping (Fieldwork, 1988) indicates that this location is not in the Sylvester Allochthon, while the 104P 008 location is.

**BIBLIOGRAPHY**

GSC MAP 381A; \*1110A  
EMPR FIELDWORK 1979, pp. 80-88; 1980, pp. 55-62; 1981, pp. 156-161;  
1987, pp. 245-248  
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Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications for Paleogeography and Accretion, Ph. D. Thesis, University of Arizona  
EMPR MP MAP 1992-13

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 051**

NATIONAL MINERAL INVENTORY: 104P2 Pb1

NAME(S): **RAPID RIVER**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P02E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 10 14 N  
LONGITUDE: 128 39 56 W  
ELEVATION: Metres

NORTHING: 6559092  
EASTING: 519119

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Lead

Zinc

**MINERALS**

SIGNIFICANT: Unknown  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE    GROUP  
Cambrian-Ordovician    Kechika

FORMATION  
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone  
Phyllite  
Siltstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

Lead-zinc reported in Cambro-Ordovician Kechika Group metasediments (limestone, phyllite, siltstone) along Rapid River near Looncry Lake. No other information is available.

**BIBLIOGRAPHY**

GSC MAP \*1110A  
GSC MEM 319  
EMPR FIELDWORK 1988 pp.347-351

DATE CODED: 1985/07/24  
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FIELD CHECK: N

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PAGE: 1070  
REPORT: RGEN0100

MINFILE NUMBER: **104P 052**

NATIONAL MINERAL INVENTORY: 104P1 Pb1

NAME(S): **VALE**, HIDDEN VALLEY, SAND

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P01E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 02 59 N  
LONGITUDE: 128 06 46 W  
ELEVATION: Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6545927  
EASTING: 550899

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Zinc                      Lead                      Barite

**MINERALS**

SIGNIFICANT: Sphalerite      Galena              Pyrite              Marcasite      Barite

ASSOCIATED: Barite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Massive  
CLASSIFICATION: Hydrothermal      Epigenetic              Industrial Min.  
SHAPE: Irregular  
MODIFIER: Sheared

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cambrian-Ordovician	Kechika	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Dolomite  
Quartzite  
Slate  
Greenstone  
Breccia

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

On a branch of the Sandpile Creek, mineralization is reported to consist of massive pyrite, marcasite, sphalerite, galena and barite as fracture fillings in sheared and brecciated dolomite, quartzite, slate and greenstone of the Cambro-Ordovician Kechika Group.

**BIBLIOGRAPHY**

EMPR AR 1964-10  
GSC MAP \*1110A  
EMPR ASS RPT \*6242  
GSC MEM 319  
EMPR EXPL 1977-E244

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 052**

MINFILE NUMBER: **104P 053**

NATIONAL MINERAL INVENTORY: 104P1 Cu2

NAME(S): **HOPE**, DEBBIE

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P01E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 07 34 N  
LONGITUDE: 128 09 06 W  
ELEVATION: Metres

NORTHING: 6554403  
EASTING: 548560

LOCATION ACCURACY: Within 500M  
COMMENTS: Junction Debbie 1-4.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite    Chalcocite    Bornite    Pyrite  
ASSOCIATED: Quartz    Ankerite  
ALTERATION: Malachite    Azurite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein    Massive  
CLASSIFICATION: Hydrothermal    Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cambrian-Ordovician	Kechika	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Phyllite  
Limestone  
Quartz Vein  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Approximately 12 kilometres east of Deadwood Lake, Cambro-Ordovician Kechika Group calcareous phyllites, shales and limestones dip moderately southwest. Minor amounts of massive chalcopyrite with pyrite, bornite and chalcocite, occur in quartz veins irregularly cutting shales and limestones. Locally the quartz veins are ribboned and contain shale inclusions. Surface exposures contain malachite and azurite bloom.

**BIBLIOGRAPHY**

EMPR GEM 1969-49  
GSC MEM \*319, p. 113  
GSC MAP \*1110A  
EMPR ASS RPT 1948, \*7619

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1072  
REPORT: RGEN0100

MINFILE NUMBER: **104P 054**

NATIONAL MINERAL INVENTORY: 104P12 Mo1

NAME(S): **BLUE DOME**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 35 44 N  
LONGITUDE: 129 58 41 W  
ELEVATION: Metres

NORTHING: 6606777  
EASTING: 444783

LOCATION ACCURACY: Within 1 KM  
COMMENTS: GSC Map 17-1964.

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform                      Disseminated  
CLASSIFICATION: Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Cassiar Batholith

LITHOLOGY: Quartz Monzonite  
Ultramafic

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
COMMENTS: In Cassiar Batholith near contact with Blue River Ultramafic body.

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

West of the Blue River, small pods of molybdenite were noted at two locations within quartz monzonite of the Cassiar Batholith, near its contact with the Blue River ultramafic body. Although these pods contain up to 5 per cent MoS<sub>2</sub>, they do not exceed 1 metre in length (GSC Paper 64-48).

**BIBLIOGRAPHY**

GSC P \*64-48, p. 14  
GSC MAP \*17-1964  
EMPR FIELDWORK 1987, pp. 232-243, 245-248  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: HM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 054**



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1073  
REPORT: RGEN0100

MINFILE NUMBER: **104P 055**

NATIONAL MINERAL INVENTORY: 104P12 Cr1

NAME(S): **WOLFE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 33 24 N  
LONGITUDE: 129 59 26 W  
ELEVATION: 1700 Metres

NORTHING: 6602457  
EASTING: 444013

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Chromium Olivine Asbestos

**MINERALS**

SIGNIFICANT: Chromite Chrysotile  
ASSOCIATED: Olivine Pyroxene  
ALTERATION: Serpentine Asbestos  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform Massive Disseminated  
CLASSIFICATION: Magmatic Industrial Min.  
DIMENSION: 0015 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Mississippian Blue River Ultramafite

LITHOLOGY: Dunite  
Peridotite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

West of Blue River, chromite grains occur in lenses and pods up to 15 centimetres thick and 15 metres long in dunites and peridotites of the Early Mississippian Blue River ultramafic body. The Blue River intrusion is weakly serpentinized with minor associated asbestos.

**BIBLIOGRAPHY**

EMPR AR 1955-A63; 1956-A64  
EMPR OF 1995-25  
EMPR FIELDWORK 1987, pp. 232-243,245-248  
EMPR OF 1988-10  
EMPR MP MAP 1992-11  
GSC MAP \*17-1964  
GSC MEM \*319, pp. 69,110  
GSC P \*64-48, p. 14  
EMR MP CORPFILE (\*Kelowna Mines Hedley Ltd.)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 055**

MINFILE NUMBER: **104P 056**

NATIONAL MINERAL INVENTORY: 104P5 Mo4

NAME(S): **PI, JOAN, MAMBA**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 18 14 N  
LONGITUDE: 129 30 26 W  
ELEVATION: 1200 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6574001  
EASTING: 471116

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location from Energy, Mines and Petroleum Resources Geology, Exploration, and Mining 1971, page 57 gives range 59 degrees 17 to 18.8 minutes latitude, 129 degrees 30 to 31.7 minutes longitude. Mamba claims (1988) are in 104P06W.

COMMODITIES: Molybdenum                      Tungsten                      Zinc

**MINERALS**

SIGNIFICANT: Molybdenite              Scheelite              Sphalerite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound  
CLASSIFICATION: Skarn                      Hydrothermal                      Epigenetic                      Replacement

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cambrian-Ordovician	Kechika	Undefined Formation	
DATING METHOD:	Fossil		

LITHOLOGY: Limestone  
Skarn

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Near the junction of Hot Creek and McDame Creek, molybdenum, tungsten and zinc skarn mineralization is reported in limestones which may belong to the Cambro-Ordovician Kechika Group.

**BIBLIOGRAPHY**

EMPR GEM 1971-57  
EMR MP CORPFILE (\*Glen Copper Mines Ltd.)  
GSC MAP 381A; \*1110A  
GSC MEM 194; 319  
EMPR PF (Hirst, P.E., (1969): Report on the Iron Cap, Dome, Pi, and A.G. Mamba claims in the Mount Reed area of the Cassiar District, British Columbia, 104P 021, 043)  
EMPR OF 1991-17  
EMPR MP MAP 1992-13

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 057**

NATIONAL MINERAL INVENTORY: 104P4 Au8

NAME(S): **WILDCAT**, VOLLAUG, ERICKSON

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104P04E

UTM ZONE: 09 (NAD 83)

BC MAP:

LATITUDE: 59 12 34 N

LONGITUDE: 129 37 06 W

ELEVATION: 1450 Metres

NORTHING: 6563538

EASTING: 464692

LOCATION ACCURACY: Within 1 KM

COMMENTS: Near eastern end of Vollaug vein. Production is temporarily suspended.  
See also Vollaug (104P 019), Table Mountain (104P 070) and Erickson (104P 029).

COMMODITIES: Gold Silver Copper Zinc Lead

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Chalcopyrite Sphalerite Pyrite

Galena

ASSOCIATED: Quartz Graphite

COMMENTS: Generally ribbon-structured.

ALTERATION: Quartz Ankerite Mariposite Sericite Malachite

Azurite

ALTERATION TYPE: Quartz-Carb. Sericitic Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

SHAPE: Tabular

MODIFIER: Faulted Sheared

DIMENSION: Metres STRIKE/DIP: 105/45N TREND/PLUNGE:

COMMENTS: Main vein system follows shear zone along argillite-greenstone contact. Tightly folded argillites are in the hangingwall. The shear zone may be a decollement.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Argillite  
Greenstone  
Serpentinite  
Graphitic Quartz Vein  
Listwanite

HOSTROCK COMMENTS: The Sylvester Allochthon, Mississippian to Permian in this area, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains

TERRANE: Slide Mountain

METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: WILDCAT (VOLLAUG-TROUTLINE) REPORT ON: Y

CATEGORY: Indicated YEAR: 1985

QUANTITY: 34690 Tonnes

COMMODITY Gold GRADE 10.0800 Grams per tonne

REFERENCE: Dussell, E., personal communication, 1986.

**CAPSULE GEOLOGY**

Approximately 2.0 kilometres south of the Main Erickson mine, faulted segments of the eastern continuation of the Vollaug vein system occur at the contact between Sylvester Allochthon greenstones and serpentinites and the overlying argillites. The vein strikes 100 to 110 degrees and dips 30 to 60 degrees north. Most of the vein is less than 1 metre wide. Mineralization consists of disseminated tetrahedrite, pyrite, sphalerite, galena, chalcopyrite and native gold. Gold commonly occurs adjacent to graphitic stylolites in the quartz. Quartz-carbonate (listwanite) alteration zones occur

## CAPSULE GEOLOGY

preferentially between the vein and underlying greenstones and serpentinites. Azurite and malachite occur as oxidation products.

Indicated ore for the Wildcat zone in 1985 was 34,690 tonnes grading 10.08 grams per tonne gold (E. Dussell, personal communication, 1986). Production included with Erickson (104P 019).

## BIBLIOGRAPHY

- EMPR ASS RPT \*4869, \*5347, \*13205, \*14168, \*15794  
EMPR GEM 1973-518  
EMPR EXPL 1975-193; 1977-E245; 1980-515; 1986-A41; 1987-C400  
EMR MP CORPFILE (\*Yellowstone Mines Ltd.; Plaza Mining Corp.)  
EMPR FIELDWORK 1980, pp. 55-62; \*1981, pp. 156,157; 1987, pp. 245-248;  
1988 pp.339-344  
GCNL #199, 1980; #12,#160,#180,#216, 1981  
N MINER Mar.6, 1989  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
EMPR AR 1937-B24-34  
EMPR INF CIRC 1989-1 p. 13  
Harms, T.A., (1986): Structural and Tectonic Analysis of the  
Sylvester Allochthon, Northern British Columbia, Implications  
for Paleogeography and Accretion, Ph. D. Thesis, University of  
Arizona  
Dussell, E., (1986): Listwanites and Their Relationship to Gold  
Mineralization at Erickson Mine, British Columbia, Canada,  
M.Sc. Thesis, Western Washington University  
EMPR PF (Boronowski, A., (1988): Erickson Gold Camp, Geology and  
Metallogeny of Northwestern British Columbia, Smithers Exploration  
Group - G.A.C. Cordilleran Section, Workshop Oct. 16-19, 1988, pp.  
A10-A21; Nelson, J. and Bradford, J., (1988): Late Paleozoic  
Marginal Basin and Island Arc Environments in the Sylvester Alloch-  
thon and Structural Framework of Mineralization in the Cassiar-  
Erickson Camp, Geology and Metallogeny of Northwestern British  
Columbia, Smithers Exploration Group - G.A.C. Cordilleran Section,  
Workshop Oct. 16-19, 1988, pp. A72-73)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 058**

NATIONAL MINERAL INVENTORY: 104P6 Zn1

NAME(S): **TIBOR, COBRA, MT. HASKIN,  
DELLA B, HASKINS-REED, REED-HASKINS**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:  
LATITUDE: 59 19 39 N  
LONGITUDE: 129 29 21 W  
ELEVATION: 1550 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: From Assessment Report 5121, Fig. 3.

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6576622  
EASTING: 472164

COMMODITIES: Zinc Silver Copper Lead

**MINERALS**

SIGNIFICANT: Sphalerite Chalcopyrite Galena Pyrrhotite  
ASSOCIATED: Garnet  
ALTERATION: Garnet  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive Disseminated  
CLASSIFICATION: Skarn Replacement

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian Eocene	Atan	Undefined Formation	Mount Haskin Stock

ISOTOPIC AGE: 50.9 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Limestone  
Argillite  
Calc-silicate Hornfels  
Pyrrhotite Skarn  
Granite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP:  
GRADE: Hornfels

**INVENTORY**

ORE ZONE: DRILLHOLE  
REPORT ON: N  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Drill Core  
COMMODITY  
Silver 65.1400 Grams per tonne  
Lead 2.6000 Per cent  
Zinc 6.4000 Per cent  
COMMENTS: Hole H-54, 20.42 to 22.86 metres.  
REFERENCE: Assessment Report 5121.

**CAPSULE GEOLOGY**

On the western side of Mount Haskin, the Tibor occurrence is underlain by a northwest trending belt of Lower Cambrian Atan Group limestone and argillite, southeast of the Eocene Mount Haskin granite stock. Sediments have been altered to calc-silicate hornfels and skarns. Disseminated to locally massive pyrrhotite-rich base metal garnet skarn occurs at a limestone-argillite contact. Mineralization consists of pyrrhotite, sphalerite and minor galena and chalcopyrite. The mineralized zone at the base of the limestone ranges from 1.8 to 7.5 metres wide. A 2.4 metre drill intersection assayed 65.14 grams per tonne silver, 6.4 per cent zinc and 2.6 per cent lead (Assessment Report 5121).

**BIBLIOGRAPHY**

EMPR ASS RPT \*5121, 25254  
EMPR GEM 1973-518; 1974-354

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1078  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR PF (Geology Map by F.T. Graybeal, 1969)  
Gower, S.J., Clark, A.H., and Hodgson, C.J. (1985): \*Tungsten-  
molybdenum skarn and stockwork mineralization, Mount Reed -  
Mount Haskin district, Northern British Columbia, Canada, CJES  
Vol. 22, pp. 728-747  
GSC MAP 381A; 1110A  
GSC MEM 194; 319

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 059**

NATIONAL MINERAL INVENTORY: 104P5 Mo2

NAME(S): **JOEM**, HASKIN MOUNTAIN NORTHWEST, MOLY ZONE,  
A ZONE, RAIN 2, JOEN,  
REED-HASKINS, DELLA MINES

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:  
LATITUDE: 59 20 49 N  
LONGITUDE: 129 30 51 W  
ELEVATION: 1200 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: See also Haskin Mountain SE (104P 038).

MINING DIVISION: Liard  
UTM ZONE: 09 (NAD 83)  
NORTHING: 6578798  
EASTING: 470758

COMMODITIES: Molybdenum                      Zinc                      Lead                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Molybdenite      Sphalerite      Galena      Chalcopyrite      Pyrrhotite  
ASSOCIATED: Quartz      Muscovite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork                      Disseminated  
CLASSIFICATION: Porphyry                      Hydrothermal                      Skarn  
TYPE: L05      Porphyry Mo (Low F- type)                      K02      Pb-Zn skarn  
DIMENSION: 600 x 100                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Mineralized zone.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Undefined Formation	Mount Haskin Stock
Eocene			

ISOTOPIC AGE: 50.9 +/- 1.5 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Granite  
Aplite  
Cherty Sediment/Sedimentary  
Phyllite  
Quartzite  
Limestone  
Calc Silicate Hornfels

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact                      RELATIONSHIP:                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: A ZONE                      REPORT ON: Y  
CATEGORY: Inferred                      YEAR: 1997  
QUANTITY: 275200 Tonnes  
COMMODITY                      GRADE  
Zinc                      5.0000      Per cent  
Lead                      3.0000      Per cent  
Silver                      34.2900      Grams per tonne  
COMMENTS: Drill inferred resource.  
REFERENCE: Della Mines Ltd., GCNL #223(Nov.20), 1997.

ORE ZONE: JOEM                      REPORT ON: Y  
CATEGORY: Indicated                      YEAR: 1969  
QUANTITY: 12245850 Tonnes  
COMMODITY                      GRADE  
Molybdenum                      0.0800      Per cent  
COMMENTS: Reserves to 152 metres. Grade given was 0.15 per cent MoS<sub>2</sub>; conversion to Mo using the factor 1.6681.  
REFERENCE: Iso Mining Ltd. Annual Report 1971.

**CAPSULE GEOLOGY**

On the northwestern flank of Mount Haskin, granitic to aplitic

## CAPSULE GEOLOGY

rocks of the Eocene Mount Haskins stock intrude Lower Cambrian Atan Group limestones, phyllites and quartzites. A molybdenite-quartz-muscovite stockwork is developed in fine and coarse granitic rocks and extends into the adjacent cherty sediments. An aplitic lens in the centre of the molybdenum zone contains disseminated molybdenite and molybdenum-coated fractures. This appears to represent an earlier phase of intrusion and mineralization. The molybdenum zone measures about 600 by 100 metres. Two northwest trending pyrrhotite-sphalerite-galena-chalcopyrite massive skarn lenses occur in calc-silicate hornfels (Atan Group rocks) just to the north of the molybdenum zone. These are cut by faults trending about 010 degrees. Sericitic alteration is common.

Indicated reserves are 12,245,850 tonnes grading 0.15 per cent MoS<sub>2</sub>; conversion to Mo using the factor 1.6681 (Iso Mining Ltd. Annual Report 1971).

Demand Gold Ltd. explored the property in 1997. Eight diamond drill holes were completed on the A Zone where Della Mines Ltd. previously established a drill inferred resource of 275,200 tonnes grading 5 per cent zinc, 3 per cent lead and 34.29 grams per tonne silver (GCNL #223 (Nov.20), 1997).

## BIBLIOGRAPHY

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- EMPR GEM 1969-41; \*1972-561,562; 1974-354
- EMPR EXPL 1976-E199, 1997-17
- EMPR FIELDWORK 1988, pp. 323-337
- EMPR MAP 65 (1989)
- EMPR MP MAP 1992-13
- EMPR OF 1992-1
- EMR MIN BULL MR 223 B.C. 352
- EMR MP CORPFILE (Della Mines Ltd.; Ashland Oil Canada Ltd.)
- GSC MAP 1110A
- GSC MEM 319
- GCNL #106(June 3), #151(Aug.7), #223(Nov.20), 1997
- Christopher, P.A., White, W.H. and Harakal, J.E., (1972): Age of Molybdenum and Tungsten Mineralization in Northern British Columbia, CJES, Vol. 9, pp. 1727-1734; Grower, S.J., Clark, A.H., and Hodgson, C.S., (1985): Tungsten-Molybdenum Skarn and Stockwork Mineralization, Mount Reed-Mount Haskin District, Northern British Columbia, Canada, CJES, Vol. 22, pp. 728-747)

DATE CODED: 1985/07/24  
DATE REVISED: 1998/08/24

CODED BY: GSB  
REVISED BY: LDJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 060**

NATIONAL MINERAL INVENTORY:

NAME(S): **PIP, CAPTAIN LAKE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 44 24 N  
LONGITUDE: 129 42 21 W  
ELEVATION: Metres

NORTHING: 6622667  
EASTING: 460322

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite Chalcocite Pyrite  
ASSOCIATED: Quartz Calcite  
ALTERATION: Quartz  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork Breccia Concordant Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Irregular  
MODIFIER: Faulted  
DIMENSION: STRIKE/DIP: 120/60E TREND/PLUNGE:  
COMMENTS: Fault zone; Kechika/Rosella Formation.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP      FORMATION      IGNEOUS/METAMORPHIC/OTHER  
Lower Cambrian      Atan      Rosella

LITHOLOGY: Calcareous Shale  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

On a branch of the Blue River, approximately 20 kilometres south of the Yukon-British Columbia border, a silicified zone in Lower Cambrian Atan Group Rosella Formation limestones is adjacent to a highly brecciated fault contact between Cambro-Ordovician Kechika Group calcareous shales. The zone includes a well developed stockwork locally with chalcopyrite, chalcocite and pyrite. A small trench exposed similar mineralization 300 to 340 metres on the north-east side of a small swamp.

**BIBLIOGRAPHY**

EMPR EXPL 1976-E199; 1980-522  
EMPR ASS RPT 6087, 8627  
EMPR FIELDWORK 1987, pp. 232-243  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: HM

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 061**

NATIONAL MINERAL INVENTORY:

NAME(S): **ATAN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P01E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 07 34 N  
LONGITUDE: 128 07 36 W  
ELEVATION: Metres

NORTHING: 6554422  
EASTING: 549991

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Centre of Atan 1 claim.

COMMODITIES: Zinc                      Lead

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Pyrite  
ASSOCIATED: Quartz          Calcite      Gypsum  
ALTERATION: Hydrozincite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Podiform                      Massive                      Disseminated  
CLASSIFICATION: Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Limestone  
Quartz Vein  
Gypsum Carbonate Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

East of Deadwood Lake, about 15 kilometres, is an area underlain by massive to thin-bedded Lower Cambrian Atan Group limestone. Sphalerite and galena occur as pods, disseminations and veinlets. Resistant sulphide ribs give the limestone a ribbon appearance. Pyrite is generally less than 5 per cent by volume and does not necessarily correlate with zones of lead-zinc mineralization. Secondary hydrozincite is common in mineralized areas. Gypsum-carbonate veining is less abundant.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1978-108  
EMPR EXPL 1977-E244; 1978-E276  
EMPR ASS RPT \*6796  
GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 062**

NATIONAL MINERAL INVENTORY:

NAME(S): **LON**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P07E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 26 29 N  
LONGITUDE: 128 31 36 W  
ELEVATION: Metres

NORTHING: 6589298  
EASTING: 526845

LOCATION ACCURACY: Within 1 KM

COMMENTS: West zone anomaly, Assessment Report 6841.

COMMODITIES: Lead                      Zinc                      Barite

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Barite              Pyrite

ASSOCIATED: Quartz              Calcite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic              Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Silurian-Devonian      Sandpile                      Undefined Formation

LITHOLOGY: Dolomite  
Quartz Carbonate Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

East of the Horseranch Range, in the valley of the Red River, quartz-carbonate veins with barite, sphalerite, galena and pyrite cut tan and dark grey dolomites of the Silurian-Devonian Sandpile Group. Larger veins strike northeast, while smaller veins are discontinuous and irregular.

**BIBLIOGRAPHY**

EMPR EXPL 1977-E246; 1978-E279  
EMPR ASS RPT \*6841  
EMPR FIELDWORK 1987, pp. 254-260  
GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 063**

NATIONAL MINERAL INVENTORY:

NAME(S): **FOX**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P03E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 13 59 N  
LONGITUDE: 129 26 36 W  
ELEVATION: 1340 Metres

NORTHING: 6566087  
EASTING: 474702

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Tetrahedrite  
ASSOCIATED: Quartz  
ALTERATION: Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted  
DIMENSION:

STRIKE/DIP: 045/70N

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Shale  
Greenstone  
Siltstone  
Greywacke  
Quartz Vein  
Cherty Tuff  
Serpentinite  
Diorite

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area of Mississippian to Permian age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1983

COMMODITY	GRADE
Silver	11.5000
Copper	0.1300

GRADE	Grams per tonne
11.5000	Per cent
0.1300	Per cent

COMMENTS: Chip sample across 2 metres.  
REFERENCE: Assessment Report 12221.

**CAPSULE GEOLOGY**

The area on the eastern slopes of Blackfox Mountain, is underlain by Upper Paleozoic pyritic shales, siltstones, greywacke, cherty tuff and greenstones of the Sylvester Allochthon. Minor serpentinite and diorite also occur. Mineralization consists of a 2 metre wide limonitic, quartz vein striking 045 degrees and dipping 70 degrees northwest with about one per cent tetrahedrite. A chip sample across this vein contained 11.5 grams per tonne silver, 0.13 per cent copper and 0.034 per cent arsenic (Assessment Report 12221).

**BIBLIOGRAPHY**

EMPR EXPL 1983-559  
EMPR ASS RPT \*12221, \*12493  
EMPR FIELDWORK 1987, pp. 245-248

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1085  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC MEM 194; 319  
GSC MAP 381A; 1110A  
Harms, T.A., (1986): Structural and Tectonic Analysis of the  
Sylvester Allochthon, Northern British Columbia, Implications  
for Paleogeography and Accretion, Ph. D. Thesis, University of  
Arizona

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1086  
REPORT: RGEN0100

MINFILE NUMBER: **104P 064**

NATIONAL MINERAL INVENTORY:

NAME(S): **RET**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 26 09 N  
LONGITUDE: 129 41 21 W  
ELEVATION: Metres

NORTHING: 6588786  
EASTING: 460908

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Serpentinite  
Peridotite

HOSTROCK COMMENTS: In area, Sylvester Allochthon is Mississippian to Permian in age.  
Assemblage is oceanic with metavolcanics, metasediments & ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**CAPSULE GEOLOGY**

East of Gallic Lake, about 5.0 kilometres, serpentinized peridotite of the Upper Paleozoic Sylvester Allochthon outcrops in a north-trending cirque. A few chrysotile fibre veins are present.

**BIBLIOGRAPHY**

EMPR ASS RPT \*702  
EMPR FIELDWORK 1987, pp. 245-247  
EMPR MP MAP 1992-13  
EMPR OF 1995-25  
GSC MEM 319  
GSC MAP 1110A  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications for Paleogeography and Accretion, Ph. D. Thesis, University of Arizona

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 064**

MINFILE NUMBER: **104P 065**

NATIONAL MINERAL INVENTORY:

NAME(S): **SECOND NORTH FORK**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P06E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 17 14 N  
LONGITUDE: 129 27 26 W  
ELEVATION: Metres

NORTHING: 6572124  
EASTING: 473951

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Description, Hirst (1969), Property File.

COMMODITIES: Silver                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Pyrite  
ASSOCIATED: Quartz      Calcite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic  
SHAPE: Irregular  
MODIFIER: Faulted  
DIMENSION: 0090 x 0003                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Middle Devonian      McDame                      Undefined Formation

DATING METHOD: Fossil  
LITHOLOGY: Limestone  
                    Quartz Vein  
                    Quartz Breccia

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1986  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Silver                      3.4300      Grams per tonne  
Lead                      0.1000      Per cent  
Zinc                      3.2800      Per cent  
COMMENTS: Three metre wide chip sample.  
REFERENCE: PF (Hirst, P.E.(1969): Report on the Iron Cap,Dome,PI,and AG Mamba).

**CAPSULE GEOLOGY**

On the north side of the Stewart-Cassiar highway, near McDame Creek, a 3.0 metre wide quartz vein and vein breccia with sphalerite, galena, and pyrite occurs in, Mid-Devonian McDame Group, thin to medium-bedded "fetid" limestone. The vein strikes 120 degrees, dips steeply north, and parallels a prominent fault to the north. Locally there are branching quartz-calcite stringers containing minor sphalerite, galena and pyrite. The vein may have a length of 90 metres. A 3 metre wide chip sample assayed 3.43 grams per tonne silver, 3.28 per cent zinc and 0.1 per cent lead (Property File, Hirst, P.E., 1969).

**BIBLIOGRAPHY**

EMPR PF (\*Hirst, P.E. (1969): Report on the Iron Cap, Dome, Pi, and A.G. Mamba claims in the Mount Reed area of the Cassiar District, British Columbia; 104P 021, 043)  
GSC MEM 194; 319  
GSC MAP 381A; 1110A

DATE CODED: 1986/03/17  
DATE REVISED: 1988/11/17

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 066**

NATIONAL MINERAL INVENTORY:

NAME(S): **VERDE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P01E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 07 49 N  
LONGITUDE: 128 11 01 W  
ELEVATION: Metres

NORTHING: 6554844  
EASTING: 546725

LOCATION ACCURACY: Within 500M

COMMENTS: Site 2 showing, Assessment Report 7619, Fig. 3.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite    Bornite    Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite    Azurite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Epigenetic    Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cambrian-Ordovician	Kechika	Undefined Formation	

LITHOLOGY: Phyllite  
Shale  
Limestone  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Cambro-Ordovician Kechika Group limy shales, limestones and phyllites strike 150 degrees and dip subvertically. A 10 metre wide quartz vein with shale inclusions can be traced along strike for 100 to 150 metres. Mineralization consists of minor chalcopyrite, bornite, pyrite, azurite and malachite.

**BIBLIOGRAPHY**

EMPR ASS RPT \*7619  
GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 067**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWY CREEK RHODONITE** CASSIAR RHODONITE

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 17 48 N  
LONGITUDE: 129 39 09 W  
ELEVATION: 1880 Metres

NORTHING: 6573269  
EASTING: 462836

LOCATION ACCURACY: Within 500M

COMMENTS: Main deposit, consisting of three outcrops (Fieldwork 1989, page 348).

COMMODITIES: Rhodonite Gemstones

**MINERALS**

SIGNIFICANT: Rhodonite Rhodochrosite Chalcopyrite Pyrite Sphalerite

COMMENTS: Sulphides occur in trace amounts.

ASSOCIATED: Quartz Garnet Biotite Stilpnomelane

ALTERATION: Hematite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Pennsylvan.-Permian

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Conodonts-chert

**DEPOSIT**

CHARACTER: Stratabound Stratiform Podiform  
CLASSIFICATION: Syngenetic Exhalative Volcanogenic Industrial Min.

TYPE: Q02 Rhodonite

SHAPE: Tabular

DIMENSION: 300 x 100 x 5 Metres STRIKE/DIP: 135/30S TREND/PLUNGE:

COMMENTS: Main deposit, consisting of 3 outcrops, 200 to 300 square metres in exposed area, up to 100 metres in strike length and up to 5 metres thick.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian			Sylvester Allochthon

DATING METHOD: Fossil  
MATERIAL DATED: Conodont

LITHOLOGY: Chert  
Argillite  
Diabase Sill  
Diabase Dike  
Basalt

HOSTROCK COMMENTS: The Sylvester Allochthon, Mississippian to Permian in age, is a typical oceanic assemblage of sediments, volcanics and ultramafics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains

TERRANE: Slide Mountain

METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

The Snowy Creek Rhodonite showing is located at the headwaters of Snowy Creek, 4 kilometres north of the Stewart-Cassiar highway.

The rhodonite is hosted in the Pennsylvanian to Permian unit (IIPPvs) of the Mississippian to Permian Sylvester Allochthon. The unit consists of bedded multicolored cherts, argillite, basalt and diabase sills and dykes. The stratiform, stratabound and poddy rhodonite occurs above a section of grey, black and pale green chert and argillite at the base of the unit and about 50 metres below an upper section of brightly colored, maroon, red, green and grey chert and argillite. The discontinuous rhodonite horizon maintains this stratigraphic position for at least 4 kilometres strike length. The rhodonite occurs in well-bedded grey to pale green radiolarian chert with argillite partings.

The main deposit consists of three isolated outcrops, 200 to 300 square metres in exposed area, up to 100 metres in strike length and up to 5 metres thick.

Rhodonite and rhodochrosite are intergrown with quartz and minor garnet and/or hematite, biotite and stilpnomelane. Traces of chalcopyrite, pyrite and sphalerite are present and they indicate an exhalative origin.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

The rhodonite has significant potential as a source of carving-quality material ranging in relative hardness from 4 to 6. The overall color and quality is fair to good and is a vibrant mix of light and dark pinks and greens.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1988, pp. 323-338; \*1989, pp. 347-350  
EMPR MP MAP 1992-13  
EMPR OF 1989-9  
GSC MAP 54-10; 1110A  
GSC MEM 319

DATE CODED: 1990/11/15  
DATE REVISED: 1992/01/09

CODED BY: JN  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 068**

NATIONAL MINERAL INVENTORY:

NAME(S): **CREEK**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 27 29 N  
LONGITUDE: 129 44 26 W  
ELEVATION: Metres

NORTHING: 6591292  
EASTING: 458020

LOCATION ACCURACY: Within 5 KM

COMMENTS:

COMMODITIES: Chromium

**MINERALS**

SIGNIFICANT: Chromite  
ASSOCIATED: Olivine      Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Magmatic      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Serpentinite  
Peridotite

HOSTROCK COMMENTS: In this area the Sylvester Allochthon is Mississippian to Permian in age and is a oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**CAPSULE GEOLOGY**

On a creek about 9 kilometres northwest of Gallic Lake is this occurrence from Geological Survey of Canada Preliminary Map 54-10. Chromite occurs with olivine in serpentized peridotite of the Upper Paleozoic Sylvester Allochthon.

**BIBLIOGRAPHY**

GSC MAP \*54-10; 1110A  
EMPR FIELDWORK 1987, pp. 245-248  
GSC MEM 319  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications for Paleogeography and Accretion, Ph. D. Thesis, University of Arizona  
EMPR MP MAP 1992-13

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 069**

NATIONAL MINERAL INVENTORY: 104P4 Mo1

NAME(S): **STORIE**, CASMO

STATUS: Developed Prospect

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104P04W

BC MAP:

LATITUDE: 59 14 49 N

LONGITUDE: 129 52 06 W

ELEVATION: 1400 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6567872

EASTING: 450471

LOCATION ACCURACY: Within 500M

COMMENTS: The deposit is approximately 5 kilometres south of Cassiar.

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite      Pyrite  
ASSOCIATED: Quartz      Muscovite      Fluorite      Beryl  
ALTERATION: Feldspar      Muscovite  
ALTERATION TYPE: Argillic      Potassic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork      Disseminated  
CLASSIFICATION: Porphyry      Hydrothermal  
TYPE: L05      Porphyry Mo (Low F- type)  
SHAPE: Tabular  
MODIFIER: Faulted      Fractured  
DIMENSION: 1000 x 500 x 100      Metres      STRIKE/DIP:      TREND/PLUNGE:  
COMMENTS: Deposit

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Cassiar Batholith

ISOTOPIC AGE: 72.5 +/- 2.5 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Quartz Monzonite  
Quartz Feldspar Porphyry

HOSTROCK COMMENTS: Cassiar stock on the edge of the older batholith.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: STORIE

REPORT ON: Y

CATEGORY: Unclassified      YEAR: 1981

QUANTITY: 100500000 Tonnes

COMMODITY	GRADE
Molybdenum	0.0700 Per cent

COMMENTS: Mineable by open pit. Grade given was 0.129 per cent MoS<sub>2</sub>; conversion to Mo using the factor 1.6681.

REFERENCE: Northern Miner - March 4, 1982.

**CAPSULE GEOLOGY**

The Storie deposit is approximately 5 kilometres south of Cassiar. The deposit is within the felsic intrusive phases of a Late Cretaceous stock near the eastern margin of the older Cassiar batholith. Intrusive phases include a coarse-grained megacrystic quartz monzonite containing zones of finer-grained porphyritic to equigranular quartz monzonite with gradational contacts. The quartz monzonites occur as sheet-like bodies dipping gently northwest.

Molybdenum mineralization is associated with small quartz-feldspar porphyry bodies, which have gradational or interfingering contacts with quartz monzonite. Molybdenite occurs as selvages along quartz and quartz-pyrite-bearing fractures, as smears or disseminations along dry or slickensided fractures, and as disseminations mainly in the finer-grained porphyry dykes. Mineralization is concentrated along intrusive contacts, where movement has occurred. Fractures commonly contain muscovite and have potassium feldspar alteration envelopes. Fluorite may occur with

## CAPSULE GEOLOGY

coarse-grained muscovite in fractures. Beryl occurs locally in vuggy quartz veins. The deposit lacks breccia zones and large-scale quartz stockworks. The dimensions are approximately 1000 by 500 by 100 metres.

Unclassified reserves mineable by open pit are 100.5 million tonnes grading 0.129 per cent MoS<sub>2</sub>; conversion to Mo using the factor 1.6681 (Northern Miner - March 4, 1982).

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W MINER Feb., 1979, pp. 14-19  
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DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/17

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 070**

NATIONAL MINERAL INVENTORY: 104P4 Au9

NAME(S): **TABLE MOUNTAIN**, CUSAC, CORDOBA,  
DINO, FREDDY, EILEEN,  
HOT, MICHELLE, MICHELLE EXT.,  
BAIN, HEATHER, VOLLAUG,  
LILY, MELISSA, SARA,  
CATHERINE

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P04E

Underground

MINING DIVISION: Liard

BC MAP:  
LATITUDE: 59 11 44 N  
LONGITUDE: 129 41 06 W  
ELEVATION: 1386 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6562028  
EASTING: 460869

LOCATION ACCURACY: Within 500M

COMMENTS: Location is for drilling done on the Hot vein, the mine portal is south about 800 metres, approximately 4 kilometres south of the main Erickson mine (104P 029). See also Vollaug (104P 019) and Wildcat (104P 057). Other veins on the property include Eileen East, East Bain and West Bain.

COMMODITIES: Gold                      Silver                      Zinc                      Lead                      Copper  
                  Antimony                      Bismuth                      Cadmium

**MINERALS**

SIGNIFICANT: Gold                      Tetrahedrite                      Chalcopyrite                      Sphalerite                      Pyrite

                  Galena

ASSOCIATED: Quartz

ALTERATION: Quartz                      Graphite

ALTERATION TYPE: Silicific'n                      Quartz-Carb.                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal                      Epigenetic

                  TYPE: I01 Au-quartz veins

                  SHAPE: Tabular

                  MODIFIER: Faulted                      Fractured

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic-Mesozoic      \_\_\_\_\_                      \_\_\_\_\_                      Sylvester Allochthon

LITHOLOGY: Greenstone  
                  Graphitic Argillite  
                  Serpentinite  
                  Listwanite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Cassiar Mountains

TERRANE: Slide Mountain

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Combined  
QUANTITY: 72568 Tonnes

YEAR: 1997

COMMODITY                      GRADE  
Gold                      17.1000                      Grams per tonne

COMMENTS: Proven and probable reserves.

REFERENCE: T. Schroeter, personal communication, 1997.

**CAPSULE GEOLOGY**

The Cusac mine is approximately 4 kilometres south of the main Erickson mine (104P 029). Previously, mining was done on the Dino and Hot vein systems but the main ore zone is the Eileen vein system. The Eileen vein was discovered in 1985 and production commenced in 1986, to date the vein has been mined over a strike length of 300 metres and downdip for approximately 30 metres. The Michelle vein, approximately 30 metres from the Eileen, was also discovered in 1985 and has had limited work done on it (Personal Communication, Alex Boronowski, November 1988).

## CAPSULE GEOLOGY

The Cusac veins are hosted by the Devonian-Triassic Sylvester Allochthon. The Sylvester Allochthon is a fault-bounded imbricate assemblage of regionally metamorphosed (greenschist facies) oceanic crust consisting of metavolcanics, metasediments and ultramafics. Potassium-argon dating of sericite from a quartz stringer associated with an auriferous quartz vein hosted by metavolcanics, indicate a Lower Cretaceous age.

In the mine area the Mississippian to Permian assemblage consists of greenstones, argillite, serpentinite, listwanite and quartz veins. Two sets of steeply dipping quartz veins are known, one striking northward, the other east. The veins occupy fault and fracture zones, mainly in footwall greenstones adjacent to a greenstone-argillite contact and vary in width from 0.75 to 3.0 metres. The north striking system has been traced for at least 750 metres.

The mineralization consists of galena, pyrite, sphalerite, chalcopyrite, tetrahedrite and gold. The host rock adjacent to the quartz veins has been silicified, contain graphitic alteration, and the serpentinites have commonly been altered to listwanite. It has been noted that where quartz veins cut or lie directly beneath a listwanite body the gold values for that portion of the vein increase. Dussell (1986) proposes that "ore solution infiltrated and metasomatized bodies of partially serpentinitized peridotite producing a listwanite. Gold precipitation was then triggered by a decrease in sulfur activity when the ore solution reacted with the listwanite parent". Pyrite occurs as coarse-grained and fine-grained knots throughout, but increases in abundance towards the wallrock contact. Sphalerite, tetrahedrite and minor galena occur within the pyrite knots and normally indicate better gold grades.

Two new veins, the Heather and Bain veins, have recently been discovered on the property. The Bain vein is a well-mineralized steeply dipping east-west structure. A 39-metre section of the vein assayed in the 51.4 to 68.5 grams per tonne gold range uncut over 1.2 to 1.8 metre widths indicated by surface trenching and drilling (George Cross News Letter No.35, 1990). The Bain vein is 457 metres south of the Eileen vein system.

Past production at Cusac is included as part of the Erickson mine (104P 029).

Current reserves at the East Bain are 21,770 tonnes grading 17.1 grams per tonne gold; unclassified reserves at the Michelle are 22,677 tonnes grading 27.4 grams per tonne gold; current reserves at the Bonanza are 4535 tonnes grading 17.1 grams per tonne gold; current reserves at the West Bain are 31,748 tonnes grading 34.28 grams per tonne gold; unclassified reserves of three surface pits are 9071 tonnes grading 10.2 grams per tonne gold (George Cross News Letter No.90 (May 11), 1994; P. Wojdak, personal communication, 1995).

Cusac Gold Mines Ltd. produced 489 kilograms of gold in 1994 from approximately 31,075 tonnes of ore, milled intermittently at a daily throughput of 275 tonnes. During 1995, Cusac completed a decline to the Michelle high-grade zone and continued to develop the zone, producing about 45 tonnes of development ore per day for blending with the lower grade Bain vein material.

As a result of encouraging drilling results in the Michelle high-grade zone, Cusac is proceeding with completion of the 10 portal, a major underground development project, to improve access to the orebody and, ultimately, to increase production. Cusac will advance the partially constructed adit (1570 metres) approximately 915 metres to the target area, with planned completion in the spring of 1996. Meanwhile, mining, development and exploration will continue through the existing decline. The mill is currently processing high-grade material from both the Michelle high-grade zone and the Catherine vein open pit. The mill has been winterized and is expected to continue operating through most of the winter. Milling resumed in September 1995 and gold production, from intermittent daily throughput of 150 tonnes to the end of October, is approximately 300 kilograms (Information Circular 1996-1, page 8).

In 1995, with Explore B.C. Program support, Cusac Industries Ltd. completed 2802.3 metres of underground diamond drilling in 31 holes on the Michelle vein. This work proved that the Michelle vein is high grade but also complexly faulted. The drilling also discovered a second high grade ore shoot, the Lily vein, subparallel to Michelle. A drill indicated reserve of 10,000 tonnes grading 96.3 grams per tonne gold has been outlined in the Lily vein which has greater downplunge and strike extension potential than Michelle (Explore B.C. Program 95/96 - A143).

The mine, had, to the end of August 1996, produced 489,047 grams gold. Total reserves at Table Mountain (including the Vollaug vein) are 131,120 tonnes grading 12.69 grams per tonne gold (Northern Miner

## CAPSULE GEOLOGY

- October 14, 1996). The published reserve in 1997 is 139,635 tonnes grading 10.29 grams per tonne gold (Northern Miner, April 7, 1997).

Underground mining in the Michelle Highgrade zone (including Lily Vein extension) was suspended in June 1997. Mining has taken place over an 800 metre strike. Opencut mining of the Vollaug vein was expected to end in August 1997 and the mill will shut down shortly thereafter.

The company estimates current proven and probable reserves at 72,568 tonnes grading 17.1 grams per tonne gold (T. Schroeter, personal communication, 1997).

In 1998, Cusac mined the Bear vein (104P 029) and produced 28522 grams of gold from 1800 tonnes.

Cusac Gold Mines Ltd. completed a 1,022 metre drill program in 2002 on the eastern part of the Bain vein (PR REL Cusac Gold Mines Ltd., September 20, 2002).

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GSC MEM 194; 319  
CMJ Dec. 1985; Feb.27, 2003  
GCNL #242, 1978; #31,#120,#184,#209,#238, 1979; #199, 1980; #168, #237, 1981; #89,#149,#212, 1982; #20,#28,#87,#112,#137,#198, 1983; #225,#226, 1984; #68,#123,#193,#195, 1985; #19,#32,#50, #60,#126, 1986; #16,#31, 1987; #217, 1988; #170,#184, 1989; #35,#233, 1990; #22,#169, 1991; #63,#64,#245(Dec.21), 1992; #113(June 14), 1994; #52(Mar.14), #171(Sept.5), #202(Oct.21), #220(Nov.17), 1997; #47 (Mar.9), #160(Aug.20), #203(Oct.22), 1998  
IPDM Jan.-Feb., 1983; Sept.-Dec., 1985  
N MINER Mar.29, 1979; Apr., 1980; Feb.3,Jun.16,Jul.7,21, 1986; Feb.2, 1987; Dec.17, 1981; May 20,Aug.12,Nov.18, 1982; Feb.24,Aug 11, Oct.20, 1983; Apr.5,Dec.13, 1984; Oct.21, 1985; Feb.3,Jun.16, Jul.7,21, 1986; Feb.2, 1987; April 23, Dec. 10, 1990; Nov. 18, 1991; Jan.6, Apr.6, 1992; June 26, 1995; Oct.14, 1996; Apr.7, Sept.22, 1997  
NAGMIN Jun.1, 1983  
PR REL Cusac Gold Mines Ltd., July 10, Sept. 3, Oct. 17, 1997; May 25, 1999; Sept.20, 2002; Feb.19, Mar.12, 2003  
V STOCKWATCH Jan. 18, 1989  
VAN M RPT Feb. 1987  
W MINER Jun., 1982; Jun., 1983  
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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1097  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1996/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 071**

NATIONAL MINERAL INVENTORY:

NAME(S): **KUHN, WINDY, BALSAM**

MINING DIVISION: Liard

STATUS: Developed Prospect

REGIONS: British Columbia

NTS MAP: 104P05W

BC MAP:

LATITUDE: 59 21 03 N

LONGITUDE: 129 51 54 W

ELEVATION: 1800 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Kuhn North zone.

UTM ZONE: 09 (NAD 83)

NORTHING: 6579438

EASTING: 450811

COMMODITIES: Tungsten                      Molybdenum                      Zinc                      Antimony                      Copper  
Magnetite

**MINERALS**

SIGNIFICANT: Scheelite                      Molybdenite                      Pyrrhotite                      Pyrite                      Magnetite

Sphalerite                      Stibnite                      Chalcopyrite

ASSOCIATED: Calcite                      Quartz                      Fluorite

ALTERATION: Garnet                      Diopside                      Actinolite                      Powellite

ALTERATION TYPE: Skarn                      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Podiform                      Layered                      Disseminated

CLASSIFICATION: Skarn                      Hydrothermal                      Industrial Min.                      K07                      Mo skarn

TYPE: K05                      W skarn                      K02                      Pb-Zn skarn

DIMENSION: 215 x 130 x 6                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

COMMENTS: Skarn layers dip about 38 degrees to the east.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	
DATING METHOD: Hadrynian	Fossil	Undefined Formation	
Cretaceous	Ingenika		Kuhn Stock
ISOTOPIC AGE: 72.4 Ma +/- 2.5 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			

LITHOLOGY: Marble  
Calc-silicate Hornfels  
Skarn  
Sediment/Sedimentary  
Quartz Vein  
Calc-silicate Skarn

HOSTROCK COMMENTS: Massive calc-silicate skarn occurs along western or lower contacts of marble layers in the Atan and Ingenika Groups.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Hornfels

**INVENTORY**

ORE ZONE: KUHN NORTH                      REPORT ON: Y

CATEGORY: Combined                      YEAR: 1982

QUANTITY: 409300 Tonnes

COMMODITY                      GRADE

Molybdenum                      0.0800                      Per cent

Tungsten                      0.3800                      Per cent

COMMENTS: An additional 78700 tonnes grading 0.50% Wo3 (or 0.39% W). Grades given were 0.134% MoS2 and 0.48% Wo3. For conversion factors see Caps.

REFERENCE: Assessment Report 10512.

**CAPSULE GEOLOGY**

Approximately 4 kilometres northwest of the Cassiar Asbestos Mine, clastic and carbonate metasediments of the Lower Cambrian Atan Group and Hadrynian Ingenika Group, on the east-dipping western limb of the McDame synclinorium, are intruded by the Late Cretaceous Kuhn stocks. Massive calc-silicate skarn occurs as semi-continuous layers

## CAPSULE GEOLOGY

up to 10 metres thick along the western or lower contacts of marble layers and as smaller lenses and pods. The skarn layers dip 38 degrees east. Scheelite, molybdenite, pyrite, pyrrhotite and rare magnetite form coarse disseminations interstitial to calc-silicates. Locally, quartz-molybdenite veins crosscut Atan calc-silicate hornfels. Layered magnetite skarn, up to 1 metre wide, with finely disseminated molybdenoscheelite, occurs in zones bordering massive calc-silicate skarn. Retrograde massive pyrrhotite or pyrrhotite-sphalerite rich skarn occurs as pods and veins replacing other skarn facies. These contain disseminated scheelite and chalcopyrite. Locally stibnite and sphalerite veins crosscut Atan dolomite. The skarn mineral assemblage includes garnet, diopside, actinolite, powellite and fluorite.

Combined reserves at Kuhn North are 409,300 tonnes grading 0.08 per cent molybdenum and 0.38 per cent tungsten; additional 78,700 tonnes grading 0.50 per cent  $W_3O_8$  (or 0.39 per cent W); grades given were 0.134 per cent  $MoS_2$  and 0.48 per cent  $W_3O_8$ ; conversion factors used were 1.6681 for Mo and 1.2611 for W. The dimensions of the deposit are 215 by 130 by 6 metres (Assessment Report 10512).

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- GSC MEM 319
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- EMR MIN BULL MR 223 B.C. 355
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- EMPR MAP 1992-13

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 072**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROMAN, MAIN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P15E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 59 54 N  
LONGITUDE: 128 35 16 W  
ELEVATION: Metres

NORTHING: 6651297  
EASTING: 522994

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Tetrahedrite              Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Concordant                      Disseminated                      Massive  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Tabular  
MODIFIER: Folded                      Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Unknown              Unnamed/Unknown Group              Undefined Formation

LITHOLOGY: Phyllite  
Sandstone  
Quartzite  
Graphitic Shale  
Quartz Vein  
Chert  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Liard Lowland

**INVENTORY**

ORE ZONE: MAIN

REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1988  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Silver                      306.4600              Grams per tonne  
Lead                      46.3000              Per cent  
Zinc                      22.6000              Per cent

COMMENTS: Typical assay over a lense of massive galena and sphalerite.  
REFERENCE: Assessment Report 17618.

**CAPSULE GEOLOGY**

Approximately 1 kilometre south of the Yukon-British Columbia border, near Lower Post on the Alaska highway, possible Cambro-Ordovician Kechika group metasediments host this silver-lead-zinc showing.

The metasediments consist of phyllite, sandstone, quartzite, graphitic shale, chert and quartz veins and lenses. Bedding dips northeast at 20 to 70 degrees. The main mineralization occurs in two situations: 1) in conformable lenses of massive fine-grained galena and sphalerite in argillites and 2) at the contact between graphitic slate and quartzite, which is intensely silicified, patches of galena, sphalerite and tetrahedrite are found. A massive pyrite lens with quartz occurs at the contact between graphitic shale and chert (17.8 per cent iron, Assessment Report 17618).

The best assays came from the second type of mineralization which graded 311.95 grams per tonne silver, 0.2 per cent copper, 24.95 per cent lead and 2.23 per cent zinc over 0.6 metres (Assessment Report 17618). A typical assay over a lense of massive galena and

---

**CAPSULE GEOLOGY**

sphalerite is 306.46 grams per tonne silver, 46.3 per cent lead and 22.6 per cent zinc (Assessment Report 17618).

On the opposite side of the river, rocks very similar to those at the main showing are overlain by well bedded and thinly layered pale salmon and green chert with thin pale green argillite partings.

There is a small outcrop of orange weathering carbonate altered feldspar porphyry immediately east of the main showing (Bulletin 107, page 105).

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EMPR OF 2000-22

DATE CODED: 1985/07/24  
DATE REVISED: 2003/02/10

CODED BY: GSB  
REVISED BY: MPS

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 073**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGL**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P03W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 03 19 N  
LONGITUDE: 129 27 26 W  
ELEVATION: Metres

NORTHING: 6546297  
EASTING: 473774

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver Zinc Antimony Lead

**MINERALS**

SIGNIFICANT: Sphalerite Stibnite Galena Chalcopyrite Arsenopyrite  
Pyrite  
ASSOCIATED: Quartz Ankerite  
ALTERATION: Ankerite Quartz Sericite Clay Mariposite  
ALTERATION TYPE: Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Breccia Massive Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Irregular  
MODIFIER: Fractured Sheared  
DIMENSION: 0050 x 0002 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic Sylvester Allochthon  
ISOTOPIC AGE: 1

LITHOLOGY: Greenstone  
Argillite  
Siltstone  
Chert  
Quartz Vein  
Serpentinite  
Sulphidic Carbonate Breccia  
Tuff

HOSTROCK COMMENTS: The Sylvester Allochthon in this area is Mississippian to Permian in age and is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: DRILLHOLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1986  
SAMPLE TYPE: Drill Core  
COMMODITY GRADE  
Silver 558.7600 Grams per tonne  
Gold 2.7400 Grams per tonne  
COMMENTS: Grades over narrow interval (0.1 to 0.15 metres).  
REFERENCE: Assessment Report 15839.

**CAPSULE GEOLOGY**

Approximately 15 kilometres southwest of McDame Post, the Eagl property is underlain by Upper Paleozoic Sylvester Allochthon greenstones, argillite, siltstone, chert and serpentinite. Bedding in tuffaceous metavolcanics varies in strike from 120 to 160 degrees, with a dip of 35 to 50 degrees north. Northeast and northwest trending fractures are common. A two metre wide, drusy quartz-pyrite vein on the south shore of a small pond in the northwest part of the EAGL 2 claim contains coarse stibnite, black sphalerite and minor arsenopyrite, galena and chalcopyrite. The vein can be traced southwest for 50 metres. Quartz-carbonate alteration occurs adjacent to the vein. Colloform textured sulphide-iron carbonate breccias have been reported

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**CAPSULE GEOLOGY**

in the vicinity.

The 1986 drilling program intersected a zone in the Silver Ponds area with a high assay of 2.74 grams per tonne gold and 558.76 grams per tonne silver (Assessment Report 15839). This undefined mineralization is hosted by highly fractured and carbonatized metavolcanics.

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GSC MAP 381A; 1110A  
GCNL #120, 1986; #243, 1988  
V STOCKWATCH Jul., 1987  
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Sylvester Allochthon, Northern British Columbia, Implications for  
Paleogeography and Accretion, Ph.D. Thesis, University of Arizona

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 074**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALEX CHIEF LAKE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 46 19 N  
LONGITUDE: 129 48 31 W  
ELEVATION: Metres

NORTHING: 6626290  
EASTING: 454588

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Barite

**MINERALS**

SIGNIFICANT: Barite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Concordant                      Massive  
CLASSIFICATION: Sedimentary              Syngenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Devonian-Mississipp.	Earn	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Argillite  
Graphitic Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

Approximately 20 kilometres south of the Yukon-British Columbia border, near the Little Rancheria River, Devono-Mississippian Earn Group siliceous, black argillite and well-foliated graphitic shale contain a 4 metre thick horizon of bedded, laminated and nodular barite.

**BIBLIOGRAPHY**

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1983/1984, p. 10  
EMPR EXPL 1982-412  
GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1985/07/24  
DATE REVISED: 1986/03/24

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 075**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELAN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 49 N  
LONGITUDE: 129 44 26 W  
ELEVATION: 1200 Metres

NORTHING: 6571496  
EASTING: 457800

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Gold                      Copper                      Zinc

**MINERALS**

SIGNIFICANT:	Gold	Tetrahedrite	Sphalerite	Chalcopyrite	Pyrite
ASSOCIATED:	Quartz				
ALTERATION:	Quartz	Ankerite	Mariposite	Sericite	
ALTERATION TYPE:	Quartz-Carb.	Sericitic			
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal                      Epigenetic  
SHAPE: Tabular  
DIMENSION: 2500                      Metres                      STRIKE/DIP: 080/75S                      TREND/PLUNGE:  
COMMENTS: Dip varies from 65 to 85 degrees south. Strike length of vein is about 2.5 kilometres.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Greenstone  
Quartz Vein  
Diabase Dike  
Listwanite

HOSTROCK COMMENTS: The Sylvester Allochthon is a typical oceanic assemblage (Mississippian-Permian in this area).

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Slide Mountain	
METAMORPHIC TYPE: Regional	RELATIONSHIP:                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: DRILLHOLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1983
SAMPLE TYPE: Drill Core	
COMMODITY	GRADE
Silver	154.2600                      Grams per tonne
Gold	0.3770                      Grams per tonne
COMMENTS: DDH 83-E22 over 5.2 metres.	
REFERENCE: Assessment Report 12490.	

**CAPSULE GEOLOGY**

Slightly northwest of the Quartzrock Creek-Troutline Creek junction, Sylvester Allochthon greenstones (pillow andesites or basalts) with listwanite (quartz-carbonate alteration) zones, contain the mainly silver-bearing Elan vein. An altered diabase dyke 1 to 2 metres wide crosscuts the greenstones adjacent to the main quartz vein, with an attitude trending 080 degrees and plunging 85 degrees south. Mineralization occurs in a quartz vein between 1 and 5 metres thick. Silver-bearing tetrahedrite occurs as coarse crystals up to 1 centimetre long, and as seams and disseminations along with pyrite, sphalerite and chalcopyrite. Visible gold occurs in small amounts. Quartz-carbonate-pyrite and sericitic alteration envelopes extend several metres from the main vein.

The best representative assay from the drilling program in 1983 was 0.377 grams per tonne gold and 154.26 grams per tonne silver over a 5.2 metre interval (Assessment Report 12490).

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**BIBLIOGRAPHY**

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Marginal Basin and Island Arc Environments in the Sylvester Alloch-  
thon and Structural Framework of Mineralization in the Cassiar-  
Erickson Camp, Geology and Metallogeny of Northwestern British  
Columbia, Smithers Exploration Group - G.A.C. Cordilleran Section,  
Workshop Oct. 16-19, 1988, pp. A72-73)  
EMPR MP MAP 1992-13

DATE CODED: 1985/07/24  
DATE REVISED: 1988/11/21

CODED BY: GSB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 076**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOZO**, BERUBE, PROFESSOR

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 39 N  
LONGITUDE: 129 39 36 W  
ELEVATION: Metres

NORTHING: 6571139  
EASTING: 462387

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Free gold in quartz veins. Silver mineralization not defined.  
ASSOCIATED: Quartz  
ALTERATION: Chlorite Calcite Epidote  
ALTERATION TYPE: Propylitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Chert  
Argillite  
Quartz Vein  
Pillow Meta Volcanic

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: VEINS REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1984  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 43.8800 Grams per tonne  
Gold 31.1300 Grams per tonne

COMMENTS: This is highest assay for all veins and sample types. Most others were considerably lower.

REFERENCE: Assessment Report 13098.

**CAPSULE GEOLOGY**

Near the head of Snowy Creek, these quartz veins occur in meta-sediments (ribbon cherts and argillites) and metavolcanics of the Mississippian-Permian Sylvester Allochthon. The metavolcanics are pillowed and are chlorite-rich with lesser amounts of calcite and epidote. Quartz veins and associated propylitic alteration occur in the metavolcanics and contain free gold.

The best assay for this group of veins came from the Professor vein. A grab sampe in 1984 assayed 31.13 grams per tonne gold and 43.88 grams per tonne silver (Assessment Report 13098).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1108  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR MP MAP 1992-13

DATE CODED: 1985/08/29  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 077**

NATIONAL MINERAL INVENTORY: 104P4 Au4

NAME(S): **PORCUPINE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 39 N  
LONGITUDE: 129 39 36 W  
ELEVATION: 950 Metres

NORTHING: 6567427  
EASTING: 462351

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Chalcopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Ankerite Limonite  
ALTERATION TYPE: Silicific'n Carbonate Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Fractured Sheared  
DIMENSION: STRIKE/DIP: 085/80S TREND/PLUNGE:  
COMMENTS: Attitude of veins is variable from 079 to 088 degrees strike with dips of 57 to 80 degrees south.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic Sylvester Allochthon

LITHOLOGY: Greenstone  
Basalt  
Quartz Vein  
Tuff

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area of Mississippian to Permian age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: PORCUPINE VEIN REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1981  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 106.9700 Grams per tonne  
Gold 3.7700 Grams per tonne  
COMMENTS: A 2.1 metre chip sample across the Porcupine vein.  
REFERENCE: Assessment Report 9116.

**CAPSULE GEOLOGY**

Near McDame Lake, this area is underlain by grey-green, aphanitic to sandy-textured basalt flows and tuffs of the Upper Paleozoic Sylvester Allochthon. The volcanics locally exhibit a sub-brecciated or crackle texture. White quartz veins up to 2.0 metres wide strike north-east and dip steeply southeast, along the dominant joint trend. Vein walls may be poorly defined, with adjacent greenstone being strongly silicified and pyritized. The Porcupine vein contains a refractured centre zone with dark glassy quartz. The veins contain tetrahedrite, minor chalcopyrite, pyrite and gold. The Porcupine vein assayed 106.97 grams per tonne silver and 3.77 grams per tonne gold across 2.1 metres (Assessment Report 9116). The Porcupine vein (or its alteration zone) can be traced for 600 metres along strike.

**BIBLIOGRAPHY**

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1110  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

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DATE CODED: 1986/02/25  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 078**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKY**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 12 14 N  
LONGITUDE: 129 41 36 W  
ELEVATION: Metres

NORTHING: 6562961  
EASTING: 460403

LOCATION ACCURACY: Within 500M  
COMMENTS: Sky vein.

COMMODITIES: Gold Silver Zinc Copper

**MINERALS**

SIGNIFICANT: Gold Tetrahedrite Sphalerite Chalcopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Quartz Ankerite Mariposite Malachite Azurite  
ALTERATION TYPE: Quartz-Carb. Silicific'n Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted Fractured  
DIMENSION: 0650 x 0004 Metres STRIKE/DIP: 090/75N TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic Sylvester Allochthon

LITHOLOGY: Argillite  
Greenstone  
Quartz Vein  
Sediment/Sedimentary Breccia  
Diorite Porphyry Sill  
Listwanite

HOSTROCK COMMENTS: Sylvester Allochthon, in this area Mississippian to Permian in age, is a typical oceanic assemblage, intruded by diorite porphyry sills.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1982  
SAMPLE TYPE: Chip  
COMMODITY: Gold GRADE: 35.8300 Grams per tonne  
COMMENTS: Chip sample 2.3 metres long.  
REFERENCE: Assessment Report 11074.

**CAPSULE GEOLOGY**

Approximately 3 kilometres east of Vines Lake, this area is underlain by an intraformational sedimentary breccia intruded by two subvolcanic diorite porphyry sills. The breccia is underlain by Upper Paleozoic Sylvester Allochthon greenstones. The Sky vein system occurs along an east trending fault which dips 75 degrees north. The veins average 4.0 metres in width and have a strike length of at least 650 metres. A listwanite (quartz-carbonate) alteration zone flanks the north contact. The vein hangingwall is well mineralized, with tetrahedrite, sphalerite, pyrite, chalcopyrite, malachite and azurite. Gold values as high as 35.83 grams per tonne over 2.3 metres have been reported but assays have been erratic (Assessment Report 11074). A quartz to quartz-carbonate stockwork cuts the vein and extends 5 to 10 metres into adjacent argillites. These stringers contain only traces of pyrite. Northeast trending faults cut the main vein in at least six places.

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**BIBLIOGRAPHY**

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Marginal Basin and Island Arc Environments in the Sylvester Alloch-  
thon and Structural Framework of Mineralization in the Cassiar-  
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GSC MEM 194; 319  
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Harms, T.A., (1986): Structural and Tectonic Analysis of the  
Sylvester Allochthon, Northern British Columbia, Implications for  
Paleogeography and Accretion, Ph.D. Thesis, University of Arizona

DATE CODED: 1986/02/26  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 079**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEAD GOAT**, BALSAM, WINDY

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 20 22 N  
LONGITUDE: 129 52 46 W  
ELEVATION: 1650 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6578181  
EASTING: 449973

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Tungsten                      Copper                      Zinc                      Molybdenum

**MINERALS**

SIGNIFICANT: Scheelite              Chalcopyrite              Sphalerite              Molybdenite              Pyrrhotite

COMMENTS: Molybdenite occurs in a quartz vein.

ASSOCIATED: Calcite              Quartz              Fluorite  
ALTERATION: Garnet              Diopside              Actinolite

ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated              Vein  
CLASSIFICATION: Skarn              Hydrothermal  
TYPE: K05      W skarn                      K01      Cu skarn  
            K07      Mo skarn

DIMENSION: 116 x 45 x 6      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Hadrynian	Ingenika	Undefined Formation	
Cretaceous			Cassiar Batholith

ISOTOPIC AGE: 76.1 +/- 2.7 Ma  
DATING METHOD: Potassium/Argon  
MATERIAL DATED: Biotite

LITHOLOGY: Calc-silicate Hornfels  
Marble  
Cordierite Biotite Hornfels  
Quartz Monzonite  
Garnet Diopside Actinolite Skarn  
Pyrrhotite Actinolite Skarn  
Quartz Vein

HOSTROCK COMMENTS: Banded calc-silicate and cordierite-biotite hornfels, graphitic and massive marble; marble unit hosts Dead Goat skarn.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca    PHYSIOGRAPHIC AREA: Cassiar Mountains

TERRANE: Cassiar

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE: Hornfels

**INVENTORY**

ORE ZONE: DEAD GOAT    REPORT ON: Y

CATEGORY: Indicated    YEAR: 1982  
QUANTITY: 100900 Tonnes

<u>COMMODITY</u>	<u>GRADE</u>
Tungsten	0.3800      Per cent

COMMENTS: An additional 27600 tonnes grading 0.39 per cent Wo3 (or 0.30 W) and 0.16 per cent Cu, in a pod 20 metres below the main skarn zone.

REFERENCE: Assessment Report 10512.

**CAPSULE GEOLOGY**

The Dead Goat skarn is approximately 4.0 kilometres northwest of the Cassiar asbestos deposit. Garnet-diopside-actinolite skarn is developed in steeply east-dipping marble of the Hadrynian Ingenika Group near its contact with quartz monzonite of the Late Cretaceous Cassiar Stock. The skarn has been traced discontinuously over a strike distance of 600 metres averaging 1.0 to 5.5 metres in thickness. Scheelite occurs erratically as coarse crystals up to 3 centimetres in size. Within the massive garnet skarn are lenses up to 2.0

## CAPSULE GEOLOGY

metres wide of pyrrhotite-actinolite skarn which contain pyrite, sphalerite, chalcopyrite, scheelite and fluorite. Disseminated molybdenite is reported to occur in a sheared quartz vein.

Drill indicated reserves are 100,900 tonnes grading 0.38 per cent  $W_3O_8$  (or 0.30 W) and an additional 27,600 tonnes grading 0.39 per cent  $W_3O_8$  and 0.16 per cent copper in a pod 20 metres below the main skarn zone; grade given for main reserve was 0.49 per cent  $W_3O_8$ ; conversion to W using the factor 1.2611 (Assessment Report 10512).

## BIBLIOGRAPHY

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GSC MEM 319  
EMR MIN BULL MR 223 B.C. 355  
GSC MAP 1110A  
EMPR OF 1991-17  
EMPR MP MAP 1992-13

DATE CODED: 1986/03/03  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **104P 080**

NATIONAL MINERAL INVENTORY: 104P5 Ag2

NAME(S): **MIDDLE D, PIT**

STATUS: Developed Prospect  
 REGIONS: British Columbia  
 NTS MAP: 104P05W  
 BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 16 34 N  
 LONGITUDE: 129 49 44 W  
 ELEVATION: 1220 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6571092  
 EASTING: 452761

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 7912, Fig. 8.

COMMODITIES: Zinc                      Lead                      Silver                      Magnetite

**MINERALS**

SIGNIFICANT:	Sphalerite	Galena	Magnetite	Pyrite	Pyrrhotite
ASSOCIATED:	Calcite	Tremolite	Silica		
ALTERATION:	Dolomite	Siderite	Pyrolusite		
ALTERATION TYPE:	Carbonate		Oxidation		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Podiform	Stratabound	Concordant	
CLASSIFICATION:	Replacement	Hydrothermal	Sedimentary	Industrial Min.
TYPE:	J01 Polymetallic manto	Ag-Pb-Zn	H07	Sn-Ag veins
SHAPE:	Irregular			
MODIFIER:	Faulted			
DIMENSION:	90 x 7	Metres	STRIKE/DIP: 360/50E	TREND/PLUNGE:
COMMENTS:	Mineralization is localized to east-west trending fault zones.			

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Undefined Formation	

LITHOLOGY: Limestone  
 Dolomite

**GEOLOGICAL SETTING**

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Cassiar Mountains
TERRANE:	Cassiar		
METAMORPHIC TYPE:	Contact	RELATIONSHIP:	GRADE: Hornfels

**INVENTORY**

ORE ZONE:	MIDDLE D	REPORT ON:	Y
CATEGORY:	Indicated	YEAR:	1980
QUANTITY:	90000 Tonnes		
COMMODITY		GRADE	
Silver		70.0000	Grams per tonne
Lead		3.3000	Per cent
Zinc		6.3000	Per cent
REFERENCE:	Assessment Report 7912.		

**CAPSULE GEOLOGY**

Just south of Cassiar, silver-lead-zinc mineralization is emplaced as irregular east-west trending replacement shoots within Lower Cambrian Atan carbonates, adjacent to the north trending Marble Creek fault. Locally the replacement bodies are conformable. The limestone host has been extensively dolomitized in association with mineral emplacement. Galena with a silver-lead ratio of approximately 1:1 and sphalerite comprise the bulk mineralogy. Gangue material is siderite, carbonate, tremolite and silica with varying quantities of pyrolusite, pyrrhotite, pyrite and magnetite. The shoots vary in thickness from several centimetres up to 7 metres. Drilling has tested the deposit to a vertical depth of 90 metres. Drill indicated reserves stand at 90,000 tonnes grading 6.3 per cent zinc, 3.3 per cent lead, and 70 grams per tonne silver (Assessment Report 7912).

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 EMPR FIELDWORK \*1978, p. 57; 1979, pp. 80-88; 1988 pp.323-337

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
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**BIBLIOGRAPHY**

EMPR MP MAP 1992-13  
GSC MAP 381A; 1110A  
GSC MEM 194; 319  
EMPR OF 1998-10

DATE CODED: 1986/03/06  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: DJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 081**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRANITE CREEK**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 16 14 N  
LONGITUDE: 129 50 06 W  
ELEVATION: 1235 Metres

NORTHING: 6570477  
EASTING: 452405

LOCATION ACCURACY: Within 500M  
COMMENTS: From Assessment Report 7912, Fig. 8.

COMMODITIES:	Silver	Lead	Zinc	Gold	Tin
	Magnetite				

**MINERALS**

SIGNIFICANT:	Galena	Sphalerite	Pyrite	Pyrrhotite	Magnetite
	Gold				
ASSOCIATED:	Siderite	Calcite			
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER: Vein  
 CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.  
 TYPE: H07 Sn-Ag veins  
 SHAPE: Irregular  
 MODIFIER: Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Undefined Formation	

LITHOLOGY: Marble  
Quartz Vein  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
 CATEGORY: Assay/analysis YEAR: 1980  
 SAMPLE TYPE: Grab  

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	11.6600	Grams per tonne
Lead	0.1000	Per cent
Tin	0.0300	Per cent
Zinc	14.0000	Per cent

 COMMENTS: Grab sample across 3.02 metres. An assay quoted in Assessment Report 7912 was 1.0 grams per tonne gold.  
 REFERENCE: Assessment Report 9262.

**CAPSULE GEOLOGY**

On Granite Creek south of Cassiar, a one metre thick vein outcrops in recrystallized white to buff marble of the Lower Cambrian Atan Group. Mineralization consists of galena, sphalerite, pyrite, pyrrhotite and magnetite with siderite gangue. The limestone beds strike approximately north and dip 70 degrees east. The showing is adjacent to the north trending Marble Creek fault. A 3.02 metre intersection of massive sulphides assayed 14 per cent zinc, 0.1 per cent lead, 11.66 grams per tonne silver and 0.03 per cent tin (Assessment Report 9262). An earlier assay from Assessment Report 7912 assayed 1.0 grams per tonne gold.

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EMPR ASS RPT \*7912, \*9262  
EMPR FIELDWORK 1978, pp. 51-60; 1979, pp. 80-88  
EMPR MP MAP 1992-13  
GSC MEM 319

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC MAP 1110A

DATE CODED: 1986/03/06  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 082**

NATIONAL MINERAL INVENTORY: 104P4 Sn1

NAME(S): **PANT, BEV**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 39 N  
LONGITUDE: 129 48 56 W  
ELEVATION: 1290 Metres

NORTHING: 6567525  
EASTING: 453477

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 7912, Fig. 8.

COMMODITIES: Silver                      Lead                      Zinc                      Tin                      Copper

**MINERALS**

SIGNIFICANT: Galena              Arsenopyrite              Pyrrhotite              Pyrite              Sphalerite

Cassiterite  
COMMENTS: Copper mineral not identified.

ASSOCIATED: Quartz              Siderite              Marcasite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stratabound                      Massive  
CLASSIFICATION: Replacement              Hydrothermal                      Epigenetic

TYPE: H07 Sn-Ag veins

SHAPE: Tabular

MODIFIER: Faulted

COMMENTS: Fault zone trends 160 degrees.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Cambrian-Ordovician  
Lower Cambrian

**GROUP**

Kechika  
Atan

**FORMATION**

Undefined Formation  
Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

DATING METHOD: Fossil

LITHOLOGY: Marble  
Black Shale  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Silver	49.0000	Grams per tonne
Copper	0.0800	Per cent
Lead	0.2200	Per cent
Tin	0.1000	Per cent
Zinc	0.7400	Per cent

COMMENTS: From a 0.6 metre section.

REFERENCE: Assessment Report 9262.

**CAPSULE GEOLOGY**

Approximately 7 kilometres south of Cassiar, a fault zone trending 160 degrees separates Lower Cambrian Atan Group marbles from Cambro-Ordovician Kechika Group black shales to the east. Two replacement zones of massive sulphide in the carbonates contain arsenopyrite, cassiterite, pyrrhotite, pyrite and siderite. A sample across a 3.3 metre width ran 1.5 per cent tin. The faulted footwall contains a galena and sphalerite bearing quartz vein. Assay results from drilling include 0.6 metres grading 49 grams per tonne silver, 0.74 per cent zinc, 0.22 per cent lead, 0.10 per cent tin, 0.08 per cent copper and 0.4 metres grading 296.2 grams per tonne silver and 2.28 per cent lead (Assessment Report 9262).

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC MAP 381A; 1110A  
GSC MEM 194; 319

DATE CODED: 1986/03/06  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **104P 083**

NATIONAL MINERAL INVENTORY: 104P4 Zn2

NAME(S): **JACKPINE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 11 19 N  
LONGITUDE: 129 44 36 W  
ELEVATION: Metres

NORTHING: 6561291  
EASTING: 457528

LOCATION ACCURACY: Within 1 KM

COMMENTS: Occurrence is slightly west of National Mineral Inventory location to conform to regional geology, Fieldwork 1978, pp. 52-53.

COMMODITIES: Zinc Silver Cadmium

**MINERALS**

SIGNIFICANT: Sphalerite  
ASSOCIATED: Dolomite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia Vein Stratabound  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cambrian-Ordovician	Kechika	Undefined Formation	
DATING METHOD: Fossil			

LITHOLOGY: Brecciated Dolomite  
Vein  
Shale  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1981

COMMODITY	GRADE	
Silver	1.7100	Grams per tonne
Cadmium	0.0600	Per cent
Zinc	4.2000	Per cent

REFERENCE: EMR MP CORPFILE June, 1981.

**CAPSULE GEOLOGY**

Near Cook Lake, blebs of sphalerite and 1 to 2 millimetre veinlets of "white zinc" are in a brecciated dolomite horizon in Cambro-Ordovician Kechika Group shale and argillite. A chip sample assayed 4.20 per cent zinc, 0.06 per cent cadmium and 1.71 grams per tonne silver (EMR MP CORPFILE June, 1981).

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1981, pp. 156-164; 1988 pp.339-344  
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DATE CODED: 1986/03/07  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 084**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCDAME** CASSIAR (MCDAME)

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:  
LATITUDE: 59 19 19 N  
LONGITUDE: 129 48 56 W  
ELEVATION: 1900 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: McDame mountain.

Underground

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6576186  
EASTING: 453583

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Magnetite Pyrite  
ALTERATION: Serpentine Tremolite Talc Zoisite Epidote  
Clay  
ALTERATION TYPE: Serpentin'zn Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork Vein Disseminated  
CLASSIFICATION: Metamorphic Hydrothermal Epigenetic Industrial Min.  
TYPE: M06 Ultramafic-hosted asbestos  
SHAPE: Regular  
MODIFIER: Faulted Sheared  
DIMENSION: 540 x 320 x 15 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Deposit thickness varies from 15 to 20 metres.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic			Sylvester Allochthon

LITHOLOGY: Serpentinite  
Peridotite  
Argillite  
Greenstone  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: GRADE: Greenschist

**INVENTORY**

ORE ZONE: MCDAME REPORT ON: Y  
CATEGORY: Unclassified YEAR: 1990  
QUANTITY: 19940000 Tonnes  
COMMODITY: Asbestos GRADE: 6.2100 Per cent  
COMMENTS: Proven reserves with a 6.21 per cent mill yield of asbestos.  
Production up to October 1991, totalled 40,000 tonnes.  
REFERENCE: Princeton Mining Corp. Annual Report 1990.

**CAPSULE GEOLOGY**

The McDame deposit is located about 1 kilometre from the Cassiar deposit (104P 005), north-northeast of the Cassiar townsite. The area is underlain by four major thrust sheets, distinguished on McDame Mountain, of the Devonian to Triassic Sylvester Allochthon. These comprise greenstones, argillites, limestones, ultramafites and ultramafic bodies of variable size, shape and form. These bodies of serpentinitized peridotites occur along at least three distinct horizons which are probably major thrust fault surfaces. The lowest horizon occurs just above the Sylvester basal thrust fault, and contains a serpentinite thrust slice that hosts the Cassiar (104P 005) and McDame deposits. The ultramafite sheet dips 32 to 50 degrees east under McDame Mountain where it attains a thickness of 300 metres. There are two episodes of faulting postulated with asbestos thought to have formed during the change from normal to dextral motion on a north trending fault that transects the

## CAPSULE GEOLOGY

serpentinite (45 degree shear).

The hanging wall of the McDame ultramafite is marked by shearing, serpentinitization, chloritization, pods of schistose tremolite, talc soapstone, zoisite, epidote and clay. The footwall is characterized by sheared carbonaceous argillite and gouge. Pyrite and magnetite are disseminated throughout.

Chrysotile veining is controlled primarily by the joint system. Joint sets in the serpentinite strike east-northeast and south-southeast. Normal faulting is prominent in an east and northeast direction. The McDame deposit is the downward extension of the Cassiar deposit.

Drilling has outlined an east dipping body of cross fibre chrysotile ore which thickens towards the east. Reserves have been calculated for a deposit having the approximate dimensions of 540 metres dip length (east-west), 320 metres width (north-south), and 15 to 150 metres thickness. Measured geological reserves are 19.94 million tonnes with a 6.21 per cent mill yield of asbestos; proven reserves with a 6.21 per cent mill yield of asbestos (Princeton Mining Corp. Annual Report 1990).

Production at the McDame deposit began in February 1991 after three years of underground development, prompted by declining reserves from open pit operations at the adjoining Cassiar Asbestos mine. Production up to October 1991 totalled 40,000 tonnes (George Cross News Letter No.200, 1991). The ore has averaged 9.2 per cent asbestos fibre, suggesting overall grade is higher than expected (Northern Miner - February 11, 1991).

High quality asbestos underground reserves in the McDame deposit were estimated at 16 million tonnes (10 years of production) in 1989 (P. Wojdak, personal communication, 1994).

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GSC MAP 381A; 1110A  
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DATE CODED: 1986/03/09  
DATE REVISED: 1991/06/05

CODED BY: JB  
REVISED BY: PSF

FIELD CHECK: N  
FIELD CHECK: Y

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REPORT: RGEN0100

MINFILE NUMBER: **104P 085**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHIEF NORTH**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P13W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 46 59 N  
LONGITUDE: 129 53 46 W  
ELEVATION: Metres

NORTHING: 6627591  
EASTING: 449691

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Barite

**MINERALS**

SIGNIFICANT: Barite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Massive                      Concordant                      Layered  
CLASSIFICATION: Hydrothermal              Syngenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Devonian-Mississipp.    Earn                      Undefined Formation

LITHOLOGY: Black Argillite  
                  Graphitic Shale  
                  Barite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Chip

COMMODITY

GRADE

Barite

91.1600 Per cent

COMMENTS: Chip sample across 6 metres. Assay is for Barium Sulphate.

REFERENCE: Assessment Report 10974.

**CAPSULE GEOLOGY**

Approximately 20 kilometres south of the Yukon-British Columbia border, near Little Rancheria River, Devonian-Mississippian Earn Group siliceous, black argillite and well-foliated graphitic shale contain a horizon of clean, massive to poorly laminated barite up to 6 metres in thickness. Chip samples returned an average BaSO<sub>4</sub> content of 91.16 per cent over 6.0 metres (Assessment Report 10974).

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GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1986/03/24  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: HWM

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 085**

MINFILE NUMBER: **104P 086**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARS**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 24 24 N  
LONGITUDE: 129 45 56 W  
ELEVATION: 1630 Metres

NORTHING: 6585586  
EASTING: 456537

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 11324, Fig. 5.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork Vein  
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.  
DIMENSION: 0114 x 0010 x 0003 Metres STRIKE/DIP:  
COMMENTS: Alteration zone dips approximately 15 degrees southeast.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Peridotite  
Serpentinite  
Vein

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area of Mississippian to Permian age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1980

SAMPLE TYPE: Bulk Sample

COMMODITY

GRADE

Asbestos 12.3000 Per cent

COMMENTS: 100 kilogram sample from a trench. Drill assay 4 per cent over 1 metre.

REFERENCE: Assessment Report 8607.

**CAPSULE GEOLOGY**

Approximately 10 kilometres west of Gallic Lake, a dense network of chrysotile veins occurs in a serpentinized peridotite zone about 10 metres long and 3 metres wide in the Zus Mountain ultramafite sheet within the Upper Paleozoic Sylvester Allochthon. Chrysotile veins intersect to form a blocky pattern. The zone dips about 15 degrees southeast and extends for at least 114 metres, with the grade rapidly changing from good to very poor at depth. A 100 kilogram test sample of near-surface mineralization graded 12.3 per cent fibre, but the best drill intersection was 4 per cent fibre over 1 metre (Assessment Report 8607).

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GSC MEM 319  
GSC MAP 1110A

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REPORT: RGEN0100

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DATE CODED: 1986/04/02  
DATE REVISED: 1988/11/21

CODED BY: JB  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 087**

NATIONAL MINERAL INVENTORY:

NAME(S): **POORMANS CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:  
LATITUDE: 59 22 29 N  
LONGITUDE: 129 26 06 W  
ELEVATION: 1050 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6581860  
EASTING: 475280

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Meta Sediment/Sedimentary  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: Sylvester Allochthon (probable source of placer gold) is Mississippian-Permian in age in this area.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Just north of Poorman Lake, on Poormans Creek, 3.6 kilograms (126 ounces) of gold was extracted from the creek in the period from 1876 to 1890. The placer gold probably originated from gold quartz veins in metasediments and greenstones of the Sylvester Allochthon (Mississippian to Permian) and was transported east by glacial ice.

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EMPR AR 1884-1886 (tables); 1889-278  
GSC MEM 319, p. 112  
EMPR FIELDWORK 1987, pp. 245-248  
GSC MAP 1110A  
EMPR OF 1988-32  
EMPR EXPL 1989, pp. 229-236

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/21

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 088**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUARTZ CREEK PLACER**, QUARTZROCK CREEK, WINGS LEASES

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

Open Pit

MINING DIVISION: Liard

LATITUDE: 59 16 29 N  
LONGITUDE: 129 42 06 W  
ELEVATION: 1050 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6570854  
EASTING: 460010

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Meta Sediment/Sedimentary  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon is Mississippian-Permian in age in this area and is the probable source of placer gold.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

As with many streams in the area, Quartz Creek (or "Quartzrock" Creek) near Cassiar was not subject to glacial erosion because it lies transverse to the northeast direction of ice travel. Hence the valley is "V" shaped and debris filled. Unstratified glacial debris 4.5 to 6 metres thick overlies a 3 to 4 metre thick layer of stratified gravel on bedrock. Interglacial gravel (2 metres thick) and recent alluvium lie on top. Most of the placer mining has been performed at the confluence of Quartz Creek and Troutline Creek, on an old buried channel which trends northwest and has a lower gradient than the present creek bed. The channel has been drifted on for 600 metres upstream. Between 1876 to 1890 and 1921 to 1945 a total of 68.3 kilograms (2400 ounces) of gold was recovered. The source of gold is probably from gold-quartz veins occurring in greenstones and metasediments of the Sylvester Allochthon (Mississippian to Permian) which underlie the area.

**BIBLIOGRAPHY**

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EMPR BULL 28, pp. 57,60  
EMPR OF 1988-32  
EMPR AR 1875-604,606; 1876-412,414; 1888-295; 1889 (table); 1899-610;  
1925-112; \*1931-54-61; 1932-64; \*1947-189  
EMPR FIELDWORK 1987, pp. 245-248; 1988 pp. 323-337  
GSC MEM 319  
GSC MAP 1110A  
EMPR PF (Wilms, R.G., (1955): The Commercial Outlook of the McDame  
Creek Watershed, (1978): General Report on Placer Gold, Gold  
Quartz and Base Metal Mining in Northern British Columbia, Canada,  
(1980): Report, In Part, (1981): Report on 1000 Million Cubic  
Yards of Placer Gold-Bearing Gravels in the McDame Valley,  
Northern British Columbia)  
EMPR EXPL 1989, pp. 229-236



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1129  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR MP MAP 1992-13

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/21

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 089**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWY CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:  
LATITUDE: 59 15 59 N  
LONGITUDE: 129 38 36 W  
ELEVATION: 990 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6569892  
EASTING: 463325

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Quartzite  
Argillite  
Limestone  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon is Mississippian-Permian in age in this area and is the probable source for placer gold.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Snowy Creek (a northern tributary of McDame Creek) is underlain by quartzite, argillite, greenstone, and limestone of the Sylvester Allochthon (Mississippian to Permian). Numerous gold quartz veins are reported in the vicinity in the metavolcanics, (104P 014 and 104P 076 on Snowy Creek) which is the obvious source of the placer gold. The mouth of the creek was the most productive, as well as a high bench containing old channel deposits. Workings from 1874 to 1890 and from 1906 to 1910 produced in total 120 kilograms (4222 ounces) of gold. Snowy Creek was reported to be the richest placer in the Cassiar district.

**BIBLIOGRAPHY**

EMPR BULL 28, pp. 57,60  
EMPR AR 1875-604; 1876-410,412,414; 1877-400; 1889-278; 1879, 1882, 1884-1889 (in tables); 1899-610; \*1931-61  
GSC MEM 194, p. 13; 319, p. 112  
GSC MAP 318A; 1110A  
EMPR OF 1988-32  
EMPR FIELDWORK 1980, pp. 55-62; 1981, pp. 156-161; 1987, pp. 245-248  
EMPR PF (Wilms, R.G., (1955): The Commercial Outlook of the McDame Creek Watershed, (1978): General Report on Placer Gold, Gold Quartz and Base Metal Mining in Northern British Columbia, Canada, (1980): Report, In Part, (1981): Report on 1000 Million Cubic Yards of Placer Gold-Bearing Gravels in the McDame Valley, Northern British Columbia)  
EMPR EXPL 1989, pp. 229-236  
EMPR MP MAP 1992-13

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/21

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 090**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOMERS CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:

Open Pit

MINING DIVISION: Liard

LATITUDE: 59 16 59 N  
LONGITUDE: 129 25 06 W  
ELEVATION: 990 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6571646  
EASTING: 476163

LOCATION ACCURACY: Within 1 KM

COMMENTS: "First North Fork" off McDame Creek; see Annual Report 1931-A55.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Upper Paleozoic  
Quaternary

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Sylvester Allochthon  
Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Meta Sediment/Sedimentary  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area of Mississippian to Permian in age, is the probable source of placer gold.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Somers Creek was worked from 1876 to 1880, yielding 13 kilograms (458 ounces) of gold. The probable source of the placer gold is gold-bearing quartz veins which occur in the Upper Paleozoic Sylvester Allochthon metasediments and greenstones which underlie much of the surrounding area.

**BIBLIOGRAPHY**

EMPR BULL 28, pp. 57,60  
EMPR AR 1879 (table); 1931-A55  
EMPR FIELDWORK 1987, pp. 245-248  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
EMPR OF 1988-32  
EMPR PF (Wilms, R.G., (1955): The Commercial Outlook of the McDame Creek Watershed, (1978): General Report on Placer Gold, Gold Quartz and Base Metal Mining in Northern British Columbia, Canada, (1980): Report, In Part, (1981): Report on 1000 Million Cubic Yards of Placer Gold-Bearing Gravels in the McDame Valley, Northern British Columbia)  
EMPR EXPL 1989, pp. 229-236

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/21

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 091**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPRING CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P11W  
BC MAP:  
LATITUDE: 59 30 29 N  
LONGITUDE: 129 23 06 W  
ELEVATION: 900 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6596690

EASTING: 478208

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Meta Sediment/Sedimentary  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area Mississippian to Permian in age, is the probable source of placer gold.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Dease Plateau

**CAPSULE GEOLOGY**

The Spring Creek placer was worked from 1876 to 1880. One point six kilograms (57 ounces) of gold were recovered. The gold probably originated from gold-quartz veins found in the Upper Paleozoic Sylvester Allochthon metasediments and greenstones and was transported eastward by glacial ice.

**BIBLIOGRAPHY**

EMPR BULL 28, pp. 57,60  
EMPR AR 1879 (table)  
GSC MEM 319, p. 112  
EMPR FIELDWORK 1987, pp. 245-248  
GSC MAP 1110A  
EMPR OF 1988-32  
EMPR EXPL 1989, pp. 229-236

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/21

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 092**

NATIONAL MINERAL INVENTORY:

NAME(S): **TROUTLINE CREEK PLACER**, TROUT CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Liard

REGIONS: British Columbia

NTS MAP: 104P05W

BC MAP:

LATITUDE: 59 16 59 N

LONGITUDE: 129 54 06 W

ELEVATION: 1450 Metres

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location from Fig. 2, Bulletin 28.

UTM ZONE: 09 (NAD 83)

NORTHING: 6571919

EASTING: 448624

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Meta Sediment/Sedimentary  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area of Mississippian to Permian age, is the probable source of gold.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Troutline Creek was worked from 1874 to 1885. Fifty one kilograms (1799 ounces) of gold were extracted. The source of the gold is probably from gold-bearing quartz veins in the Upper Paleozoic Sylvester Allochthon metasediments and greenstones through which Troutline Creek passes.

**BIBLIOGRAPHY**

EMPR BULL 28, pp. 57,60  
EMPR AR 1875-604; 1876, 1879, 1882 (tables); 1931-59  
GSC MEM 194, p. 13; 319, p. 112  
EMPR FIELDWORK 1979, pp. 80-88; 1987, pp. 245-248  
GSC MAP 1110A  
EMPR OF 1988-32  
EMPR EXPL 1989, pp. 229-236  
EMPR MP MAP 1992-13

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/21

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 093**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRENCH CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P11W  
BC MAP:

Open Pit

MINING DIVISION: Liard

LATITUDE: 59 33 19 N  
LONGITUDE: 129 18 06 W  
ELEVATION: 750 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6601924  
EASTING: 482948

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location from Fig. 2, Bulletin 28.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Quartz Vein  
Greenstone  
Meta Sediment/Sedimentary

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area of Mississippian to Permian age, is the probable source of gold.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Liard Lowland

**CAPSULE GEOLOGY**

French Creek was placer mined from 1881 to 1885, yielding 2.9 kilograms (103 ounces) of gold. The gold probably originated from gold-quartz veins found in metasedimentary and greenstone of the Upper Paleozoic Sylvester Allochthon and was transported northeast by glacial ice.

**BIBLIOGRAPHY**

EMPR AR 1881-(table); 1901-987  
EMPR BULL 28, pp. 57,59  
GSC MEM 319, p. 112  
EMPR FIELDWORK 1987, pp. 245-248  
GSC MAP 1110A  
EMPR OF 1988-32  
EMPR EXPL 1989, pp. 229-236

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/21

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 094**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 104P03W  
BC MAP:

Open Pit

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 13 59 N  
LONGITUDE: 129 16 06 W  
ELEVATION: 750 Metres

NORTHING: 6566034  
EASTING: 484688

LOCATION ACCURACY: Within 5 KM

COMMENTS: "Tributary of McDame Creek"; location from Bulletin 28.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Upper Paleozoic  
Quaternary

Sylvester Allochthon  
Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Meta Sediment/Sedimentary  
Greenstone  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area Mississippian to Permian age, is the probable source of gold.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Gold Creek (a tributary of McDame Creek) was worked for placer gold from 1886 to 1890, yielding 652 grams (23 ounces). The gold is most likely from gold bearing quartz veins found in the metasediments and greenstones of the Upper Paleozoic Sylvester Allochthon lying to the east.

**BIBLIOGRAPHY**

EMPR BULL 28, pp. 57,59  
EMPR AR 1889-(table)  
EMPR FIELDWORK 1987, pp. 245-248  
EMPR EXPL 1989, pp. 229-236  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-32  
EMPR PF (Wilms, R.G., (1955): The Commercial Outlook of the McDame Creek Watershed, (1978): General Report on Placer Gold, Gold Quartz and Base Metal Mining in Northern British Columbia, Canada, (1980): Report, In Part, (1981): Report on 1000 Million Cubic Yards of Placer Gold-Bearing Gravels in the McDame Valley, Northern British Columbia)

DATE CODED: 1987/01/12  
DATE REVISED: 1988/11/22

CODED BY: MM  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 095**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUDO**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P06W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 17 59 N  
LONGITUDE: 129 23 06 W  
ELEVATION: 1523 Metres

NORTHING: 6573490  
EASTING: 478073

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the North Fork or Centerville Creek, 4.5 kilometres north of Highway 37, approximately 10 kilometres northeast of Cassiar.

COMMODITIES: Lead                      Zinc                      Silver                      Tin                      Arsenic  
                  Bismuth                      Cadmium

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Tetrahedrite              Pyrite              Scorodite  
ASSOCIATED: Calcite  
ALTERATION: Scorodite              Goethite              Hematite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic              Industrial Min.  
SHAPE: Tabular  
MODIFIER: Sheared  
COMMENTS: Mineralization probably controlled by shearing and faulting.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Hadrynian              Ingenika                      Stelkuz

LITHOLOGY: Limestone  
                  Dolomite  
                  Calcite Vein  
                  Argillaceous Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1986  
SAMPLE TYPE: Channel  
COMMODITY                      GRADE  
Silver                      330.7000              Grams per tonne  
Arsenic                      9.7000              Per cent  
Lead                      2.0400              Per cent  
Zinc                      6.1700              Per cent

COMMENTS: Channel sample from trench across sheared and oxidized zone.  
REFERENCE: Assessment Report 15558.

**CAPSULE GEOLOGY**

This property on Judo Creek is underlain by limestones and dolomites of the Espee and Stelkuz Formations which are part of the Pre-Cambrian Ingenika Group. Conformably overlying the Stelkuz Formation are argillaceous sediments of the Lower Cambrian Boya Formation. Separating the Espee and the Stelkuz Formations is a north trending, high angle fault.

In 1986 a trench in a mixture of carbonates and argillaceous sediments of the Stelkuz Formation exposed an east trending shear in a red-brown, sparry dolomite. A 30 centimetre sample of the oxidized material taken across the shear assayed 1.42 per cent lead, 0.49 per cent zinc, 41.5 grams per tonne silver, 0.03 per cent tin, 0.59 per cent arsenic, and 0.0013 cadmium. A second trench exposed a 40 centimetre wide northwest trending shear zone in coarse-grained sparry dolomite. A 1.0 metre oxide zone envelopes the shear hosting goethite and hematite with a 10 centimetre bright green zone containing scorodite plus galena and tetrahedrite. A number of samples were



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**CAPSULE GEOLOGY**

taken, the highest of which assayed 1914 grams per tonne silver, 71.2 per cent lead, and 0.95 per cent zinc. A channel sample across the shear and oxidized zone assayed 2.04 per cent lead, 6.17 per cent zinc, 330.7 grams per tonne silver, and 9.70 per cent arsenic. A sample taken 25 metres southeast of this trench, which appears to be an extension of the mineralized zone also hosts high lead, zinc, silver and arsenic contents in addition to 0.235 per cent bismuth (assays taken from Assessment Report 15558).

The main showing consists of galena, sphalerite, and pyrite which occurs in calcite veinlets which crosscut argillaceous sheared sediments north of Judo Creek.

**BIBLIOGRAPHY**

EMPR ASS RPT 13688, 14847, \*15558  
GSC P 77-19; 80-1B, pp. 217-225; 83-13  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
EMPR EXPL 1986-C470; 1987-C404  
GCNL #221, 1985

DATE CODED: 1987/08/31  
DATE REVISED: 1988/11/21

CODED BY: LLC  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 096**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDBREAK - 27**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 21 59 N  
LONGITUDE: 129 33 06 W  
ELEVATION: 1060 Metres

NORTHING: 6580981  
EASTING: 468643

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Long Lake, 19 kilometres northeast of Cassiar.

COMMODITIES: Copper Silver Gold Lead Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite Limonite Azurite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Fractured

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE Silurian-Devonian GROUP Sandpile FORMATION Undefined Formation IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Dolomitic Quartzite  
Breccia  
Quartzite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1986  
SAMPLE TYPE: Channel  
COMMODITY Copper GRADE 0.3350 Per cent  
COMMENTS: Channel sample across 2.5 metres.  
REFERENCE: Assessment Report 15667.

**CAPSULE GEOLOGY**

The property is underlain by Devono-Silurian rocks of the Sandpile Group comprised of quartzite, dolomitic quartzite and breccia which tend to strike southeast and dip to the southwest. To the south of Long Lake, the Sandpile Group is overlain by Devonian McDame Group rocks comprised of dolomite and limestone.

Irregular, discontinuous quartz veins, up to 25 centimetres wide, crosscut the quartzite and host chalcopyrite and pyrite with malachite, limonite and rare azurite on fractured surfaces. Three old trenches were excavated in the mineralized quartz veins. In 1986, grab samples from these trenches assayed 0.311 and 0.292 per cent copper, and 6.17 grams per tonne silver. A channel sample taken across 2.5 metres assayed 0.335 per cent copper. A quartz-carbonate pod within the vein, 3.0 by 3.0 metres, assayed 0.05 per cent copper and 0.023 per cent zinc. The overall analysis of 12 samples of the veined quartzite averaged trace gold, 5.8 grams per tonne silver, 0.335 per cent copper, 0.024 per cent lead, and 0.023 per cent zinc. (Assays taken from Assessment Report 15667).

**BIBLIOGRAPHY**

EMPR ASS RPT \*15667  
GSC MEM 319  
GSC MAP 1110A

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1139  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

CMH 1985-86, p. 532  
EMPR EXPL 1986-C468; 1987-C402  
EMPR FIELDWORK 1988 pp.323-337  
EMPR MP MAP 1992-13

DATE CODED: 1987/09/01  
DATE REVISED: 1988/11/21

CODED BY: LLC  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 097**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELLA ROSE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 35 50 N  
LONGITUDE: 129 33 22 W  
ELEVATION: Metres

NORTHING: 6606688  
EASTING: 468605

LOCATION ACCURACY: Within 500M

COMMENTS: Exposed on cliff face on east side of creek.

COMMODITIES: Silver                      Copper                      Lead                      Zinc

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Covellite	Galena	Sphalerite	Chalcocite
ASSOCIATED:	Quartz				
ALTERATION:	Dolomite	Limonite	Malachite		
ALTERATION TYPE:	Carbonate		Silicific'n		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Breccia		
CLASSIFICATION:	Hydrothermal	Epigenetic		
SHAPE:	Tabular			
MODIFIER:	Faulted			
DIMENSION:	0020	Metres	STRIKE/DIP:	TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Atan	Rosella	
DATING METHOD:	Fossil		

LITHOLOGY: Limestone  
Dolomitic Breccia  
Quartz Vein  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar

**CAPSULE GEOLOGY**

Approximately 20 kilometres east of the Blue River and 15 kilometres north of Gallic Lake, a 20 metre wide zone of vuggy, fine-grained quartz hosts blebs of chalcopyrite, chalcocite, galena and brown sphalerite. Mineralization occurs within a broader zone of dark dolomitic breccia, within pale grey Lower Cambrian limestone of the Rosella Formation, adjacent to a major fault contact with the Cambro-Ordovician Kechika Group shales.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1987, pp. 233-243  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11  
Placer Dome File

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/21

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 098**

NATIONAL MINERAL INVENTORY:

NAME(S): **CYATHID MOUNTAIN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 44 16 N  
LONGITUDE: 129 38 18 W  
ELEVATION: 1380 Metres

NORTHING: 6622381  
EASTING: 464114

LOCATION ACCURACY: Within 500M

COMMENTS: Gossan on north-northwest facing bluff.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
COMMENTS: Very minor mineralization noted.

ASSOCIATED: Quartz Calcite

ALTERATION: Ankerite Limonite

COMMENTS: Iron-magnesium carbonates in dolomite. Specific minerals uncertain.

ALTERATION TYPE: Carbonate Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork

CLASSIFICATION: Hydrothermal Epigenetic

SHAPE: Tabular

DIMENSION: 0070 x 0015 Metres

STRIKE/DIP: 030/65N

TREND/PLUNGE:

COMMENTS: Strong stockwork zone. Strikes 030 degrees and dips 65 degrees north-east.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Rosella	

DATING METHOD: Fossil

LITHOLOGY: Dolomite  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

West of the Blue River, approximately 23 kilometres south of the Yukon-British Columbia border, the Cyathid Mountain showing occurs in a strong quartz-calcite stockwork zone. The zone cuts Lower Cambrian archeocyathid bearing dolomite and limestone of the Rosella Formation. The 70 by 15 metre zone has a strike of 30 degrees and dips 65 degrees northeast. Mineralization consists of minor chalcopyrite.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1987, pp. 232-244  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/21

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 099**

NATIONAL MINERAL INVENTORY:

NAME(S): **REGGIE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 44 34 N  
LONGITUDE: 129 55 04 W  
ELEVATION: Metres

NORTHING: 6623122  
EASTING: 448413

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Lead

**MINERALS**

SIGNIFICANT: Galena  
ASSOCIATED: Quartz Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
DIMENSION: 0001 Metres  
COMMENTS: En echelon quartz-filled tension gashes.

STRIKE/DIP: 090/

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Mississippian	Earn	Undefined Formation	

LITHOLOGY: Graphitic Argillite  
Chert

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Approximately 23 kilometres south of the Yukon-British Columbia border, small en echelon quartz-filled tension gashes have galena and minor pyrite developed along margins. The tension gashes are hosted by Lower Mississippian Earn group graphitic argillite and chert. The vein zone is 0.7 metres wide and exposed in a steep creek bank. The zone has a 090 degree strike and dips steeply.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1987, pp. 232-244  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/21

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 100**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANVIL CHROMITE** ICE LAKE CHROMITE, BLUE RIVER ULTRAMAFITE

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W 104O09E  
BC MAP:

MINING DIVISION: Liard

LATITUDE: 59 33 27 N  
LONGITUDE: 130 00 06 W  
ELEVATION: 1958 Metres

UTM ZONE: 09 (NAD 83)

NORTHING: 6602559  
EASTING: 443386

LOCATION ACCURACY: Within 500M

COMMENTS: Showings are immediately north and south of Ice Lake, straddling 130 degrees, 0 minutes, 0 seconds.

COMMODITIES: Chromium

**MINERALS**

SIGNIFICANT: Chromite  
ALTERATION: Serpentine Talc Tremolite Grossularite Prehnite  
Hornblende Olivine Clinozoisite

ALTERATION TYPE: Serpentin'zn

MINERALIZATION AGE: Permian

ISOTOPIC AGE:

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

**DEPOSIT**

CHARACTER: Layered Podiform  
CLASSIFICATION: Magmatic Syngenetic Industrial Min.

SHAPE: Irregular

MODIFIER: Other

DIMENSION: 0020 x 0001 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Dimension of largest known pod. Shade modifier is podiform.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Paleozoic

Blue River Ultramafite

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Serpentinite  
Dunite  
Peridotite  
Gabbro  
Diorite  
Amphibole Dunite  
Amphibole Peridotite  
Rodingite

HOSTROCK COMMENTS: Ophiolite sequence - ultramafic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Slide Mountain

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Syn-mineralization  
Post-mineralization

GRADE: Amphibolite

**CAPSULE GEOLOGY**

The Ice Lake chromite showings are located adjacent to Ice Lake, 28 kilometres north northwest of Cassiar. The showings were discovered by Ministry geologists during regional mapping of the area in 1987. The host rocks are dunite of the Blue River Ultramafic Complex, part of the Sylvester allochthon (Nelson, J.L., 1988; 1989). The showings have not been evaluated for their platinum group metals potential and examination of the chromite has only been cursory in nature.

The Blue River ultramafite is a thrust slice of the lower part of an ophiolite exposed in the core of the McDame Synclinorium. It is structurally overlain by a crudely layered gabbro that is correlative with the Zus Mountain gabbro to the east. The ultramafite consists of serpentinized and rodingitized dunite and peridotite sheet dykes. These rocks are composed of greater than 90 per cent olivine (dunite) and up to 10 per cent orthopyroxene and clinopyroxene (harzburgite to wherlites). Intruded into this body are fine grained gabbro dykes. Chromite is ubiquitous throughout but only as disseminations of up to 1 per cent of the rock.

Alteration of the ultramafite varies from moderate to intense and four alteration types are present. The first and most extensive

## CAPSULE GEOLOGY

is serpentinitization. This is best developed around the margins and base of the ultramafite but is present throughout the body. The serpentinite is usually quite sheared with the greatest intensity of deformation developed along the base and edges of the body. Nonrotated or slightly rotated blocks of serpentinite and peridotite are present in the sheared zones. The second most common type of alteration is secondary amphibole, tremolite, that is found scattered throughout the dunite. The third type of alteration is talc developed from retrograde metamorphism of the dunite. Talc alteration is most commonly developed within 305 to 457 metres of the adjacent Cassiar granitic intrusions. Large talc crystal rosettes and masses form zones of 10 to 30 percent of the rock, frequently overprinting the tremolite alteration. The fourth major type of alteration is regenerated dunite. This dunite contains a more forsteritic olivine (Fo 92-94) than the primary dunite (Fo 88-92). The regenerated olivine grains are up to 3 millimetres in diameter with rims of serpentinite. This alteration is readily identified in the field by its 'spotty' appearance. Locally rodingite zones, often tabular masses up to 100 metres in length and occasionally as discrete pods 0.5 metre across, occur in the dunite.

The Blue River ultramafite occupies the core of the McDame Synclinorium. The ultramafite consists of two thin skin thrust sheets in the upper part of Division II of the Sylvester allochthon as defined by Nelson (1988; 1989). The ultramafite is considered the lower part of an ophiolite sequence. The complex has been complicated by prethrust - transform fault serpentinitization and serpentinite diapiric intrusion (Saleeby, J.B., 1979; 1984). The lower thrust layer consists of the dunite-peridotite body. This appears to be soled by a serpentinitized breccia-shear zone. Large blocks of dunite, gabbro and pelagic sediments are included in this zone and it is postulated to be a major sole thrust (Nelson, J.L., 1990, pers. comm.). The upper thrust slice is the gabbro unit which is only of local extent due to erosion. The complex rests on a stack of pelagic sediments, limestone, chert, basalt breccia and flows, diabase and diorite. The structural setting and position leads to the correlation between the Blue River Ultramafite and the Zus Mountain Ultramafite where a more complete section is preserved (Nelson, J.L., 1988).

The mineralization at Ice Lake consists of two pods of aggregate chromite in dunite, found during regional mapping. On the north side of the lake one pod is 1 by 20 metres and contains 50 per cent chromite. The second pod is at the southeast end of the lake and consists of a 1 square metre pod containing 50 per cent chromite (Bradford, J., 1987, unpublished field notes). To the southeast in a small gully, between the heads of Heazelwood and Claimjumper creeks is a zone of massive chromitite boulders. It is believed that the boulders are local to their source (Nelson, J.L., 1990, pers. comm.). No chemical analyses of the chromitites have been made and there has been no work done on the showings since their discovery.

## BIBLIOGRAPHY

EMPR FIELDWORK 1987, pp. \*232-244, 245-248  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11

DATE CODED: 1987/10/06  
DATE REVISED: 1989/10/04

CODED BY: HWM  
REVISED BY: KDH

FIELD CHECK: Y  
FIELD CHECK: Y



MINFILE NUMBER: **104P 101**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANVIL MOLYBDENUM**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 35 57 N  
LONGITUDE: 129 58 46 W  
ELEVATION: Metres

NORTHING: 6607180  
EASTING: 444711

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Molybdenum

**MINERALS**

SIGNIFICANT: Molybdenite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
DIMENSION: 0100 x 0001 Metres STRIKE/DIP: 060/80E TREND/PLUNGE:  
COMMENTS: Parallels 2 metre wide granodiorite dyke. Dimension is 0.5 metres by 100 metres. Strikes 60 degrees and dips 80 degrees northeast.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Blue River Ultramafite
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Granodiorite Dike  
Quartz Vein  
Ultramafic

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Approximately 11 kilometres west of the Blue River, near Chromite Creek, a 2 metre wide granodiorite dyke cuts ultramafic rocks of the Blue River Ultramafite in the Upper Paleozoic Sylvester Allochthon and is paralleled by a 0.5 metre wide quartz vein, exposed along strike for 100 metres. The vein contains scattered molybdenite, generally less than 1 per cent and has a strike of 60 degrees and dips 80 degrees northeast. The dyke emanates from the Cassiar Batholith.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1987, pp. \*232-244, 245-248  
GSC P 64-48, p. 14  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/21

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 102**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHIEF EAST**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 43 15 N  
LONGITUDE: 129 50 01 W  
ELEVATION: Metres

NORTHING: 6620616  
EASTING: 453113

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
ASSOCIATED: Quartz Pyrite  
ALTERATION: Quartz Sericite Pyrite Limonite  
ALTERATION TYPE: Sericitic Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
DIMENSION: 0004 x 0001 Metres STRIKE/DIP: TREND/PLUNGE:  
COMMENTS: Overall north trend. The dimension given was rounded off. Actual dimension is 3.5 x 0.5 metres and is for gossanous zone.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Argillite  
Chert  
Quartz Vein

HOSTROCK COMMENTS: Mississippian-Permian in this area.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

Approximately 23 kilometres south of the Yukon-British Columbia border, near Alec Chief Creek, an extensive (3.5 kilometre) gossanous zone of pervasive quartz-sericite-pyrite alteration contains irregular, narrow quartz-pyrite-chalcopyrite veins. Soil sampling by Cordilleran Engineering shows a well-defined weak lead-zinc and silver anomaly. The zone is hosted within chert and argillite of the Upper Paleozoic Sylvester Allochthon.

**BIBLIOGRAPHY**

EMPR ASS RPT 10974  
EMPR FIELDWORK 1987, pp. \*232-244  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications for Paleogeography and Accretion, Ph.D. Thesis, University of Arizona  
EMPR MP MAP 1992-11

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/22

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 103**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHIEF SOUTHWEST**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 42 50 N  
LONGITUDE: 129 53 57 W  
ELEVATION: Metres

NORTHING: 6619891  
EASTING: 449415

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Barite Copper

**MINERALS**

SIGNIFICANT: Barite Chalcopyrite  
COMMENTS: Chalcopyrite only in stockwork in boulder.  
ASSOCIATED: Quartz Pyrite Pyrrhotite  
COMMENTS: Pyrrhotite only in stockwork in boulder.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform Stockwork  
CLASSIFICATION: Exhalative Syngenetic Hydrothermal Industrial Min.  
SHAPE: Tabular  
DIMENSION: STRIKE/DIP: 175/42E TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE Lower Mississippian GROUP Earn FORMATION Undefined Formation IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Graphitic Argillite  
Chert

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

Approximately 25 kilometres south of the Yukon-British Columbia border, near Alec Chief Creek, the Chief Southwest showing is hosted in Lower Mississippian Earn group chert and graphitic argillites. The showing consists of thin-bedded siliceous exhalite with very fine-grained barite and fine-grained layers of pyrite. A very large boulder across the creek consists of semi-massive pyrrhotite-pyrite with crosscutting quartz-chalcopyrite.

**BIBLIOGRAPHY**

EMPR ASS RPT 10974  
EMPR FIELDWORK 1987, pp. \*232-244  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11  
EMPR OF 2000-22

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/22

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 104**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 31 06 N  
LONGITUDE: 129 58 31 W  
ELEVATION: 1500 Metres

NORTHING: 6598176  
EASTING: 444814

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Discovery Zone. Three showings occur over 4 kilometres.

COMMODITIES: Barite                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Barite              Galena              Sphalerite

ASSOCIATED: Quartz              Pyrite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform  
CLASSIFICATION: Exhalative              Syngenetic              Industrial Min.

SHAPE: Tabular

DIMENSION:

STRIKE/DIP: 150/50E

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Mississippian	Earn	Undefined Formation	

LITHOLOGY: Argillite  
Chert

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Cassiar Mountains

**CAPSULE GEOLOGY**

About 5 kilometres south of Chromite Creek, the Blue showing consists of thin-bedded, siliceous, baritic, pyritic exhalite. This occurrence is exposed at four locations over a 7 kilometre strike length, that extends into NTS map 1040/9, with a strike of 150 degrees dipping 50 east. The exhalites contain barite, fine, wispy galena and local pale brown sphalerite and are hosted in black graphitic, phyllitic, argillite and grey chert of the Lower Mississippian Earn Group.

**BIBLIOGRAPHY**

EMPR ASS RPT \*10751  
EMPR FIELDWORK 1987, pp. \*232-244, 245-248  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11  
EMPR OF 2000-22

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/21

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 105**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARE**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P12W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 34 18 N  
LONGITUDE: 129 56 55 W  
ELEVATION: Metres

NORTHING: 6604093  
EASTING: 446407

LOCATION ACCURACY: Within 500M

COMMENTS: Conspicuous gossans within cirque.

COMMODITIES: Silver Gold Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
COMMENTS: Disseminated in alteration zones.  
ALTERATION: Quartz Clay Calcite Pyrite  
ALTERATION TYPE: Propylitic Sericitic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Hydrothermal  
SHAPE: Irregular  
COMMENTS: Irregular alteration zones of highly variable size.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Permian			Sylvester Allochthon

LITHOLOGY: Meta Volcanic  
Andesitic Porphyry

HOSTROCK COMMENTS: Feldspar-pyroxene porphyries of Division III of the Sylvester Allochthon (Fieldwork 1987).

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Cassiar Mountains

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Grab  
COMMODITY: Silver GRADE: 222.1700 Grams per tonne  
REFERENCE: Assessment Report 11355.

**CAPSULE GEOLOGY**

Approximately 5 kilometres north of Chromite Creek, conspicuous propylitic and sericitic alteration zones (irregular and of variable size) in andesitic porphyry's consist of quartz-carbonate-clay-pyrite-chalcopyrite.

Significant gold and silver assays are rare and failed to be duplicated by repeated sampling. The area is underlain by Lower Permian Division III intermediate volcanics of the Sylvester Allochthon.

Samples contained between 0.034 and 3.19 grams per tonne gold and between 0.034 and 8.23 grams per tonne silver. One sample contained an isolated high of 222.17 grams per tonne silver (Assessment Report 11355).

**BIBLIOGRAPHY**

EMPR ASS RPT \*11355  
EMPR FIELDWORK 1987, pp. \*232-244, 245-248  
EMPR MP MAP 1992-11  
EMPR OF 1988-10  
GSC MAP 1110A  
GSC MEM 319

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1150  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

Falconbridge File

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/21

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 106**

NATIONAL MINERAL INVENTORY:

NAME(S): **AX**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P12E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 31 41 N  
LONGITUDE: 129 30 42 W  
ELEVATION: Metres

NORTHING: 6598965  
EASTING: 471055

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead                      Copper                      Zinc

**MINERALS**

SIGNIFICANT:	Galena	Sphalerite	Chalcopyrite	Bornite	Chalcocite
ASSOCIATED:	Quartz				
ALTERATION:	Dolomite	Quartz	Limonite		
ALTERATION TYPE:	Carbonate	Silicific'n		Oxidation	
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Stockwork	Disseminated	
CLASSIFICATION:	Hydrothermal	Epigenetic		
SHAPE:	Tabular			
DIMENSION:	0300 x 0001	Metres	STRIKE/DIP: 150/80N	TREND/PLUNGE:
COMMENTS:	Strikes 150 degrees and dips 80 degrees northeast. Actual dimension of mineralized zone is 300 x 0.5 metres.			

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Atan	Rosella	
DATING METHOD:	Fossil		

LITHOLOGY: Limestone  
Dolomite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Cassiar Mountains
TERRANE: Cassiar	

**CAPSULE GEOLOGY**

Approximately 12 kilometres northeast of Gallic Lake, near French River, a wide zone of silicification (10 to 15 metres) with narrower mineralized widths (0.30 to 1 metre) contains disseminated to massive galena and crosscutting white quartz stockwork with chalcopyrite, bornite and chalcocite. A strike of 150 degrees dipping 80 degrees northeast is assumed to be for the mineralized zone. The area is underlain by Lower Cambrian Rosella Formation limestone and dolomite.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1987, pp. \*232-244  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 1988-10  
EMPR MP MAP 1992-11  
Placer Dome File

DATE CODED: 1987/10/06  
DATE REVISED: 1988/11/21

CODED BY: HWM  
REVISED BY: DEJ

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 107**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOME**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 09 23 N  
LONGITUDE: 129 36 36 W  
ELEVATION: Metres

NORTHING: 6557626  
EASTING: 465113

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite  
COMMENTS: Malachite staining on chalcopyrite.  
ASSOCIATED: Quartz  
ALTERATION: Limonite Malachite Carbonate  
ALTERATION TYPE: Oxidation Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Folded Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Argillite  
Diabase Dike  
Andesitic Volcanic  
Siltstone  
Basalt  
Lapilli Tuff  
Limestone

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area Mississippian to Permian in age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional  
PHYSIOGRAPHIC AREA: Cassiar Mountains  
RELATIONSHIP: Pre-mineralization  
GRADE: Greenschist

**CAPSULE GEOLOGY**

This property, on the west side of Huntergroup Creek, is underlain by Mississippian-Permian metavolcanic and metasedimentary rocks of the Sylvester Allochthon which forms the core of the McDame synclinorium. These rocks are believed to be an allochthonous oceanic terrane thrust onto the carbonate and clastic rocks of the Cassiar platform. Locally, the Sylvester Allochthon consists of andesitic volcanics, diabase dykes and sills, and fine-grained clastic sediments overlain by basalts and basaltic andesites. Argillites are the most dominant unit and are locally carbonaceous, but siltstones are also present. The sediments are thin-bedded, trend northwest and are generally steeply dipping. Approximately 300 metres to the east, cliff forming basalt to basaltic andesitic flows and lapilli and ash tuffs outcrop. These metavolcanics are dark green, massive and contain up to 50 metre wide massive to locally crinoidal limestones. The metavolcanics are cut by 1 to 3 metre wide basaltic andesitic dykes. Chalcopyrite with malachite staining occurs in a 1 metre wide northwest trending quartz-limonite gouge zone within argillite. The strike length is not known but appears limited.

**BIBLIOGRAPHY**

GSC MEM 194; 319  
GSC MAP 381A; 1110A  
EMPR FIELDWORK 1988 pp.339-344  
EMPR ASS RPT \*16186, 17666



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1153  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR EXPL 1987-C400  
Harms, T.A., (1986): Structural and Tectonic Analysis of the  
Sylvester Allochthon, Northern British Columbia, Implications for  
Paleogeography and Accretion, Ph.D. Thesis, University of Arizona

DATE CODED: 1987/11/23  
DATE REVISED: 1988/11/22

CODED BY: GSA  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 108**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOME WEST**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 09 59 N  
LONGITUDE: 129 42 06 W  
ELEVATION: 1525 Metres

NORTHING: 6558791  
EASTING: 459883

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold Pyrite  
ASSOCIATED: Quartz Ankerite  
ALTERATION: Carbonate Pyrite  
ALTERATION TYPE: Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork Vein  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Andesite  
Basaltic Andesite  
Lapilli Tuff  
Ash Tuff  
Chert

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area Mississippian to Permian in age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

On the northern slope of Needlepoint Mountain, this gold occurrence is underlain by interlayered massive green andesites and tuffs interbedded with thin green to black cherts, all of which are part of the Upper Paleozoic Sylvester Allochthon. This package is preserved within the northwest trending, southeast plunging McDame Synclinorium. A large gossan (250 by 100 metres), over the carbonate-pyrite altered metavolcanics, hosts a quartz-ankerite vein-stockwork. Veins from 1 to 3 centimetres wide are observed in outcrop.

Several rock samples taken from vuggy quartz and carbonate altered volcanics gave values between 0.32 and 0.54 grams per tonne gold. A quartz vein with visible gold was reported in 1983 but later snow cover prevented sampling.

In the region all significant gold-bearing quartz veins are hosted in Sylvester Allochthon rocks. The veins are generally east-west to northeast trending and occur with similar gossan forming quartz-carbonate-pyrite alteration zones, as occur at this showing.

**BIBLIOGRAPHY**

EMPR ASS RPT \*16186, 17666  
EXPL EXPL 1986, p. A41  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
EMPR FIELDWORK 1980, pp. 55-62; 1988 pp.339-344  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications for Paleogeography and Accretion, Ph.D. Thesis, University of Arizona

DATE CODED: 1987/11/26  
DATE REVISED: 1988/11/21

CODED BY: GP  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 108**

MINFILE NUMBER: **104P 109**

NATIONAL MINERAL INVENTORY:

NAME(S): **HYLAND RIVER GOLD PLACER**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P16E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 55 19 N  
LONGITUDE: 128 11 26 W  
ELEVATION: Metres

NORTHING: 6642995  
EASTING: 545254

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the Hyland River, south of the Alaska Highway.

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold  
COMMENTS: Flaky Placer gold in magnetic black sand concentrate.  
ASSOCIATED: Garnet  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE    GROUP  
Recent

FORMATION

IGNEOUS/METAMORPHIC/OTHER  
Unnamed/Unknown Informal

LITHOLOGY: Gravel

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar

PHYSIOGRAPHIC AREA: Liard Lowland

**CAPSULE GEOLOGY**

Black sand concentrations occur along the up-stream shoulders of the concave river shore line. Fine-grained gold, with associated garnets, occurs within the black sand and the gold has high concentrations locally. From 1967, exploration assays from test pits excavated to 2.4 metres depth ranged from 0.68 grams per tonne to 17.8 grams per tonne gold (Assessmet Report 15820). Gold amalgamation tests in 1988 recovered only an immeasurably small amount of gold. However, a ground magnetometric survey outlined some areas believed to be black sand concentrations.

**BIBLIOGRAPHY**

EMPR ASS RPT \*15820, \*16936, \*17006  
EMPR EXPL 1987, pp. C404,C405; 1989, pp. 229-236  
EMPR OF 1988-32  
GCNL #95,#126,#139,#157,#167,#191, 1985

DATE CODED: 1987/10/22  
DATE REVISED: 1988/11/21

CODED BY: LLC  
REVISED BY: DEJ

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **104P 110**

NATIONAL MINERAL INVENTORY:

NAME(S): **DOROTHY, GO**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P04E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 54 N  
LONGITUDE: 129 37 23 W  
ELEVATION: 914 Metres

NORTHING: 6567871  
EASTING: 464462

LOCATION ACCURACY: Within 500M

COMMENTS: Location of the Dorothy vein on the Go claims (Assessment Report 15059).

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Unknown

COMMENTS: Mineralization is undefined. Probably same as for Erickson veins.

ASSOCIATED: Quartz

ALTERATION: Quartz Carbonate

ALTERATION TYPE: Quartz-Carb. Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

DIMENSION: 0021 x 0001 Metres

COMMENTS: The Dorothy vein dips steeply northward.

STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Paleozoic

Sylvester Allochthon

LITHOLOGY: Greenstone  
Basalt Flow  
Pyroclastic  
Argillite  
Ultramafic  
Tuff  
Quartz Vein  
Listwanite

HOSTROCK COMMENTS: The Sylvester Allochthon is an oceanic assemblage of metasediments, metavolcanics and ultramafics, Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Slide Mountain

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

42.5070

Grams per tonne

Gold

8.7070

Grams per tonne

COMMENTS: Assay taken over a 6 metre interval.

REFERENCE: Assessment Report 15059.

**CAPSULE GEOLOGY**

The Dorothy vein, north of the Erickson gold mine vein package, is located on the Go claim 13 kilometres southeast of the town of Cassiar in northern British Columbia.

The property lies within the Sylvester Allochthon situated on the northeastern margin of the Cretaceous Cassiar Batholith. The Sylvester Allochthon is a fault bound imbricate assemblage of Devonian to Triassic regionally metamorphosed (greenschist facies) oceanic rocks thrust over sediments of autochthonous North America. The assemblage, Upper Paleozoic in this area, contains greenstones, basaltic to andesitic flows, pyroclastics, ultramafics, tuffs and Triassic argillites.

Along the argillite-volcanic contact, a basal Mississippian-

## CAPSULE GEOLOGY

Permian detachment surface, is a well-developed listwanite horizon with associated flat lying quartz veins and stringers. The Dorothy vein, however, dips steeply northward and is hosted by metavolcanics. The vein was exposed along strike for 21 metres with an average thickness of 0.65 metres in a trench (21 by 1 by 1 metres) along the Finlayson Road.

A chip sample taken over a 6 metre interval assayed 8.707 grams per tonne gold and 42.507 grams per tonne silver (Assessment Report 15059)

## BIBLIOGRAPHY

- EMPR ASS RPT \*15059  
EMPR FIELDWORK 1988 pp.339-344  
EMPR EXPL 1986-C463  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern B.C., Implications for Paleogeography and Accretion (Ph.D. Thesis, U. of Arizona)  
Dussell, E., (1986): Listwanites and Their Relationship to Gold Mineralization at Erickson Mine, B.C., Canada (M.Sc. Thesis, Western Washington University)  
EMPR PF (Boronowski, A., (1988): Erickson Gold Camp, Geology and Metallogeny of Northwestern British Columbia, Smithers Exploration Group-G.A.C. Cordilleran Section, Workshop Oct. 16-19, 1988, pp. A10-A21; Nelson, J. and Bradford, J., (1988): Late Paleozoic Marginal Basin and Island Arc Environments in the Sylvester Allochthon and Structural Framework of Mineralization in the Cassiar-Erickson Camp, Geology and Metallogeny of Northwestern B.C., Smithers Exploration Group-G.A.C. Cordilleran Section, Workshop Oct. 16-19, 1988, p. A72-73)

DATE CODED: 1988/11/02  
DATE REVISED: / /

CODED BY: DJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104P 111**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOHNNY CREEK, SIS**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P07W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 22 19 N  
LONGITUDE: 128 49 31 W  
ELEVATION: 1900 Metres

NORTHING: 6581482  
EASTING: 509930

LOCATION ACCURACY: Within 500M

COMMENTS: Location of assay samples which were taken at the junction of the claim group, (Assessment Report 9401).

COMMODITIES: Tungsten Copper

**MINERALS**

SIGNIFICANT: Scheelite Tourmaline Chalcopyrite Pyrite Pyrrhotite  
COMMENTS: Pyrite, pyrrhotite and chalcopyrite occur in very low concentrations.  
ASSOCIATED: Calcite Garnet Diopside Vesuvianite Muscovite  
Biotite  
ALTERATION: Calcite Garnet Diopside Vesuvianite  
ALTERATION TYPE: Skarn Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Vein  
CLASSIFICATION: Skarn Hydrothermal  
SHAPE: Irregular  
MODIFIER: Folded Faulted  
COMMENTS: The bedding dips between 30 and 50 degrees southwest on this property.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Proterozoic-Cambrian	Horseranch	Undefined Formation	
ISOTOPIC AGE:	2.22 Ga		
DATING METHOD:	Zircon		
MATERIAL DATED:	Detrital Zircon		

LITHOLOGY: Mica Schist  
Hornfels  
Skarn  
Limestone  
Granite  
Tourmaline Pegmatite  
Ultramafic  
Gneiss  
Quartz Vein

HOSTROCK COMMENTS: 2.22 Ga is suggested to be the age of the source rock for the sediments (Erdmer and Baadsgard, 1987).

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional  
COMMENTS: The age and relationship of metamorphism is unknown.

PHYSIOGRAPHIC AREA: Liard Lowland  
RELATIONSHIP:  
GRADE: Amphibolite

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1981  
SAMPLE TYPE: Chip  
COMMODITY  
Tungsten GRADE  
0.1500 Per cent  
COMMENTS: Commodity is tungsten oxide (WO3).  
REFERENCE: Assessment Report 9401.

**CAPSULE GEOLOGY**

The Johnny Creek showing is located on the Sis claims near the headwaters of Johnny Creek at the center of the Horseranch range, 85 kilometres south of Watson Lake, Yukon Territories.

The stratigraphy of the Horseranch Range is comprised entirely of the undivided Horseranch Group consisting of mica schists, limestone, hornfels, skarn, granite, pegmatite dykes and quartz veins. The

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## CAPSULE GEOLOGY

structure of the range is a doubly plunging fault-bounded anticline and it has been suggested that it could be a metamorphic core complex (Plint, 1987). The group has been regionally metamorphosed to amphibolite grade (date unknown) and was displaced several hundred kilometres northward along the Tintina-Rocky Mountain Trench Fault system.

The stratigraphy over the range has variable orientations but in the vicinity of the showing has a dip of 30 to 50 degrees southwest. Pyrite, pyrrhotite and trace chalcopyrite are found along cleavage planes, disseminated and in quartz veins in the mica schists. Black tourmaline is common as stubby crystals in vein and dyke selvages, within quartz segregations and associated with garnet in pegmatites. Coarse-grained brown tourmaline occurs with quartz and calcite in skarns adjacent to pegmatites.

Scheelite is restricted to the skarns and re-crystallized limestones. The crystals range in size from 1 millimetre to 1 centimetre with an average of 1 to 3 millimetres. A rock chip sample assayed 0.15 per cent tungsten oxide (Assessment Report 9401).

## BIBLIOGRAPHY

EMPR ASS RPT \*9401  
GSC MEM 194; \*319  
GSC MAP 381A; 1110A  
GSC OF 562  
EMPR EXPL 1981-29  
EMPR FIELDWORK \*1987, pp. 254-260; 1988 pp. 347-351  
EMPR OF 1991-17

DATE CODED: 1988/11/03  
DATE REVISED: / /

CODED BY: DJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104P 112**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOOMERANG, Lyla, LUCKY,  
DEE, ELAN, JOAB,  
LANG CREEK**

MINING DIVISION: Liard

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 104P05W

UTM ZONE: 09 (NAD 83)

BC MAP:  
LATITUDE: 59 17 26 N  
LONGITUDE: 129 46 42 W  
ELEVATION: 1780 Metres

NORTHING: 6572665  
EASTING: 455661

LOCATION ACCURACY: Within 500M

COMMENTS: Location is Boomerang vein. The Lyla vein is 130 metres south and 1.1 kilometres east, the Lucky vein is 500 metres east and 25 metres north.

COMMODITIES: Silver                      Gold                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Tetrahedrite      Sphalerite      Chalcopyrite

COMMENTS: Trace amounts of chalcopyrite.

ASSOCIATED: Pyrite      Quartz  
ALTERATION: Quartz      Carbonate      Malachite      Azurite

ALTERATION TYPE: Quartz-Carb.      Oxidation

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Discordant  
CLASSIFICATION: Hydrothermal      Epigenetic                      Replacement

SHAPE: Tabular  
MODIFIER: Folded                      Faulted

DIMENSION:    STRIKE/DIP: 135/65S

COMMENTS: Strike is average for 3 veins, dip is average for Boomerang and Lyla, the Lucky dips 50 degrees northeast.                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Paleozoic                                                                Sylvester Allochthon

LITHOLOGY: Greenstone  
Basalt Flow  
Pyroclastic  
Argillite  
Limestone  
Greywacke  
Chert  
Listwanite  
Quartz Vein

HOSTROCK COMMENTS: The Sylvester Allochthon is an oceanic assemblage with both metasediments and metavolcanics, Mississippian to Permian in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca    PHYSIOGRAPHIC AREA: Cassiar Mountains

TERRANE: Slide Mountain

METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE: VEINS    REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1984  
SAMPLE TYPE: Chip

COMMODITY                      GRADE  
Silver                      1662.5800      Grams per tonne  
Gold                      5.9650              Grams per tonne

COMMENTS: Best assay from the three veins.  
REFERENCE: Assessment Report 13056.

**CAPSULE GEOLOGY**

These showings, in the Boomerang, Lucky and Lyla veins, are located on the Dee and Joab claims, 4 kilometres east of the town of Cassiar.

Placer gold was discovered on Mcdame Creek in 1863. By 1894, 70 000 ounces of gold had been removed from the Mcdame creek and other



## CAPSULE GEOLOGY

local creeks. The Cassiar mine began production in 1954 on lode gold and the Erickson mine began production on the Jennie vein in 1978.

The property is underlain by the Sylvester Allochthon located on the northeastern margin of the Cretaceous Cassiar Batholith. The Sylvester Allochthon is a fault bound imbricate assemblage of Devonian to Triassic regionally metamorphosed (greenschist) oceanic rocks thrust over the sediments of autochthonous North America. The assemblage contains basaltic to andesitic flows, pyroclastics, argillites, limestones, greywacke, chert, listwanite and quartz veins.

The property is on the southwest limb of the allochthon which has its major axis trending northwest-southeast, the bedding dips vary from 45 degrees to subvertical. The volcanics contain three joint sets, the dominant being roughly east-west with a steep southerly dip. Most of quartz veins share this attitude. The strike of the three main quartz veins is 135 degrees (azimuth) with dips for the Boomerang and Lyla veins averaging 65 degrees to the south. The Lucky vein has a dip of 50 degrees northeast.

The mineralization in the three veins consists of tetrahedrite (massive), sphalerite, trace chalcopyrite and pyrite. The quartz-carbonate alteration of a parent ultramafic has produced listwanite which is associated with increased mineralization in the quartz veins. Malachite and azurite are present as the alteration products of tetrahedrite.

The best assay from these three veins comes from the Lucky vein. A chip sample over a highly mineralized zone assayed 5.965 grams per tonne gold and 1662.58 grams per tonne silver (Assessment Report 13056).

## BIBLIOGRAPHY

- Dussell, E., (1986): Listwanites and Their Relationship to Gold Mineralization at Erickson Mine, British Columbia, Canada (M.Sc. Thesis, Western Washington University)
- Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon, Northern British Columbia, Implications for Paleogeography and Accretion (Ph.D. Thesis, University of Arizona)
- EMPR PF (Boronowski, A., (1988): Erickson Gold Camp, Geology and Metallogeny of Northwestern British Columbia, Smithers Exploration Group - G.A.C. Cordilleran Section, Workshop Oct. 16-19, 1988, pp. A10-A21; Nelson, J. and Bradford, J., (1988): Late Paleozoic Marginal Basin and Island Arc Environments in the Sylvester Allochthon and Structural Framework of Mineralization in the Cassiar-Erickson Camp, Geology and Metallogeny of Northwestern British Columbia, Smithers Exploration Group - G.A.C. Cordilleran Section, Workshop Oct. 16-19, 1988, pp. A72-73)
- EMPR ASS RPT \*13056, \*14375, \*15396
- GSC MEM 194; 319, p. 138
- GSC MAP 381A; 1110A
- EMPR MP MAP 1992-13

DATE CODED: 1988/11/07  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104P 113**

NATIONAL MINERAL INVENTORY:

NAME(S): **KATHERINE**, NU TARA

STATUS: Developed Prospect

REGIONS: British Columbia

NTS MAP: 104P04E

BC MAP:

LATITUDE: 59 10 54 N

LONGITUDE: 129 41 59 W

ELEVATION: 1250 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location of drilling done on Katherine vein. Marion vein is 125 metres east and north of Katherine vein (Assessment Report 17615).

MINING DIVISION: Liard

UTM ZONE: 09 (NAD 83)

NORTHING: 6560491

EASTING: 460012

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Gold Silver

ASSOCIATED: Quartz Pyrite

ALTERATION: Quartz

ALTERATION TYPE: Quartz-Carb.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

SHAPE: Tabular

MODIFIER: Folded Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Listwanite  
Argillite  
Pyroclastic  
Andesite Flow  
Basalt Flow  
Chert  
Greenstone

HOSTROCK COMMENTS: The Sylvester Allochthon of Mississippian to Permian in age is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Slide Mountain

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Drill Core

COMMODITY

Silver

GRADE

3.4280

Grams per tonne

Gold

26.9440

Grams per tonne

COMMENTS: DDH 88-33, over 0.5 metres.

REFERENCE: Assessment Report 17615.

**CAPSULE GEOLOGY**

The Katherine vein is located 1.1 kilometre southwest of the Cusac mine near the town of Cassiar in northern B.C. on the Nu Tara claim. It was discovered in 1987 and has been open pitted but no figures are available (Personal Communication with Alex Boronowski, 1988).

Placer gold was discovered on McDame Creek in 1863 and prospectors became interested in the area, by 1894, 70 000 ounces of gold had been removed from the McDame Creek and other local creeks. The Cassiar mine began production in 1954 on lode gold and the Erickson mine began production on the Jennie vein in 1978. The Cusac mine began production on the Eileen vein in 1986.

The Katherine vein is hosted by the Upper Paleozoic Sylvester Allochthon located on the northeastern margin of the Cretaceous Cassiar Batholith. The Sylvester Allochthon is a fault bound imbricate

## CAPSULE GEOLOGY

cate assemblage of Devonian to Triassic regionally metamorphosed (greenschist facies) oceanic rocks thrust over autochthonous North American sediments. In this area the Mississippian to Permian assemblage consists of basaltic to andesitic flows, pyroclastics, argillites, chert, listwanite and quartz veins.

The Lower Cretaceous mineralization is associated with the intrusion of the Cretaceous Cassiar Batholith post dating the regional metamorphic event. The mineralization of the Katherine vein consists of gold and silver with associated pyrite and zones of quartz-carbonate alteration (Listwanite). The other sulphides present in the drill core were not identified. The carbonate alteration of a parent ultramafic has produced Listwanite which is associated with increased mineralization in the quartz veins.

The best assay from the area was in the Katherine vein which assayed 26.944 grams per tonne gold and 3.425 grams per tonne silver over 0.5 metres (Assessment Report 17615).

## BIBLIOGRAPHY

- EMPR ASS RPT \*17615  
GSC MEM 194; 319  
GSC MAP 381A; 1110A  
EMPR FIELDWORK 1987, pp. 232-243,245-248  
Dussell, E., (1986): Listwanites and their Relationship to Gold Mineralization at Erickson Mine, British Columbia, Canada; M.Sc. Thesis, Western Washington University  
EMPR PF (Boronowski, A. (1988), Erickson Gold Camp, Geology and Metallogeny of Northwestern British Columbia, Smithers Exploration Group, G.A.C. Cordilleran Section, Workshop, Oct. 16-19, 1988, pp. A10-A21; Nelson, J. and Bradford, J. (1988), Late Paleozoic Marginal Basin and Island Arc Environments in the Sylvester Allochthon; and Structural Framework of Mineralization in the Cassiar-Erickson Camp, Geology and Metallogeny of Northwestern B.C., Smithers Exploration Group - G.A.C. Cordilleran Section, Workshop Oct. 16-19, 1988, pp. A72-73  
Harms, T.A., (1986): Structural and Tectonic Analysis of the Sylvester Allochthon Northern B.C.; Implications for Paleogeography and Accretion (Ph.D. Thesis, University of Arizona)

DATE CODED: 1988/11/09  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104P 114**

NATIONAL MINERAL INVENTORY:

NAME(S): **CASSIAR PIT**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 19 35 N  
LONGITUDE: 129 49 08 W  
ELEVATION: 2040 Metres

NORTHING: 6576683  
EASTING: 453400

LOCATION ACCURACY: Within 500M

COMMENTS: Showing in east wall of Cassiar asbestos pit (Fieldwork, 1988).

COMMODITIES: Copper                      Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite  
ASSOCIATED: Pyrite              Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive                      Concordant  
CLASSIFICATION: Volcanogenic              Syngenetic                      Exhalative  
SHAPE: Tabular  
MODIFIER: Faulted

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic			Sylvester Allochthon

LITHOLOGY: Tuff  
Argillite

HOSTROCK COMMENTS: The Sylvester Allochthon, in this area Mississippian to Permian in age, is a typical oceanic assemblage.

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Slide Mountain  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Greenschist

**CAPSULE GEOLOGY**

This showing is exposed in the east wall of the Cassiar asbestos mine pit, above the serpentinite sliver hosting the asbestos ore body. The occurrence consists of a small (less than 1 metre) lens of concordant, laminated, massive chalcopyrite-pyrite-sphalerite-quartz in intercalated green tuff and argillite of the Upper Paleozoic Sylvester Allochthon. This occurrence is classified as volcanogenic, syngenetic. Siliceous horizons of possible exhalative origin occur near the tuff argillite contact along strike to the north, while a pyritic quartz stockwork occurs to the east.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1988 pp. 323-337  
EMPR MP MAP 1992-13  
GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1988/11/16  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK:

MINFILE NUMBER: **104P 115**

NATIONAL MINERAL INVENTORY:

NAME(S): **DIABLO**, BRX

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 25 30 N  
LONGITUDE: 129 49 29 W  
ELEVATION: 1500 Metres

NORTHING: 6587668  
EASTING: 453204

LOCATION ACCURACY: Within 500M  
COMMENTS: Vein location.

COMMODITIES: Silver                      Copper                      Zinc                      Antimony

**MINERALS**

SIGNIFICANT: Tetrahedrite      Chalcopyrite      Sphalerite  
ASSOCIATED: Quartz              Pyrite  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Stockwork  
CLASSIFICATION: Hydrothermal      Epigenetic              Disseminated  
SHAPE: Tabular  
MODIFIER: Fractured  
DIMENSION: 0025 x 0005 x 0001 Metres  
COMMENTS: Veins are up to 1 metre wide.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Devonian-Mississipp.	Earn	Undefined Formation	
DATING METHOD: Fossil			
MATERIAL DATED: Conodonts			

LITHOLOGY: Black Slate  
Siltstone  
Porcellanite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional              RELATIONSHIP:              GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	550.0000      Grams per tonne
Copper	2.5100      Per cent
Antimony	1.7700      Per cent
Zinc	0.3800      Per cent

COMMENTS: Highest assay values.  
REFERENCE: Open File 1989-9.

**CAPSULE GEOLOGY**

The Diablo showing is located approximately 11 kilometres due north of the Cassiar asbestos mine. The area is underlain by Upper Devonian to Lower Mississippian Earn Group sedimentary rocks. Mineralized quartz veins and stockworks cut black slate, siltstone and porcellanite. The mineralization consists of blebs and disseminated pyrite, tetrahedrite, chalcopyrite. The veins are up to 1.0 metre wide and contain abundant wallrock fragments. Grab samples assayed up to 550 grams per tonne silver, 2.51 per cent copper, 0.38 per cent zinc and 1.77 per cent antimony (Open File 1989-9).

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1988 pp. 323-338  
EMPR OF 1989-9

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1166  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR MP MAP 1992-13  
GSC MEM 319  
GSC MAP 1110A

DATE CODED: 1988/11/10  
DATE REVISED: 1990/11/22

CODED BY: JB  
REVISED BY: JN

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **104P 116**

NATIONAL MINERAL INVENTORY:

NAME(S): **ET**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 26 46 N  
LONGITUDE: 129 51 15 W  
ELEVATION: 1500 Metres

NORTHING: 6590039  
EASTING: 451563

LOCATION ACCURACY: Within 500M

COMMENTS: Barite lens (Energy, Mines and Petroleum Resources Fieldwork, 1988).

COMMODITIES: Barite

**MINERALS**

SIGNIFICANT: Barite  
ASSOCIATED: Quartz Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Concordant                      Layered  
CLASSIFICATION: Exhalative                      Syngenetic                      Hydrothermal                      Industrial Min.  
SHAPE: Tabular  
MODIFIER: Folded

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Mississippian	Earn	Undefined Formation	

LITHOLOGY: Black Slate  
Siltstone  
Porcellanite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca                      PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Post-mineralization                      GRADE: Greenschist

**CAPSULE GEOLOGY**

Approximately 17 kilometres north of Cassiar, the ET showing is underlain by Lower Mississippian Earn Group black slate, siltstone and porcellanite.

Thin-bedded grey barite occurs in these regionally metamorphosed sediments.

This occurrence is similar to an occurrence 4.0 kilometres due south (Jan 104P 117). The southern occurrence consists of horizons of siliceous exhalite up to 10 metres thick that grade laterally into thin-bedded and nodular barite. These horizons locally contain pyritic laminae and are brecciated.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1988 (in press)  
EMPR MP MAP 1992-13  
GSC MEM 319  
GSC MAP 1110A  
EMPR OF 2000-22

DATE CODED: 1988/11/10  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK:

MINFILE NUMBER: **104P 117**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAN**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 23 18 N  
LONGITUDE: 129 49 29 W  
ELEVATION: 1875 Metres

NORTHING: 6583585  
EASTING: 453153

LOCATION ACCURACY: Within 500M

COMMENTS: Barite lens (Energy, Mines and Petroleum Resources Fieldwork, 1988).

COMMODITIES: Barite Silver Copper Lead Zinc

**MINERALS**

SIGNIFICANT: Barite Tetrahedrite  
ASSOCIATED: Quartz Pyrite  
ALTERATION: Malachite Azurite Hydrozincite Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform Concordant Layered Vein  
CLASSIFICATION: Syngenetic Hydrothermal Exhalative Industrial Min.  
SHAPE: Tabular  
COMMENTS: Strata dips northeast.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Mississippian Earn Undefined Formation

LITHOLOGY: Siliceous Black Slate  
Siltstone  
Porcellanite

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Cassiar Mountains  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: BRECCIA REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1982  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 5.1420 Grams per tonne  
Barite 0.1800 Per cent  
Lead 0.1000 Per cent  
Zinc 0.0400 Per cent

COMMENTS: From pyritic breccia.  
REFERENCE: Assessment Report 10969.

**CAPSULE GEOLOGY**

The Jan claim group is located 13 kilometres north of Cassiar. The showing is underlain by northeast dipping Lower Mississippian Earn Group black siliceous slates, siltstones and porcellanite. Horizons of siliceous exhalite, up to 10 metres thick, grade laterally into thin-bedded and nodular barite. Locally these horizons contain pyritic laminae and are brecciated. Thin quartz stringers are also present on this group of claims. Frequently the stringers contain tetrahedrite, malachite and azurite. Hydrozincite and limonite are present as oxidation products. A grab sample from a pyritic breccia assayed 0.10 per cent lead, 0.04 per cent zinc, 0.18 per cent barite and 5.142 grams per tonne silver (Assessment Report 10969).

**BIBLIOGRAPHY**

EMPR ASS RPT \*10969  
EMPR FIELDWORK \*1988 pp. 323-337  
EMPR MP MAP 1992-13  
EMPR OF 2000-22  
GSC MAP 1110A



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC MEM 319

DATE CODED: 1988/11/10  
DATE REVISED: / /

CODED BY: JB  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK:

MINFILE NUMBER: **104P 118**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAPID RIVER COAL**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P02W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 29 N  
LONGITUDE: 128 53 26 W  
ELEVATION: Metres

NORTHING: 6566936  
EASTING: 506244

LOCATION ACCURACY: Within 1 KM  
COMMENTS: From GSC Map 1110A in Tertiary basin.

COMMODITIES: Coal

**MINERALS**

SIGNIFICANT: Coal  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound                      Layered                      Concordant  
CLASSIFICATION: Fossil Fuel                      Sedimentary                      Syngenetic  
SHAPE: Tabular  
MODIFIER: Folded  
COMMENTS: Coal seams are 15 to 30 centimetres thick.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Tertiary	Sifton	Undefined Formation	

LITHOLOGY: Lignite  
Coal

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Liard Lowland

RELATIONSHIP: Syn-mineralization                      GRADE: Sub-Bituminous Lignite

**CAPSULE GEOLOGY**

Tertiary sub-bituminous and lignitic coal has been recorded in the Rapid River valley, approximately 9.7 kilometres from its confluence with the Dease River. The coal seams are 15 to 30 centimetres thick. The contorted seams occur northeast of the river in a northwest trending basin which measures 16 by 4.8 kilometres. The northern extension of the Sifton Group hosts the coal bearing sequence.

**BIBLIOGRAPHY**

EMPR P \*1986-5, p. 26  
GSC MAP \*1110A  
GSC MEM 319  
EMPR FIELDWORK 1988 pp.347-351

DATE CODED: 1988/12/02  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104P 119**

NATIONAL MINERAL INVENTORY:

NAME(S): **LIARD RIVER COAL**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P10W  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 54 59 N  
LONGITUDE: 128 23 06 W  
ELEVATION: Metres

NORTHING: 6642259  
EASTING: 534389

LOCATION ACCURACY: Within 5 KM

COMMENTS: Energy, Mines and Petroleum Resources Paper 1986-5, Figure 1.

COMMODITIES: Coal

**MINERALS**

SIGNIFICANT: Coal  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound	Layered	Concordant
CLASSIFICATION: Fossil Fuel	Sedimentary	Syn-genetic
SHAPE: Tabular		

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

Tertiary

**GROUP**

Undefined Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Lignite  
Coal

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca  
TERRANE: Cassiar  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Liard Lowland

RELATIONSHIP: Syn-mineralization

GRADE: Lignite

**CAPSULE GEOLOGY**

Lignitic coal occurs in Tertiary basins south of the British Columbia-Yukon border. A diamond drilling project conducted by Placer Development in 1978 intersected thin and poor quality coal seams. No other information is available.

**BIBLIOGRAPHY**

EMPR P \*1986-5, p. 26  
GSC MAP 1110A  
GSC MEM 319

DATE CODED: 1988/12/02  
DATE REVISED: / /

CODED BY: DEJ  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

MINFILE NUMBER: **104P 120**

NATIONAL MINERAL INVENTORY:

NAME(S): **DALZIEL**

MINING DIVISION: Liard

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 104P05W 104P05E  
BC MAP:

UTM ZONE: 09 (NAD 83)

LATITUDE: 59 14 40 N  
LONGITUDE: 129 30 11 W  
ELEVATION: Metres

NORTHING: 6567380  
EASTING: 471304

LOCATION ACCURACY: Within 500M

COMMENTS: Location from unpublished map (Cassiar Asbestos, 1984).

COMMODITIES: Zinc

**MINERALS**

SIGNIFICANT: Pyrite Sphalerite

ASSOCIATED: Diopside

MINERALIZATION AGE: Eocene

**DEPOSIT**

CHARACTER: Stratabound Massive  
CLASSIFICATION: Replacement Skarn

SHAPE: Tabular

COMMENTS: Massive pyrrhotite-diopside(?) - sphalerite lens.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Unknown	Unnamed/Unknown Group	Rosella	
Eocene			Mount Haskin Stock

LITHOLOGY: Marble

**GEOLOGICAL SETTING**

TECTONIC BELT: Omineca

TERRANE: Cassiar

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Cassiar Mountains

RELATIONSHIP:

GRADE: Hornfels

**CAPSULE GEOLOGY**

A massive pyrrhotite-diopside(?) - sphalerite lens occurs in Rosella Formation marble south of the Eocene Mount Haskins stock.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1988 pp. 323-338  
EMPR MP MAP 1992-13  
Cassiar Asbestos (1984) unpublished map

DATE CODED: 1990/11/23  
DATE REVISED: / /

CODED BY: JN  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **104P 120**

MINFILE NUMBER: **1140 001**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORM**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 114016W  
 BC MAP:

UTM ZONE: 07 (NAD 83)

LATITUDE: 59 58 00 N  
 LONGITUDE: 138 27 53 W  
 ELEVATION: 1360 Metres

NORTHING: 6650410  
 EASTING: 641531

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the upper northeast corner of the Tweedsmuir Glacier, approximately 4 kilometres south of the Yukon border. The showing occurs in a steep, west facing gulley near the ridge top of a nunatak.

COMMODITIES: Gold Silver Copper Lead Zinc

**MINERALS**

SIGNIFICANT: Galena  
 ASSOCIATED: Pyrite  
 ALTERATION: Quartz Carbonate Pyrite Limonite  
 ALTERATION TYPE: Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
 CLASSIFICATION: Hydrothermal  
 SHAPE: Tabular  
 DIMENSION: 10 x 1 Metres STRIKE/DIP: TREND/PLUNGE:  
 COMMENTS: Gossanous zone containing a sulphide-bearing quartz-carbonate vein. Strike is north-northwest, dipping vertically.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
 Unknown Unnamed/Unknown Group Unnamed/Unknown Formation

LITHOLOGY: Gabbro  
 Quartz Carbonate Vein

HOSTROCK COMMENTS: Gossanous zone containing a sulphide-bearing quartz-carbonate vein, hosted by a medium grained, altered hornblende gabbro.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Icefield Ranges  
 TERRANE: Alexander  
 METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Greenschist  
 Post-mineralization  
 COMMENTS: Possibly a fault-related hydrothermal event.

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
 YEAR: 1992  
 CATEGORY: Assay/analysis  
 SAMPLE TYPE: Grab  
 COMMODITY GRADE  
 Gold 2.0700 Grams per tonne  
 Silver 540.0000 Grams per tonne  
 Copper 0.0196 Per cent  
 Lead 10.5000 Per cent  
 Zinc 0.0083 Per cent

REFERENCE: Fieldwork 1992, pages 185-229.

**CAPSULE GEOLOGY**

The showing is located in the northeastern part of the Tweedsmuir Glacier four kilometres south of the Yukon border on an isolated, steep-sided nunatak. The area is underlain dominantly by weakly metamorphosed sedimentary and volcanic rocks, intruded by gabbro-diorite pluton characterized by strong compositional layering. Gabbro consists of medium to very coarse grained hornblende with lesser white plagioclase. The Gabbro locally contains gossanous zones which host quartz-carbonate veins.  
 A one metre wide, west-trending vein was found to contain up to 30 per cent coarse galena as small veinlets and lenses as well as disseminated pyrite.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

A single grab sample yielded up to 10.5 per cent lead, 540 grams per tonne of silver, and 2.07 grams per tonne gold (Fieldwork 1992, pages 185-229).

**BIBLIOGRAPHY**

EMPR FIELDWORK 1992, pp. 185-229

DATE CODED: 1992/10/09  
DATE REVISED: 1993/04/06

CODED BY: MDE  
REVISED BY: MSM

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **1140 002**

NATIONAL MINERAL INVENTORY:

NAME(S): **WOUNDED HEDGEHOG**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114009E  
BC MAP:

UTM ZONE: 07 (NAD 83)

LATITUDE: 59 43 09 N  
LONGITUDE: 138 04 11 W  
ELEVATION: 305 Metres

NORTHING: 6623776  
EASTING: 664792

LOCATION ACCURACY: Within 500M

COMMENTS: Location is at the toe of the Vern Ritchie Glacier,  
approximately six kilometres west of the Alsek River and four  
kilometres northwest of Vern Ritchie Lake.

COMMODITIES: Silver                      Copper                      Lead                      Zinc                      Gold

**MINERALS**

SIGNIFICANT: Pyrrhotite      Chalcopyrite      Bornite  
ASSOCIATED: Pyrrhotite  
ALTERATION: Limonite      Hematite      Chlorite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Jurassic-Cretaceous

**DEPOSIT**

CHARACTER: Massive                      Concordant                      Disseminated                      Podiform  
CLASSIFICATION: Skarn  
SHAPE: Irregular  
DIMENSION: 2 x 1                      Metres                      STRIKE/DIP: 170/90                      TREND/PLUNGE:  
COMMENTS: Mineralization is concordant with host rock foliation. Area of  
identified massive sulphide relatively restricted. Disseminated  
mineralization occurs over a large area.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic-Mesozoic      Unnamed/Unknown Group                      Unnamed/Unknown Formation

LITHOLOGY: Marble  
Amphibolite  
Granodiorite

HOSTROCK COMMENTS: Mineralization hosted by a strongly foliated amphibolite in proximity  
of a lens of white marble.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Icefield Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels  
COMMENTS: Overprinted by regional greenschist/amphibolite metamorphism.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1992  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Copper                      1.2000      Per cent  
Zinc                      0.0163      Per cent

REFERENCE: Fieldwork 1992, pages 185-229.

**CAPSULE GEOLOGY**

This mineral occurrence is located at the toe of the Vern Ritchie Glacier, approximately four kilometres northwest of Vern Ritchie Lake. The area is underlain predominantly by a sequence of carbonate rocks which have been recrystallized by nearby Jura-Cretaceous diorite/granodiorite plutons. A narrow band of Mesozoic amphibolite has intruded the marble and is characterized by steep north-northwest trending foliation and local gossaneous zones. One of these zones is highly mineralized and contains up to 70 per cent very fine grained massive pyrrhotite, chalcopyrite, and lesser bornite. This probably represents a skarn type deposit. The zone is approximately 2 by 1 metres and is concordant to the foliation of the amphibolite, which is 170/90.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1176  
REPORT: RGEN0100

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DATE CODED: 1992/10/09  
DATE REVISED: 1992/10/09

CODED BY: MDE  
REVISED BY: MDE

FIELD CHECK: Y  
FIELD CHECK: Y



MINFILE NUMBER: **1140 003**

NATIONAL MINERAL INVENTORY:

NAME(S): **VERN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114016W  
BC MAP:

UTM ZONE: 07 (NAD 83)

LATITUDE: 59 47 18 N  
LONGITUDE: 138 25 10 W  
ELEVATION: 1400 Metres

NORTHING: 6630658  
EASTING: 644832

LOCATION ACCURACY: Within 500M

COMMENTS: Located in a northwest facing cirque at the head of the Vern Richie glacier.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Malachite Azurite

ASSOCIATED: Pyrite

MINERALIZATION AGE: Paleozoic-Mesozoic

**DEPOSIT**

CHARACTER: Stratiform Massive Disseminated Concordant  
CLASSIFICATION: Volcanogenic  
SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

**STRATIGRAPHIC AGE**

Unknown

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Plagioclase Porphyritic Basalt  
Marble  
Tuff

HOSTROCK COMMENTS: Mineralization is hosted by an unnamed sequence of metavolcanic and metasedimentary rocks.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Icefield Ranges

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE: Greenschist

COMMENTS: Grade is transitional greenschist.

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1992

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

2.5000

Per cent

REFERENCE: Fieldwork 1992, page 221.

**CAPSULE GEOLOGY**

The Vern showing occurs in Paleozoic to Mesozoic greenstones on the south side of a small nunatak (Figure 1-13-12). Chalcopyrite occurs as malachite-stained blebs within wacke(?) near the gradational contact between dominantly plagioclase-porphyritic basalt flows and buff to brown-weathering banded marble. The copper grades are up to 2.5 per cent. The extent of the mineralization is not known. Other rocks within the contact zone are lapilli and block tuff and volcanic breccia, all cemented by carbonate. Very fine-grained basalt dikes up to 40 centimetres thick crosscut the succession.

On the north side of the nunatak the succession is mainly chert o siliceous volcanic rocks (tuff?) and pyritic swercite schist. A bright orange gossanous zone is exposed over severall tens of metres below an ice fall on the western end of the nunatak.

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EMPR OF \*1993-12; 1999-2

DATE CODED: 1992/04/06  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **114P 001**

NATIONAL MINERAL INVENTORY:

NAME(S): **DUCK'S FACE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 46 29 N  
LONGITUDE: 137 41 27 W  
ELEVATION: Metres

NORTHING: 6629389  
EASTING: 348920

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Location approximate, not verified.

COMMODITIES: Gypsum

**MINERALS**

SIGNIFICANT: Gypsum  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic			Unnamed/Unknown Informal

LITHOLOGY: Siltstone  
Shale  
Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**CAPSULE GEOLOGY**

The small Duck's Face gypsum occurrence is located in the vicinity of "Duck's Face", a geographical feature near the East Arm Glacier. The area stratigraphy consists of a Triassic and older volcanic-sedimentary sequence. The principle volcanic rock types are dark greenish-grey basalt to andesite pillow lavas and flows. Principle interbedded rocks are limestone, argillite, and siltstone. There is also rare gypsum.

There is no written information on the extent of gypsum, or detailed lithology, at this location.

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 002**

NATIONAL MINERAL INVENTORY: 114P12 Cu7

NAME(S): **WINDY CRAGGY**

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

Underground

MINING DIVISION: Atlin

LATITUDE: 59 44 09 N  
LONGITUDE: 137 44 37 W  
ELEVATION: 1370 Metres

UTM ZONE: 08 (NAD 83)

NORTHING: 6625182  
EASTING: 345778

LOCATION ACCURACY: Within 500M

COMMENTS: Underlies Windy Craggy Mountain on the divide between Tats  
Glacier and Frobisher Glacier.

COMMODITIES: Copper Cobalt Gold Silver Zinc

**MINERALS**

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite Magnetite Digenite  
Sphalerite Gold Electrum Marcasite Chalcocite  
Cuprite Copper Arsenopyrite

COMMENTS: Also bismuth telluride.

ASSOCIATED: Quartz Carbonate Chlorite Calcite Albite  
Siderite Ankerite Sericite

COMMENTS: Also hematite, graphite, hisingerite and stilpnomelane.

ALTERATION: Chlorite Silica Carbonate Calcite Epidote

ALTERATION TYPE: Chloritic Silicific'n Carbonate

MINERALIZATION AGE: Upper Triassic

**DEPOSIT**

CHARACTER: Stratiform Massive Stockwork  
CLASSIFICATION: Volcanogenic Syngenetic Exhalative  
TYPE: G04 Besshi massive sulphide Cu-Zn

SHAPE: Tabular

MODIFIER: Folded Faulted

DIMENSION: 1600 x 600 x 200 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Continuous massive sulphide mineralization.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic      GROUP: Tats      FORMATION: Middle Tats      IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Basaltic Sill  
Graphitic Calcareous Argillite  
Amygdaloidal Pillow Basalt  
Tuff  
Agglomerate

HOSTROCK COMMENTS: Informally named Tats Group (Middle Tats).

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: WINDY CRAGGY

REPORT ON: Y

CATEGORY: Combined      YEAR: 1990  
QUANTITY: 143000000 Tonnes  
COMMODITY: Copper      GRADE      Per cent  
Copper      1.6900      Per cent  
Gold      0.2000      Grams per tonne  
Silver      3.4100      Grams per tonne  
Cobalt      0.0840      Per cent

COMMENTS: Proven and probable.  
REFERENCE: EMPR Information Circular 1991-1, page 29.

INVENTORY

ORE ZONE: WINDY CRAGGY

REPORT ON: Y

CATEGORY:	Measured	YEAR:	1991
QUANTITY:	297440000 Tonnes		
COMMODITY		GRADE	
Copper		1.3800	Per cent
Gold		0.2000	Grams per tonne
Silver		3.8300	Grams per tonne
Cobalt		0.0690	Per cent

COMMENTS: Cutoff grade is 0.5 per cent copper.  
 REFERENCE: Geddes Resources Ltd. Annual Report 1991.

CAPSULE GEOLOGY

The Windy Craggy area is within the allochthonous Alexander terrane in the extreme northwest part of British Columbia. This terrane includes a thick succession of complexly deformed Precambrian to Permian basinal and platformal carbonate and clastic rocks with a subordinate volcanic component. These rocks are of relatively low metamorphic grade and are unconformably overlain by Late Triassic calcareous turbidites and a bimodal volcanic suite.

The Upper Triassic (Norian) section in the Windy Craggy area is comprised of mafic submarine volcanics with variable amounts of interbedded calcareous argillaceous sedimentary rocks. MacIntyre (1984, Geological Survey Branch) defines a stratigraphic section for the informally-named "Tats Volcanic Complex" which is subdivided into 4 major subdivisions:

- (1) Upper Tats-mainly pillowed basalt (at least 1500 metres thick);
- (2) Middle Tats-interbedded graphitic and calcareous argillites, pillowed and massive mafic amygdaloidal to pillowed flows, tuff, agglomerate and limestone (approximately 2000 metres thick);
- (3) Lower Tats-mainly mafic silk and calcareous argillite (approximately 1000 metres thick);
- (4) Mainly calcargillite-calcareous and graphitic shale, argillite and limestone of unknown age; and
- (5) Limestone Unit-grey limestone of (?) Silurian-Devonian age in fault contact.

The Windy Craggy deposit is hosted by Triassic (Norian) clastic sediments and mafic flows and sills of the lower part of the Middle Tats Group. Massive sulphide mineralization occurs near the transition from predominantly clastic units to overlying volcanic rocks. Continuous massive sulphide mineralization extends a minimum strike length of 1600 metres, at least 600 vertical metres, and greater than 200 metres in width. At present, the deposit is thought to consist of two discrete sulphide bodies. Recent drilling has indicated the possible presence of a third sulphide body. The deposit remains open at depth and along strike. Windy Craggy has similarities with both Besshi-type and Cyprus-type massive sulphide deposits.

The basaltic host rocks are fine grained and are commonly amygdaloidal; less commonly, the flows are porphyritic. Flows are pervasively chloritized and carbonatized and are generally only slightly foliated. Sills are conformable with bedding, medium grained and have a diabasic texture. Dykes crosscut all lithologies, including massive mineralization. The dykes are generally lighter coloured and finer grained than sills, range from less than 10 centimetres to several metres wide and generally possess a 1 to 20-centimetre wide chloritic chilled margin.

Diabase bodies of limited extent occur spatially and stratigraphically beneath massive mineralization and are from 1 to 40 metres thick. In places, diabase is host to stockwork or stringer mineralization and predates mineralization. The diabases are medium to coarse grained and are moderately to extremely altered and contain calcite, chlorite and epidote. The diabase bodies are geochemically similar to overlying footwall and hanging wall flows and likely the feeder conduits for these overlying units.

The sedimentary host rocks comprise non-calcareous to calcareous argillites. They are indistinctly to well laminated and are dominantly fine to very fine grained. Individual argillite units vary in thickness from less than a metre to 40 metres, and on average are 10 to 15 metres thick. The argillites contain predominantly minor, very fine to coarse-grained disseminated euhedral cubes of pyrite and/or fine-grained pyrrhotite.

Major faults on the property dip steeply, strike northwesterly and trend subparallel to contacts between enclosing lithologies. Two phases of folding, isoclinal and open, occur in both massive sulphides and host rocks.

To date, drilling and underground development has identified two main sulphide masses, the North and South Sulphide Bodies, each with

## CAPSULE GEOLOGY

a variably developed stockwork/stringer zone. One or more smaller massive sulphide lenses are also present. The current interpretation is that these are distinct from the main massive bodies, however, it is possible that these are faulted and displaced portions of the two main bodies.

The North Sulphide Body is about 120-150 metres thick by 500 metres in diameter (true dimensions) and has a well-developed stockwork/alteration zone within both volcanic and sedimentary rocks. The tabular to lenticular, stratiform body trends west-northwest and dips moderately steeply to the north-northeast. The South Sulphide Body is relatively more deformed. This tabular to lensoidal body plunges steeply to the southeast, and extends southeastwards as a series of 15 to 60-metre wide massive sulphide lenses (Geological Survey of Canada Open File 2169).

Stratigraphic sulphide zoning, recognized in both northern and southern bodies, passes upwards from footwall stringer mineralization to massive pyrrhotite, to massive pyrrhotite-pyrite, to massive pyrite, to massive pyrite-calcite-sphalerite, and ends in discontinuous chert-carbonate-sulphides. Zoning has been modified by subsequent mineralization and structural deformation.

Three principal types of massive sulphide mineralization exist:

- (1) massive pyrrhotite with lesser chalcopyrite;
- (2) massive pyrite with lesser chalcopyrite; and
- (3) massive pyrrhotite and pyrite with lesser chalcopyrite and magnetite.

A stockwork/feeder zone is present beneath both sulphide bodies and have been translated (tectonically rotated) to varying degrees. The stockwork is comprised of irregular sulphide veins within pervasively chlorite and silica altered wallrock. Sulphides within the stockwork zone consist predominantly of pyrrhotite with lesser chalcopyrite and, in places, pyrite. In general, the percentage of sulphides, and number and density of sulphide veins increases upward from the bottom or "root" to the top of the stockwork zone. Gangue minerals include quartz, carbonate, chlorite and albite.

Significant gold is associated with a chert-carbonate-sulphide exhalite consisting of finely interlaminated to interbedded (less than 1 millimetre to 5 centimetres) calcite, siderite, ankerite, chert, chlorite, sericite, hematite, magnetite, pyrrhotite, pyrite, chalcopyrite and rarely sphalerite. The unit is present in several places within the deposit. This unit is thought to be present both at the base of the South Sulphide Body as well as immediately overlying the North Sulphide Body, where several thin beds are intercalated with the hanging wall volcanic flows. Individual units are generally narrow (0.1 to about 3 metres).

A supergene zone has also been identified and is up to 90-metres thick. The zone comprises pyritic mud, chalcocite, cuprite, native copper, hematite and sphalerite. Approximately 2 million tonnes of supergene zone reserves have been delineated (Geological Survey of Canada Open File 2169).

Principal "ore" minerals of Windy Craggy mineralization include pyrrhotite, pyrite, chalcopyrite and magnetite, with lesser digenite, sphalerite and rare gold, electrum, marcasite and arsenopyrite.

The North Sulphide Body is mineralogically zoned from a pyrrhotite-rich core to a pyrite-rich outer/upper portion. Massive sulphide displaying breccia textures is common. Two generations of pyrite are recognized: 1) early, colloform to framboidal spheres and colloform layers; and 2) later, recrystallized(?) euhedral, equant cubes and pyritohedrons intergrown in a boxwork fashion. In the South Sulphide Body, pyrite is present as the latter variety.

Pyrrhotite is coeval with chalcopyrite and is predominantly later than pyrite. It commonly occurs interstitially to pyrite and as fracture fillings (with chalcopyrite) within pyrite. Marcasite is prevalent only within the South Sulphide Body. It occurs as minute, rounded blebs in pyrrhotite. Chalcopyrite displays mutual boundaries with coeval pyrrhotite and is predominantly later than pyrite. It usually occurs interstitially to pyrite and as fracture fillings together with pyrrhotite in pyrite.

Sphalerite is rarely present in the South Sulphide Body; where it occurs as small, isolated, anhedral grains within carbonate and as narrow veinlets crosscutting other sulphides. In the North Sulphide Body, sphalerite is much more common, occurring as anhedral crystals that are interstitial to euhedral pyrite.

Digenite has only been observed in the North Sulphide Body. It occurs as irregular, anhedral blebs with chalcopyrite and sphalerite, with which it displays mutual boundaries interstitial to, and as overgrowths on pyrite. It is also found as inclusions within chalcopyrite.

Arsenopyrite is exceedingly rare, and has only been identified in the North Sulphide Body. It occurs as euhedral rhombohedral or

## CAPSULE GEOLOGY

lozenge-shaped crystals that have chalcopyrite and pyrrhotite overgrowths.

Graphite is present as very fine folia and disseminations deflected around sulphides, quartz and plagioclase grains with semimassive to massive sulphide, particularly in stockwork mineralization developed in argillite.

Native gold and electrum occur not only in the gold-enriched zone, but are also present in the North and South Sulphide Bodies. Gold and electrum occur as:

- (1) blebs associated with chalcopyrite and pyrrhotite fracture fillings in pyrite within massive sulphides;
- (2) anhedral inclusions within recrystallized, euhedral pyrite in massive sulphides; and
- (3) as inclusions within, and intergrowths with calcite in the gold-enriched portions of the chert-carbonate-sulphide exhalite unit.

Bismuth telluride occurs as very small rounded blebs included in pyrrhotite and may be one of the following minerals (wehrlite, hedleyite or tellurobismuthinite).

In the North Sulphide Body, magnetite occurs as euhedral dodecahedrons and octahedrons included within pyrite, pyrrhotite, chalcopyrite, carbonate and rarely sphalerite. In the South Sulphide Body, bifurcating veinlets of magnetite crosscut massive pyrrhotite+pyrite+chalcopyrite.

Quartz occurs as discrete grains interstitial to sulphides and commonly intergrown with carbonate. Hisingerite is present in anastomosing or horsetail veins and veinlets crosscutting massive sulphides in the South Sulphide Body. Stilpnomelane occurs as fibres intergrown with pyrrhotite, chalcopyrite, chlorite and quartz, and is also interstitial to sulphides within mineralization.

Exploration at Windy Craggy has included 4139 metres of underground development, extensive underground and surface drilling and bulk sampling. Reserve delineation, environmental studies, metallurgical testing, mine and infrastructure design are continuing with a view toward development.

Measured geological reserves at Windy Craggy are:

Tonnes	Copper grade (per cent)	Cutoff grade (per cent)
297,439,000	1.38	0.5
230,202,000	1.63	0.75
198,020,000	1.75	1.00
139,190,000	1.96	1.50

(George Cross News Letter No.227 (November), 1991).

In 1991, the Windy Craggy project, operated by Geddes Resources Ltd., completed Stage I of the Mine Development Assessment Process. In 1992, review of the project was suspended in deference to a newly initiated land and water use evaluation of the area by the provincial Commission on Resources and the Environment (CORE). The overall reserves of the deposit stand at 297 440 000 million tonnes grading 1.38 per cent copper (applying a 0.5 per cent copper cut-off), 0.2 gram per tonne gold, 3.83 grams per tonne silver and 0.069 per cent cobalt (Geddes Resources Ltd. Annual Report 1991).

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#164(Aug.25),#207(Oct.27),#245(Dec.21), 1989; #106(Jun.1), 1990;  
#5(Jan.8),#14(Jan.21),#114(June 3),#227(Nov.26),1991  
MIN REV July/August 1990  
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Dec.8, 1983; Feb.9, Apr.5, 1984; Jan.31, Apr.11, May 9, Jun.20,  
Jul.18, Sept.9, 1985; Feb., Mar.24, Apr.28, Nov.17, 1986; Feb.16,  
Mar.23, May 18, Sept.7, 1987; Mar.7, Apr.11,18, May 9, Jul.4,  
Sept.19, Oct.24, 1988; May 22, Jul.31, Aug.28, Sept.18, Oct.2,16,  
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Dec.3,24, 1990; Jan.3, July 8, Dec.2,9,23, 1991; Apr.13,20, June  
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EMPR OF 1998-10

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/10

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 003**

NATIONAL MINERAL INVENTORY: 114P12 Cu1

NAME(S): **TATS**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 39 24 N  
LONGITUDE: 137 43 47 W

NORTHING: 6616339  
EASTING: 346196

ELEVATION: 1200 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper Silver Cobalt Zinc Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrrhotite Pyrite Magnetite  
ASSOCIATED: Quartz Calcite  
ALTERATION: Chlorite Epidote Actinolite Quartz  
ALTERATION TYPE: Silicific'n Propylitic  
MINERALIZATION AGE: Upper Triassic

**DEPOSIT**

CHARACTER: Stratabound Massive  
CLASSIFICATION: Volcanogenic Hydrothermal Syngenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Tats	Middle Tats	

LITHOLOGY: Amygdaloidal Basalt  
Pillow Basalt  
Volcanic Breccia

HOSTROCK COMMENTS: A thin feldspar porphyry dyke cuts pyritic flows north of the showing.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1983
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Silver	29.0000 Grams per tonne
Gold	0.3000 Grams per tonne
Cobalt	0.1200 Per cent
Copper	13.5000 Per cent
Zinc	0.1800 Per cent

REFERENCE: Fieldwork 1983, pages 173-184.

**CAPSULE GEOLOGY**

The Tats occurrence is north of Tats Lake within a gully of a south flowing creek. The creek flows into an east-west valley which is inferred to be the trace of the Tats fault. Rocks on the north side of the valley are amygdaloidal basalts and pillow basalts with local volcanic breccia, belonging to the Upper Triassic Middle Tats Complex. A massive chalcopyrite and pyrrhotite band up to 2 metres wide is exposed in the creek bed. A sample of massive sulphide contained 13.5 per cent copper, 0.12 per cent cobalt, 0.18 per cent zinc, 29 grams per tonne silver, and 0.3 grams per tonne gold. Immediately overlying the massive sulphide, pyritic flows contain bands of coarse-grained magnetite and pyrrhotite with minor chalcopyrite. Quartz and calcite veins occur in the vicinity.

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EMPR PF (Geddes Resources Ltd., (1987): Annual Report)



RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1185  
REPORT: RGEN0100

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DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/10

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 004**

NATIONAL MINERAL INVENTORY: 114P14,115A3 Au1

NAME(S): **SQUAW CREEK PLACER**

STATUS: Past Producer  
REGIONS: British Columbia  
NTS MAP: 114P14E  
BC MAP:  
LATITUDE: 59 58 59 N  
LONGITUDE: 137 05 01 W  
ELEVATION: 1500 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS: Placer operations have included the whole length of Squaw Creek (13 kilometres) which extends into the Yukon Territory.

Open Pit

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6651355  
EASTING: 383734

COMMODITIES: Gold                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Gold              Copper              Silver              Magnetite              Galena

ALTERATION: Hematite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated  
CLASSIFICATION: Placer                      Residual

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary			Glacial/Fluvial Gravels

LITHOLOGY: Glacial Fluvial Gravel  
Clay  
Till

HOSTROCK COMMENTS: Permian to Mississippian sediments, greenstones and diorite, all containing quartz veins underlie the creek gravels.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

Squaw Creek straddles the British Columbia-Yukon border, and flows northeast into the Tatshenshini River. Gold was first discovered in 1927 and placer mining subsequently was carried out over 13 kilometres of the Squaw Creek drainage. Records to 1945 indicate 92.3 kilograms (3251 ounces) of gold was recovered, although unrecorded production since then puts the total from the British Columbia section of the Creek alone at about 142 kilograms (5000 ounces). Most of the gold nuggets are very coarse, irregularly shaped admixtures of quartz, suggesting a local source. Rounded "well-travelled" gold nuggets are also reported, as well as pieces of native copper, native silver, magnetite, hematite, galena and pyrite. The underlying rocks are Permo-Carboniferous limestones, argillites, quartzite, schistose chloritic greenstones and amygdaloidal greenstones which strike northwest and dip steeply southwest. Abundant quartz veins are found in the creek bed in schistose rocks and in the surrounding area in sheared, altered diorite intrusions. The narrow veins striking parallel with the creek are locally strongly mineralized with fine disseminated pyrite. No gold has been found in these veins. Minimal glacial erosion in the area has resulted in thick overburden and few bedrock exposures. The depth to bedrock is up to 2.5 metres near the British Columbia-Yukon border (The "Discovery" claim) and increases both upstream and downstream into moranial outwash. Pleistocene till and stratified drift is overlain by reworked glacio-fluvial gravels. In a few places, gray boulder clay a few metres thick directly overlies bedrock. The glacial material forms remnant benches about a metre above the recent flood plain and channel. Placer mining in the British Columbia section was done mainly in the flood plain and channel, and in parts of the lower benches.

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RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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84; 1959-145; 1960-120; 1961-127  
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GSC OF 926, 2191  
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DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/10

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 005**

NATIONAL MINERAL INVENTORY: 114P10 Gyp1

NAME(S): **O'CONNOR RIVER**, O'CONNOR GYPSUM, SNOW,  
EAST, WEST, KIM

STATUS: Developed Prospect  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

MINING DIVISION: Atlin

LATITUDE: 59 38 59 N  
LONGITUDE: 136 44 07 W  
ELEVATION: 1006 Metres

UTM ZONE: 08 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 6613681  
EASTING: 402196

COMMENTS: Approximately 18 kilometres by access road southwest of the Haines-Whitehorse Highway from Kusawak Lake (Fieldwork, 1985).

COMMODITIES: Gypsum                      Anhydrite

**MINERALS**

SIGNIFICANT: Gypsum                      Anhydrite  
ASSOCIATED: Anhydrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound                      Massive  
CLASSIFICATION: Sedimentary                      Hydrothermal                      Industrial Min.  
TYPE: F02      Bedded gypsum  
SHAPE: Tabular  
MODIFIER: Faulted  
DIMENSION: 220 x 200 x 100      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: West zone.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Permian-Triassic      Undefined Group                      Unnamed/Unknown Formation

LITHOLOGY: Gypsum  
Limestone  
Intraformational Limestone Breccia  
Calcareous Argillite  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE: NO. 1

REPORT ON: Y

CATEGORY: Inferred                      YEAR: 1986  
QUANTITY: 2500000 Tonnes

COMMODITY                      GRADE  
Gypsum                      79.0000      Per cent

COMMENTS: Estimated reserves. The SO3 content averages 40% and the oxide and insoluble content is fairly high therefore suitable for wallboard.

REFERENCE: Open File 1991-15, page 34.

**CAPSULE GEOLOGY**

The O'Connor River deposit is located 96 kilometres northwest of Haines, Alaska. Gypsum occurs in rugged terrain above the tree line on both sides of the O'Connor river near the headwaters of its north fork. The deposit was discovered in 1958. Since then, trenching, drilling and bulk sampling have been done on the deposit.

Gypsum occurs in complexly deformed Paleozoic sedimentary rocks and Triassic basic flows and related volcaniclastic rocks. The gypsum is hosted in limestone, limestone breccia and black calcareous argillite. Sill-like diorite intrusions are present in the area. Sediments adjacent to these sills have been silicified and metamorphosed. Better quality gypsum is described as snow white, occurring in massive continuous beds with no visible impurities. Traces of anhydrite may be present. Brown or buff colored gypsum or gypsiferous carbonate is present near the edges of the pure white material. A sample of pure white gypsum indicates a purity in excess of 90 per cent gypsum.

The O'Connor River deposit consists of 3 separate zones, known

## CAPSULE GEOLOGY

as East (zone 1), West (zone 2) and Kim (zone 3) zones.

The East zone (zone 1) is irregular in shape, exposed along strike for 400 metres over a vertical height of 122 metres. It strikes northwest with steep northeast dips. The gypsum is generally pure containing only minor anhydrite. Contacts with surrounding rocks are sharp. Locally it appears that the gypsum crosscuts the sedimentary rocks. Sinkholes, 10 to 20 metres in diameter and 10 to 15 metres deep are present at the southeast end of the zone; gypsum is exposed in the wall of some of them.

The West zone (zone 2) is believed to be an extension of the East zone. It is exposed along strike for 220 metres across widths of 60 to 100 metres and a vertical component of 200 metres. The gypsum is white, massive and finely crystalline. There is a 30 metre-wide argillaceous limestone exposed within the gypsum at the southeast end of the zone. Contacts are sharp, although there are a few inclusions of argillaceous limestone, up to 15 centimetres in size, in the gypsum.

The Kim zone (zone 3) is located 1200 metres south of the West zone, strikes east and dips to the north. It is exposed along strike for 550 metres across widths of 50 to 110 metres and a height of 120 metres. The gypsum is white and is in sharp contact with a limestone unit. Sinkholes are present along the entire length of the zone.

The present configuration of gypsum probably occurred as a result of tectonic movements in the area when pressure squeezed the calcium sulphate bodies into their present position by plastic flow. Company reports indicate that the deposit contains 8 per cent anhydrite. Possibly the original anhydrite deposit was hydrated into gypsum by interaction with a combination of meteoric and ground waters.

Estimated reserves of Zone 1 are 2.5 million tonnes grading 79.0 per cent gypsum; the SO<sub>3</sub> content averages 40 per cent and oxide and insoluble content is fairly high making the gypsum suitable for wallboard manufacture but not for the cement industry. There is a potential for 10 million tonnes in the three zones combined (Open File 1991-15, page 34).

Other areas containing sinkholes occur between the O'Connor River deposit and the Haines road and to the east of the Haines road, but neither locality contains outcrop.

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EMPR OF \*1991-15; 1992-1; 1992-9  
EMPR P 1986-1, pp. 279-282  
EMPR PF (Queenstake Resources Ltd.: Annual Reports, 1986,1987; 1986 Report on Exploration; Haines Gypsum Inc.,(1986) Prospectus; Map, scale 1:2400, Haines Gypsum Inc., January 25, 1985; O'Connor-River Gypsum Joint Venture, Reports on 1986 Exploration, June 25 and Sept. 30, 1986; Untitled (missing front page) report by Alex Mariano, 1984; McDougall, J.J. (1959): Additional Preliminary Report on O'Connor River Gypsum Deposits, 1959; Memorandum from K. Galovich and D.D. Sharp (Queenstake Resources Ltd.) regarding O'Connor Gypsum Deposit Update, August, 1986); Prospectus on O'Connor River Gypsum Deposit, Queenstake Resources Ltd., 1986)  
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N MINER Aug.1, 1985  
NAGMIN Aug.29, 1986, page 3

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: GVW

FIELD CHECK: N  
FIELD CHECK: Y

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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MINFILE NUMBER: **114P 006**

NATIONAL MINERAL INVENTORY: 114P10 Zn3

NAME(S): **KIM**, AUNT JEMIMA

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 59 N  
LONGITUDE: 136 42 07 W  
ELEVATION: Metres

NORTHING: 6611777  
EASTING: 404027

LOCATION ACCURACY: Within 5 KM  
COMMENTS:

COMMODITIES: Zinc

**MINERALS**

SIGNIFICANT: Sphalerite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal      Epigenetic                      Replacement

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Permian-Triassic      Undefined Group              Unnamed/Unknown Formation

LITHOLOGY: Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

Narrow quartz stringers containing sphalerite occur in Lower Permian to Upper Triassic limestone. Disseminated sphalerite also occurs in the limestone.

There is no written information on the extent of sphalerite, or detailed lithology, at this location.

**BIBLIOGRAPHY**

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DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



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claims in the Rainy Hollow Mining District)  
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Falconbridge File

DATE CODED: 1985/07/24  
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FIELD CHECK: N  
FIELD CHECK: N





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DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 009**

NATIONAL MINERAL INVENTORY: 114P10 Zn1

NAME(S): **VICTORIA (L.903), JARVIS**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 33 40 N  
LONGITUDE: 136 33 23 W  
ELEVATION: 750 Metres

NORTHING: 6603565  
EASTING: 412046

LOCATION ACCURACY: Within 500M

COMMENTS: Adit approximately 200 metres east of Inspector Creek on west facing slope.

COMMODITIES: Silver                      Zinc                      Lead                      Gold                      Copper

**MINERALS**

SIGNIFICANT: Sphalerite      Galena      Chalcopyrite      Malachite      Pyrite  
ASSOCIATED: Garnet      Wollastonite  
ALTERATION: Garnet      Wollastonite  
COMMENTS: Mineralization is same age as intrusives.  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive                      Disseminated                      Podiform  
CLASSIFICATION: Skarn                      Replacement                      Epigenetic  
SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Oligocene                                                                Unnamed/Unknown Informal

LITHOLOGY: Marble  
Quartzite  
Garnet Wollastonite Skarn  
Amphibolite

HOSTROCK COMMENTS: Devonian to Upper Triassic sediments intruded by Oligocene diorite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SKARN                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1948  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      188.6000                      Grams per tonne  
Lead                      15.4000                      Per cent  
Zinc                      23.1000                      Per cent

COMMENTS: Average of two samples of 1.8 and 2.1 metres.  
REFERENCE: Bulletin 25, page 55.

**CAPSULE GEOLOGY**

The Victoria prospect is located at the headwaters of the Klehini River east of Inspector Creek. It consists of an adit on a west-facing hillside, with a small prospect pit approximately 10 metres above it. This occurrence is skarn hosted. Marble and quartzite of probable Devonian to Upper Triassic age strike northeast and dip steeply to the northwest. Irregular, roughly northeast-trending garnet-wollastonite skarn bodies lie near the northwest margin of the marble unit, and contain several disseminated to massive sulphide lenses. Sulphide mineralization consists of coarse sphalerite, galena and chalcopyrite. Two samples across 1.8 2.1 metres of mineralized skarn averaged 188.6 grams per tonne silver, 15.4 per cent lead, 23.1 per cent zinc, and trace gold.

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GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 010**

NATIONAL MINERAL INVENTORY: 114P10 Zn2

NAME(S): **ADAMS (L.727)**, CUSTER (L.725), WONDERFUL (L.726),  
SONORA (L.727)

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:  
LATITUDE: 59 33 39 N  
LONGITUDE: 136 31 22 W  
ELEVATION: 1075 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: East side, Inspector Creek.

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6603490  
EASTING: 413945

COMMODITIES: Lead                      Zinc                      Silver                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Chalcopyrite              Pyrrhotite              Molybdenite  
ASSOCIATED: Wollastonite      Garnet              Epidote              Calcite              Quartz  
ALTERATION: Wollastonite      Garnet              Epidote              Limonite  
COMMENTS: Mineralization is same age as intrusion.  
ALTERATION TYPE: Skarn              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated              Massive              Podiform  
CLASSIFICATION: Skarn              Replacement              Epigenetic  
SHAPE: Irregular  
DIMENSION: 230 x 1              Metres              STRIKE/DIP:              TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Oligocene                                                                Unnamed/Unknown Informal

LITHOLOGY: Marble  
Quartzite  
Argillite  
Wollastonite Garnet Epidote Skarn  
Quartz Feldspar Porphyry Dike  
Diorite

HOSTROCK COMMENTS: Devonian to Upper Triassic sediments. Intruded by diorite and quartz feldspar porphyry sills and dykes of Oligocene age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Aisek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization              GRADE: Hornfels

**INVENTORY**

ORE ZONE: LENS                      REPORT ON: N  
CATEGORY: Assay/analysis              YEAR: 1948  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      44.6000              Grams per tonne  
Lead                      10.2000              Per cent  
Zinc                      9.1000              Per cent

COMMENTS: Sample across 0.9 metre lens.  
REFERENCE: Bulletin 25, page 53.

**CAPSULE GEOLOGY**

The Adams, Custer and Wonderful prospects are located at the headwaters of the Klehini River. This occurrence is skarn hosted. Marble underlain and overlain by argillite and quartzite of probable Devonian to Upper Triassic age strikes northeast and dips steeply to the northwest. The sediments are intruded by diorite and quartz feldspar porphyry dykes and sills of Oligocene age. Mineralization, which is contemporaneous with the intrusives, occurs in skarn lenses along the carbonate-clastic contacts. Along the south-eastern contact skarn consisting of epidote, quartz, garnet and locally wollastonite, calcite and diopside ranges from 3 to 15 metres wide and can be traced for 230 metres. Sphalerite and galena lenses and bands occur irregularly along this horizon, ranging from 0.15 to 0.9 metres in width. Along the northwestern contact, wollastonite-

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**CAPSULE GEOLOGY**

garnet-epidote-calcite skarn extends for 140 metres and is irregularly mineralized with sulphide bands ranging from 0.15 to 0.45 metres in width. A sample from a 0.9 metre wide sulphide lens from the south-west contact assayed 10.2 per cent lead, 9.1 per cent zinc and 44.6 grams per tonne silver.

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EMPR EXPL 1982-413,414  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
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REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 011**

NATIONAL MINERAL INVENTORY: 114P9,10 Zn1

NAME(S): **LAWRENCE (L.955)**

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P09W  
BC MAP:  
LATITUDE: 59 35 18 N  
LONGITUDE: 136 29 51 W  
ELEVATION: 1230 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6606519  
EASTING: 415442

COMMODITIES: Silver                      Lead                      Zinc                      Gold                      Copper

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Chalcopyrite  
ASSOCIATED: Diopside              Hedenbergite              Calcite              Quartz  
ALTERATION: Diopside              Hedenbergite  
COMMENTS: Mineralization is same age as intrusives.  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated              Massive              Podiform  
CLASSIFICATION: Skarn              Replacement              Epigenetic  
DIMENSION: 40 x 4              Metres              STRIKE/DIP:              TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Oligocene			

LITHOLOGY: Marble  
Mica Schist  
Mica Quartzite  
Diopside Hedenbergite Skarn  
Meta Diorite Sill  
Quartz Feldspar Porphyry Dike  
Diorite

HOSTROCK COMMENTS: Devonian to Upper Triassic sediments intruded by diorite and quartz feldspar porphyry sills and dykes of Oligocene age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Asek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact              RELATIONSHIP: Syn-mineralization              GRADE: Hornfels

**INVENTORY**

ORE ZONE: SKARN                      REPORT ON: N  
CATEGORY: Assay/analysis              YEAR: 1948  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Silver                      246.9000              Grams per tonne  
Lead                      5.3000              Per cent  
Zinc                      12.2000              Per cent

COMMENTS: The sample is 1.8 metres wide. Trace gold.  
REFERENCE: Bulletin 25, page 57.

**CAPSULE GEOLOGY**

The Lawrence prospect is located at the headwaters of the Klehini River. This occurrence is skarn hosted. Devonian to Upper Triassic(?) marble, which is overlain and underlain by mica schist and micaceous quartzite, strikes 030 degrees and dips steeply northwest. The sediments are intruded by a quartz feldspar porphyry dyke and irregular foliated metadiorite sills. A wide irregular belt of epidote-quartz skarn lies southeast of the marble unit. Mineralized diopside-hedenbergite skarn occurs on the northeast contact of the quartz-feldspar porphyry dyke, and along the southeastern carbonate-clastic contact. The skarn lens adjacent to the dyke extends for 40 metres, with a width of 4.5 metres, and contains disseminated galena, sphalerite and minor chalcopyrite. Mineralization along the southeastern contact can be traced for 150

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**CAPSULE GEOLOGY**

metres, and consists of disseminated galena, sphalerite and chalcopyrite. A sample across 1.8 metres of the porphyry contact skarn assayed 246.9 grams per tonne silver, 12.2 per cent zinc and 5.3 per cent lead.

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EMPR EXPL 1982-413,414  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **114P 012**

NATIONAL MINERAL INVENTORY: 114P9 Cu2

NAME(S): **SIMCOE (L.382)**, THREE GUARDSMEN

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P09W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 36 08 N  
LONGITUDE: 136 23 40 W  
ELEVATION: 1190 Metres

NORTHING: 6607939  
EASTING: 421293

LOCATION ACCURACY: Within 500M

COMMENTS: Adit located above a steep, southwest switchbacking trail on the east side of Clayton Creek approximately 100 metres above the creek.

COMMODITIES: Gold                      Copper                      Magnetite                      Molybdenum

**MINERALS**

SIGNIFICANT: Chalcopyrite      Molybdenite      Magnetite  
ASSOCIATED: Actinolite      Diopside      Garnet      Epidote      Quartz  
                 Pyrite  
ALTERATION: Actinolite      Diopside      Garnet      Epidote  
COMMENTS: Mineralization is contemporaneous with intrusive.  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Massive                      Podiform  
CLASSIFICATION: Skarn                      Replacement                      Epigenetic                      Industrial Min.  
SHAPE: Irregular  
DIMENSION: 10 x 6                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic                      Undefined Group                      Unnamed/Unknown Formation                      Tkope River Intrusions  
Oligocene

LITHOLOGY: Marble  
Quartzite  
Argillite  
Schist  
Garnet Diopside Actinolite Skarn  
Gneissic Quartz Diorite  
Magnetite Skarn  
Feldspar Porphyry

HOSTROCK COMMENTS: Devonian to Upper Triassic metasediments. The intrusives may be Cretaceous in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1948  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Gold                      1.0300                      Grams per tonne  
Copper                      0.8000                      Per cent  
REFERENCE: Bulletin 25, page 58.

**CAPSULE GEOLOGY**

The Simcoe-Three Guardsmen showing is located east of Three Guardsmen Lake on the Haines Highway. This gold and copper occurrence is skarn hosted.

A wedge of Devonian to Upper Triassic sediments is intruded and metamorphosed by gneissic quartz diorite, which may be part of the Oligocene Tkope River Intrusions, or may, because of its foliated nature, be older (Cretaceous). The metasediments comprise of marble, quartzite, argillite and schist which strike northeast to east and dip north at 40 to 50 degrees. Foliation in the intrusives parallels intrusive-metasediment contacts, which generally follow bedding. Marble occurs as lenses and irregular masses ranging from a metre to

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**CAPSULE GEOLOGY**

a hundred metres wide. Skarn replaces marble along parts of its contact with clastic meta-sediments and with intrusives. Mineralized skarn consists of actinolite, diopside, garnet, and epidote. East of Clayton Creek a semi-massive, magnetite skarn lens with minor chalcopyrite is 6 metres wide and 10 metres long. A grab sample assayed 1.03 grams per tonne gold and 0.8 per cent copper. Below this a series of narrow magnetite skarn lenses occurs on the hangingwall of a north-dipping quartz diorite contact. Chalcopyrite occurs in the magnetite lenses, and molybdenite films occur along joints in quartz diorite and skarn near the contact.

**BIBLIOGRAPHY**

EMPR BULL \*25, p. 57  
EMPR AR \*1910-55; \*1911-60; \*1914-98; 1917-451  
GSC SUM RPT 1913, p. 32  
GSC OF 926, 2191  
EMPR FIELDWORK 1992, pp. 217-229

DATE CODED: 1985/07/24  
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REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 013**

NATIONAL MINERAL INVENTORY: 114P9 Cu1

NAME(S): **MILDRED (L.213)**, THREE GUARDSMEN

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P09W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 14 N  
LONGITUDE: 136 24 13 W  
ELEVATION: 1600 Metres

NORTHING: 6606280  
EASTING: 420740

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralization located along the eastern border of the Mildred claim.

COMMODITIES: Silver                      Copper                      Magnetite

**MINERALS**

SIGNIFICANT: Chalcopyrite      Magnetite  
ASSOCIATED: Actinolite      Diopside      Garnet      Epidote      Quartz  
ALTERATION: Actinolite      Diopside      Garnet      Epidote

COMMENTS: Mineralization is contemporaneous with intrusive.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated                      Massive                      Podiform  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Industrial Min.

SHAPE: Irregular

DIMENSION: 150 x 30                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Undefined Group	Unnamed/Unknown Formation	
Oligocene			Tkope River Intrusions

LITHOLOGY: Marble  
Quartzite  
Argillite  
Schist  
Actinolite Garnet Diopside Skarn  
Gneissic Quartz Diorite  
Magnetite Skarn

HOSTROCK COMMENTS: Devonian to Upper Triassic metasediments. The intrusives may be Cretaceous in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis                      YEAR: 1948  
SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	6.8600	Grams per tonne
Copper	0.3000	Per cent

COMMENTS: The sample width is 3.0 metres.

REFERENCE: Bulletin 25, page 57.

**CAPSULE GEOLOGY**

The Mildred-Three Guardsmen showing is located approximately 3 kilometres southeast of Three Guardsmen Lake. This silver and copper occurrence is skarn hosted.

An inlier of Devonian to Upper Triassic sediments is intruded and contact metamorphosed by gneissic quartz diorite of either Oligocene (Tkope River Intrusions) or perhaps Cretaceous age. The metasediments comprise marble, quartzite, argillite, and schist which strike north and dip west at 60 to 70 degrees. Foliation in the intrusives parallels the intrusive-metasediment contacts which generally follow bedding. Marble occurs as lenses and irregular masses from a metre to a hundred metres wide. An irregular west dipping skarn zone about 30 metres wide and 150 metres long west of Clayton Creek is overlain by quartz diorite and underlain by grey marble. The skarn contains lenses of near-massive magnetite with

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**CAPSULE GEOLOGY**

chalcopyrite from 3 to 4.5 metres wide. Magnetite also occurs as streaks up to 15 centimetres wide in actinolite-diopside-garnet-epidote skarn. A chip sample across 3 metres of magnetite skarn assayed 0.3 per cent copper and 6.86 grams per tonne silver. The mineralization appears to be continuous on a north-south trend through the Canadian Verdee (114P 013).

**BIBLIOGRAPHY**

EMPR BULL \*25, pp. 57,58  
EMPR AR \*1910-55; \*1911-60; \*1914-98  
EMPR GEM 1969-28; 1971-32  
GSC SUM RPT \*1913, p. 32  
EMR MP CORPFILE (Taneploy Mines Ltd.; Eagle River Mines Ltd.)  
GSC OF 926, 2191  
EMPR ASS RPT 18874

DATE CODED: 1985/07/24  
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REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



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**CAPSULE GEOLOGY**

masses from a metre to a hundred metres wide. Actinolite-garnet-diopside-epidote skarn replaces marble, mainly along clastic-carbonate and carbonate-intrusive contacts. Mineralization includes a lens of massive magnetite 0.9 metres wide which assayed 2.5 per cent copper, and 96.0 grams per tonne silver, and a lens about 0.3 by 0.9 metres consisting of bornite, chalcocite, sphal- erite, and minor chalcopyrite and wittichenite. Massive pyrrhotite/chalcopyrite skarn was observed in float. A sample across this lens assayed 1.03 grams per tonne gold, 809.1 grams per tonne silver, 20.5 per cent copper, 14.6 per cent zinc, and 0.55 per cent bismuth. A zone of malachite staining, skarn mineralization and disseminated sulphides continues northward from this area for 1.5 kilometres along the intrusive contact on the Mildred claim (114P 013). Southwest of the Canadian Verdee Crown Grant a skarn band 6 metres wide outcrops over a length of 150 metres and contains massive magnetite lenses up to 0.3 metres wide.

**BIBLIOGRAPHY**

EMPR BULL \*25, p. 58  
EMPR AR \*1910-55; \*1911-60; \*1914-98  
GSC SUM RPT \*1913 p. 32  
GSC OF 926, 2191  
EMPR ASS RPT \*18874

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REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 015**

NATIONAL MINERAL INVENTORY: 114P8 Au1

NAME(S): **GOLD CORD**, STAMPEDE

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P07E 114P08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 26 59 N  
LONGITUDE: 136 30 27 W  
ELEVATION: 1475 Metres

NORTHING: 6591099  
EASTING: 414527

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Gold Chalcopyrite Sphalerite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Limonite Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Faulted Sheared  
DIMENSION: 470 x 1 Metres STRIKE/DIP: 115/80N TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Oligocene Tokpe River Intrusions

LITHOLOGY: Diorite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1985  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 190.0000 Grams per tonne  
Gold 72.0000 Grams per tonne  
Copper 2.1300 Per cent  
REFERENCE: Fieldwork 1985, page 193.

**CAPSULE GEOLOGY**

Oligocene(?) equigranular, fine to medium-grained diorite intrudes a sequence of Paleozoic or Lower Mesozoic limestones and argillite. The diorite is foliated near the Gold Cord vein, with foliation paralleling the vein. East trending faults are common. Basic dykes cut both intrusives and sediments. The Gold Cord vein follows the footwall of a shear zone in the diorite, and strikes about 115 degrees and dips 30 to 80 degrees north. It has been traced on surface for over 470 metres. The vein consists of white quartz sparsely mineralized with free gold, pyrite, local chalcopyrite and trace sphalerite. On surface the vein ranges from 0.1 to 0.75 metres wide; underground it splits into two or three distinct 30 to 120 centimetre veins. A chip sample across 0.6 metres with visible gold assayed 72 grams per tonne gold, 190.0 grams per tonne silver, and 2.13 per cent copper.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1985, pp. 191-194  
EMPR BULL \*1, pp. 40-41; 25, pp. 59-60  
EMPR AR 1915-65; 1921-77; 1926-106; 1927-111,112; 1928-122;  
1929-120; 1930-122; 1931-63  
EMPR PF (\*Mandy, J.T. (1932): Gold Cord Group, North-South section showing geology)

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**BIBLIOGRAPHY**

EMPR ASS RPT \*13590, 17896  
Eakin, H.M. (1919): \*The Porcupine gold placer district, Alaska,  
USGS BULL 699, p. 14, Plate 1  
GSC OF 926, 2191  
EMPR Exp. Rev. 1984, p. 6 (Schroeter, T.G.)  
EMPR EXPL 1985-C414

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **114P 016**

NATIONAL MINERAL INVENTORY: 114P15 Au1

NAME(S): **GOLD RUN CREEK PLACER**, BLIZZARD PLACER

STATUS: Past Producer Open Pit

MINING DIVISION: Atlin

REGIONS: British Columbia

NTS MAP: 114P15W

BC MAP:

LATITUDE: 59 54 29 N

LONGITUDE: 136 49 07 W

ELEVATION: 1000 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: A northeast flowing tributary of Tatshenshini Creek.

UTM ZONE: 08 (NAD 83)

NORTHING: 6642568

EASTING: 398289

COMMODITIES: Gold

**MINERALS**

SIGNIFICANT: Gold

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unconsolidated Disseminated

CLASSIFICATION: Placer

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Tertiary

Glacial/Fluvial Gravels

LITHOLOGY: Gravel  
Limestone  
Argillite  
Quartzite  
Granite  
Basalt

HOSTROCK COMMENTS: Gravels underlain by Permo-Carboniferous sediments (upper creek), and Jurassic (?) granite and Tertiary basalts (lower creek).

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

The upper half of Blizzard (Gold Run) Creek is underlain by Permo-Carboniferous limestone, argillite and quartzite. The lower part of the Creek traverses Jurassic (?) granite and Tertiary basalts. The Creek is reported to contain numerous quartz boulders. Most of the placer mining took place in the lower 3 kilometres of the 12 kilometre long creek. Fine gold was found near surface and to a depth of 1.1 metres, below this, coarse gold was found for the next 0.5 metres. The depth to bedrock is estimated to be 3 metres below the surface. The creek was worked for brief periods from 1901 to 1930; production recorded was 5.2 kilograms (183 ounces) of gold. The probable source of the placer gold is from the Permo-Carboniferous sediments which, as seen at Squaw Creek (a placer gold creek directly north - see 114P 004), contain mineralized quartz veins.

**BIBLIOGRAPHY**

EMPR BULL 28, pp. 17,18; \*25, p. 39  
EMPR AR 1933-93  
GSC OF 926, 2191  
EMPR ASS RPT 19756, 21065

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 017**

NATIONAL MINERAL INVENTORY:

NAME(S): **WINDSOR (L.804)**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 00 N  
LONGITUDE: 136 33 27 W  
ELEVATION: Metres

NORTHING: 6604185  
EASTING: 411998

LOCATION ACCURACY: Within 500M

COMMENTS: East side, Inspector Creek, southwest of Copper Butte.

COMMODITIES: Copper Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Sphalerite Pyrite

COMMENTS: Old reports mention gossan but do not identify specific minerals such

ALTERATION TYPE: Oxidation Silicific'n Argillic

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown

CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Paleozoic

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Greenstone  
Gossan

HOSTROCK COMMENTS: Devonian to Upper Triassic metasediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular

TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

The Windsor claim is on the east side of Inspector Creek, approximately 700 metres west-southwest of the State of Montana showing (114P 008) in a cliffy area facing westward, bordering Inspector Creek. Host rocks are contact-metamorphosed greenstone. The showing consists of gossan anons cliff faces which contain some disseminated pyrite, chalcopyrite and sphalerite rocks associated with the gossans are bleached and silica/clay altered and iron-stained. Old workings include open cuts and short adits, which expose minor oxidized material and abundant ferricrete as plastered on the rocks near the old workings. A grab sample of altered greenstone with disseminated sulphides assayed 0.16 per cent copper.

**BIBLIOGRAPHY**

EMPR AR 1910-246

GSC OF 926, 2191

EMPR PF (\*Hudson, W.H. (1927): Report on the Windsor (etc.) claims in the Rainy Hollow (unorganized) Mining District - see 114P 007)

EMPR OF 1993-13

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 018**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMBIIRD - DISCOVERY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 44 N  
LONGITUDE: 136 58 32 W  
ELEVATION: Metres

NORTHING: 6621017  
EASTING: 388863

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Galena              Freibergite              Sphalerite              Chalcopyrite              Pyrite  
                 Malachite              Azurite  
ASSOCIATED: Quartz              Calcite  
ALTERATION: Silica              Malachite              Azurite  
ALTERATION TYPE: Silicific'n              Carbonate              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia                      Disseminated                      Vein  
CLASSIFICATION: Hydrothermal              Epigenetic  
SHAPE: Irregular  
MODIFIER: Folded                      Faulted  
DIMENSION: 0030 x 0024              Metres                      STRIKE/DIP: 120/40W              TREND/PLUNGE:  
COMMENTS: Host rocks are complexly folded and faulted with a dominant northwest structural trend.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Silurian-Devonian Unknown	Unnamed/Unknown Group	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Limestone  
                 Sericite Schist  
                 Sandstone  
                 Quartz Carbonate Vein  
                 Slate  
                 Shale  
                 Quartz Carbonate Breccia

HOSTROCK COMMENTS: Ordovician to Devonian sediments. Diorite occurs near western boundary of claim group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
COMMENTS: Underlain by limestones, sandstones, slates, shales, sericite schists.

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1980
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		149.5000	Grams per tonne
Lead		6.3900	Per cent
Zinc		2.5900	Per cent

REFERENCE: Assessment Report 8653.

**CAPSULE GEOLOGY**

At the Humbird-Discovery showing, west of Samuel Glacier, disseminated galena, freibergite, sphalerite, and chalcopyrite replace complexly folded and faulted Ordovician to Devonian limestone in a southeast-trending breccia zone. The host rocks, consisting of limestones, sandstone, slate, shale, and sericite schists are locally intruded by diorite, and are strongly silicified. The mineralized zone is about 24 metres wide and 30 metres long. A grab sample of mineralized material ran 149.5 grams per tonne silver, 6.39 per cent lead and 2.59 per cent zinc. Malachite and azurite were reported in float material.

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**BIBLIOGRAPHY**

EMPR FIELDWORK 1977, p. 71  
EMPR EXPL 1975-196; 1976-200; 1977-246; 1980-522,523  
EMPR ASS RPT \*8653  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/28

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 019**

NATIONAL MINERAL INVENTORY: 114P10 Cu4

NAME(S): **BORNITE** CAT 92, HORRIBLE (L.810)

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 39 N  
LONGITUDE: 136 35 52 W  
ELEVATION: 1220 Metres

NORTHING: 6605445  
EASTING: 409751

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Molybdenum                      Lead                      Zinc                      Silver  
                    Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite      Chalcocite      Bornite      Galena      Sphalerite  
                    Pyrrhotite      Pyrite

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia                      Disseminated  
CLASSIFICATION: Skarn                      Porphyry                      Hydrothermal  
                    DIMENSION: 244 x 122                      Metres                      STRIKE/DIP:  
COMMENTS: Prospect consists of a porphyry system with associated skarn mineralization.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Oligocene                      \_\_\_\_\_                      \_\_\_\_\_                      Tkope River Intrusions

LITHOLOGY: Granite  
                    Quartz Monzonite  
                    Granitic Breccia  
                    Skarn

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**CAPSULE GEOLOGY**

The Bornite occurrence on Mineral Mountain consists of a porphyry system with associated skarnification and mineralization of the enclosing sediments. The porphyry mineralization is described as an intrusive breccia zone (similar to Boss Mountain?).

Granitic rocks of the Oligocene Tkope River Intrusions contain molybdenum and copper mineralization in a zone of brecciation and multiple intrusions over an area 244 by 122 metres on the Cat 92 claim.

Skarn zones in Paleozoic sedimentary rocks to the south of the molybdenum-copper mineralization are reported to contain bornite, chalcocite, chalcopyrite, galena, sphalerite, pyrrhotite, and pyrite.

**BIBLIOGRAPHY**

EMPR AR 1900-770; \*1907-47; 1910-246  
EMPR GEM 1970-23; 1972-562  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: BG

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 020**

NATIONAL MINERAL INVENTORY: 114P10 Fe1

NAME(S): **WAR EAGLE (L.901)**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 33 49 N  
LONGITUDE: 136 33 12 W  
ELEVATION: Metres

NORTHING: 6603839  
EASTING: 412225

LOCATION ACCURACY: Within 500M

COMMENTS: Located on west-facing slope immediately west of (below) road.

COMMODITIES: Iron Copper

**MINERALS**

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Bornite  
ALTERATION: Limonite Actinolite Pyroxene  
ALTERATION TYPE: Oxidation Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Skarn  
DIMENSION: 15 x 9 Metres STRIKE/DIP: 055/50N TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Undefined Formation	Tkope River Intrusions
Oligocene			

LITHOLOGY: Marble  
Gossan  
Intrusive Dike

HOSTROCK COMMENTS: Devonian to Upper Triassic metasediments. The intrusives may be Cretaceous in age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Aisek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

**CAPSULE GEOLOGY**

The War Eagle claim is located approximately 400 metres north of the Victoria claim and on the east side of Inspector Creek. A gossan zone developed along the northwestern margin on a carbonated body measures 9 by 15 metres on the surface and strikes 055 and dips 50 degrees northwest. Limestone occurs in the hangingwall and there is an intrusive dyke in the footwall. Within the gossan zone are pods of massive pyrrhotite, bornite, and chalcopyrite. Gangue minerals include dark green actinolite and/or pyroxene. Sulphide mineralization is visible in a small prospect pit dug into the side of the hill. A grab sample of massive pyrrhotite and chalcopyrite (+/- bornite) assayed 0.41 per cent copper.

**BIBLIOGRAPHY**

EMPR AR 1900-769; 1910-246, 1914-97  
EMPR PF (\*Hudson, W.H. (1927): Report on the War Eagle (etc.) claims, in the Rainy Hollow (unorganized) Mining District, see 114P 007)  
GSC OF 926, 2191  
EMPR OF 1993-13

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 021**

NATIONAL MINERAL INVENTORY: 114P14 Cu1

NAME(S): **SHEEP**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P14E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 59 12 N  
LONGITUDE: 137 02 36 W  
ELEVATION: 915 Metres

NORTHING: 6651687  
EASTING: 385994

LOCATION ACCURACY: Within 500M

COMMENTS: North end of Barrier Ridge, east of Upper Squaw Creek.

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Sphalerite	Malachite	Pyrite
ALTERATION:	Malachite	Pyrrhotite	Calcite	Quartz
ALTERATION TYPE:	Oxidation			
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic			Unnamed/Unknown Informal

LITHOLOGY: Greenstone  
Limestone  
Basalt  
Chert  
Calcareous Argillite  
Siltstone

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

Wrangell

**CAPSULE GEOLOGY**

A zone of copper-iron sulphide pods hosted in foliated and unfoliated aphanitic basalt flows and calcareous marine sediments is exposed on the north end of Barrier Ridge, east of upper Squaw Creek. Showings are mainly within a contorted basalt-dominated section near the steeply dipping contact with a less deformed package of calcareous to shaly argillite and wacke. Lithologies associated with predominantly dense, locally pillowed, nonmagnetic, aphanitic basalt flows are: interpillow, laminated micrite; massive white to black and green banded chert (exhalite? or tuff); rusty, well laminated cherty argillite; calcareous siltstone and brown to black, fetid limestone. Pods of pyrrhotite are up to 1 by 5 metres in size, but commonly 10 to 30 centimetres. Chalcopyrite typically occurs as blebs or veinlets within pyrrhotite, and locally within basalt and chert where it may comprise up to 2 per cent of the rock over a width of 9 metres. Chalcopyrite veinlets also contain pyrite, calcite and subordinate quartz. The mineralized zone is exposed in a series of trenches within east-flowing creek gullies over a strike length of approximately 200 metres. Continuity across strike is about 50 metres, but due to Quaternary cover, its eastern limit is not known to within a kilometre. Smaller zones of massive sulphide mineralization crop out to the northwest within the stream-bed of the eastern fork of Squaw Creek.

Past exploration on the zone includes six diamond-drill holes totalling less than 200 metres (Bapty, 1968) together with airborne and electromagnetic surveys, but the results of the program are not available. In later years, additional geophysical and geochemical work was done on areas peripheral to or overlapping the Sheep property. These programs were aimed at locating the lode source of the Squaw Creek placers.

**BIBLIOGRAPHY**

EMPR AR 1963-A64; 1964-A70; 1965-A72; 1967-24\*  
EMR MP CORPFILE (Rogue Point Mines Ltd.)

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC OF 926, 2191  
EMPR ASS RPT 13521, 14742, 15963  
EMPR EXPL 1985-C419; 1986-C472; 1987-C406,407  
EMPR FIELDWORK 1992, pp. 217-229

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **114P 022**

NATIONAL MINERAL INVENTORY: 114P16 Cu1

NAME(S): **KELSAL 24**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P16W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 47 24 N  
LONGITUDE: 136 29 37 W  
ELEVATION: Metres

NORTHING: 6628969  
EASTING: 416167

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Quartz Calcite  
ALTERATION: Epidote Calcite Quartz  
ALTERATION TYPE: Epidote Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic			Unnamed/Unknown Informal

LITHOLOGY: Meta Andesite  
Tuff  
Argillite  
Quartz Vein  
Felsite

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

A northwest trending belt of Paleozoic and/or Mesozoic felsite and meta-andesites with tuffaceous and argillaceous interbeds lies between the Denali Fault and Coast Plutonic Complex intrusives south of Kelsall Lake. The metavolcanics contain epidote, quartz and calcite as well as quartz veinlets with chalcopyrite and pyrite in vugs and hairline fractures.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2477, \*2570, \*2829  
EMPR GEM 1970-23; 1971-32  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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MINFILE NUMBER: **114P 023**

NATIONAL MINERAL INVENTORY: 114P16 Cu1

NAME(S): **KELSAL 32**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P16W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 47 09 N  
LONGITUDE: 136 28 57 W  
ELEVATION: Metres

NORTHING: 6628491  
EASTING: 416780

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Quartz Calcite  
ALTERATION: Epidote Calcite Quartz  
ALTERATION TYPE: Epidote Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic			Unnamed/Unknown Informal

LITHOLOGY: Meta Andesite  
Tuff  
Argillite  
Quartz Vein  
Felsite

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

A northwest trending belt of Paleozoic and/or Mesozoic felsite and meta-andesites with tuffaceous and argillaceous interbeds lies between the Denali Fault and Coast Plutonic Complex intrusives south of Kelsall Lake. The metavolcanics contain epidote quartz, and calcite as well as quartz veinlets with chalcopyrite and pyrite in vugs and hairline fractures.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2477, \*2570, \*2829  
EMPR GEM 1970-23; 1971-32  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 023**

MINFILE NUMBER: **114P 024**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMBIRD - CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 114P10W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 14 N  
 LONGITUDE: 136 58 52 W  
 ELEVATION: Metres

NORTHING: 6621955  
 EASTING: 388579

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver                      Zinc                      Lead                      Copper

**MINERALS**

SIGNIFICANT: Galena              Freibergite              Sphalerite              Chalcopyrite              Pyrite  
 ASSOCIATED: Quartz  
 ALTERATION: Silica  
 ALTERATION TYPE: Silicific'n  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
 CLASSIFICATION: Hydrothermal              Epigenetic  
 SHAPE: Irregular  
 MODIFIER: Folded                      Faulted  
 COMMENTS: Host rocks are complexly folded and faulted with a strong northwest structural trend.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
 Silurian-Devonian      Unnamed/Unknown Group      Undefined Formation

LITHOLOGY: Talc Sericite Schist  
 Limestone  
 Quartz Vein

HOSTROCK COMMENTS: Devono-Silurian to Ordo-Silurian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
 TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
 CATEGORY: Assay/analysis                      YEAR: 1980  
 SAMPLE TYPE: Grab  
 COMMODITY                      GRADE  
 Silver                      63.0900              Grams per tonne  
 Copper                      0.0900              Per cent  
 Lead                      1.1800              Per cent  
 Zinc                      5.7400              Per cent  
 REFERENCE: Assessment Report 8653.

**CAPSULE GEOLOGY**

At the Humbird-Creek showing a vein of galena-freibergite-sphalerite-chalcopyrite-pyrite mineralization with quartz gangue occurs in a complexly folded Ordovician-Devonian talc-sericite schist on the north bank of Windy Creek. Much of the zone is concealed by overburden, but it is exposed in a small cut bank or creek gully, where it appears to strike north and dip steeply to the west. The zone is about 3 metres in width. The host rock is strongly silicified. A grab sample from this area assayed 63.09 grams per tonne silver, 5.74 per cent zinc, 1.18 per cent lead, and 0.09 per cent copper.

**BIBLIOGRAPHY**

EMPR PF (\*Parker, A.R. (1968): Engineer's summary report #1 on the Hum Bird Group)  
 EMPR FIELDWORK 1977, p. 71  
 EMPR EXPL 1975-196; 1976-200; 1977-246; 1980-522,523  
 EMPR ASS RPT \*8653

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**BIBLIOGRAPHY**

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DATE CODED: 1985/07/24  
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CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 025**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMBIRD - SOUTH**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 09 N  
LONGITUDE: 136 58 22 W  
ELEVATION: Metres

NORTHING: 6619930  
EASTING: 388987

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Copper                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite      Galena  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal      Epigenetic  
SHAPE: Irregular  
MODIFIER: Folded                      Faulted  
COMMENTS: Host rocks are complexly folded and faulted with a strong northwest structural trend.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Silurian-Devonian      Unnamed/Unknown Group      Undefined Formation

LITHOLOGY: Limestone  
Sandstone  
Sericite Schist  
Quartz Vein

HOSTROCK COMMENTS: Devono-Silurian to Ordo-Silurian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1980  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      3.4300                      Grams per tonne  
Copper                      0.3300                      Per cent  
Lead                      0.1000                      Per cent  
Zinc                      0.2400                      Per cent

REFERENCE: Assessment Report 8653.

**CAPSULE GEOLOGY**

At the Humbird-South showing, west of Samuel Glacier, a strong north-northwest trending (silicified?) fault zone is developed in Ordovician-Devonian metasediments. Chalcopyrite and galena occur as disseminations along the fault zone. A grab sample from this occurrence ran 3.43 grams per tonne silver, 0.33 per cent copper, 0.24 per cent zinc, and 0.10 per cent lead.

**BIBLIOGRAPHY**

EMPR PF (\*Parker, A.R. (1968): Engineer's summary report #1 on the Hum Bird Group)  
EMPR FIELDWORK \*1977, p. 71  
EMPR EXPL 1975-196; 1976-200; 1977-246; 1980-522,523  
EMPR ASS RPT \*8653  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 025**

MINFILE NUMBER: **114P 026**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMBIRD - CAMP**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 114P10W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 04 N  
 LONGITUDE: 136 58 42 W  
 ELEVATION: Metres

NORTHING: 6621641  
 EASTING: 388726

LOCATION ACCURACY: Within 500M  
 COMMENTS:

COMMODITIES: Silver                      Copper                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Galena      Freibergite  
 ASSOCIATED: Calcite      Quartz  
 ALTERATION: Silica  
 ALTERATION TYPE: Silicific'n      Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
 CLASSIFICATION: Hydrothermal      Epigenetic  
 DIMENSION: 0050 x 0003      Metres      STRIKE/DIP:      TREND/PLUNGE:  
 COMMENTS: Host rocks are complexly folded and faulted with a strong northwest structural trend.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Silurian-Devonian	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Limestone  
 Talc Sericite Schist  
 Quartz Vein  
 Gossan

HOSTROCK COMMENTS: Devono-Silurian to Ordo-Silurian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
 TERRANE: Alexander

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1980
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	21.2600      Grams per tonne
Copper	0.2500      Per cent
Lead	0.0200      Per cent
Zinc	0.1700      Per cent

REFERENCE: Assessment Report 8653.

**CAPSULE GEOLOGY**

At the Humbird-Camp showing, west of Samuel Glacier, an oxidized zone of vein and replacement mineralization occurs near a contact between limestone and talc-sericite schist in deformed Ordovician-Devonian metasediments. Sulphides include chalcopyrite, sphalerite, galena, and possibly freibergite. The zone was reported to be 3 metres wide and extend 50 metres along a north strike. A high-grade shipment of less than 4.5 tonnes was made from this occurrence. A grab sample from the vicinity of the high-grade vein assayed 21.26 grams per tonne silver, 0.25 per cent copper, 0.17 per cent zinc, and 0.02 per cent lead.

**BIBLIOGRAPHY**

EMPR PF (\*Parker, A.R. (1968): Engineer's summary report #1 on the Hum Bird Group)  
 EMPR FIELDWORK \*1977, p. 71  
 EMPR EXPL 1975-196; 1976-200; 1977-246; 1980-522,523  
 EMPR ASS RPT \*8653

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**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 027**

NATIONAL MINERAL INVENTORY: 114P10 Ag1

NAME(S): **LUNAR, MAG**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 34 N  
LONGITUDE: 136 37 17 W  
ELEVATION: 1050 Metres

NORTHING: 6618312  
EASTING: 408731

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Pyrrhotite              Magnetite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Podiform  
CLASSIFICATION: Hydrothermal              Epigenetic                      Replacement

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Devonian	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Argillite  
Limestone  
Quartzite  
Siltstone  
Gabbroic Sill  
Feldspar Porphyry

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander                      Plutonic Rocks

**CAPSULE GEOLOGY**

The area is underlain by northwest trending Devonian to Upper Triassic metasediments which are intruded by Late Paleozoic and/or Mesozoic gabbro sills. Oligocene Tkope River Intrusives occur to the south. Two southeast-trending belts of magnetite and pyrrhotite vein and replacement mineralization occur in the metasediments which consist mainly of argillite and calcareous argillite. One occurrence, south of Chuck Creek and west of two small ponds, is up to 3 metres wide and reported to contain galena and sphalerite. Additional pods of massive magnetite and pyrrhotite are located at the 1200 metre elevation in the creek NW of the main showing, and at several locations to the north northeast for approximately 1 kilometre to the same elevation north of Chuck Creek. These pods may represent maino-type deposits.

**BIBLIOGRAPHY**

EMPR ASS RPT 2136, \*3427  
EMPR GEM 1969-28; 1972-563; 1973-519  
EMPR EXPL 1975-E195; 1976-E200  
EMPR PF (\*Baird, J.G. (1969): Nadahini Mountain area, claim and geology map)  
GSC OF 926, 2191  
EMPR (unpublished mapping)

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



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MINFILE NUMBER: **114P 028**

NATIONAL MINERAL INVENTORY: 114P10 Asb1

NAME(S): **NADAHINI MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 14 N  
LONGITUDE: 136 42 52 W  
ELEVATION: Metres

NORTHING: 6615970  
EASTING: 403430

LOCATION ACCURACY: Within 1 KM

COMMENTS: From Squaw Creek - Rainy Hollow Area, Map to accompany Bulletin 25.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic                      Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Permian-Triassic			Unnamed/Unknown Informal

LITHOLOGY: Peridotite  
Serpentinite  
Ultramafic

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**CAPSULE GEOLOGY**

Two ultramafic sills about 15 and 30 metres thick intrude Upper Paleozoic carbonates on the southwest slope of Nahahini Mountain. The sills strike southeast and dip about 60 degrees northeast. At one locality, known at the Nahahini Mountain occurrence, veinlets of cross-fibre chrysotile up to 2.5 centimetres long, but of poor quality, occur in a zone of serpentization.

**BIBLIOGRAPHY**

EMPR BULL \*25, p. 25  
EMPR OF 1995-25  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 028**

MINFILE NUMBER: **114P 029**

NATIONAL MINERAL INVENTORY: 114P10 Cu3

NAME(S): **HIBERNIAN**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 33 29 N  
LONGITUDE: 136 34 12 W  
ELEVATION: 885 Metres

NORTHING: 6603243  
EASTING: 411269

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Copper Silver Lead Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Galena Sphalerite Pyrrhotite Magnetite  
ASSOCIATED: Garnet Actinolite Quartz Calcite  
ALTERATION: Garnet Actinolite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant  
CLASSIFICATION: Skarn Replacement Epigenetic  
DIMENSION: STRIKE/DIP: 050/45N TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Devonian Unnamed/Unknown Group Undefined Formation

LITHOLOGY: Limestone  
Argillite  
Garnet Actinolite Quartz Skarn

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1914  
SAMPLE TYPE: Rock  
COMMODITY GRADE  
Silver 44.5700 Grams per tonne

COMMENTS: There was trace gold and copper reported with the assay.  
REFERENCE: Annual Report 1914, page 96.

**CAPSULE GEOLOGY**

The Hiberian showing is located at the headwaters of the Klehini River. Mineralized skarn occurs adjacent to a contact between Devonian Upper Triassic(?) limestone and overlying argillites. The mineralized zone trends 050 degrees and plunges 45 degrees northwest. Mineralization consists of pyrrhotite, chalcopyrite, sphalerite and galena in garnet-actinolite-quartz-calcite skarn. Mineralization is exposed over a width of 3 metres in an open cut.

A sample assayed 44.57 grams per tonne silver with trace gold and trace copper (Annual Report 1914, page 96).

**BIBLIOGRAPHY**

GSC SUM RPT \*1913, p. 31  
EMPR AR \*1914-96; 1918-87  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1227  
REPORT: RGEN0100

MINFILE NUMBER: **114P 030**

NATIONAL MINERAL INVENTORY: 114P15 Pb1

NAME(S): **MOUNT MANSFIELD**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 54 09 N  
LONGITUDE: 136 39 52 W  
ELEVATION: 1675 Metres

NORTHING: 6641723  
EASTING: 406895

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Malachite Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic			Unnamed/Unknown Informal

LITHOLOGY: Greenstone  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Alsek Ranges

RELATIONSHIP: Pre-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

Jura-Cretaceous Dezadeash Group sediments pinch out into a thick section of Paleozoic and/or Mesozoic greenstones south of Mount Mansfield. Quartz vein material with chalcopyrite and pyrite occurs in greenstone talus on the south-facing slope. A small shear zone in the greenstone has minor malachite staining and is known as the Mount Mansfield occurrence.

**BIBLIOGRAPHY**

EM GEOFILE 2000-2; 2000-5  
EMPR ASS RPT \*11168  
EMPR BULL \*25, p. 59  
EMPR EXPL 1982-416  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 030**

MINFILE NUMBER: **114P 031**

NATIONAL MINERAL INVENTORY: 114P15 Cu1

NAME(S): **MANSFIELD, C AND E NORTH, STANLEY CREEK,  
C & E NORTH, STAN, CHILKAT**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P15W  
BC MAP:  
LATITUDE: 59 55 19 N  
LONGITUDE: 136 46 27 W  
ELEVATION: 935 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Discovery outcrops are located along the southern bank of Stanley Creek.

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6644047  
EASTING: 400816

COMMODITIES: Nickel                      Copper                      Platinum                      Palladium                      Cobalt  
                    Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite      Garnierite      Sphalerite  
ASSOCIATED: Quartz              Ankerite  
ALTERATION: Silica              Ankerite              Albite  
ALTERATION TYPE: Carbonate              Silicific'n              Quartz-Carb.  
MINERALIZATION AGE: Tertiary

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic  
TYPE: M01      Flood Basalt-Associated Ni-Cu  
COMMENTS: The minimum size of the geochem anomaly/mineralized exposures is 800 by 400 feet.

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Unnamed/Unknown Group	Undefined Formation	
Jurassic	Dezadeash	Undefined Formation	

LITHOLOGY: Greenstone  
                    Quartz Carbonate Vein  
                    Argillite  
                    Peridotite  
                    Pillow Basalt  
                    Gabbro

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Boundary Ranges  
TERRANE: Wrangell  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**CAPSULE GEOLOGY**

The C and E North showing, composed of strongly sheared and altered Upper Paleozoic or, most likely, Triassic greenstones, is developed along the Denali Fault Zone south of Stanley Creek. The meta-volcanics are in fault contact with thin-bedded argillites of the Dezadeash Group to the east. The alteration/shear zone is up to half a kilometre wide and consists of orange to white weathering, fine-grained albite, quartz, and ankeritic carbonates cut by numerous quartz-carbonate veinlets. Sparsely disseminated chalcopyrite occurs along shear planes. Garnierite and chalcopyrite also occur in scattered veinlets. Assay values on grab samples ran as high as approximately 1.58 per cent nickel and 4 per cent copper.

Carbonate alteration and minor mineralization continue along various strands of the Denali fault zone for several kilometres to the southeast. Mineralization appears to be related to Tertiary movement on the Denali fault.

A 1987 work program is reported to have found float samples which yielded 1.1 per cent nickel, 0.23 per cent cobalt, 0.66 gram per tonne platinum and 0.43 gram per tonne palladium. Soil anomalies have shown values up to 500 ppm copper, 2,460 ppm nickel, 260 ppb platinum and 910 ppb palladium.

In 2001 the Stan claims were staked by Santoy Resources to cover the Mansfield Ultramafic Complex which hosts the occurrence. Santoy refers to the property as the Mansfield property which at the beginning of 2001 consisted of 96 units (2,400 hectares).

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**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1229  
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**BIBLIOGRAPHY**

EM EXPL 2000-1-8  
EM GEOFILE 2000-2; 2000-5  
EMPR ASS RPT 740, 17124, 18823  
GSC OF 926, 2191  
WWW <http://www.bmts.bc.ca>; [www.infomine.com/](http://www.infomine.com/)

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 032**

NATIONAL MINERAL INVENTORY:

NAME(S): **C AND E SOUTH**, C & E SOUTH, MANSFIELD,  
STAN

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P15W  
BC MAP:  
LATITUDE: 59 54 44 N  
LONGITUDE: 136 45 17 W  
ELEVATION: 1010 Metres  
LOCATION ACCURACY: Within 1 KM  
COMMENTS:

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6642936  
EASTING: 401874

COMMODITIES: Zinc                      Nickel                      Copper                      Antimony                      Lead  
                    Strontium                      Platinum                      Palladium

**MINERALS**

SIGNIFICANT: Sphalerite  
COMMENTS: Minerals are oxides and carbonates of strontium, antimony and lead.  
ASSOCIATED: Quartz                      Ankerite  
ALTERATION: Silica                      Ankerite  
ALTERATION TYPE: Oxidation                      Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Unnamed/Unknown Informal

LITHOLOGY: Greenstone

HOSTROCK COMMENTS: Paleozoic to Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Wrangell

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

The C and E South showing, composed of strongly sheared and altered Upper Paleozoic or Triassic greenstones, is found in the vicinity of the Denali Fault Zone south of Stanley Creek. About 1.3 kilometres southeast of Stanley Creek disseminated sphalerite is reported to occur associated with oxides and carbonates of strontium, antimony, and lead.

Santoy Resources Ltd. hold the claims.

**BIBLIOGRAPHY**

EMPR ASS RPT \*740  
GSC OF 926, 2191  
WWW <http://www.bmts.bc.ca>

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 033**

NATIONAL MINERAL INVENTORY: 114P12 Au1

NAME(S): **WC 17**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P13W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 45 18 N  
LONGITUDE: 137 53 46 W  
ELEVATION: Metres

NORTHING: 6627680  
EASTING: 337303

LOCATION ACCURACY: Within 500M

COMMENTS: Near terminus of Frobisher Glacier east of Turnback Canyon.

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Unknown  
ALTERATION: Mariposite Chlorite  
ALTERATION TYPE: Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP      FORMATION      IGNEOUS/METAMORPHIC/OTHER  
Silurian-Devonian      Undefined Group      Icefield & Alsek Ranges

LITHOLOGY: Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE: SAMPLE      REPORT ON: N  
CATEGORY: Assay/analysis      YEAR: 1970  
SAMPLE TYPE: Rock  
COMMODITY      GRADE  
Silver      13.7000      Grams per tonne  
Gold      0.3400      Grams per tonne  
COMMENTS: Original reference, J.J. McDougall, Map AP3, is no longer in print.  
REFERENCE: Personal Comments: J.J. McDougall.

**CAPSULE GEOLOGY**

The WC 17, a "Large mariposite-chlorite outcrop", occurrence is located within an area mapped as Silurian-Devonian limestone of the Icefield and Alsek Ranges assemblage north of Tats Lake. A sample assayed 0.34 grams per tonne gold and 13.7 grams per tonne silver.

**BIBLIOGRAPHY**

GSC OF 926, 2191  
EMPR OF 1993-13

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 034**

NATIONAL MINERAL INVENTORY: 114P12 Cu2

NAME(S): **TATS CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 36 09 N  
LONGITUDE: 137 33 07 W  
ELEVATION: Metres

NORTHING: 6609911  
EASTING: 355978

LOCATION ACCURACY: Within 500M  
COMMENTS: Location unverified.

COMMODITIES: Copper                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Unknown  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			St. Elias Intrusions

LITHOLOGY: Granodiorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1970
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		20.5700	Grams per tonne
Gold		0.3400	Grams per tonne
Copper		4.6500	Per cent
COMMENTS:	Original reference, J.J. McDougall, Map AP3, is no longer in print.		
REFERENCE:	Personal Comments: J.J. McDougall.		

**CAPSULE GEOLOGY**

The Tats Creek mineralization is reported to occur in green, silicified granite near the top of a hill. The occurrence is located in an area mapped as Jurassic to Cretaceous St. Elias Intrusions north of Tats Creek. Assays of 0.34 to 0.69 grams per tonne gold, 10.29 to 20.57 grams per tonne silver, and 3.35 to 4.65 per cent copper are reported.

**BIBLIOGRAPHY**

GSC OF 926, 2191  
Pers. Comm.: (\*J.J. McDougall)  
EMPR ASS RPT 11501

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **114P 035**

NATIONAL MINERAL INVENTORY:

NAME(S): **BARBICAN MOUNT**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 49 N  
LONGITUDE: 137 36 32 W  
ELEVATION: Metres

NORTHING: 6620548  
EASTING: 353178

LOCATION ACCURACY: Within 500M  
COMMENTS: Map, Assessment Report 12225.

COMMODITIES: Silver                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite      Pyrite              Pyrrhotite  
ASSOCIATED: Calcite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic

**GROUP**

Tats

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Porphyritic Dacite Flow  
Limy Argillite  
Slate

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1984

	<u>GRADE</u>	
Silver	3.6000	Grams per tonne
Gold	0.0600	Grams per tonne
Copper	0.0960	Per cent

REFERENCE: Assessment Report 12225.

**CAPSULE GEOLOGY**

The west face of a nunatak, Barbican Mount, contains porphyritic between the X and Bear Run glaciers contains porphyritic dacite flows intercalated with black limy argillite and slate of the Upper Triassic Tats Complex. Pyrite, pyrrhotite and chalcopyrite have been reported from this face. A sample of a calcite vein containing sulphides within a dacite unit, ran 3.7 grams per tonne silver, 955 parts per million copper, and 60 parts per billion gold.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12225, \*15426  
GSC OF 926, 2191  
EMPR EXPL 1987-C406

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 036**

NATIONAL MINERAL INVENTORY: 114P10 Zn4

NAME(S): **KLEHINI RIVER SW**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 34 N  
LONGITUDE: 136 42 17 W

NORTHING: 6605441  
EASTING: 403708

ELEVATION: Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location unverified.

COMMODITIES: Zinc                                  Silver                                  Cadmium

**MINERALS**

SIGNIFICANT: Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein

CLASSIFICATION: Hydrothermal                                  Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Oligocene

Tkope River Intrusions

LITHOLOGY: Granite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular

TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1970

SAMPLE TYPE: Rock

COMMODITY

GRADE

Silver

6.8600

Grams per tonne

Cadmium

0.1600

Per cent

Zinc

32.9000

Per cent

COMMENTS: Original reference, J.J. McDougall, Map AP3, is no longer in print.

REFERENCE: Personal Comments: J.J. McDougall.

**CAPSULE GEOLOGY**

At the Klehini River SW showing a three metre wide "quartz vein" of unknown strike length is exposed. The occurrence is in an area mapped as granitic Tkope River Intrusions of Oligocene age. A sample assayed 32.9 per cent zinc, 6.86 grams per tonne silver, and 0.16 per cent cadmium (reportedly over a 0.3 metre section).

**BIBLIOGRAPHY**

GSC OF 926, 2191  
Pers. Comm.: (\*J.J. McDougall)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 037**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE ZONE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P14W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 50 27 N  
LONGITUDE: 137 21 40 W  
ELEVATION: 1280 Metres

NORTHING: 6636043  
EASTING: 367689

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Copper

**MINERALS**

SIGNIFICANT: Hematite Malachite Bornite  
ALTERATION: Silica  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Tertiary

**DEPOSIT**

CHARACTER: Breccia  
CLASSIFICATION: Unknown  
SHAPE: Tabular  
MODIFIER: Faulted  
COMMENTS: Mineralization hosted by high angle fault. Strikes north and dips steep.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Ordovician	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Limestone  
Breccia  
Mylonite  
Sandstone

HOSTROCK COMMENTS: Hosted in limestone sequence of probable ordovician age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Aisek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Zeolite

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1992  
SAMPLE TYPE: Grab  
COMMODITY  
Gold 2.9900 Grams per tonne  
Copper 0.0600 Per cent  
REFERENCE: Fieldwork 1992, page 220.

**CAPSULE GEOLOGY**

The Blue Zone showing lies along one strand of the Debris Fault system, and is so named for the distinctive blue-green colour of the fault breccias in this area, where the fault zone is up to one half a kilometre wide. The fault bounds the east side of a graben filled with early Tertiary sedimentary rocks. The east side of the fault is underlain by massive limestone of probable Ordovician age. The fault zone contains intensely sheared and mylonitized limestone and other lithologies. Alteration was probably contemporaneous with faulting (early Tertiary). Alteration minerals include hematite, malachite, bornite?, silica, and chlorite. The hematitic zone overlies the zone of blue-green alteration one sample from this hematitic zone returned a gold value of 8.99 grams per tonne. The extent of this zone of anomalous gold values is not known, although the zone of hematitic alteration continues to the north for at least four kilometres.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1992, p. 220  
EMPR OF 1993-13

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1236  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR mapping (unpublished)  
GSC OF 2191

DATE CODED: 1993/06/10  
DATE REVISED: 1993/06/10

CODED BY: MS  
REVISED BY: MS

FIELD CHECK: Y  
FIELD CHECK: Y

MINFILE NUMBER: **114P 038**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAULT CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 37 49 N  
LONGITUDE: 137 00 07 W  
ELEVATION: Metres

NORTHING: 6611939  
EASTING: 387104

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Location unverified.

COMMODITIES: Silver                      Lead                      Zinc                      Gold

**MINERALS**

SIGNIFICANT: Galena              Sphalerite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Silurian-Devonian			Unnamed/Unknown Informal

LITHOLOGY: Limestone  
Mudstone

HOSTROCK COMMENTS: Devono-Silurian to Ordo-Silurian.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis              YEAR: 1970  
SAMPLE TYPE: Rock  
COMMODITY: Silver                      GRADE  
Silver                      6.8600              Grams per tonne  
COMMENTS: There is trace gold reported with the assay. Original reference,  
J.J. McDougall, Map AP3, is no longer in print.  
REFERENCE: Personal Comments: J.J. McDougall.

**CAPSULE GEOLOGY**

The Fault Creek occurrence is located in an area mapped as Ordovician to Devonian carbonates and mudstone. Galena and sphalerite occur in a vein 0.9 metres wide. A sample assayed trace gold, and 6.86 grams per tonne silver.

**BIBLIOGRAPHY**

GSC OF 926, 2191  
Pers. Comm.: (\*J.J. McDougall)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 039**

NATIONAL MINERAL INVENTORY: 114P10 Cu5

NAME(S): **CAMP CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 36 09 N  
LONGITUDE: 136 41 02 W  
ELEVATION: Metres

NORTHING: 6608349  
EASTING: 404959

LOCATION ACCURACY: Within 500M  
COMMENTS: Location unverified.

COMMODITIES: Silver                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite  
COMMENTS: Mineralogy unverified. Trace gold reported.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown  
COMMENTS: Copper mineralization is reported to occur in skarn.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Devonian			Unnamed/Unknown Informal

LITHOLOGY: Siltstone  
Limestone  
Argillite  
Skarn

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1970
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		336.0000	Grams per tonne
Copper		14.3000	Per cent

COMMENTS: There is trace gold reported. Copper & silver values may be from separate samples. Original reference, Map AP3, not in print.  
REFERENCE: J.J. McDougall, personal communication.

**CAPSULE GEOLOGY**

The Camp Creek occurrence is located in an area mapped as Devonian to Upper Triassic siltstones, argillites and carbonates. Copper mineralization is reported to occur in skarn. Reports from sampling indicated trace gold, 13.7 to 336.0 grams per tonne silver, and 0.62 per cent to 14.3 per cent copper, although the gold may not occur in the same samples as the silver and copper.

**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 040**

NATIONAL MINERAL INVENTORY: 114P10 Zn5

NAME(S): **KLEHINI RIVER NE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 44 N  
LONGITUDE: 136 39 37 W  
ELEVATION: Metres

NORTHING: 6607542  
EASTING: 406272

LOCATION ACCURACY: Within 500M  
COMMENTS: Location unverified.

COMMODITIES: Silver                      Lead                      Zinc                      Copper

**MINERALS**

SIGNIFICANT: Sphalerite      Chalcopyrite      Galena  
ALTERATION: Epidote          Chlorite  
ALTERATION TYPE: Epidote                  Chloritic                  Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Hydrothermal                  Epigenetic                  Skarn

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Devonian			Unnamed/Unknown Informal

LITHOLOGY: Greenstone  
Skarn  
Granite

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular    PHYSIOGRAPHIC AREA: Asek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                                  RELATIONSHIP: Syn-mineralization                  GRADE: Hornfels

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1970
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		75.4300	Grams per tonne
Copper		1.6600	Per cent

COMMENTS: Original reference, J.J. McDougall, Map AP3, is no longer in print.  
REFERENCE: J.J. McDougall, personal communication.

**CAPSULE GEOLOGY**

The Klehini River NE occurrence is located in an area mapped as Devonian to Upper Triassic sediments, which are intruded by Oligocene granitic rocks of the Tkope River Intrusions. Of the showings reported, two are described as occurring in "greenstone" or "epidotized volcanic", while one occurs in "greenish chloritic skarn". The showings consist of sphalerite in greenstone (assay 17.14 grams per tonne silver, 7.97 per cent zinc), galena in volcanics (assay 75.43 grams per tonne silver), and chalcopyrite in skarn (75.43 grams per tonne silver, and 1.66 per cent copper).

**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 041**

NATIONAL MINERAL INVENTORY: 114P12 Cu5

NAME(S): **ALSEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 40 24 N  
LONGITUDE: 137 44 47 W  
ELEVATION: Metres

NORTHING: 6618233  
EASTING: 345334

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper Gold Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite Malachite  
ALTERATION: Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Massive  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Tats	Lower Tats	

LITHOLOGY: Andesite  
Basalt  
Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

The area of the Alsek showing is underlain by andesitic to basaltic flows and sills with about 15 per cent massive dioritic sills of the Upper Triassic Lower Tats Complex. The original showing (McDougall), near the edge of the glacier, was described as a 0.3 metre vein of massive chalcopyrite, which assayed 0.69 grams per tonne gold, 17.14 grams per tonne silver, and 25.16 per cent copper. The showing has been identified as coinciding with an area of malachite staining at the east edge of Tats Glacier about 2.2 kilometres northwest of the Tats occurrence (114P 003).

**BIBLIOGRAPHY**

EMPR ASS RPT 11501, \*12821  
EMPR EXPL 1982-414,415; 1983-564  
EMPR OF 1999-2  
PERS COMM (\*J.J. McDougall)  
GSC OF 926, 2191  
Falconbridge File

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **114P 042**

NATIONAL MINERAL INVENTORY:

NAME(S): **INSPECTOR CREEK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 35 14 N  
LONGITUDE: 136 33 07 W  
ELEVATION: 1000 Metres

NORTHING: 6606466  
EASTING: 412365

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 2357, Map G-2.

COMMODITIES: Copper Silver

**MINERALS**

SIGNIFICANT: Arsenopyrite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Massive  
CLASSIFICATION: Igneous-contact

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Devonian			Unnamed/Unknown Informal

LITHOLOGY: Argillite  
Felsite Porphyry

HOSTROCK COMMENTS: Devonian to Upper Triassic. Mineralization at contact between felsite porphyry and argillites.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Alsek Ranges

RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1970

SAMPLE TYPE: Rock

COMMODITY

GRADE

Silver

9.6000

Grams per tonne

Copper

0.4000

Per cent

REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

At the Inspector Creek showing an east-northeast trending band of massive arsenopyrite occurs, associated with skarn, at a contact between footwall Devonian to Upper Triassic(?) argillites and hangingwall, Oligocene felsite porphyry. A sample assayed 0.40 per cent copper and 9.6 grams per tonne silver.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2357  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 043**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASEMENT - JUNE 24, JUNE 24**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P06W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 21 29 N  
LONGITUDE: 137 19 07 W  
ELEVATION: Metres

NORTHING: 6582218  
EASTING: 368193

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Barite                      Silver                      Copper                      Lead                      Zinc  
                    Gold                      Cobalt

**MINERALS**

SIGNIFICANT: Barite              Sphalerite              Chalcopyrite              Galena              Pyrite  
ASSOCIATED: Carbonate  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound              Stratiform              Concordant              Disseminated  
CLASSIFICATION: Hydrothermal              Syngenetic              Industrial Min.  
SHAPE: Tabular  
DIMENSION:                      STRIKE/DIP: 010/60W              TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Paleozoic              Undefined Group              Icefield Ranges

LITHOLOGY: Limestone  
                    Chlorite Schist  
                    Intermediate Extrusive  
                    Basic Extrusive

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Asek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional              RELATIONSHIP:              GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis              YEAR: 1985  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Silver                      3.3000              Grams per tonne  
Gold                      0.0400              Grams per tonne  
Copper                      0.0640              Per cent  
Zinc                      0.1200              Per cent

COMMENTS: The sample width is 2 centimetres. There is trace lead and cobalt.

REFERENCE: Assessment Report 13523.

**CAPSULE GEOLOGY**

The area of the Basement-June 24 showing is underlain by Devonian to Upper Triassic metasediments and metavolcanics of the Icefield Ranges assemblage. The showing consists of disseminated sphalerite, pyrite, chalcopyrite and minor galena in a bedded barite and carbonate horizon within a sequence of intermediate to mafic volcanics, chlorite schist, and brown limestone. A chip sample across 6 metres contained 26 per cent barium, with a 20 centimetre thick zone assaying 0.12 per cent zinc, 3.3 grams per tonne silver, and trace copper, gold, lead, and cobalt.

**BIBLIOGRAPHY**

EMPR ASS RPT \*13523  
EMPR EXPL 1983-562; 1985-C413  
EMPR OF 1999-2

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 044**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASEMENT - JUNE 21, JUNE 21**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P06W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 20 14 N  
LONGITUDE: 137 19 52 W  
ELEVATION: Metres

NORTHING: 6579924  
EASTING: 367402

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Copper Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrrhotite Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound Vein Massive Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

**STRATIGRAPHIC AGE**

Paleozoic

**GROUP**

Undefined Group

**FORMATION**

Icefield Ranges

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Marble  
Chlorite Schist  
Basic Intrusive  
Vein  
Mafic Dike

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Alsek Ranges

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Grab

YEAR: 1985

**COMMODITY**

	GRADE	
Silver	1.6000	Grams per tonne
Gold	7.3000	Grams per tonne
Copper	0.0760	Per cent

COMMENTS: The sample also contained traces of zinc.  
REFERENCE: Assessment Report 13523.

**CAPSULE GEOLOGY**

The area of the Basement-June 21 showing is underlain by steep east-dipping Devonian to Upper Triassic metasediments and metavolcanics of the Icefield Ranges assemblage. Pyrrhotite veins and stringers with disseminated pyrite and accessory chalcopyrite occur in a marble bed within a chlorite schist unit which has been intruded by mafic dykes. A grab sample with chalcopyrite ran 7.3 grams per tonne gold, 0.076 per cent copper, and 1.6 grams per tonne silver.

**BIBLIOGRAPHY**

EMPR ASS RPT \*13523  
EMPR EXPL 1983-562; 1985-C413  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 045**

NATIONAL MINERAL INVENTORY: 114P6 Cu1

NAME(S): **BASEMENT WEST**, MCDOUGALL

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P06W  
BC MAP:

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 21 49 N  
LONGITUDE: 137 22 07 W  
ELEVATION: Metres

NORTHING: 6582936  
EASTING: 365374

LOCATION ACCURACY: Within 500M

COMMENTS: Exposed on both banks of an east flowing creek, 100 metres from the confluence with Basement Creek.

COMMODITIES: Copper Silver Gold Cobalt Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrrhotite Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Massive Stratiform  
CLASSIFICATION: Volcanogenic

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

**STRATIGRAPHIC AGE**

Upper Triassic  
Paleozoic

**GROUP**

Undefined Group

**FORMATION**

Icefield Ranges

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Chlorite Schist  
Limestone  
Mafic Sill

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Alsek Ranges

RELATIONSHIP:

GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver	0.6000	Grams per tonne
Gold	0.0200	Grams per tonne
Copper	0.0920	Per cent

COMMENTS: The sample width is 50 centimetres. The sample contains traces of cobalt and zinc.

REFERENCE: Assessment Report 13523.

**CAPSULE GEOLOGY**

The area of the Basement West showing is underlain by Devonian to Upper Triassic and older metasediments of the Icefield Ranges Assemblage.

The showing is a vertical, resistant, north-trending, coarse grained, massive to semi-massive sulphide lens up to 5 metres thick. The massive sulphide is predominantly pyrrhotite with lesser chalcopyrite and pyrite. The lens is interbedded with chlorite schist, mafic sills and limestone. A grab sample assayed 0.59 per cent copper (Open File 1993-13).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12629, \*13523  
EMPR EXPL 1983-562; 1985-C413  
EMPR FIELDWORK 1992, pp. 217-229  
EMPR OF 1993-13; 1999-2  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 046**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMBIRD - DOME**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 39 N  
LONGITUDE: 136 57 47 W  
ELEVATION: Metres

NORTHING: 6620842  
EASTING: 389562

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Copper                      Zinc                      Lead                      Gold

**MINERALS**

SIGNIFICANT: Freibergite      Sphalerite      Chalcopyrite      Galena  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
CLASSIFICATION: Hydrothermal              Epigenetic                      Replacement  
SHAPE: Irregular  
MODIFIER: Folded                      Faulted  
COMMENTS: Host rocks are complexly folded and faulted with a dominant northwest structural trend.

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Ordovician-Silurian                                                                Unnamed/Unknown Informal

LITHOLOGY: Limestone  
Quartz Vein

HOSTROCK COMMENTS: Ordovician to Devonian age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1980  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Silver                      58.9700                      Grams per tonne  
Copper                      0.2400                      Per cent  
Lead                      0.0200                      Per cent  
Zinc                      0.0900                      Per cent  
COMMENTS: The sample also contained trace gold.  
REFERENCE: Assessment Report 8653.

**CAPSULE GEOLOGY**

At the Humbird-Dome showing west of the Samuel Glacier deformed Ordovician-Devonian limestones are cut by quartz veins which locally conform to bedding. The rocks containing sulphide mineralization are complexly folded and faulted with a dominant northwest structural trend. Vein and replacement disseminated sulphides include freibergite, sphalerite, chalcopyrite and galena. A representative sample contained 58.97 grams per tonne silver, 0.24 per cent copper, 0.09 per cent zinc, 0.02 per cent lead, and trace gold.

**BIBLIOGRAPHY**

EMPR PF (\*Parker, A.R. (1968): Engineer's summary report #1 on the Hum Bird Group)  
EMPR FIELDWORK \*1977, p. 71  
EMPR EXPL 1975-196; 1976-200; 1977-246; 1980-522,523  
EMPR ASS RPT \*8653

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

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**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 047**

NATIONAL MINERAL INVENTORY:

NAME(S): **SAM - NORTH GLACIER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 29 N  
LONGITUDE: 136 52 57 W  
ELEVATION: Metres

NORTHING: 6620401  
EASTING: 394084

LOCATION ACCURACY: Within 500M  
COMMENTS: Map, Assessment Report 10887.

COMMODITIES: Copper                      Zinc                      Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite  
COMMENTS: Chalcopyrite assumed. Zinc and lead mineralization from boulders only.  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant  
CLASSIFICATION: Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Unnamed/Unknown Informal

LITHOLOGY: Calc-silicate Hornfels  
Meta Sediment/Sedimentary  
Quartz Feldspar Porphyry  
Mafic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**CAPSULE GEOLOGY**

The Sam-North Glacier area is underlain by Paleozoic(?) meta-sediments intruded by quartz feldspar porphyry and mafic dykes. The metasediments dip approximately 70 degrees southwest. Scattered boulders with copper, zinc and lead mineralization have been found just below the southwest lobe of the "North Glacier" (MacArthur, R. (1983), Figure 3). The only mineralization found in place consists of copper mineralization in quartz blebs in banded calc-silicate hornfels on the north side of the southwest lobe.

**BIBLIOGRAPHY**

EMPR ASS RPT \*10887, \*11597, 14639, 15680  
EMPR EXPL 1982-414; 1983-563; 1986-C472; 1987-C405  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **114P 048**

NATIONAL MINERAL INVENTORY:

NAME(S): **SAM - MAIN GLACIER**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 114P10W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 59 N  
 LONGITUDE: 136 53 07 W  
 ELEVATION: Metres

NORTHING: 6619478  
 EASTING: 393901

LOCATION ACCURACY: Within 500M  
 COMMENTS: Map, Assessment Report 10887.

COMMODITIES: Copper                      Lead                      Zinc                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite  
 COMMENTS: In situ mineralization only.  
 ASSOCIATED: Quartz  
 ALTERATION TYPE: Skarn  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant  
 CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic			Unnamed/Unknown Informal

LITHOLOGY: Calc-silicate Hornfels  
 Garnet Diopside Actinolite Skarn  
 Quartz Feldspar Porphyry  
 Mafic Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
 TERRANE: Alexander  
 METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1970
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Silver	150.8600 Grams per tonne
Gold	0.0700 Grams per tonne
Copper	5.8000 Per cent
Lead	12.4000 Per cent
Zinc	14.3000 Per cent

COMMENTS: Original reference, J.J. McDougall, Map AP3, is no longer in print.  
 REFERENCE: Personal Comments: J.J. McDougall.

**CAPSULE GEOLOGY**

The Sam-Main Glacier area is underlain by Paleozoic(?) meta-sediments which are intruded by quartz feldspar porphyry and mafic dykes. A train of mineralized boulders at the base of the "Main Glacier", on its west side, is 10 to 20 metres wide and at least 200 metres long. The boulders include massive garnet-diopside-actinolite skarn which contains up to 5 per cent copper and 5 per cent zinc, as chalcopyrite, sphalerite, and crudely banded, fine-grained massive sulphides in a quartz-actinolite(?) gangue. Samples assayed up to 5.8 per cent copper, 12.4 per cent lead, 14.3 per cent zinc, 150.86 grams per tonne silver, and 0.07 grams per tonne gold. The only in-situ mineralization occurs just above the northeast side of the glacier, and consists of quartz-rich skarn bands with minor copper mineralization.

**BIBLIOGRAPHY**

EMPR ASS RPT \*10887, \*11597, 14639, 15680  
 EMPR EXPL 1982-414; 1983-563; 1986-C472; 1987-C405  
 GSC OF 926, 2191

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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PAGE: 1250  
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**BIBLIOGRAPHY**

Pers. Comm.: (\*J.J. McDougall)

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 049**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEL**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P09W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 59 N  
LONGITUDE: 136 23 22 W  
ELEVATION: 1190 Metres

NORTHING: 6622501  
EASTING: 421880

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Gold                      Silver                      Zinc

**MINERALS**

SIGNIFICANT: Malachite  
ASSOCIATED: Quartz  
ALTERATION: Limonite                      Malachite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic			Unnamed/Unknown Informal

LITHOLOGY: Greenstone  
Quartzite  
Quartz Vein

HOSTROCK COMMENTS: Paleozoic to Mesozoic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline  
TERRANE: Plutonic Rocks  
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Alsek Ranges

RELATIONSHIP: Pre-mineralization                      GRADE: Greenschist

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Silver		7.2000	Grams per tonne
Gold		0.0300	Grams per tonne
Copper		2.2000	Per cent

COMMENTS: The sample also contains trace zinc.  
REFERENCE: Assessment Report 11169.

**CAPSULE GEOLOGY**

The Kel showing is located north of the Kelsall River. Foliated greenstones and interbedded quartzites of Paleozoic and/or Mesozoic age lie east of the Denali Fault west of the Coast Plutonic Complex. A 30 centimetre by 2 metre quartz vein contains abundant malachite and limonite. A chip sample across the vein ran 2.2 per cent copper, 0.03 grams per tonne gold and 7.2 grams per tonne silver.

**BIBLIOGRAPHY**

EMPR ASS RPT \*11169  
EMPR EXPL 1982-413  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 050**

NATIONAL MINERAL INVENTORY:

NAME(S): **VALIA**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P07W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 23 29 N  
LONGITUDE: 136 39 37 W  
ELEVATION: 1750 Metres

NORTHING: 6584811  
EASTING: 405704

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Lead                      Zinc                      Silver                      Magnetite

**MINERALS**

SIGNIFICANT: Sphalerite      Chalcopyrite      Galena      Pyrite      Magnetite  
ASSOCIATED: Quartz      Calcite      Limonite  
ALTERATION: Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE    GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Permian-Triassic                                                                Unnamed/Unknown Informal

LITHOLOGY: Tuff  
Andesite  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**CAPSULE GEOLOGY**

At the Valia showing on Mount Bigger mineralization is within an andesitic tuff unit and consists mainly of sphalerite and chalcopyrite with associated galena, pyrite and magnetite. Quartz and calcite blebs are enclosed in the massive sulphide and also form laminations in the semi-massive sections. The sulphides are capped by limonite due to surface oxidation.

**BIBLIOGRAPHY**

EMPR ASS RPT \*13835  
GSC OF 926, 2191  
EMPR EXPL 1985-C414

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: AFW

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 051**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT BIGGER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P07W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 24 29 N  
LONGITUDE: 136 40 07 W  
ELEVATION: Metres

NORTHING: 6586678  
EASTING: 405278

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Lead Silver Copper Zinc

**MINERALS**

SIGNIFICANT: Galena  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Crystal Tuff  
Quartz Vein  
Andesitic Flow  
Dike

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
YEAR: 1985  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 5486.0000 Grams per tonne  
Copper 1.1800 Per cent  
Lead 38.1000 Per cent  
Zinc 2.7000 Per cent

COMMENTS: There are no reported values for gold or other metals for this sample.

REFERENCE: Assessment Report 13835.

**CAPSULE GEOLOGY**

At the Mount Bigger showing, quartz veins, less than one metre wide, occur within crystal tuffs, minor andesitic flows and dykes. The veins contain small stringers of galena. A sample assayed 5486 grams per tonne silver, 1.18 per cent copper, 38.10 per cent lead, and 2.70 per cent zinc.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12227, \*13835  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: AFW

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 052**

NATIONAL MINERAL INVENTORY:

NAME(S): **PENDANT GLACIER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 41 04 N  
LONGITUDE: 137 31 07 W  
ELEVATION: Metres

NORTHING: 6618960  
EASTING: 358204

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Zinc                      Copper                      Silver                      Gold                      Lead

**MINERALS**

SIGNIFICANT: Malachite      Pyrite  
ASSOCIATED: Quartz      Calcite  
ALTERATION: Quartz      Sericite      Limonite      Malachite  
ALTERATION TYPE: Sericitic      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated                      Massive  
CLASSIFICATION: Hydrothermal

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Devonian                                                                Unnamed/Unknown Informal

LITHOLOGY: Limestone  
Argillite  
Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1984  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Silver                      5.4000                      Grams per tonne  
Gold                      0.0250                      Grams per tonne  
Copper                      0.0070                      Per cent  
Lead                      0.0440                      Per cent  
Zinc                      3.9700                      Per cent

REFERENCE: Assessment Report 12225.

**CAPSULE GEOLOGY**

At the Pendant Glacier showing pyritized argillites and limestones of Devonian(?) age occur south of and upslope from the terminus of the East Arm glacier, just below the Pendant Glacier. Mineralization occurs as finely interlayered limestone and pyrite, massive pyrite in saccharoidal calcite and quartz, and malachite with limonite, sericite, and quartz. Values of up to 0.707 per cent copper, 3.97 per cent zinc and 5.4 grams per tonne silver have been reported.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12225  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 053**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAMPERO RIDGE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P13E 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 59 N  
LONGITUDE: 137 40 07 W  
ELEVATION: Metres

NORTHING: 6626556  
EASTING: 350055

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Zinc                      Copper                      Silver

**MINERALS**

SIGNIFICANT: Pyrite              Pyrrhotite  
COMMENTS: Sphalerite not reported despite zinc values up to 2.39 per cent.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic

**GROUP**

Tats

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Andesite  
Shale

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock

YEAR: 1983

**COMMODITY**

Copper

**GRADE**

0.0760

Per cent

Zinc

2.3900

Per cent

REFERENCE: Assessment Report 12225.

**CAPSULE GEOLOGY**

Pyrite and pyrrhotite have been reported to occur in Upper Triassic shales and andesitic volcanics of the Tats Complex along the south side of Pampero Ridge. Values up to 2.39 per cent zinc, 0.11 per cent copper and 1.8 grams per tonne silver have been reported from andesite dykes, flows, and veins in andesite. Sphalerite has not been reported despite elevated zinc values.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12225, \*15426  
GSC OF 926, 2191  
EMPR EXPL 1987-C406

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 054**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRAMPS CRAG**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 46 29 N  
LONGITUDE: 137 40 07 W  
ELEVATION: Metres

NORTHING: 6629339  
EASTING: 350167

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Zinc                      Silver

**MINERALS**

SIGNIFICANT:	Pyrrhotite	Pyrite	Malachite	Azurite
ALTERATION:	Limonite	Malachite	Azurite	
ALTERATION TYPE:	Oxidation			
MINERALIZATION AGE:	Unknown			

**DEPOSIT**

CHARACTER: Stratiform  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Unknown

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Undefined Formation

**IGNEOUS/METAMORPHIC/OTHER**

LITHOLOGY: Vesicular Basalt  
Mafic Sill  
Argillite  
Limestone  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1993

Silver

**GRADE**

54.0000

Grams per tonne

Copper

14.2000

Per cent

REFERENCE: Open File 1993-13.

**CAPSULE GEOLOGY**

Mineralization occurs in vesicular basalt in a sequence of argillite, limestone and chert pebble conglomerate intruded by mafic sills and later cross-cut by dykes from a nearby granodioritic pluton. Mineralization in at least one locality consists of a lensoidal massive sulphide layer up to 20 centimetres thick, consisting of pyrrhotite, pyrite, malachite and azurite. Age of the sedimentary sequence is unknown although adjacent to exposures of Triassic age, lithologic constituents resemble nearby Siluro-Devonian rocks.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12225  
EMPR OF \*1993-13; 1999-2  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **114P 055**

NATIONAL MINERAL INVENTORY:

NAME(S): **AEOLIAN STEEPLE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 43 54 N  
LONGITUDE: 137 39 32 W  
ELEVATION: Metres

NORTHING: 6624525  
EASTING: 350520

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Zinc Silver Copper

**MINERALS**

SIGNIFICANT: Unknown  
ALTERATION: Limonite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE      GROUP      FORMATION      IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic      Tats      Undefined Formation

LITHOLOGY: Pillow Lava  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1983

COMMODITY	GRADE	
Silver	6.2000	Grams per tonne
Copper	0.3600	Per cent
Zinc	3.8400	Per cent

REFERENCE: Assessment Report 12225.

**CAPSULE GEOLOGY**

Large gossan zones occur in pillowed volcanics of the Upper Triassic Tats Complex in the vicinity of Aeolian Steeple. Sulphide minerals have not been specified but values of up to 3.84 per cent zinc, 0.36 per cent copper, and 6.2 grams per tonne silver have been reported.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12225  
EMPR OF 1999-2  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1986/04/07

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 056**

NATIONAL MINERAL INVENTORY:

NAME(S): **VEGA (L.145)**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 19 N  
LONGITUDE: 136 32 57 W  
ELEVATION: 1090 Metres

NORTHING: 6604761  
EASTING: 412482

LOCATION ACCURACY: Within 500M

COMMENTS: From Assessment Report 2357, Map G-2.

COMMODITIES: Silver                      Copper                      Zinc                      Gold

**MINERALS**

SIGNIFICANT: Bornite              Chalcopyrite              Sphalerite              Pyrite  
COMMENTS: Trace gold.  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
COMMENTS: Mineralization is contemporaneous with intrusives.  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant                      Disseminated  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Oligocene			Tkope River Intrusions

LITHOLOGY: Skarn  
Meta Sediment/Sedimentary  
Granite

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular    PHYSIOGRAPHIC AREA: Asek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE    REPORT ON: N  
CATEGORY: Assay/analysis    YEAR: 1969  
SAMPLE TYPE: Grab  
COMMODITY    GRADE  
Silver    144.0000                      Grams per tonne  
Copper    2.7200                      Per cent  
COMMENTS: There is trace gold in the sample.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

The area of the Vega showing is underlain by Devonian to Upper Triassic metasediments intruded by granitic rocks of the Oligocene Tkope River Intrusions. A test pit on the north slope of Copper Butte, southwest of a pond at the head of a west-flowing tributary of Inspector Creek, exposes pyrite, sphalerite, chalcopyrite, and bornite in serpentine skarn. A sample assayed 144 grams per tonne silver, 2.72 per cent copper, and trace gold.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2357  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 057**

NATIONAL MINERAL INVENTORY: 114P2,3 Cu1

NAME(S): **ALU**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P03E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 07 49 N  
LONGITUDE: 137 01 07 W  
ELEVATION: Metres

NORTHING: 6556306  
EASTING: 384476

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Copper Molybdenum Tungsten

**MINERALS**

SIGNIFICANT:	Chalcopyrite	Bornite	Molybdenite	Scheelite	Pyrite
ASSOCIATED:	Quartz	Feldspar	Epidote	Garnet	
ALTERATION:	Epidote	Garnet	Quartz		
ALTERATION TYPE:	Silicific'n		Skarn		
MINERALIZATION AGE:	Unknown				

**DEPOSIT**

CHARACTER:	Vein	Discordant	Disseminated
CLASSIFICATION:	Skarn	Hydrothermal	Epigenetic
SHAPE:	Irregular		
DIMENSION:	1000 x 0400	Metres	STRIKE/DIP:

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

**STRATIGRAPHIC AGE**

Silurian-Devonian  
Jurassic-Cretaceous

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Icefield & Alsek Ranges

**IGNEOUS/METAMORPHIC/OTHER**

St. Elias Intrusions

LITHOLOGY: Calc-silicate Hornfels  
Marble  
Limestone  
Quartz Vein  
Garnet Diopside Skarn  
Gneissic Granodiorite  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Alsek Ranges  
Plutonic Rocks  
RELATIONSHIP: Syn-mineralization  
GRADE: Hornfels

**CAPSULE GEOLOGY**

The Alu showing, northeast of Tarr inlet, is in an area which is underlain by Silurian to Devonian (?) metasediments and metavolcanics of the Icefield and Alsek Ranges sequence, which are intruded by Jurassic to Cretaceous gneissic granodiorite and diorite of the St. Elias Intrusions. The metasediments strike approximately north with near vertical dips. Greyish-yellow calc-silicates with limestone and marble bands and lenses are cut by a network of quartz veins which are erratically mineralized with chalcopyrite, bornite, and pyrite. The mineralized zone is about 100 to 400 metres wide and a kilometre in length along a north strike. Sporadic molybdenite occurs in larger quartz lenses and scheelite has been reported associated with garnet-diopside skarn.

**BIBLIOGRAPHY**

EMPR ASS RPT \*5289, \*5629  
EMPR GEM 1974-355  
GSC OF 926, 2191  
EMPR EXPL 1975-E194  
EMPR OF 1991-17

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 058**

NATIONAL MINERAL INVENTORY: 114P6 Cu3

NAME(S): **SAC**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P06E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 19 09 N  
LONGITUDE: 137 08 17 W  
ELEVATION: Metres

NORTHING: 6577545  
EASTING: 378316

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Malachite Azurite  
ASSOCIATED: Quartz  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

**STRATIGRAPHIC AGE**

Upper Triassic  
Oligocene

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Icefield Ranges

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Felsite  
Quartz Porphyritic Intrusive  
Meta Volcanic  
Meta Sediment/Sedimentary

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

The area is underlain by Oligocene felsite or quartz porphyry intrusive into Upper Paleozoic-Mesozoic(?) metasediments and meta-volcanics of the Icefield Ranges Assemblage. Copper carbonate (malachite, azurite) patches occur on marginal zones of quartz porphyry sills.

**BIBLIOGRAPHY**

GSC OF 926, 2191  
EMPR ASS RPT \*5206, \*5612  
EMPR GEM 1974-355  
EMPR EXPL 1975-E195

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1261  
REPORT: RGEN0100

MINFILE NUMBER: **114P 059**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAINES ROAD**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P15E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 47 59 N  
LONGITUDE: 136 38 07 W  
ELEVATION: Metres

NORTHING: 6630239  
EASTING: 408243

LOCATION ACCURACY: Within 1 KM  
COMMENTS: Location unverified.

COMMODITIES: Barite

**MINERALS**

SIGNIFICANT: Barite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

Small veins of barite are reported a short distance west of Mile 77 on the Haines Road.

**BIBLIOGRAPHY**

EMPR IND MIN FILE (Barium Occurrences in BC (in Ministry Library))  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1986/04/03

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 059**

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1262  
REPORT: RGEN0100

MINFILE NUMBER: **114P 060**

NATIONAL MINERAL INVENTORY:

NAME(S): **SQUAW VALLEY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P14E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 57 39 N  
LONGITUDE: 137 01 22 W  
ELEVATION: Metres

NORTHING: 6648776  
EASTING: 387053

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location extremely imprecise, from Annual Report (1962), p. A65.

COMMODITIES: Asbestos

**MINERALS**

SIGNIFICANT: Chrysotile  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
ALTERATION TYPE: Serpentin'zn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Industrial Min.

**HOST ROCK**

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Serpentinite  
Limestone

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

At the Squaw Valley showing a good grade asbestos fibre was reported to occur along a limestone-serpentine contact near the headwaters of Squaw Creek. The limestone may be Upper Paleozoic or Upper Triassic in age.

**BIBLIOGRAPHY**

EMPR AR 1962-A65  
EMPR OF 1995-25  
EMPR ASS RPT 13521, 14742  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 060**

MINFILE NUMBER: **114P 061**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIME**, X, MUS

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 44 N  
LONGITUDE: 137 36 57 W  
ELEVATION: 1340 Metres

NORTHING: 6622264  
EASTING: 352855

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver Copper Lead Zinc  
Cobalt

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrrhotite Pyrite  
ASSOCIATED: Calcite  
MINERALIZATION AGE: Triassic

**DEPOSIT**

CHARACTER: Stratabound Massive  
CLASSIFICATION: Sedimentary Syngenetic  
DIMENSION: 20 x 1 Metres

STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic Tats Undefined Formation

LITHOLOGY: Argillite  
Andesite Flow  
Andesite Sill

HOSTROCK COMMENTS: Lower volcanic member.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
YEAR: 1983  
CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY GRADE  
Silver 42.0000 Grams per tonne  
Gold 84.0000 Grams per tonne  
Copper 0.8600 Per cent  
Lead 0.0100 Per cent  
Zinc 0.0300 Per cent

COMMENTS: A second sample assayed 0.075 per cent cobalt.  
REFERENCE: Fieldwork 1983, pages 173-184.

**CAPSULE GEOLOGY**

At the Rime, X, or Mus prospect on the East Arm Glacier, a thin zone of banded, massive sulphide occurs in a 2 metre thick, isoclinally folded limy black argillite bed within a basalt flow unit of the lower volcanic member of the Upper Triassic Tats Group. The zone increases in thickness, from several centimetres to about 30 centimetres, away from the fold hinge. Mineralization has been traced for about 20 metres and the magnetic signature continues for several hundred metres. Sulphides consist of pyrrhotite, pyrite, and chalcopyrite. A sulphide sample assayed 84 grams per tonne gold, 42 grams per tonne silver, 0.86 per cent copper, 0.03 per cent zinc and 0.01 per cent lead.

**BIBLIOGRAPHY**

EMPR ASS RPT \*5841, \*7014, \*9390, \*9516, \*12225, 13501, 18068, 19655  
EMPR EXPL 1980-523; 1983-563,564; 1985-C418  
EMPR FIELDWORK \*1983, pp. 173-184  
EMPR OF 1999-2

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**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1993/06/09

CODED BY: GSB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **114P 062**

NATIONAL MINERAL INVENTORY:

NAME(S): **HERBERT WEST**, HERBERT MOUTH WEST

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 19 49 N  
LONGITUDE: 136 32 27 W  
ELEVATION: Metres

NORTHING: 6577844  
EASTING: 412330

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Gold Silver Copper Cobalt Lead

**MINERALS**

SIGNIFICANT: Pyrite  
ASSOCIATED: Quartz  
ALTERATION: Silica Pyrite  
ALTERATION TYPE: Silicific'n Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated Massive  
CLASSIFICATION: Hydrothermal Syngenetic

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic Unnamed/Unknown Informal

LITHOLOGY: Tuff  
Pillow Lava  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1983  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Silver 10.9800 Grams per tonne  
Gold 15.9800 Grams per tonne  
Cobalt 0.1290 Per cent  
Copper 0.0520 Per cent  
Lead 0.0110 Per cent

REFERENCE: Assessment Report 12629.

**CAPSULE GEOLOGY**

At the Herbert West showing on Herbert Glacier, a near-vertical zone of gossanous acidic to intermediate volcanoclastics is contained within pillow basalts of Upper Triassic age. The zone contains pods of disseminated and locally massive pyrite. A grab sample of pyritic, siliceous sediment assayed 15.98 grams per tonne gold, 10.98 grams per tonne silver, 0.052 per cent copper, 0.129 per cent cobalt, and 0.011 per cent lead (Assessment Report 12629).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12629, 15758, \*15845  
EMPR EXPL 1983-562; 1987-C406  
EMPR FIELDWORK \*1984, pp. 365-379  
EMPR OF 1999-2  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 063**

NATIONAL MINERAL INVENTORY:

NAME(S): **HERBERT EAST**, HERBERT MOUTH EAST

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 19 49 N  
LONGITUDE: 136 30 57 W  
ELEVATION: Metres

NORTHING: 6577811  
EASTING: 413752

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Copper                      Zinc                      Gold                      Cobalt  
                    Lead

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Pyrite      Pyrrhotite  
ASSOCIATED: Quartz  
ALTERATION: Silica  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratabound                      Concordant                      Massive                      Disseminated  
CLASSIFICATION: Volcanogenic  
DIMENSION: 0150 x 0015                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic                      \_\_\_\_\_                      \_\_\_\_\_                      Unnamed/Unknown Informal

LITHOLOGY: Andesitic Volcaniclastic  
Shale  
Carbonaceous Shale  
Pillow Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1983  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Silver                      8.5800                      Grams per tonne  
Gold                      0.1400                      Grams per tonne  
Cobalt                      0.0170                      Per cent  
Copper                      0.0510                      Per cent  
Lead                      0.0240                      Per cent  
Zinc                      0.3300                      Per cent

REFERENCE: Assessment Report 12629.

**CAPSULE GEOLOGY**

At the Herbert East prospect on the Herbert Glacier pyrite, pyrrhotite, minor chalcopyrite and sphalerite occur in an Upper Triassic, light green-weathering, andesitic volcaniclastic unit which is about 15 metres thick. The unit is traceable for 150 metres, pinches out to the south and is downfaulted under the Herbert Glacier to the north. The mineralized andesite is overlain by a continuous bed of siliceous massive pyrite and pyrrhotite 47 centimetres thick and assaying 8.58 grams per tonne silver, 0.14 grams per tonne gold, 0.051 per cent copper, 0.024 per cent lead, 0.330 per cent zinc, and 0.017 per cent cobalt (Assessment Report 12629). This is in turn overlain by about 15 metres of black, carbonaceous shale, with overlying pillow basalts.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12629  
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EMPR FIELDWORK \*1984, pp. 365-379  
EMPR OF 1999-2

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 064**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOW HERBERT**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 20 49 N  
LONGITUDE: 136 30 07 W  
ELEVATION: Metres

NORTHING: 6579649  
EASTING: 414584

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Silver                      Gold                      Zinc                      Lead  
                  Talc                              Barite

**MINERALS**

SIGNIFICANT: Chalcopyrite      Galena              Pyrite              Sphalerite      Barite  
ASSOCIATED: Barite              Quartz  
ALTERATION: Sericite              Talc              Chlorite              Quartz  
ALTERATION TYPE: Sericitic              Chloritic  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Concordant                      Massive                      Disseminated  
CLASSIFICATION: Volcanogenic              Hydrothermal              Industrial Min.  
DIMENSION: 0700 x 0100              Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic                      \_\_\_\_\_                      \_\_\_\_\_                      Unnamed/Unknown Informal

LITHOLOGY: Talc Chlorite Schist  
Meta Volcanic  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1983  
SAMPLE TYPE: Chip  
COMMODITY                      GRADE  
Silver                      11.3200                      Grams per tonne  
Gold                      0.2800                      Grams per tonne  
Copper                      2.1500                      Per cent

COMMENTS: The sample width is 5 metres. Traces of lead and zinc are present.

REFERENCE: Assessment Report 12629.

**CAPSULE GEOLOGY**

At the Low Herbert prospect, 2 kilometres southwest of the peak of Mount Henry Clay, a gossan zone, 100 metres thick and 700 metres long, is conformable to bedding and occurs within sheared(?) sericite-chloritic-talc altered metavolcanics. Foliation is locally intense and deflects around angular black siliceous clasts. Mineralization consists of bands of disseminated fine-grained pyrite and lesser chalcopyrite, barite, sphalerite. Chalcopyrite and sphalerite appear to be more abundant in chlorite-altered zones. A 5 metre sample assayed 2.15 per cent copper, 11.32 grams per tonne silver, 0.28 grams per tonne gold, and traces of lead and zinc (Assessment Report 12629).

The target horizon at Low Herbert is stratigraphically identical to the target horizon at Mount Henry Clay (114P 065). Both are composed of a volcanoclastic-sedimentary unit which is overlain by a pillow basalt and underlain by a sequence of flow and agglomerate andesites. The more acidic volcanic-sedimentary unit is up to 150 metres thick.

**BIBLIOGRAPHY**

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**BIBLIOGRAPHY**

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EMPR FIELDWORK \*1984, pp. 365-379; \*1985, pp. 197-210  
EMPR OF 1999-2  
GSC OF 926, 2191  
GCNL #140, 1983  
IPDM Nov/Dec 1985  
N MINER Nov 15, 1984

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 065**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT HENRY CLAY**, HERBERT NORTH, HIGH HERBERT NORTH

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 114P08W  
 BC MAP:  
 LATITUDE: 59 20 59 N  
 LONGITUDE: 136 28 57 W  
 ELEVATION: Metres  
 LOCATION ACCURACY: Within 500M  
 COMMENTS:

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6579933  
 EASTING: 415697

COMMODITIES: Gold                      Copper                      Silver                      Zinc

**MINERALS**

SIGNIFICANT: Chalcopyrite    Sphalerite    Galena    Pyrite    Malachite  
 ASSOCIATED: Quartz  
 ALTERATION: Malachite  
 ALTERATION TYPE: Oxidation  
 MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Concordant                      Disseminated                      Stockwork                      Vein  
 CLASSIFICATION: Volcanogenic                      Hydrothermal  
 DIMENSION: 0035                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

**STRATIGRAPHIC AGE**

Upper Triassic

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Unnamed/Unknown Informal

LITHOLOGY: Andesitic Tuff  
 Pillow Lava  
 Quartz Vein  
 Gossan  
 Chert  
 Talc Schist

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
 TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis  
 SAMPLE TYPE: Grab

YEAR: 1983

COMMODITY	GRADE	
Silver	13.7200	Grams per tonne
Gold	1.1300	Grams per tonne
Copper	1.3600	Per cent

COMMENTS: The sample contains trace lead, zinc, and cobalt.  
 REFERENCE: Assessment Report 12629.

**CAPSULE GEOLOGY**

Herbert North Upper Triassic shaly sediments are overlain by rhyolitic to andesitic pyroclastics in a saddle south of Mount Henry Clay. This sequence is overlain by pillowed basalts. Mineralized volcanoclastics form a large, white, rusty weathering gossan which is a minimum of 35 metres thick. A 10 metre thick bed of light green andesitic tuff is stained on the surface with small patches of malachite, and contains disseminated pyrite and chalcopyrite and a profusion of pyritic microfractures. A grab sample assayed 1.36 per cent copper, 1.13 grams per tonne gold, and 13.7 grams per tonne silver with trace lead, zinc, and cobalt. An outcrop of malachite-stained talc schist with no visible sulphides assayed 3.11 per cent zinc and 8.57 grams per tonne silver (Assessment Report 12629). Other mineralization consists of galena in quartz veinlets within chert.

The target horizon at the Low Herbert (114P 064) is stratigraphically identical to the target horizon at Mount Henry Clay (Herbert North). Both are composed of a volcanoclastic-sedimentary unit which is overlain by a pillow basalt and underlain by a sequence of flow and agglomerate andesites. The more acidic volcanic-

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**CAPSULE GEOLOGY**

sedimentary unit is up to 150 metres thick.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12629, 15135, \*15758  
EMPR EXPL 1983-562; 1985-A16,17; 1986-A39,C471  
EMPR FIELDWORK \*1984, pp. 365-379  
EMPR OF 1999-2  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 066**

NATIONAL MINERAL INVENTORY:

NAME(S): **JARVIS SOUTH**, LOW JARVIS

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 24 39 N  
LONGITUDE: 136 29 57 W  
ELEVATION: Metres

NORTHING: 6586758  
EASTING: 414902

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

**MINERALS**

SIGNIFICANT: Pyrite  
ALTERATION TYPE: Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic			Unnamed/Unknown Informal

LITHOLOGY: Pillow Lava  
Basalt  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

At Jarvis South a gossan composed of light coloured, pyritic, acidic volcanics underlies a sequence of pillowed to massive basaltic flows of Upper Triassic age. The gossan has apparently been faulted into its present location on the Jarvis Glacier.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12629  
EMPR EXPL 1983-562  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **114P 067**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGH JARVIS**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 25 24 N  
LONGITUDE: 136 31 52 W  
ELEVATION: Metres

NORTHING: 6588191  
EASTING: 413121

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Zinc Silver Gold

**MINERALS**

SIGNIFICANT: Sphalerite Pyrite  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform Concordant Massive  
CLASSIFICATION: Hydrothermal Syngenetic  
DIMENSION: 0030 x 0002 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

**STRATIGRAPHIC AGE**

**GROUP**

**FORMATION**

**IGNEOUS/METAMORPHIC/OTHER**

Paleozoic

Unnamed/Unknown Informal

LITHOLOGY: Limestone  
Siltstone  
Tuff  
Gabbro

HOSTROCK COMMENTS: Paleozoic to Upper Triassic (?)

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver	10.3000	Grams per tonne
Gold	0.2800	Grams per tonne
Zinc	7.6400	Per cent

COMMENTS: The sample width is 17 metres. There are traces of copper and lead.

REFERENCE: Assessment Report 12629.

**CAPSULE GEOLOGY**

At the High Jarvis showing on the Jarvis Glacier a stratiform band of massive pyrite and sphalerite occurs in a sequence of well-bedded limestone, silty limestone, siltstone, and tuffaceous material of Upper Paleozoic or Upper Triassic age. The mineralized zone attains a maximum width of 2 metres and can be traced for 30 metres. It is cut off by a gabbroic intrusive to the southeast. Alteration is minimal. A chip sample over 17 metres assayed 7.64 per cent zinc, 0.28 grams per tonne gold, and 10.3 grams per tonne silver with traces of copper and lead (Assessment Report 12629).

**BIBLIOGRAPHY**

EMPR ASS RPT \*12629  
EMPR EXPL 1983-562  
EMPR FIELDWORK \*1984, pp. 365-379  
EMPR OF 1999-2  
GSC OF 926, 2191

DATE CODED: 1985/07/24  
DATE REVISED: 1988/10/31

CODED BY: GSB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 068**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRIZZLY HEIGHTS**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 20 09 N  
LONGITUDE: 136 34 07 W  
ELEVATION: Metres

NORTHING: 6578499  
EASTING: 410764

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Pyrrhotite Pyrite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Breccia Vein  
CLASSIFICATION: Hydrothermal Epigenetic  
DIMENSION: 5 x 2 Metres

STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic			Unnamed/Unknown Informal

LITHOLOGY: Siliceous Graphitic Argillite  
Shale  
Limestone  
Phyllite  
Quartz Vein  
Pillow Basalt  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Asek Ranges

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Rock  
COMMODITY

YEAR: 1983

COMMODITY	GRADE	
Silver	14.4000	Grams per tonne
Gold	11.7900	Grams per tonne

COMMENTS: The sample width is 20 centimetres.  
REFERENCE: Assessment Report 12629.

**CAPSULE GEOLOGY**

At the Grizzly Heights showing, lithology is composed of well-bedded, east striking, siliceous, graphitic argillites, shales and phyllites of Upper Triassic age which are overlain by pillowed to massive basalt flows on the south facing slope between Herbert and Buckwell Glaciers. A gossan extends from Herbert Glacier, to Buckwell Glacier, 6 kilometres to the west. A 20 centimetre wide quartz vein with pyrrhotite assayed 11.79 grams per tonne gold and 14.4 grams per tonne silver. Massive pyrite and pyrrhotite boulders have been found in streams draining the hanging glaciers.

Within the sedimentary package a gold bearing breccia zone composed of limestone and shale fragments in a gossanous, vuggy and calcareous matrix was also noted. The zone is 1 to 2 metres wide and traceable for 5 metres before being covered by talus. A similar breccia zone was encountered in drill core 900 metres to the south-east.

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EMPR FIELDWORK \*1985, pp. 365-379  
EMPR EXPL 1983-562; 1987-A12,A41

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**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1986/03/20  
DATE REVISED: 1993/06/09

CODED BY: JB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 069**

NATIONAL MINERAL INVENTORY:

NAME(S): **KUD**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P14E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 51 59 N  
LONGITUDE: 137 01 07 W  
ELEVATION: Metres

NORTHING: 6638254  
EASTING: 386964

LOCATION ACCURACY: Within 500M

COMMENTS: A field check in 1992 failed to locate the occurrence at these coordinates (Personal Communication - M. Smith).

COMMODITIES: Copper Silver Gold

**MINERALS**

SIGNIFICANT: Tetrahedrite Malachite  
ASSOCIATED: Quartz  
ALTERATION: Chlorite Calcite Sericite Malachite  
ALTERATION TYPE: Propylitic Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein  
CLASSIFICATION: Unknown

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic			Unnamed/Unknown Informal

LITHOLOGY: Chlorite Calcite Sericite Phyllite  
Limestone  
Greenstone  
Quartz Vein

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

The Kud occurrence on Kudwat Creek consists of medium-grained tetrahedrite and associated malachite filling small, narrow, irregular clots and fissures in discontinuous quartz veins and lenses. The veins strike and dip concordant to the host rock - a chlorite-calcite-sericite phyllite.

**BIBLIOGRAPHY**

EMPR ASS RPT 12377  
EMPR EXPL 1983-566  
GSC OF 926, 2191

DATE CODED: 1985/08/27  
DATE REVISED: 1988/10/31

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 070**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAIR, RED MOUNTAIN**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P11E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 19 N  
LONGITUDE: 137 09 37 W  
ELEVATION: Metres

NORTHING: 6620568  
EASTING: 378449

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Zinc                      Lead                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Galena      Arsenopyrite      Pyrite  
                  Pyrrhotite  
ASSOCIATED: Quartz      Calcite  
ALTERATION: Epidote      Diopside      Garnet      Quartz      Andalusite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein                      Disseminated                      Massive                      Podiform  
CLASSIFICATION: Hydrothermal                      Skarn  
SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Ordovician-Silurian      Kuskawulsh                      Undefined Formation

LITHOLOGY: Limestone  
                  Argillite  
                  Andesite  
                  Dacite  
                  Hornblende Feldspar Porphyry Dike  
                  Cherty Tuff  
                  Epidote Diopside Skarn

HOSTROCK COMMENTS: Ordo-Silurian or Devono-Silurian (?).

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Asek Ranges  
TERRANE: Alexander

**INVENTORY**

ORE ZONE: DRILLHOLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1985  
SAMPLE TYPE: Drill Core  
COMMODITY                      GRADE                      UNIT  
Silver                      4.5000                      Grams per tonne  
Gold                      2.2000                      Grams per tonne  
Lead                      4.1000                      Per cent  
Zinc                      0.5500                      Per cent

COMMENTS: The sample width is 20 centimetres.  
REFERENCE: Assessment Report 14081.

**CAPSULE GEOLOGY**

The Fair or Red Mountain showing is underlain by well-bedded crystalline limestone with interbedded cherty argillite and minor quartzite, of Ordovician(?) to Devonian(?) or younger age. These sediments may be in part overlain by Norian (Upper Triassic) limestones with quartz veins. Locally brecciated, cherty tuffaceous beds with disseminated to massive pyrite and pyrrhotite, pillow basalt, argillite, and associated intrusives overlies the Paleozoic sediments. Epidote-diopside skarn occurs near contacts between limestone and hornblende-feldspar porphyry dykes, and is mineralized by irregular pods of galena, sphalerite, chalcopyrite, pyrite and pyrrhotite.

In the southern portion of the claim group, drilling has intersected narrow skarn zones in white "porcellanite" containing disseminated and fracture-filling pyrrhotite, and a 0.5 metre wide quartz vein with minor chalcopyrite and sphalerite. Shear zones in the

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RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

volcanics contain quartz, sphalerite, galena, and pyrrhotite, while diamond drilling intersected 5 centimetre quartz veinlets with arsenopyrite. A 20 centimetre drill core sample assayed 4.1 per cent lead, 2.2 grams per tonne gold, 4.5 grams per tonne silver, and 0.55 per cent zinc.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1985, pp. 194-195  
EMPR ASS RPT \*13260, \*14081  
GSC P \*79-1A, pp. 17-20  
EMPR Exp. Rev. 1985, pp. 7,16,21  
GSC OF 926, 2191  
EMPR EXPL 1985-C417

DATE CODED: 1986/03/24  
DATE REVISED: 1988/10/31

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 071**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOW JARVIS, JUMAR**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P07E 114P08W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 24 09 N  
LONGITUDE: 136 28 57 W  
ELEVATION: Metres

NORTHING: 6585809  
EASTING: 415828

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Copper                      Zinc                      Barite

**MINERALS**

SIGNIFICANT: Chalcopyrite      Sphalerite      Pyrite      Barite  
ASSOCIATED: Quartz  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stratiform                      Concordant                      Massive                      Disseminated  
CLASSIFICATION: Sedimentary                      Hydrothermal                      Syngenetic                      Industrial Min.  
SHAPE: Irregular  
DIMENSION: 0020 x 0001                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Upper Triassic                                                                Unnamed/Unknown Informal

LITHOLOGY: Quartzite  
Shale  
Massive Chlorite Andesite  
Tuff  
Agglomerate

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**CAPSULE GEOLOGY**

At the Low Jarvis and Jumar showing a northwest dipping sequence of black shales overlain by volcanic agglomerate and massive chloritic andesite is exposed on Jan Still Ridge. Thin bands of quartzite and black shale are interbedded in the andesite. Disseminated sphalerite and pyrite occur within a barite-rich, white tuff horizon, about 1.2 metres thick, which is exposed over 20 metres. Massive sphalerite up to 5 centimetres thick is exposed for several metres in a stratiform horizon above the baritic tuff bed. This horizon strikes 030 degrees and dips 20 degrees northwest, and is terminated to the north by a steep south-dipping, west-trending fault.

**BIBLIOGRAPHY**

EMPR ASS RPT \*12629, \*13330  
EMPR Exp. Rev. 1984, pp. 6,13; 1985, pp. 7,16,21  
EMPR FIELDWORK \*1985, p. 191  
EMPR OF 1999-2  
GSC OF 926, 2191  
WWW <http://www.infomine.com/>

DATE CODED: 1985/09/19  
DATE REVISED: 1988/10/31

CODED BY: TGS  
REVISED BY: JB

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **114P 072**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMPIRE (L.288)**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 39 N  
LONGITUDE: 136 32 27 W  
ELEVATION: Metres

NORTHING: 6605369  
EASTING: 412968

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver Copper

**MINERALS**

SIGNIFICANT: Malachite  
ALTERATION: Limonite Malachite  
COMMENTS: Mineralization is contemporaneous with intrusives.  
ALTERATION TYPE: Skarn Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant  
CLASSIFICATION: Skarn Replacement Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Devonian	Unnamed/Unknown Group	Undefined Formation	
Oligocene			Tkope River Intrusions

LITHOLOGY: Argillite  
Skarn  
Granite

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact  
PHYSIOGRAPHIC AREA: Alsek Ranges  
RELATIONSHIP: Syn-mineralization  
GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1969  
SAMPLE TYPE: Rock  
COMMODITY  
Silver 34.9700 Grams per tonne  
Copper 0.3500 Per cent  
COMMENTS: There is also trace gold in the sample.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

The Empire showing is underlain by Devonian to Late Triassic argillite which is intruded by granitic rocks of the Oligocene Tkope River Intrusions. A trench about 120 metres west of a small lake at the head of a tributary of Inspector Creek, exposes oxidized skarn mineralization containing limonite and minor malachite. A sample assayed 34.97 grams per tonne silver and 0.35 per cent copper.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2357  
GSC OF 926, 2191

DATE CODED: 1986/04/09  
DATE REVISED: 1988/10/31

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N



MINFILE NUMBER: **114P 073**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARIZONA (L.285)**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 49 N  
LONGITUDE: 136 31 37 W  
ELEVATION: 1075 Metres

NORTHING: 6605660  
EASTING: 413759

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver                      Copper                      Lead

**MINERALS**

SIGNIFICANT: Malachite              Anglesite  
ALTERATION: Limonite              Malachite              Anglesite  
COMMENTS: Mineralization is contemporaneous with intrusives.  
ALTERATION TYPE: Skarn                      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Unknown  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Devonian	Unnamed/Unknown Group	Undefined Formation	
Oligocene			Tkope River Intrusions

LITHOLOGY: Marble  
Skarn  
Granite

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact  
PHYSIOGRAPHIC AREA: Alsek Ranges  
RELATIONSHIP: Syn-mineralization  
GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1969  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Silver                      64.4600                      Grams per tonne  
Copper                      1.1800                      Per cent  
Lead                      0.3700                      Per cent

COMMENTS: The sample contains trace gold.  
REFERENCE: Assesment Report 2357.

**CAPSULE GEOLOGY**

The Arizona showing is underlain by Devonian to Upper Triassic metasediments intruded by Oligocene granitic rocks of the Tkope River Intrusions. A test pit on the northeast side of Schulz Creek, above its junction with an east-flowing tributary, exposes oxidized skarn mineralization in marble, consisting of malachite, anglesite, and limonite. A sample assayed 64.46 grams per tonne silver, 1.18 per cent copper, and 0.37 per cent lead.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2357  
GSC OF 926, 2191

DATE CODED: 1986/04/09  
DATE REVISED: 1988/10/31

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 074**

NATIONAL MINERAL INVENTORY:

NAME(S): **GILROY FRACTION (L.730)**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 44 N  
LONGITUDE: 136 30 57 W  
ELEVATION: Metres

NORTHING: 6605491  
EASTING: 414383

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Copper                      Zinc

**MINERALS**

SIGNIFICANT: Bornite              Sphalerite              Arsenopyrite              Magnetite  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
COMMENTS: Mineralization is contemporaneous with intrusives.  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Epigenetic  
DIMENSION: 0060                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Devonian              Unnamed/Unknown Group                      Undefined Formation                      Tkope River Intrusions  
Oligocene

LITHOLOGY: Argillite  
Skarn  
Granite

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1969  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Copper                      0.3100                      Per cent

COMMENTS: The sample contains trace gold and silver.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

Two northeast trending skarn bands, up to 60 metres long, occur in Devonian to Upper Triassic argillites which are intruded by Oligocene granite of the Tkope River Intrusions. Test pits at the Gilroy showing on Schulz Creek expose magnetite, sphalerite, bornite, arsenopyrite and possibly greenockite in serpentine skarn. Argillite occurs in the hangingwall and footwall in one of the pits. One sample ran 6.86 grams per tonne silver and 0.31 per cent copper.

**BIBLIOGRAPHY**

EMPR AR 1910-246  
EMPR ASS RPT \*2357  
GSC OF 926, 2191

DATE CODED: 1986/04/09  
DATE REVISED: 1988/10/31

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 075**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOCKING BIRD (L.284)**, HARTFORD (L.801)

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 24 N  
LONGITUDE: 136 31 27 W  
ELEVATION: 1130 Metres

NORTHING: 6604883  
EASTING: 413898

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Copper                      Zinc

**MINERALS**

SIGNIFICANT: Bornite              Sphalerite              Arsenopyrite              Pyrite  
ASSOCIATED: Serpentine  
ALTERATION: Serpentine  
COMMENTS: Mineralization is contemporaneous with intrusions.  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Devonian                      Unnamed/Unknown Group                      Undefined Formation

LITHOLOGY: Marble  
Argillite  
Skarn

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1969  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Silver                      6.8600                      Grams per tonne  
Copper                      0.2000                      Per cent  
COMMENTS: The sample contains trace gold.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

The Mocking Bird and Hartford showing is underlain by Devonian to Upper Triassic metasediments intruded by Oligocene granite of the Tkope River Intrusions. Test pits, north and east-northeast of a pair of small lakes at the head of an east-flowing tributary of Schulz Creek, expose serpentine skarn in marble and argillite with bornite, sphalerite, arsenopyrite, and pyrite. Three samples from different pits assayed from 6.86 to 9.6 grams per tonne silver, and 0.09 to 0.20 per cent copper.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2357  
EMPR AR 1907-47; 1908-249; 1910-246  
GSC OF 926, 2191

DATE CODED: 1986/04/09  
DATE REVISED: 1988/10/31

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 076**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEW YORK (L.287)**, CARIBOO (L.920), MAJESTIC (L.958)

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 09 N  
LONGITUDE: 136 31 37 W  
ELEVATION: 1125 Metres

NORTHING: 6604423  
EASTING: 413731

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver Copper

**MINERALS**

SIGNIFICANT: Arsenopyrite Chalcopyrite Pyrite Pyrrhotite

COMMENTS: Mineralization is contemporaneous with intrusives.

ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant Massive  
CLASSIFICATION: Skarn Replacement Hydrothermal Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Devonian	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Argillite  
Marble  
Quartz Biotite Schist

HOSTROCK COMMENTS: Devonian to Upper Triassic metasediments.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Asek Ranges

TERRANE: Alexander

METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1969
SAMPLE TYPE: Rock	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	4.1000 Grams per tonne
Copper	0.1500 Per cent

COMMENTS: The sample contains trace gold.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

The New York and Cariboo occurrence is located at the head of an east flowing tributary of Schulz Creek, and on the north side of bluff, south of a pair of lakes. Massive arsenopyrite is exposed in a trench along a contact between hangingwall argillite and footwall marble of Devonian to Upper Triassic age. A sample from the trench assayed 4.1 grams per tonne silver and 0.15 per cent copper. A 20 metre by 2.5 metre lens of mainly massive pyrite and pyrrhotite, with bleached margins, assayed 0.40 per cent zinc (Open File 1993-13).

**BIBLIOGRAPHY**

EMPR AR 1900-767, 769; 1907-47; 1908-249; 1911-287; \*1914-97  
EMPR ASS RPT \*2357  
GSC OF 926, 2191  
EMPR FIELDWORK 1992, p. 220  
EMPR OF 1993-13

DATE CODED: 1986/04/09  
DATE REVISED: 1993/06/09

CODED BY: JB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 077**

NATIONAL MINERAL INVENTORY:

NAME(S): **EVENING (L.800)**, WHITE HORSE (L.723)

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 14 N  
LONGITUDE: 136 30 57 W  
ELEVATION: 1070 Metres

NORTHING: 6604563  
EASTING: 414362

LOCATION ACCURACY: Within 500M

COMMENTS: Two occurrences in carbonate unit.

COMMODITIES: Silver                      Copper                      Zinc

**MINERALS**

SIGNIFICANT: Bornite              Sphalerite              Arsenopyrite              Pyrite  
ASSOCIATED: Serpentine              Garnet              Diopside  
ALTERATION: Serpentine              Garnet  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant                      Disseminated  
CLASSIFICATION: Skarn                      Replacement                      Hydrothermal                      Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Devonian	Unnamed/Unknown Group	Undefined Formation	
Oligocene			Tkope River Intrusions

LITHOLOGY: Argillite  
Marble  
Garnet Skarn  
Granitic Porphyry  
Quartz Feldspar Porphyry

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization                      GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1969  
SAMPLE TYPE: Rock  
COMMODITY                      GRADE  
Silver                      8.2300                      Grams per tonne  
Copper                      0.2100                      Per cent

COMMENTS: The sample contains trace gold.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

At the Evening and White Horse showing a northeast-trending marble unit, overlain and underlain by argillite, is continuous on the north and south sides of an east flowing Schulz Creek tributary. South of the creek it is cut by a granitic porphyry dyke or plug, related to the Oligocene Tkope River Intrusions. Serpentine and garnet skarn is developed along the southeast marble-argillite contact and along the granite-marble contact. A test pit adjacent to the dyke exposes disseminated pyrite, arsenopyrite, and sphalerite in serpentine skarn which assayed 13.71 grams per tonne silver and 0.07 per cent copper. About 275 metres to the northeast a trench along the marble-argillite contact exposes pyrite, arsenopyrite, and bornite in garnet skarn which ran 8.23 grams per tonne silver and 0.21 per cent copper (Assessment Report 2357).

**BIBLIOGRAPHY**

EMPR ASS RPT \*2357

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

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*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1286  
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**BIBLIOGRAPHY**

GSC OF 926, 2191

DATE CODED: 1986/04/09  
DATE REVISED: 1993/06/09

CODED BY: JB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y

MINFILE NUMBER: **114P 078**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRISCO (L.154)**, NIGHT

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 34 03 N  
LONGITUDE: 136 30 27 W  
ELEVATION: Metres

NORTHING: 6604212  
EASTING: 414825

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Copper                      Zinc                      Lead                      Gold

**MINERALS**

SIGNIFICANT:	Bornite	Sphalerite	Galena	Arsenopyrite	Pyrite
COMMENTS:	Trace gold.				
ASSOCIATED:	Serpentine	Garnet	Diopside	Epidote	
ALTERATION:	Serpentine	Garnet	Calcite		
ALTERATION TYPE:	Skarn				
MINERALIZATION AGE:	Oligocene				

**DEPOSIT**

CHARACTER:	Podiform	Massive		
CLASSIFICATION:	Skarn	Replacement	Hydrothermal	Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Devonian			Unnamed/Unknown Informal

LITHOLOGY: Argillite  
Marble  
Skarn  
Quartz Feldspar Porphyry  
Quartzite

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT:	Insular	PHYSIOGRAPHIC AREA:	Alsek Ranges
TERRANE:	Alexander	RELATIONSHIP:	Syn-mineralization
METAMORPHIC TYPE:	Contact	GRADE:	Hornfels

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1969
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		5.4900	Grams per tonne
Copper		0.0700	Per cent
Lead		0.0100	Per cent
Zinc		9.3000	Per cent

COMMENTS: The sample contains trace gold.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

At the Frisco showing three test pits on the southwest side of Schulz Creek, just below its junction with an east-flowing tributary, expose skarn in argillite and marble of Devonian to Upper Triassic age. Arsenopyrite, pyrite, bornite, sphalerite, and galena occur in diopside-serpentine-garnet skarn developed below the hangingwall argillite in six small en echelon lenses of white (bleached) quartz-rich metasediments. A quartz-feldspar porphyry dike is adjacent to the lower two lenses. Three samples ranged from 1.37 to 34.29 grams per tonne silver, and 0.03 to 0.07 per cent copper. A grab sample (Fieldwork 1992, page 220) assayed 17.7 per cent zinc.

**BIBLIOGRAPHY**

EMPR ASS RPT \*2357  
GSC OF 926, 2191  
EMPR FIELDWORK 1992, p. 220.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
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PAGE: 1288  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR (unpublished mapping)

DATE CODED: 1986/04/09  
DATE REVISED: 1993/06/09

CODED BY: JB  
REVISED BY: MS

FIELD CHECK: N  
FIELD CHECK: Y



MINFILE NUMBER: **114P 079**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAIRFIELD (L.921)**, COLUMBIA

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:  
LATITUDE: 59 34 09 N  
LONGITUDE: 136 32 17 W  
ELEVATION: 1100 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS:

Underground

MINING DIVISION: Atlin

UTM ZONE: 08 (NAD 83)

NORTHING: 6604438  
EASTING: 413103

COMMODITIES: Silver                      Copper

**MINERALS**

SIGNIFICANT: Malachite      Pyrite      Pyrrhotite  
ASSOCIATED: Garnet  
ALTERATION: Garnet              Malachite  
COMMENTS: Mineralization is contemporaneous with intrusives.  
ALTERATION TYPE: Skarn              Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Discordant                      Disseminated  
CLASSIFICATION: Skarn                      Replacement              Hydrothermal              Epigenetic

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Devonian Oligocene			Unnamed/Unknown Informal Tkope River Intrusions

LITHOLOGY: Marble  
Argillite  
Garnet Skarn  
Granite

HOSTROCK COMMENTS: Devonian to Upper Triassic.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular    PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Syn-mineralization              GRADE: Hornfels

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
	CATEGORY: Assay/analysis	YEAR:	1969
	SAMPLE TYPE: Rock		
	COMMODITY	GRADE	
	Silver	45.9400	Grams per tonne
	Copper	1.2000	Per cent

COMMENTS: The sample contains trace gold.  
REFERENCE: Assessment Report 2357.

**CAPSULE GEOLOGY**

The area of the Fairfield showing is underlain by Devonian to Upper Triassic metasediments which are intruded by granitic rocks of the Oligocene Tkope River Intrusions. An adit was driven in oxidized, massive pyrite in skarn just west of a small lake at the eastern base of Copper Butte. A sample assayed trace silver and 0.73 per cent copper. About 90 metres northwest of the adit a test pit exposes malachite in garnet skarn between footwall argillite and hangingwall marble. A sample of mineralized material assayed 45.94 grams per tonne silver and 1.20 per cent copper.

**BIBLIOGRAPHY**

EMPR AR 1900-769; 1907-47; 1910-55, 246  
EMPR ASS RPT \*2357  
GSC OF 926, 2191  
GSC SUM RPT \*1913, p. 31

DATE CODED: 1986/04/09  
DATE REVISED: 1988/11/01

CODED BY: JB  
REVISED BY: JB

FIELD CHECK: N  
FIELD CHECK: N

MINFILE NUMBER: **114P 080**

NATIONAL MINERAL INVENTORY:

NAME(S): **SADDLE 3/4**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 19 N  
LONGITUDE: 136 34 17 W  
ELEVATION: 1219 Metres

NORTHING: 6599224  
EASTING: 411096

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Gold Silver

**MINERALS**

SIGNIFICANT: Arsenopyrite Chalcopyrite Pyrite Malachite  
ASSOCIATED: Quartz Pyrite Chlorite  
ALTERATION: Malachite Chlorite  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Discordant Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic  
Oligocene

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Tkope River Intrusions

LITHOLOGY: Hornblende Diorite  
Biotite Hornfels Schist

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Alesek Ranges

RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1984

COMMODITY

Silver

GRADE

3.1000

Grams per tonne

Gold

0.9900

Grams per tonne

COMMENTS: Chip sample extracted from a quartz vein 0.5 metres in width.  
REFERENCE: Assessment Report 14222.

**CAPSULE GEOLOGY**

The Saddle 3/4 showing, 70 kilometres north-northeast of Haines, Alaska, was discovered as a result of high gold values in panned silts. The Saddle 3/4 showing is located between the Hubbard Fault and the Delani Fault system of the Alexander Terrane. The area is underlain by complexly deformed, generally low grade metamorphosed, predominantly Paleozoic rocks. These have been affected by the Oligocene Tkope River Intrusions. Quartz veining is restricted to the intrusion and probably formed from volatiles released at a later stage of the intrusion. At the site of the occurrences the intrusion is a fine to medium-grained hornblende diorite with many large xenoliths.

There are three separate locations which constitute this mineral occurrence. Each has quartz veining, of 0.3 to 5 metres width, with mineralization including pyrite, arsenopyrite and malachite.

The location given is for the central point, with the others found 1600 metres to the northwest and 1700 metres to the south-southwest. All three lie roughly along strike and at the same elevation.

A chip sample was obtained over a 0.5 metre width from a quartz vein with minor malachite, pyrite, and sheared chlorite margins. The assay of this sample was 0.99 grams per tonne gold and 3.1 grams per tonne silver (Assessment Report 14222).

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RUN TIME: 12:30:28

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PAGE: 1291  
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**BIBLIOGRAPHY**

EMPR ASS RPT \*14210, \*14222  
GSC OF 926, 2191  
EMPR EXPL 1985-C417; 1986-C471

DATE CODED: 1988/10/14  
DATE REVISED: / /

CODED BY: SED  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **114P 081**

NATIONAL MINERAL INVENTORY:

NAME(S): **SADDLE 2**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 39 N  
LONGITUDE: 136 33 52 W  
ELEVATION: 1478 Metres

NORTHING: 6599833  
EASTING: 411503

LOCATION ACCURACY: Within 500M  
COMMENTS:

COMMODITIES: Silver                      Copper                      Gold

**MINERALS**

SIGNIFICANT: Malachite              Chalcopyrite  
ASSOCIATED: Quartz                  Chalcopyrite  
ALTERATION: Malachite  
ALTERATION TYPE: Silicific'n              Skarn                      Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Disseminated  
CLASSIFICATION: Igneous-contact              Skarn

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Biotite Hornfels Schist

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular    PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact    RELATIONSHIP:    GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE    REPORT ON: N  
CATEGORY: Assay/analysis    YEAR: 1984  
SAMPLE TYPE: Chip  
COMMODITY    GRADE  
Silver    21.2000                      Grams per tonne  
Gold    0.1000                      Grams per tonne  
Copper    1.0800                      Per cent  
COMMENTS: Chip sample extracted over a 2.5 metre length in biotite schist.  
REFERENCE: Assessment Report 14222.

**CAPSULE GEOLOGY**

The Saddle 2 showing, 70 kilometres north-northeast of Haines, Alaska, was discovered as a result of high gold values in panned silts. The Saddle 2 showing is located between the Hubbard Fault and the Delani Fault system of the Alexander Terrane. The area is underlain by complexly deformed, generally low grade metamorphosed, predominantly Paleozoic rocks. Locally, metamorphism resulting from the Oligocene Tkope River Intrusion includes development of hornfels texture, silicification, skarn mineralogy and recrystallization. The mineral occurrence is hosted by a biotite schist which is iron rich and magnetic with a rusty brown color. The "subcrop" exposure is rubbly with malachite stained fractures and minor chalcopyrite. A chip sample from the "subcrop" assayed 21.2 grams per tonne silver, 1.08 per cent copper, and 0.10 grams per tonne gold (Assessment Report 14222).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14222  
GSC OF 926, 2191  
EMPR EXPL 1985-C417

DATE CODED: 1988/10/17  
DATE REVISED: / /

CODED BY: SED  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **114P 082**

NATIONAL MINERAL INVENTORY:

NAME(S): **KR 1**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 32 14 N  
LONGITUDE: 136 38 37 W  
ELEVATION: 1500 Metres

NORTHING: 6601024  
EASTING: 407052

LOCATION ACCURACY: Within 1 KM  
COMMENTS:

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Quartz Pyrite  
ALTERATION: Malachite Azurite Clay Hematite Limonite  
ALTERATION TYPE: Argillic Oxidation  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Discordant Disseminated  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular  
MODIFIER: Sheared  
DIMENSION: STRIKE/DIP: 135/50N TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	Tkope River Intrusions
Oligocene			

LITHOLOGY: Hornblende Diorite  
Biotite Hornfels Schist  
Gossan

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1985  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 45.9400 Grams per tonne  
Gold 119.9800 Grams per tonne  
Copper 0.0322 Per cent  
COMMENTS: Absolute highest values for gold and silver in a gossanous quartz vein 60 centimetres wide.  
REFERENCE: Assessment Report 14210.

**CAPSULE GEOLOGY**

The KR 1 showing, 70 kilometres north-northeast of Haines, Alaska, was discovered in 1983 as a result of high gold values in panned silts. The Klehini River property is subdivided into two groups. This occurrence is in claim block KR 1 of the Beta Group. The occurrence is found between the Hubbard Fault and Denali Fault system of the Alexander Terrane. The area is underlain by complexly deformed, generally Paleozoic rocks. Locally, thermal metamorphism, resulting from the Oligocene Tkope River Intrusion, includes development of a hornfels texture, silicification, skarn mineralogy and recrystallization. Quartz veining is restricted to the intrusion and probably formed from volatiles released at a later stage of the intrusion. In this area the intrusion is a fine to medium-grained hornblende diorite with many large xenoliths of recrystallized wall-rock. Veining consists of narrow, branching, poddy veins of highly sheared, friable, brecciated, hematite and limonite stained quartz in a sheared and clay altered diorite. The veins contain very minor

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**CAPSULE GEOLOGY**

disseminated pyrite, chalcopyrite, malachite, azurite and a black, manganiferous stain on fractures. They appear to occupy fault zones. The clay alteration appears to be of a tectonic derivation. The sheared and brecciated nature of the vein indicates there has been post vein movement on the fault.

The average vein thickness is about 0.45 metres. Of the two veins which comprise this occurrence, one strikes about 135 degrees with a dip of about 50 degrees to the north. The other vein does not have a measureable strike but also dips to the north.

The best assay from the quartz veins are 119.98 grams per tonne gold, 45.94 grams per tonne silver and 0.0322 per cent copper. The altered and sheared diorite wallrock have a best assay result of 1.20 grams per tonne gold, 1.37 grams per tonne silver and 0.0022 per cent copper (Assessment Report 14210).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14210  
GSC OF 926, 2191  
EMPR EXPL 1986-C471

DATE CODED: 1988/10/18  
DATE REVISED: / /

CODED BY: SED  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **114P 083**

NATIONAL MINERAL INVENTORY:

NAME(S): **KR 4**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 31 09 N  
LONGITUDE: 136 38 37 W  
ELEVATION: 1538 Metres

NORTHING: 6599014  
EASTING: 407002

LOCATION ACCURACY: Within 1 KM

COMMENTS: Elevation is an average between 1350 and 1725 metres.

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Unknown

COMMENTS: No visible sulphide.

ASSOCIATED: Quartz Carbonate Ankerite Siderite  
ALTERATION: Hematite Limonite Ankerite Chlorite Carbonate  
Quartz Sericite Siderite

ALTERATION TYPE: Sericitic Propylitic Oxidation Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Stockwork Disseminated Discordant  
CLASSIFICATION: Hydrothermal Epigenetic

SHAPE: Tabular  
MODIFIER: Sheared  
DIMENSION: 0500 x 0001 Metres STRIKE/DIP: TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic Unnamed/Unknown Group Unnamed/Unknown Formation Tkope River Intrusions  
Oligocene

LITHOLOGY: Hornblende Diorite  
Biotite Hornfels Schist

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1985  
SAMPLE TYPE: Chip  
COMMODITY GRADE  
Silver 5.4800 Grams per tonne  
Gold 74.0400 Grams per tonne  
Copper 0.0068 Per cent

COMMENTS: Highest assay value in quartz vein over 0.7 metres.

REFERENCE: Assessment Report 14210.

**CAPSULE GEOLOGY**

The KR 4, located 70 kilometres north-northeast of Haines, Alaska, was discovered in 1983 as a result of high gold values in panned silts. The Klehini River property is subdivided into two groups. This occurrence is in claim block KR 4 of the Beta Group. The occurrence is found between the Hubbard Fault and Denali Fault system of the Alexander Terrane. The area is underlain by complexly deformed, generally Paleozoic rocks. Locally, thermal metamorphism resulting from the Oligocene Tkope River Intrusion, includes development of a hornfels texture, silicification, skarn mineralogy and recrystallization. Quartz veining is restricted to the intrusion and probably formed from volatiles released at a later stage of the intrusion. In this area the intrusion is a fine to medium-grained hornblende diorite with many large xenoliths of recrystallized wallrock.

Three quartz veins were identified as part of this occurrence. The first, and most southerly, consists of a quartz vein exposed for about 100 metres horizontally. It consists of white, competent quartz with hematite-limonite fracture coatings in a weakly altered diorite.

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**CAPSULE GEOLOGY**

No sulphides were observed. The vein ranges from 0.2 to 1.0 metre thick where exposed.

Four hundred metres northeast another "vein" is exposed for a horizontal distance of 75 metres. True thickness of the zone ranges from 0.8 to 1.0 metre. The zone consists of thin, arcuate quartz and quartz carbonate veins up to 8 centimetres thick around which has developed a rusty weathered, quartz-carbonate-sericite(?) altered diorite zone which parallels the veins.

Another 400 metres to the northeast is the last of the three "veins" and the most promising structure sample. It can be traced for over 500 metres before it disappears under glacial ice and talus at each end. Within this is a higher grade shoot approximately 175 metres long. The vein is a milky white to translucent, massive, competent, quartz with minor siderite or ankerite hosted by a weakly, chloritized diorite. The vein is always hematite and limonite stained on fractures. The vein dips to the southwest at about 60 degrees and strikes approximately 120 degrees.

The best assay results are 74.04 grams per tonne gold, 5.48 grams per tonne silver and 0.0068 per cent copper.

**BIBLIOGRAPHY**

EMPR ASS RPT \*14210  
GSC OF 926, 2191  
EMPR EXPL 1986-C471

DATE CODED: 1988/10/19  
DATE REVISED: / /

CODED BY: SED  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:



MINFILE NUMBER: **114P 084**

NATIONAL MINERAL INVENTORY:

NAME(S): **KR 7**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 30 29 N  
LONGITUDE: 136 32 02 W  
ELEVATION: 1408 Metres

NORTHING: 6597628  
EASTING: 413181

LOCATION ACCURACY: Within 1 KM

COMMENTS: Elevation is an average between 1260 and 1550 metres.

COMMODITIES: Gold Silver Copper

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrite  
ASSOCIATED: Quartz Carbonate  
ALTERATION: Sericite Limonite  
ALTERATION TYPE: Sericitic Oxidation Quartz-Carb.  
MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Vein Disseminated Discordant  
CLASSIFICATION: Hydrothermal Epigenetic  
SHAPE: Tabular

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

**STRATIGRAPHIC AGE**

Paleozoic  
Oligocene

**GROUP**

Unnamed/Unknown Group

**FORMATION**

Unnamed/Unknown Formation

**IGNEOUS/METAMORPHIC/OTHER**

Tkope River Intrusions

LITHOLOGY: Hornblende Diorite  
Biotite Hornfels Schist

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Asek Ranges

RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis  
SAMPLE TYPE: Chip

YEAR: 1985

COMMODITY	GRADE	
Silver	23.3100	Grams per tonne
Gold	0.5800	Grams per tonne
Copper	1.4000	Per cent

COMMENTS: Chip sample from quartz vein over width of 3.7 metres.  
REFERENCE: Assessment Report 14210.

**CAPSULE GEOLOGY**

The KR 7 showing, located 70 kilometres north-northeast of Haines, Alaska, was discovered in 1983 as a result of high gold values in panned silts. The Klehini River property is subdivided into two groups. This occurrence is in claim block KR 7 of the Delta Group. The occurrence is found between the Hubbard Fault and Denali Fault system of the Alexander Terrane. The area is underlain by complexly deformed, generally Paleozoic rocks. Locally, thermal metamorphism resulting from the Oligocene Tkope River Intrusion includes development of a hornfels texture, silicification, skarn mineralogy and recrystallization. Quartz veining is restricted to the intrusion and probably formed from volatiles released at a later stage of the intrusion. In this area the intrusion is a fine to medium-grained hornblende diorite with many large xenoliths of recrystallized wallrock.

Two steep, parallel, competent quartz veins occur in a diorite host. The first vein extends for about 1200 metres over an elevation difference of 1260 to 1480 metres. The vein is up to 3.5 metres thick and is surrounded by a band of schistose, buff to green coloured quartz-carbonate-sericite altered diorite. It is observed to branch, anastomose, pinch out, and is locally poddy.

The second vein is found 200 metres southwest of the above. It

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RUN TIME: 12:30:28

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**CAPSULE GEOLOGY**

is exposed for a strike length of about 200 metres from an elevation of 1400 to 1500 metres before being covered by glacial ice. It is similar to the above vein, except that a 5 to 10 centimetre thick band of coarse pyrite and chalcopyrite is found in the centre of the structure at one exposure. The best assay values were 0.58 grams per tonne gold, 23.31 grams per tonne silver and 1.4 per cent copper (Assessment Report 14210).

**BIBLIOGRAPHY**

EMPR ASS RPT \*14210  
GSC OF 926, 2191  
EMPR EXPL 1986-C471

DATE CODED: 1988/10/19  
DATE REVISED: / /

CODED BY: SED  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **114P 085**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAWRENCE LIMESTONE**

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P10E 114P09W  
BC MAP:  
LATITUDE: 59 35 18 N  
LONGITUDE: 136 30 07 W  
ELEVATION: 1210 Metres  
LOCATION ACCURACY: Within 500M  
COMMENTS: Location centered on Lawrence claim (L. 955) (NTS Map 114P/10E).

MINING DIVISION: Atlin  
UTM ZONE: 08 (NAD 83)  
NORTHING: 6606525  
EASTING: 415191

COMMODITIES: Marble                      Limestone                      Dimension Stone                      Building Stone

**MINERALS**

SIGNIFICANT: Calcite  
ASSOCIATED: Garnet                      Epidote                      Quartz  
ALTERATION: Garnet                      Epidote                      Quartz  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Paleozoic

**DEPOSIT**

CHARACTER: Stratiform                      Massive  
CLASSIFICATION: Sedimentary                      Evaporite                      Industrial Min.  
TYPE: R09 Limestone

**HOST ROCK**

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic Cretaceous-Tertiary	Undefined Group	Undefined Formation	Coast Plutonic Complex

LITHOLOGY: Marble  
Argillite  
Quartzite  
Gneiss  
Schist  
Granodiorite  
Diorite

**GEOLOGICAL SETTING**

TECTONIC BELT: Coast Crystalline                      PHYSIOGRAPHIC AREA: Aisek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact                      RELATIONSHIP: Post-mineralization                      GRADE:  
COMMENTS: Situated within the Coast Plutonic Complex.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1947  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Limestone                      54.8000                      Per cent  
COMMENTS: Grade given for CaO.  
REFERENCE: Bulletin 25 page 20.

**CAPSULE GEOLOGY**

The Lawrence showing is located near Mineral Mountain and Rainy Hollow at the headwaters of Klehini River.  
A belt of metamorphic rocks forms the northwest trending extension of a larger mass of undifferentiated metamorphic rocks located largely in Alaska, within Tertiary to Cretaceous granodiorite and diorite of the Coast Plutonic Complex. The belt extends northward into British Columbia for 20 kilometres and varies up to 6 kilometres in width. In the area of the showing, the belt consists of marble, argillite, quartzite, gneiss and schist.  
The marble, which forms conspicuous bare knolls, is medium to coarse grained and light grey to white in colour. The marble occurs as beds up to 150 metres thick and as lenses and irregular masses. Garnet or epidote-quartz skarn alteration is developed locally along the margins of some of the marble bodies. A grab sample contained 54.8 per cent CaO, 0.24 per cent MgO and 0.56 per cent insolubles (Bulletin 25, p. 20).

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1300  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR BULL \*25, pp. 20-21  
EMPR IND MIN FILE (McCammon, J.W., 1973, Limestone Occurences in  
B.C. p. 37 (in Ministry Library))  
GSC MAP 1418A  
GSC OF 926, 2191

DATE CODED: 1989/09/06  
DATE REVISED: / /

CODED BY: PSF  
REVISED BY:

FIELD CHECK: N  
FIELD CHECK:

MINFILE NUMBER: **114P 086**

NATIONAL MINERAL INVENTORY:

NAME(S): **JO**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P11E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 42 18 N  
LONGITUDE: 137 10 44 W  
ELEVATION: 900 Metres

NORTHING: 6620572  
EASTING: 377401

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the crest of a north-trending ridge, two kilometres west of Red Mountain.

COMMODITIES: Copper                      Zinc                      Silver

**MINERALS**

SIGNIFICANT: Bornite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Tertiary

**DEPOSIT**

CHARACTER: Podiform  
CLASSIFICATION: Skarn  
SHAPE: Tabular

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Andesite  
Basalt  
Marble  
Diorite

HOSTROCK COMMENTS: Hosted by altered andesite and basalt flows of suspected Late Cretaceous to Tertiary age, which overlie Paleozoic carbonates.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Aisek Ranges

RELATIONSHIP: Syn-mineralization      GRADE: Hornfels

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1990
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Copper		1.1800	Per cent
Zinc		0.1800	Per cent
Silver		7.0000	Grams per tonne

REFERENCE: Geddes Resources Limited unpublished report.

**CAPSULE GEOLOGY**

The Jo showing is located on the crest of a small north-trending ridge approximately two kilometres west of Red Mountain and 1.5 kilometres south of Frederickson Creek.

Red Mountain is underlain by rusty red weathering, pyritic andesite to basalt flows and related sills of probable Late Cretaceous to Tertiary age. These rocks sit with angular discordance on intensely folded Paleozoic carbonates. Outcrops of carbonate form rounded crests of several north-trending hills on the west slope of the mountain. A northwest and north-trending sware of dikes, sills and plugs of basalt, diorite and quartz monzonite porphyry cuts the carbonates.

The Jo showing is a disseminated bornite skarn developed near the contact of a diorite plug. Several small pits probably record exploration work at the showings many years ago. Three samples collected by Geddes Resources Limited in 1990 contained 0.7 to 1.18 per cent copper and 5.9 to 7.0 grams per tonne silver and up to 0.18 per cent zinc. A grab Sample collected during a brief stop at the showing assayed 1.20 per cent copper and 8 grams per tonne silver.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1302  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

EMPR FIELDWORK 1992, pp. 217-228  
McDougall, J.J. (1990a): Tatshenshini Area Exploration Geddes  
Resources Limited, unpublished report  
GSC OF 2191

DATE CODED: 1993/04/06  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **114P 087**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOJAY**, MSM92-10.1

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P13W  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 46 08 N  
LONGITUDE: 137 48 59 W  
ELEVATION: 1100 Metres

NORTHING: 6629033  
EASTING: 341845

LOCATION ACCURACY: Within 500M

COMMENTS: East of Alsek River, west of the Windy Craggy deposit (114P 002).

COMMODITIES: Copper Cobalt Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite Pyrrhotite Pyrite  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Jurassic-Cretaceous

**DEPOSIT**

CHARACTER: Disseminated Massive Podiform  
CLASSIFICATION: Skarn  
SHAPE: Irregular  
DIMENSION: 500 x 10 Metres STRIKE/DIP: 320/90 TREND/PLUNGE:  
COMMENTS: Several lenses up to 500 or more metres in length present in general area. Numerous northwest trending skarn bodies are present within a several kilometre radius of the showing.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	Saint Elias Plutonic Suite

LITHOLOGY: Marble  
Diorite  
Gabbro

HOSTROCK COMMENTS: Age of intrusions is based on association with other dated plutons.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels  
COMMENTS: Overprinted by greenschist facies regional metamorphism.

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1992
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	4.0000	Grams per tonne	
Copper	0.0523	Per cent	
Cobalt	0.0550	Per cent	

REFERENCE: Fieldwork 1992, pages 217-229.

**CAPSULE GEOLOGY**

The Mojay showing is located on the southern border of 114P/13, four kilometres east of the Alsek River on the west side of a narrow glacial canyon. At this locality, coarse, white marble is intruded by Jurassic-Cretaceous(?), variably foliated hornblende diorite and gabbro. At least four intrusive phases were noted in this area. The contact with host marble is extremely irregular, and numerous dikes with skarn-mineralized (mainly garnet plus epidote plus hornblende plus pyroxene) selvages are present. Northwest-trending rusty weathering, resistant lenses of sulphide-bearing skarn are exposed in the canyon, mainly developed within the dioritic pluton contact zone and numerous marble screens. The sulphides are primarily disseminated pyrrhotite and pyrite. One such zone measures approximately 10 metres by 200(?) metres. Lenses of massive sulphide within these zones consist primarily of pyrite, pyrrhotite, chalcopyrite and bornite(?). The extent and distribution of massive sulphide mineralization is largely unknown, as most outcrops are inaccessible in cliff faces or were mapped only by aerial

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**CAPSULE GEOLOGY**

reconnaissance. One sample returned an analysis of 4 parts per million silver, 550 parts per million cobalt and 523 parts per million copper (Table 1-13-2, No. 151). Although the mineralization seems to be of a skarn type, the consistent northwest trend to these bodies suggest a degree of structural control as well.

There are similar showings in the next valley to the east, where at least three large west-northwest-trending rusty weathering skarn lenses are exposed. One such lens developed within the marble at the contact between the marble and the diorite body, consists of very fine-grained disseminated and massive yprite and pyrrhotite, with slightly coarser, disseminated pyrite and pyrrhotite within the diorite body. Only minor development of calcsilicate skarn was observed here, in contrast to the first locality. Two samples collected from this locality did not yield anomalous assays for silver, copper, lead or zinc.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1992, pp. 217-229  
EMPR OF 1993-13  
GSC OF 2191

DATE CODED: 1992/10/07  
DATE REVISED: 1992/10/07

CODED BY: MDE  
REVISED BY: MDE

FIELD CHECK: Y  
FIELD CHECK: Y



MINFILE NUMBER: **114P 088**

NATIONAL MINERAL INVENTORY:

NAME(S): **FROBISHER**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 45 01 N  
LONGITUDE: 137 44 27 W  
ELEVATION: 1200 Metres

NORTHING: 6626783  
EASTING: 346001

LOCATION ACCURACY: Within 1 KM

COMMENTS: Four kilometres north of Windy Peak and 10 kilometres east of the Alsek River. Mineralized outcrops occur in steep gossanous cliff faces above glaciated terrain. Abundant mineralized talus lies at the base of these cliffs.

COMMODITIES: Copper Cobalt Gold

**MINERALS**

SIGNIFICANT: Pyrite Pyrrhotite  
ALTERATION: Quartz Clay Limonite  
ALTERATION TYPE: Silicific'n Argillic Oxidation  
MINERALIZATION AGE: Triassic

**DEPOSIT**

CHARACTER: Disseminated Massive Layered Podiform  
CLASSIFICATION: Volcanogenic  
SHAPE: Irregular

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Tats	Unnamed/Unknown Formation	

LITHOLOGY: Pillow Basalt  
Massive Basalt  
Calcareous Argillite

HOSTROCK COMMENTS: Primarily hosted in rocks of the middle Tats Group.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

**CAPSULE GEOLOGY**

This showing occurs four kilometres north of the Windy Craggy volcanogenic massive sulphide deposit (114P 002), and consists of several gossanous zones of massive and disseminated sulphide exposed in south facing cliff faces along the north wide of Frobisher glacier over a length of two kilometres. The mineralization is hosted by a sequence of silicified, clay altered, and to a lesser extent, chloritized pillow basalts of Upper Triassic age, intercalated with less calcareous argillites. Mineralization occurs in the area hosted by both the Middle and Lower Tats Group. Mineralization occurs as either fine grained disseminated to massive sulphides with minor silicification, clay alteration plus or minus chloritization, or coarse grained sulphide veinlets accompanied by silicification, which may be shear related. Sulphide content up to 70 per cent pyrite and pyrrhotite. Mineralized zones appear as a series of gossanous zones in the cliff faces above glaciated terrain. Samples were collected from the abundant talus below these cliffs. Assayed samples showed no anomalous concentrations of base or precious metals.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1993-1, pp. 217-228  
GSC OF 2191

DATE CODED: 1992/10/08  
DATE REVISED: 1992/10/08

CODED BY: MDE  
REVISED BY: MDE

FIELD CHECK: Y  
FIELD CHECK: Y

MINFILE NUMBER: **114P 089**

NATIONAL MINERAL INVENTORY:

NAME(S): **LONELY**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P13E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 55 39 N  
LONGITUDE: 137 36 03 W  
ELEVATION: 1480 Metres

NORTHING: 6646193  
EASTING: 354639

LOCATION ACCURACY: Within 500M

COMMENTS: Located 12 kilometres ? of the Asek River & Range Creek  
confluence and 4 kilometres south of the Yukon border.

COMMODITIES: Copper Cobalt

**MINERALS**

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite  
ALTERATION: Garnet Diopside Wollastonite Epidote  
ALTERATION TYPE: Skarn  
MINERALIZATION AGE: Lower Jurassic

**DEPOSIT**

CHARACTER: Podiform Massive Disseminated  
CLASSIFICATION: Skarn  
SHAPE: Irregular  
DIMENSION: STRIKE/DIP: 320/80 TREND/PLUNGE:  
COMMENTS: Age assumed to be Jurassic-Cretaceous based on presence of similar  
plutons with potassium-argon ages of Late Jurassic to Early  
Cretaceous in area.

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER  
Paleozoic Unnamed/Unknown Group Unnamed/Unknown Formation

LITHOLOGY: Granodiorite  
Argillaceous Marble  
Argillite

HOSTROCK COMMENTS: Skarn mineralization associated with compositionally layered marble  
intercalated with non-calcareous argillite along an intrusive contact.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular PHYSIOGRAPHIC AREA: Asek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1992  
SAMPLE TYPE: Grab  
COMMODITY GRADE  
Copper 0.4800 Per cent  
Cobalt 0.0390 Per cent

REFERENCE: Open File 1993-13.

**CAPSULE GEOLOGY**

The Lonely showing is located approximately four kilometres south of the confluence of Range and South Range creeks, where the lower Paleozoic carbonate and Paleozoic argillite units are intruded by a Jurassic-Cretaceous heterogeneous dioritic pluton. Argillaceous rocks host up to 50 per cent pyrrhotite and chalcopyrite as pods and lenses. Calc-silicate skarn alteration is pervasive along this contact. The sulphide zone has a northwest trend and may be in part structurally controlled.

Several other localities along the margin of this pluton were also examined and sampled. Most of the sulphide mineralization consists of disseminated pyrrhotite.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1992, pp. 217-229  
EMPR OF \*1993-13

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
*GEOLOGICAL SURVEY BRANCH*  
*ENERGY AND MINERALS DIVISION*

PAGE: 1307  
REPORT: RGEN0100

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**BIBLIOGRAPHY**

GSC OF 2191

DATE CODED: 1992/10/08  
DATE REVISED: 1992/10/08

CODED BY: MDE  
REVISED BY: MDE

FIELD CHECK: Y  
FIELD CHECK: Y

MINFILE NUMBER: **114P 090**

NATIONAL MINERAL INVENTORY:

NAME(S): **CARMINE**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 114P13E  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 44 25 N  
 LONGITUDE: 137 10 11 W  
 ELEVATION: 1200 Metres

NORTHING: 6624482  
 EASTING: 378045

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the Carmine Mountain area, one kilometre west of the peak and four kilometres east of the Tatshenshini River.

COMMODITIES: Gold                      Copper                      Silver                      Lead                      Zinc

**MINERALS**

SIGNIFICANT: Galena  
 ASSOCIATED: Quartz  
 MINERALIZATION AGE: Paleocene

**DEPOSIT**

CHARACTER: Vein                      Disseminated  
 CLASSIFICATION: Hydrothermal  
 SHAPE: Tabular

**HOST ROCK**

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Rhyolite Tuff  
 Biotite Quartz Feldspar Porphyry

HOSTROCK COMMENTS: Volcanics (early Tertiary) are informally named the Carmine Mountain volcanics.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
 TERRANE: Alexander

PHYSIOGRAPHIC AREA: Alsek Ranges

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1992
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Gold		5.8000	Grams per tonne
Silver		150.0000	Grams per tonne
Copper		0.3700	Per cent
Lead		4.3700	Per cent
Zinc		0.1300	Per cent

REFERENCE: Open File 1993-13.

**CAPSULE GEOLOGY**

Small (2 to 10 centimetres thick) quartz veins with coarse galena were found in a north-trending gully on the north side of a small divide on the northwest side of the Carmine Mountain plateau (114P/11N), approximately five kilometres north of the Jo showing. Host rocks are rhyolite and dacite flows and tuff intruded by biotite-quartz-feldspar porphyry and accessory hornblende. The flows unconformably overlie lower Paleozoic marble and may be Tertiary in age. A single sample returned 150 grams per tonne silver, 5.8 grams per tonne gold, 0.37 per cent copper, 4.37 per cent lead, and 0.13 per cent zinc, and is also anomalous with respect to arsenic and antimony (Table 1-13-2, No. 167).

**BIBLIOGRAPHY**

EMPR FIELDWORK 1992, pp. 217-229  
 EMPR OF 1993-13  
 GSC OF 2191

DATE CODED: 1992/10/08  
 DATE REVISED: / /

CODED BY: MDE  
 REVISED BY:

FIELD CHECK: Y  
 FIELD CHECK: N

MINFILE NUMBER: **114P 091**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUCK**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P07E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 19 36 N  
LONGITUDE: 136 42 11 W  
ELEVATION: 1100 Metres

NORTHING: 6577666  
EASTING: 403091

LOCATION ACCURACY: Within 500M

COMMENTS: Located at head of Tkope Creek, adjacent to the Tsirku Glacier.

COMMODITIES: Copper                      Zinc                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Pyrite                      Pyrrhotite                      Chalcopyrite

COMMENTS: Also manganese oxide.

ALTERATION: Silica                      Sericite                      Clay                      Quartz                      Carbonate

ALTERATION TYPE: Silicific'n                      Sericitic                      Quartz-Carb.

MINERALIZATION AGE: Unknown

**DEPOSIT**

CHARACTER: Stockwork                      Breccia                      Disseminated

CLASSIFICATION: Hydrothermal

SHAPE: Irregular

DIMENSION: 4000 x 3000                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:

COMMENTS: Buck showing consists of a large, orange weathering Gossan zone.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Basalt  
Limestone  
Argillite

HOSTROCK COMMENTS: Host rocks are unnamed, metamorphosed volcanic and sedimentary rocks of possible Triassic or Paleozoic age.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular

PHYSIOGRAPHIC AREA: Alsek Ranges

TERRANE: Alexander

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

COMMENTS: Host rocks are unnamed, metamorphosed volcanic and sedimentary rocks.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1989

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold                      18.4100                      Grams per tonne

Silver                      25.5000                      Grams per tonne

Copper                      0.5800                      Per cent

COMMENTS: Assay probably not representative of deposit as a whole.

REFERENCE: Fieldwork 1992, page 223.

**CAPSULE GEOLOGY**

The Buck property, located 69 kilometres southeast of Windy Craggy, consists of 54 claim units that were staked in 1989 to cover a large brown to orange-weathering gossanous zone at the confluence of the Tkope River and Tsirku Glacier (McDougall et al., 1989).

A mineralized and altered zone approximately four kilometres long and up to three kilometre wide is exposed along a northwest-trending ridge that is bounded to the east by the Buckwell Glacier, to the south by the Tsirku Glacier and to the west by the Tkope River. Where exposed, the zone includes brecciated quartz-carbonate-altered volcanic and sedimentary rocks of possible Triassic age. Bedding, as defined by pyritiferous sediments, trends northwest and dips steeply east. Intensely deformed black argillaceous sediments and limestones that may be correlative with the lower part of the Tats group outcrop to the west of the Tkope River.

Sulphide mineral assemblages within the zone include varying

## CAPSULE GEOLOGY

proportions and concentrations of fine-grained disseminated to coarse-grained, interstitial pyrite, pyrrhotite and rare chalcopyrite. Manganese oxide coats fracture surfaces. Within the zone, intense silica flooding and development of mariposite are reported. Secondary silica is apparently present as grey chert to opaline masses rather than as veins and veinlets. The alteration assemblages suggest a high-level hydrothermal system of possible epithermal origin. Many of the rocks within the altered zone are light coloured and are mapped as felsic volcanics but this coloration probably reflects intense silica-sericite-clay alteration rather than original rock composition.

A sample from a pyritic shear zone near the crest of the ridge apparently assayed 18.41 grams per tonne gold, 0.58 per cent copper, and 25.5 grams per tonne silver (McDougall et al., 1989). Other samples from the area contained up to 0.9 per cent copper, 0.22 per cent zinc, 4.1 grams per tonne silver, 0.23 per cent manganese, and 176 parts per million arsenic with generally low but anomalous gold values.

Additional sampling in 1990 failed to delineate any continuous zones of gold, silver or copper concentration although isolated samples returned copper values between 0.15 and 0.85 per cent and zinc values to 2.44 per cent (McDougall, 1990a). Small zones of massive to semimassive pyrite occur along northwest and northeast-trending shear zones. Northwest-trending basaltic dikes and sills up to 35 metres wide also appear to be intruded along these zones. Brecciation is apparently associated with these basaltic intrusions and narrow copper-bearing shears parallel their northeastern contacts.

## BIBLIOGRAPHY

- EMPR FIELDWORK \*1992, pp. 217-229  
EMPR OF 1993-13  
GSC OF 2191  
McDougall, J.J., Potter, A. and Kowall, C. (1989): Results of Alsek-Tatshenshini Area Exploration, Geddes Resources Limited, unpublished report.

DATE CODED: 1993/04/06  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **114P 092**

NATIONAL MINERAL INVENTORY:

NAME(S): **PUP**

MINING DIVISION: Atlin

STATUS: Showing  
 REGIONS: British Columbia  
 NTS MAP: 114P06W  
 BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 29 32 N  
 LONGITUDE: 137 18 43 W  
 ELEVATION: 600 Metres

NORTHING: 6597139  
 EASTING: 369091

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Tomanous Creek approximately five kilometres southeast of the confluence with the Tatshenshini River.

COMMODITIES: Copper                      Gold                      Silver                      Molybdenum

**MINERALS**

SIGNIFICANT: Cuprite	Malachite	Azurite	Pyrite	Chalcopyrite
ASSOCIATED: Quartz	Hematite			
ALTERATION: Quartz	Carbonate	Clay	Chlorite	Sericite
ALTERATION TYPE: Sericitic		Quartz-Carb.	Chloritic	Oxidation
MINERALIZATION AGE: Tertiary				

**DEPOSIT**

CHARACTER: Breccia			
CLASSIFICATION: Hydrothermal			
SHAPE: Irregular			
MODIFIER: Faulted			
DIMENSION: 200 x 200	Metres	STRIKE/DIP:	TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Unnamed/Unknown Group	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Tertiary			

LITHOLOGY: Altered Basalt  
 Altered Calcareous Argillite  
 Granite

HOSTROCK COMMENTS: Hosted by volcanic and sedimentary rocks of possible Late Triassic age, intruded by Tertiary(?) granite.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular	PHYSIOGRAPHIC AREA: Asek Ranges
TERRANE: Alexander	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization      GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1989
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Copper	1.6700 Per cent
Gold	1.0300 Grams per tonne
Silver	12.4000 Grams per tonne
Molybdenum	0.0700 Per cent
REFERENCE: Open File 1993-13.	

**CAPSULE GEOLOGY**

The Pup property, which includes 40 claim units, was staked in 1989 to cover a zone of intensely brecciated and pervasively mineralized volcanic rock that crops out at the confluence of Pup (local name) and Tomahnous creeks.

Clasts within the breccia are one to five centrimetres in diametre, subangular to subrounded and are crudely stratified. They are predominantly dark grey, fine-grained chlorite and sericite-clay-altered volcanic rocks with minor oxidized quartz and calcareous sediments. In places, oxidation and leaching has produced a porous, poorly consolidated mass of breccia fragments with coarse-grained, oxidized sulphide clusters occupying solution cavities. Minerals identified include cuprite, copper carbonates, fine-grained pyrite and chalcopyrite. Late quartz veins cut the breccia. Iron oxide cemented boulders occur in the lower part of Pup Creek and clay-rich faulted gouge was observed in the bed of

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**CAPSULE GEOLOGY**

Tomahnous Creek. Quartz-carbonate veining is reported north of the creek but was not examined.

Samples from the mineralized breccia are reported to contain up to 1.03 grams per tonne gold, 12.4 grams per tonne silver, 1.67 per cent copper, and 0.07 per cent molybdenum.

The Pup breccia is located along a major fault zone that trends parallel to Tomahnous Creek and may connect with a strand of the Tats Creek fault zone northwest of the Tatshenshini River. Intensely fractured granitic rocks crop out downstream from the breccia zone. The breccia is believed to have formed by explosion of a high-level cupola above a subvolcanic intrusion that may have been emplaced into the fault zone (McDouglall, 1990b).

The poorly consolidated nature of the Pup Creek breccia and its location along a fault zone that offsets Early Tertiary sediments in Tats Creek suggests brecciation and mineralization are post-Paleocene to Recent in age.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1992, pp. 217-229  
EMPR ASS RPT \*20409  
EMPR OF 1993-13  
GSC OF 2191

DATE CODED: 1993/04/06  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N



MINFILE NUMBER: **114P 093**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDRUN, DAT, BAR,**  
**MASSIVE SULPHIDE CREEK, ZINC MOUNTAIN**

STATUS: Prospect  
 REGIONS: British Columbia  
 NTS MAP: 114P15W  
 BC MAP:

MINING DIVISION: Atlin  
 UTM ZONE: 08 (NAD 83)  
 NORTHING: 6641030  
 EASTING: 394639

LATITUDE: 59 53 36 N  
 LONGITUDE: 136 52 59 W  
 ELEVATION: 1200 Metres

LOCATION ACCURACY: Within 500M  
 COMMENTS: Located approximately three kilometres west of the Haines Highway, southwest of Goldrun Creek.

COMMODITIES: Copper Barite                      Zinc                      Lead                      Silver                      Gold

**MINERALS**

SIGNIFICANT: Galena              Sphalerite              Chalcopyrite              Argentite              Barite  
 ASSOCIATED: Pyrite              Pyrrhotite  
 ALTERATION: Sericite              Quartz              Talc              Carbonate              Chlorite  
 ALTERATION TYPE: Sericitic  
 MINERALIZATION AGE: Devonian  
 Quartz-Carb.

**DEPOSIT**

CHARACTER: Massive                      Disseminated                      Stratiform  
 CLASSIFICATION: Exhalative              Industrial Min.  
 SHAPE: Tabular  
 DIMENSION: 700 x 400                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
 COMMENTS: Zones of exhalite mineralization up to 15 metres thick. Age of mineralization is either Devonian or Triassic. Strikes north-west and dips steep to the west.

**HOST ROCK**

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
 Paleozoic-Mesozoic      Unnamed/Unknown Group                      Unnamed/Unknown Formation

LITHOLOGY: Meta Basalt  
 Chlorite Schist  
 Argillite  
 Chert  
 Carbonate Sericite Quartz Schist  
 Barite  
 Dacite  
 Limestone

HOSTROCK COMMENTS: Deposit is located in a poorly dated package (either Devonian or Late Triassic) of metamorphosed limestone, argillite and mafic volcan. rock

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Aisek Ranges  
 TERRANE: Alexander                      Wrangell  
 METAMORPHIC TYPE: Regional                      RELATIONSHIP: Post-mineralization                      GRADE: Greenschist  
 COMMENTS: Terrane assignment uncertain.

**INVENTORY**

ORE ZONE: ROCK                      REPORT ON: N  
 CATEGORY: Assay/analysis                      YEAR: 1990  
 SAMPLE TYPE: Grab  
 COMMODITY                      GRADE  
 Zinc                      9.4000                      Per cent  
 Lead                      6.0000                      Per cent  
 Silver                      150.7000                      Grams per tonne  
 REFERENCE: Assessment Report 19756.

**CAPSULE GEOLOGY**

The Goldrun property (Dat and Bar claims) extends from Goldrun Creek southwestward to Datlasaka Creek. Access to the property is by a dirt road which connects to the Haines Highway approximately three kilometres to the east. The property was located in 1988 by prospector Ted Hayes.  
 The Goldrun property covers part of a narrow, fault-bounded, northwest-trending, southwest-dipping belt of poorly exposed,

## CAPSULE GEOLOGY

possibly Late Triassic volcanic and sedimentary rocks that extends from Squaw Creek to southeast of Datlasaka Creek. A crinoidal limestone of possible Devonian age crops out along the southwest edge of the property and may be the basal member of a southwest-dipping thrust panel.

The Discovery showing is bedded, calcareous baritic exhalite with minor concentrations of fine-grained pyrite, galena, sphalerite, chalcopyrite, pyrrhotite and argentite. A grab sample assayed up to 6.7 grams per tonne gold, 227.0 grams per tonne silver, and 51 per cent barium (Assessment Report 19756).

The host rocks are sericite-quartz-talc-carbonate schists that may have formed by alteration of a felsic volcanic protolith. The occurrences of talc and an enrichment in nickel suggests some of the protolith rocks may have been mafic volcanics. Chloritic schists crop out to the northeast and presumably down section from the baritic exhalite horizon.

Other showings on the property include the "Massive Sulphide Creek" and "Zinc Mountain" neither of which were visited during the 1992 program. Analyses from the Zinc Mountain showing are up to 94,447 parts per million zinc, 60,289 parts per million lead and 150.7 parts per million silver (Assessment Report 21065). The Massive Sulphide Creek occurrences is a gossanous zone of greater than 15 per cent sulphide in mafic volcanics. No anomalous base or precious metal values are reported for this occurrence.

The Goldbank Ventures Ltd. - Sutton Resources Ltd. joint venture completed 12 diamond-drill holes totalling 1134 metres, an induced polarization survey, trenching, mapping and rock geochemistry on the Goldrun property in late 1990. The drilling intersected a 10-centimetre bed of massive pyrite with trace to minor argentite, sphalerite and chalcopyrite within the calcareous baritic exhalite zone. The stratiform mineralization assayed 0.27 gram per tonne gold, 1087 grams per tonne silver, 1.14 per cent copper, 0.22 per cent lead, and 2.14 per cent zinc (Assessment Report 21065). Regional exploration led to the discovery of another baritic zone up to 130 metres thick, 14 kilometres to the southeast of the Discovery showing. Analyses from this zone are up to 3000 parts per billion gold, 57.0 parts per million silver, 24,350 parts per million copper, 31,512 parts per million lead, and 41,610 parts per million zinc. This zone was not visited during the 1992 program.

The mineralization and host rocks at the Discovery showing on the Goldrun property are very similar to those at the Late Triassic Haines barite-lead-zinc deposit in the Mount Henry Clay area.

## BIBLIOGRAPHY

EMPR ASS RPT 19756, 21065  
EMPR FIELDWORK 1992, pp. 217-229  
EMPR OF 1993-13; 1999-2  
GSC OF 2191

DATE CODED: 1993/04/06  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **114P 094**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAINY MONDAY**

MINING DIVISION: Atlin

STATUS: Prospect  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 39 02 N  
LONGITUDE: 137 39 17 W  
ELEVATION: 1400 Metres

NORTHING: 6615487  
EASTING: 350393

LOCATION ACCURACY: Within 500M

COMMENTS: Located on a ridge near the toe of the Icebridge glacier, four kilometres northeast of Tats Lake.

COMMODITIES: Copper                      Gold                      Silver                      Cobalt

**MINERALS**

SIGNIFICANT: Pyrite              Chalcopyrite              Malachite              Azurite  
ALTERATION: Chlorite  
ALTERATION TYPE: Chloritic              Oxidation  
MINERALIZATION AGE: Triassic

**DEPOSIT**

CHARACTER: Stratiform                      Massive                      Disseminated  
CLASSIFICATION: Volcanogenic  
SHAPE: Tabular  
MODIFIER: Sheared  
DIMENSION: 600 x 150 x 100 Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Besshi(?) type VMS occurrence in mixed Late Triassic basalt and argillite. Strikes northwest and dips vertically.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic	Tats	Middle Tats	

LITHOLOGY: Pillow Basalt  
Calcareous Argillite  
Calcareous Siltstone

HOSTROCK COMMENTS: The Middle Tats division also hosts the massive Windy Craggy VMS deposit.

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Post-mineralization                      GRADE: Greenschist  
COMMENTS: The northern extent of deposit may be faulted & offset a few km to W.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1992
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Copper	20.2000	Per cent	
Silver	39.0000	Grams per tonne	
Gold	1.2900	Grams per tonne	

REFERENCE: Fieldwork 1992, page 220.

**CAPSULE GEOLOGY**

The Rainy Monday showing was discovered by British Columbia Geological Survey field crews in 1992. The discovery showing is located on the west side of a north-trending ridge where a resistant, rusty weathering outcrop of massive to semimassive sulphide protrudes from a scree slope. The host rocks are typical of the middle Tats member of the Late Triassic Tats group. Pillowed flows crop out to the north and south of the sulphide zone and calcareous siltstone talus occurs upslope to the northeast. The host stratigraphy is contained within a northwest-trending belt that is offset by an east-striking fault north of Tats Lake. The most likely fault restoration solution places the Rainy Monday deposit on strike with the mineralogically similar Tats showing (114P 003), thus increasing the overall length of the prospective horizon.

The Rainy Monday discovery showing dips steeply to the northeast and is about eight metres wide. Within the zone are lenses of porous

## CAPSULE GEOLOGY

iron oxide and hydroxide five metres wide that locally contain remnants of coarse-grained pyrite and partly oxidized chalcopyrite stringers up to 20 centimetres thick. Mineralization persists over a slope distance of 30 metres but the strike continuation of the zone is lost beneath vegetation and scree to the west and east. Although the surface showing is extensively weathered and oxidized, samples of coarse-grained pyrite and chalcopyrite contain copper concentrations up to 13.5 per cent and gold up to 0.72 gram per tonne.

The southeast strike of the discovery showing suggests that the host stratigraphy may crop out on the east side of the ridge along scree slope. Several rusty weathering, resistant knobs protrude from the scree slope and each of these exposures were found to be oxidized massive to semimassive sulphide similar to the discovery showing. The lenses are interbedded with intensely chloritized flows and calcareous, carbonaceous siltstone and argillite. The host stratigraphy strikes north-northwest and dips steeply to the northeast. The oxidized sulphide lens occurs within a northwest-trending zone that is over 100 metres wide. A mineralized zone comprises stringers and lenses of massive chalcopyrite and pyrite up to 30 centimetres thick. Some of the lenses are cut by postmineral mafic dikes or sills which may have recrystallized an original fine-grained protolith. Grab samples collected by British Columbia Geological Survey personnel contained up to 20.2 per cent copper, 2.4 grams per tonne gold, and 39 grams per tonne silver.

Mineralization within the southeastern zone has a visible vertical extent of 150 metres and appears to continue beneath lateral moraine near the valley floor. Assuming that the discovery showing and lenses exposed on the east-facing scree slope are at the same stratigraphic level, the Rainy Monday mineralized zone has a strike length of at least 600 metres, is up to 100 metres thick and extends down dip at least 150 metres. These dimensions suggest the deposit has significant tonnage potential.

## BIBLIOGRAPHY

EMPR FIELDWORK 1992, pp. 217-229  
EMPR OF 1999-2  
GSC OF 2191

DATE CODED: 1993/04/07  
DATE REVISED: 1993/04/07

CODED BY: MSM  
REVISED BY: MSM

FIELD CHECK: Y  
FIELD CHECK: Y

MINFILE NUMBER: **114P 095**

NATIONAL MINERAL INVENTORY:

NAME(S): **ICE BRIDGE**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 39 27 N  
LONGITUDE: 137 38 15 W  
ELEVATION: 1200 Metres

NORTHING: 6616221  
EASTING: 351394

LOCATION ACCURACY: Within 500M

COMMENTS: Located five kilometres northeast of the Tats Lake along the western margin of the Icebridge glacier, one kilometre northeast of the Rainy Monday (114P 094).

COMMODITIES: Copper                      Zinc                      Gold

**MINERALS**

SIGNIFICANT: Pyrrhotite      Chalcopyrite      Sphalerite  
ALTERATION TYPE: Silicific'n  
MINERALIZATION AGE: Triassic

**DEPOSIT**

CHARACTER: Stratiform                      Disseminated  
CLASSIFICATION: Volcanogenic              Exhalative  
SHAPE: Tabular  
MODIFIER: Folded  
DIMENSION: 30 x 5                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Age of mineralization dated by Norian conodonts in interbedded strata.

**HOST ROCK**

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Tats	Middle Tats	

LITHOLOGY: Calcareous Argillite  
Siliceous Argillite  
Siltstone  
Pillow Basalt

HOSTROCK COMMENTS: The Ice Bridge showing apparently occupies a higher stratigraphic level than the Windy Craggy (114P 002) or Rainy Monday (114P 094).

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Post-mineralization                      GRADE: Greenschist  
COMMENTS: The Tats group is a probable rift assemblage.

**INVENTORY**

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1992
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Copper		0.3600	Per cent
Zinc		0.4100	Per cent
Gold		0.7000	Grams per tonne

REFERENCE: Fieldwork 1992, page 220.

**CAPSULE GEOLOGY**

The Ice Bridge showing was discovered by British Columbia Geological Survey crews in 1992. It consists of a stratiform, mainly disseminated sulphide horizon in a dominantly sedimentary portion of the Upper Triassic (Norian) Middle Tats division of the Tats Group. In the vicinity of the Ice Bridge showing, the Middle Tats division consists primarily of calcareous to cherty argillite and siltstone interbedded with massive to pillowed basalt flows. The clastic rocks contain fine-grained pyrrhotite laminae 0.5 to 2 millimetres thick that contain variable amounts of chalcopyrite. Over intervals of a few centimetres the sulphide content is up to ten per cent. Analyses of samples from this occurrence return up to 0.46 per cent copper, 0.41 per cent zinc. One zone of mineralization is roughly 30 metres by 5 metres wide, and may be repeated by folding. With the exception of slight silicification, no significant alteration accompanied mineralization.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

PAGE: 1318  
REPORT: RGEN0100

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**CAPSULE GEOLOGY**

The laminated nature of the mineralization, argillaceous host rocks, and high zinc values distinguish the Ice Bridge showing from the nearby Rainy Monday showing (114P 094) and Windy Craggy deposit (114 002). The Ice Bridge may represent a stratigraphically higher level than the latter two occurrences and may represent a waving phase of sulphide desposition.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1992, pp. 217-228  
EMPR OF 1993-13; 1999-2  
GSC OF 2191

DATE CODED: 1993/04/07  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

MINFILE NUMBER: **114P 096**

NATIONAL MINERAL INVENTORY:

NAME(S): **TEQUILA SUNSET**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 43 N  
LONGITUDE: 137 36 58 W  
ELEVATION: 1200 Metres

NORTHING: 6614813  
EASTING: 352545

LOCATION ACCURACY: Within 500M

COMMENTS: Located approximately five kilometres east-northeast of Tats Lake along the southern toe of the Icebridge glacier.

COMMODITIES: Copper                      Zinc                      Cobalt                      Gold                      Silver

**MINERALS**

SIGNIFICANT: Chalcopyrite      Pyrite              Malachite  
ALTERATION: Chlorite  
ALTERATION TYPE: Chloritic              Oxidation  
MINERALIZATION AGE: Triassic

**DEPOSIT**

CHARACTER: Massive                      Disseminated              Stratiform  
CLASSIFICATION: Volcanogenic  
SHAPE: Tabular  
MODIFIER: Folded  
DIMENSION: 100 x 20                      Metres                      STRIKE/DIP:                      TREND/PLUNGE:  
COMMENTS: Age of mineralization dated by Norian conodonts in interbedded strata. Strikes northwest. The rocks are complexly folded and faulted.

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE      GROUP                      FORMATION                      IGNEOUS/METAMORPHIC/OTHER  
Triassic                      Tats                      Middle Tats

LITHOLOGY: Meta Basalt  
Siltstone  
Calcareous Argillite

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular                      PHYSIOGRAPHIC AREA: Alsek Ranges  
TERRANE: Alexander  
METAMORPHIC TYPE: Regional                      RELATIONSHIP: Post-mineralization                      GRADE: Greenschist  
COMMENTS: Basalt is largely metamorphosed and/or altered to chlorite schist.

**INVENTORY**

ORE ZONE: SAMPLE                      REPORT ON: N  
CATEGORY: Assay/analysis                      YEAR: 1992  
SAMPLE TYPE: Grab  
COMMODITY                      GRADE  
Copper                      0.8600                      Per cent  
Zinc                      0.2200                      Per cent  
Cobalt                      0.0700                      Per cent  
Gold                      0.4100                      Grams per tonne  
Silver                      6.0000                      Grams per tonne

REFERENCE: Fieldwork 1992, page 220.

**CAPSULE GEOLOGY**

The Tequila Sunset is a volcanogenic massive sulphide showing hosted in the middle volcanic division of the Tats group. It is located approximately five kilometres east-northeast of Tats Lake, and approximately 1.5 kilometres southeast of the Rainy Monday showing (114P 094). It was discovered in 1992 by British Columbia Geological Survey mapping crews.

The showing includes discrete, yellow and orange gossanous zones, 0.5 to 3 metres wide of tectonically admixed fine-grained sediment and foliated basalt (now chlorite schist) that occur within the hinge zone of a faulted, south-plunging anticline. A sequence of en echelon mineralized zones is exposed across about 20 metres and may extend over 100 metres of a cliff face south of the Ice Bridge glacier terminus. Malachite-stained chalcopyrite and pyrite occur as stratabound stringers within the pods. Chalcopyrite may comprise up to 15 per cent of the rock over intervals of less than 0.2 metres.

RUN DATE: 26-Jun-2003  
RUN TIME: 12:30:28

**MINFILE MASTER REPORT**  
GEOLOGICAL SURVEY BRANCH  
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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**CAPSULE GEOLOGY**

Assay samples returned up to 1.56 per cent copper and 0.22 per cent zinc (Fieldwork 1992, page 22).

Controls on the distribution of the sulphides appear to be predominantly structural. This showing is similar in style to the Rainy Monday and the anticline is on trend with the Rainy Monday showing. Extents of the mineralization both above and below the immediate discovery zone are untested.

**BIBLIOGRAPHY**

EMPR FIELDWORK \*1992, pp. 217-229  
EMPR OF 1993-13; 1999-2  
GSC OF 2191

DATE CODED: 1993/04/07  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N



MINFILE NUMBER: **114P 097**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKID**

MINING DIVISION: Atlin

STATUS: Showing  
REGIONS: British Columbia  
NTS MAP: 114P12E  
BC MAP:

UTM ZONE: 08 (NAD 83)

LATITUDE: 59 38 22 N  
LONGITUDE: 137 38 24 W  
ELEVATION: 1200 Metres

NORTHING: 6614217  
EASTING: 351173

LOCATION ACCURACY: Within 500M

COMMENTS: Located the toe of the Ice Bridge Glacier, approximately four kilometres east-northeast of Tats Lake.

COMMODITIES: Copper Gold

**MINERALS**

SIGNIFICANT: Chalcopyrite  
COMMENTS: Hosted within sheared and chloritized volcanics plus or minus sediments.

MINERALIZATION AGE: Triassic

**DEPOSIT**

CHARACTER: Stratiform  
CLASSIFICATION: Volcanogenic  
SHAPE: Irregular  
MODIFIER: Folded Sheared  
DIMENSION: 5 x 2 Metres STRIKE/DIP: 025/60E  
COMMENTS: Age of mineralization dated by Norian conodonts in interbedded strata.

TREND/PLUNGE:

**HOST ROCK**

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u> Triassic	<u>GROUP</u> Tats	<u>FORMATION</u> Middle Tats	<u>IGNEOUS/METAMORPHIC/OTHER</u>
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LITHOLOGY: Foliated Basalt

**GEOLOGICAL SETTING**

TECTONIC BELT: Insular  
TERRANE: Alexander  
METAMORPHIC TYPE: Contact Regional  
PHYSIOGRAPHIC AREA: Alsek Ranges  
RELATIONSHIP: Post-mineralization  
GRADE: Greenschist

**INVENTORY**

ORE ZONE: SAMPLE REPORT ON: N  
CATEGORY: Assay/analysis YEAR: 1992  
SAMPLE TYPE: Grab  
COMMODITY  
Copper 4.6700 Per cent  
Gold 0.4600 Grams per tonne  
REFERENCE: Open File 1993-13.

**CAPSULE GEOLOGY**

The Skid showing is a poorly studied volcanogenic massive sulphide occurrence located approximately four kilometres east-northeast of Tats Lake, in the middle volcanic division of the Norian Tats Group. In this locality, a thin, north northeast-trending layer of foliated basalt forms the steep cliff faces at the base of the ridge southeast of the Ice Bridge glacier. Chalcopyrite occurs as stringers and blebs up to fist-size within the foliated basalt. Lateral moraine is plastered on the slopes both above and below the showing. Bedrock is exposed in a series of waterfalls that erode through the moraine. An assay sample collected by British Columbia Geological Survey crews when the showing was discovered in 1992, returned 4.67 per cent copper, and 0.46 per cent gold.

**BIBLIOGRAPHY**

EMPR FIELDWORK 1992, pp. 217-229  
EMPR OF 1993-13; 1999-2  
GSC OF 2191

DATE CODED: 1993/04/07  
DATE REVISED: / /

CODED BY: MSM  
REVISED BY:

FIELD CHECK: Y  
FIELD CHECK: N

RUN DATE: 26-Jun-2003  
 RUN TIME: 12:38:44

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

PAGE: 1  
 REPORT: RGEN0200

MINFILE NUMBER: **104I 002** NAME: **GOLDPAN CREEK** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1940			Gold	8,926	
1935			Gold	23,916	
1930			Gold	38,595	
1925			Gold	13,031	

**SUMMARY TOTALS: 104I 002**

NAME: **GOLDPAN CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Gold:	84,468 grams	2,716 ounces

Recovery:

Comments:

1940: Production for period 1936-1940 (Bulletin 28, p. 59).  
 1935: Production for period 1931-1935 (Bulletin 28, p. 59).  
 1930: Production for period 1926-1930 (Bulletin 28, p. 59).  
 1925: Production for period 1921-1925 (Bulletin 28, p. 59).

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: <b>104I 004</b>		NAME: <b>WHEATON (BOULDER) CREEK</b>			STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1945			Gold	43,416		
1940			Gold	195,184		
1935			Gold	2,612		

**SUMMARY TOTALS: 104I 004**

NAME: **WHEATON (BOULDER) CREEK**  
Metric Imperial

Mined: tonnes tons  
 Milled: tonnes tons  
 Recovery: Gold: 241,212 grams 7,755 ounces

Comments:  
 1945: Production for period 1941-1945 (Bulletin 28, p. 61).  
 1940: Production for period 1936-1940 (Bulletin 28, p. 61).  
 1935: Production for period 1931-1935 (Bulletin 28, p. 61).

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: <u><b>104I 005</b></u>	NAME: <u><b>ALICE SHEA CREEK</b></u>	STATUS: Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>
1940		<u>Commodity</u>
		Gold
		<u>Grams Recovered</u>
		10,294
		<u>Kilograms Recovered</u>

**SUMMARY TOTALS: 104I 005**

	NAME: <u><b>ALICE SHEA CREEK</b></u>
	<u>Metric</u>
Mined:	tonnes
Milled:	tons
Recovery:	
	<u>Imperial</u>
	tons
	tons
Gold:	10,294 grams
	331 ounces
Comments:	
1940:	Production recorded for period 1936-1940 (Bulletin 28, p. 58).

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

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MINFILE NUMBER: <b>104I 007</b>	NAME: <b>FAULKNER (PALMER) CREEK</b>	STATUS: Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>
1930		<b>Commodity</b>
		Gold
		<b>Grams Recovered</b>
		249
		<b>Kilograms Recovered</b>

**SUMMARY TOTALS: 104I 007**

NAME: **FAULKNER (PALMER) CREEK**

	<u>Metric</u>		<u>Imperial</u>
Mined:	tonnes		tons
Milled:	tonnes		tons
Recovery:			
	Gold:	249 grams	8 ounces
Comments:			
	1930:	Production for period 1926-1930 (Bulletin 28, p. 59).	

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MINFILE NUMBER: <b>104I 011</b>	NAME: <b>BULLION CREEK</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1941			Gold	2,146	
1936			Gold	560	
1931			Gold	124	

**SUMMARY TOTALS: 104I 011**

NAME: **BULLION CREEK**

	<u>Mined:</u>	tonnes	<u>Imperial</u>	tons
Recovery:	<u>Milled:</u>	tonnes		tons
	<u>Gold:</u>	2,830 grams		91 ounces

Comments: 1941: Production for period 1941-1945 (Bulletin 28, p. 58).  
1936: Production for period 1936-1940 (Bulletin 28, p. 58).  
1931: Production for period 1931-1935 (Bulletin 28, p. 58).

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MINFILE NUMBER: <b>104I 078</b>	NAME: <b><u>KUTCHO CREEK JADE</u></b>	STATUS: Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1999	200		Jade/Nephrite		200,000
1986	16		Jade/Nephrite		16,522

**SUMMARY TOTALS: 104I 078**

NAME: **KUTCHO CREEK JADE**

<u>Metric</u>		<u>Imperial</u>
216 tonnes		238 tons
Mined:		
Milled:		

Recovery:

Jade/Nephrite:	216,522 kilograms	477,349 pounds
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Comments:

1999: Includes production from Polar Jade (104I 083).

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MINFILE NUMBER: <b><u>104I 085</u></b>		NAME: <b><u>WHEATON CREEK JADE</u></b>		STATUS: Past Producer
<b><u>Production Year</u></b>	<b><u>Tonnes Mined</u></b>	<b><u>Tonnes Milled</u></b>	<b><u>Commodity</u></b>	<b><u>Grams Recovered</u></b>
1965	11		Jade/Nephrite	11,300

**SUMMARY TOTALS: 104I 085**

	NAME: <b><u>WHEATON CREEK JADE</u></b>		
	<b><u>Mined:</u></b>	<b><u>Metric</u></b>	<b><u>Imperial</u></b>
	Milled:	11 tonnes	12 tons
Recovery:		tonnes	tons
	Jade/Nephrite:	11,300 kilograms	24,912 pounds
Comments:	1965:	Above amount flown out in 1965.	



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MINFILE NUMBER: <b><u>104I 088</u></b>	NAME: <b><u>EAGLE RIVER</u></b>	STATUS: Past Producer
<b><u>Production Year</u></b>	<b><u>Tonnes Mined</u></b>	<b><u>Tonnes Milled</u></b>
1945		
		<b><u>Commodity</u></b>
		Gold
		<b><u>Grams Recovered</u></b>
		124
		<b><u>Kilograms Recovered</u></b>

**SUMMARY TOTALS: 104I 088**

NAME: **EAGLE RIVER**

	<b><u>Mined:</u></b>	tonnes		tons
Recovery:	<b><u>Milled:</u></b>	tonnes		tons
	Gold:	124 grams		4 ounces
Comments:	1945:	Mined between 1941 and 1945 (Bulletin 28, page 58).		

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MINFILE NUMBER:	<b>104I 092</b>	NAME:	<b>PROVENCHER LAKE</b>	STATUS:	Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1978	249		Jade/Nephrite		249,000
1977	209		Jade/Nephrite		209,000

**SUMMARY TOTALS: 104I 092**

NAME: **PROVENCHER LAKE**

<u>Metric</u>		<u>Imperial</u>
458 tonnes		505 tons
Mined:		
Milled:		

Recovery:

Jade/Nephrite:	458,000 kilograms	1,009,717 pounds
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Comments:

1978: Assessment Report 7258.  
1977: Assessment Report 6959.

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MINFILE NUMBER: <b>104J 006</b>	NAME: <b>DEFOT CREEK</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1915			Gold	1,306	
1890			Gold	2,675	
1885			Gold	26,093	
1880			Gold	329,100	

**SUMMARY TOTALS: 104J 006**

NAME: **DEFOT CREEK**

	<u>Mined:</u>	tonnes	<u>Imperial</u>	tons
Recovery:	<u>Milled:</u>	tonnes		tons
	Gold:	359,174 grams	11,548 ounces	

Comments:

1915:	1911-15 production; unknown tonnage.
1890:	1886-90 production; unknown tonnage.
1885:	1881-85 production; unknown tonnage.
1880:	1876-80 production; unknown tonnage.

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MINFILE NUMBER: **104J 007** NAME: **THIBERT CREEK** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1935			Gold	622	
1930			Gold	124	
1925			Gold	9,952	
1920			Gold	3,017	
1915			Gold	24,196	
1910			Gold	4,167	
1900			Gold	2,363	
1895			Gold	30,478	
1890			Gold	74,360	
1885			Gold	248,240	
1880			Gold	905,228	
1875			Gold	267,336	

**SUMMARY TOTALS: 104J 007**

NAME: **THIBERT CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 1,570,083 grams	50,479 ounces

Comments:

1935: 1931-35 production; unknown tonnage.  
 1930: 1926-30 production; unknown tonnage.  
 1925: 1921-25 production; unknown tonnage.  
 1920: 1916-20 production; unknown tonnage.  
 1915: 1911-15 production; unknown tonnage.  
 1910: 1906-10 production; unknown tonnage.  
 1900: 1896-1900 production; unknown tonnage.  
 1895: 1891-95 production; unknown tonnage.  
 1890: 1886-90 production; unknown tonnage.  
 1885: 1881-85 production; unknown tonnage.  
 1880: 1876-80 production; unknown tonnage.  
 1875: 1874-75 production; unknown tonnage.

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MINFILE NUMBER: **104J 008** NAME: **DEASE CREEK** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1945			Gold	31	
1940			Gold	1,804	
1935			Gold	10,294	
1930			Gold	7,993	
1925			Gold	3,421	
1920			Gold	11,258	
1915			Gold	8,242	
1910			Gold	6,096	
1900			Gold	11,320	
1895			Gold	58,779	
1890			Gold	127,012	
1885			Gold	201,808	
1880			Gold	826,638	
1875			Gold	2,648,880	

**SUMMARY TOTALS: 104J 008**

NAME: **DEASE CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Gold:	3,923,576 grams	126,146 ounces

Recovery:

Comments:

1945: 1941-45 production; tonnage unknown.  
 1940: 1936-40 production; tonnage unknown.  
 1935: 1931-35 production; tonnage unknown.  
 1930: 1926-30 production; tonnage unknown.  
 1925: 1921-25 production; tonnage unknown.  
 1920: 1916-20 production; tonnage unknown.  
 1915: 1911-15 production; tonnage unknown.  
 1910: 1906-10 production; tonnage unknown.  
 1900: 1896-1900 production; tonnage unknown.  
 1895: 1891-95 production; tonnage unknown.  
 1890: 1886-90 production; tonnage unknown.  
 1885: 1881-85 production; tonnage unknown.  
 1880: 1876-80 production; tonnage unknown.  
 1875: 1874-75 production; tonnage unknown.

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MINFILE NUMBER: <b>104J 009</b>	NAME: <b>TAHLTAN RIVER</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1945			Gold	93	
1940			Gold	653	
1935			Gold	280	
1925			Gold	1,866	
1920			Gold	466	
1915			Gold	311	

**SUMMARY TOTALS: 104J 009**

NAME: **TAHLTAN RIVER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 3,669 grams	118 ounces
Comments:	1945: 1941 to 1945; unknown tonnage.	
	1940: 1936 to 1940; unknown tonnage.	
	1935: 1931 to 1935; unknown tonnage.	
	1925: 1921 to 1925; unknown tonnage.	
	1920: 1916 to 1920; unknown tonnage.	
	1915: 1911 to 1915; unknown tonnage.	

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MINFILE NUMBER: <b><u>104J 047</u></b>	NAME: <b><u>HARTZ CREEK</u></b>	STATUS: Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>
1945		Commodity
		Gold
		Grams Recovered
		62
		Kilograms Recovered

**SUMMARY TOTALS: 104J 047**

	NAME: <b><u>HARTZ CREEK</u></b>	
	<u>Metric</u>	<u>Imperial</u>
	Mined: tonnes	tons
Recovery:	Milled: tonnes	tons
	Gold: 62 grams	2 ounces
Comments:	1945: 1941-45 production; unknown tonnage.	

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MINFILE NUMBER: <b>104J 051</b>	NAME: <b>FALL GULCH</b>	STATUS: Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>
1880		
		<b>Commodity</b>
		Gold
		<b>Grams Recovered</b>
		902
		<b>Kilograms Recovered</b>

**SUMMARY TOTALS: 104J 051**

NAME: **FALL GULCH**

	<u>Metric</u>		<u>Imperial</u>
Mined:	tonnes		tons
Milled:	tonnes		tons
Recovery:			
	Gold:	902 grams	29 ounces
Comments:			
	1880:	1876-80 production; unknown tonnage.	



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MINFILE NUMBER: <b><u>104J 052</u></b>	NAME: <b><u>VOWEL CREEK</u></b>	STATUS: Past Producer
<b><u>Production Year</u></b>	<b><u>Tonnes Mined</u></b>	<b><u>Tonnes Milled</u></b>
1925		
		<b><u>Commodity</u></b>
		Gold
		<b><u>Grams Recovered</u></b>
		777
		<b><u>Kilograms Recovered</u></b>

**SUMMARY TOTALS: 104J 052**

NAME: **VOWEL CREEK**

		<b><u>Metric</u></b>		<b><u>Imperial</u></b>
	Mined:	tonnes		tons
Recovery:	Milled:	tonnes		tons
	Gold:	777 grams		25 ounces
Comments:	1925:	1921-25 production; unknown tonnage.		

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MINFILE NUMBER: <b>104J 053</b>	NAME: <b>PORCUPINE CREEK</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1880			Gold	10,698	

**SUMMARY TOTALS: 104J 053**

NAME: **PORCUPINE CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:		
Gold:	10,698 grams	344 ounces
Comments:		
1880:	1876-80 production; unknown tonnage.	

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MINFILE NUMBER: <b>104J 054</b>	NAME: <b>BOULDER CREEK</b>	STATUS: Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>
		<b>Commodity</b>
		<b>Grams Recovered</b>
		<b>Kilograms Recovered</b>
1920		Gold
1915		Gold
1905		Gold

**SUMMARY TOTALS: 104J 054**

NAME: **BOULDER CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Gold:	275,919 grams	8,871 ounces

Recovery:

Comments:

1920: 1916-20 production; unknown tonnage.  
 1915: 1911-15 production; unknown tonnage.  
 1905: 1901-05 production; unknown tonnage.

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MINFILE NUMBER: <b>104J 055</b>		NAME: <b>DELURE CREEK</b>		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1940			Gold	31	
1935			Gold	124	
1915			Gold	435	
1910			Gold	2,146	
1890			Gold	1,337	
1885			Gold	8,926	

**SUMMARY TOTALS: 104J 055**

NAME: **DELURE CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 12,999 grams	418 ounces

Comments:

1940: 1936-40 production; unknown tonnage.  
 1935: 1931-35 production; unknown tonnage.  
 1915: 1911-15 production; unknown tonnage.  
 1910: 1906-10 production; unknown tonnage.  
 1890: 1886-90 production; unknown tonnage.  
 1885: 1881-85 production; unknown tonnage.

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MINFILE NUMBER: **104J 056** NAME: **MOSQUITO CREEK** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1940			Gold	466	
1935			Gold	3,545	
1930			Gold	4,945	
1925			Gold	1,399	
1920			Gold	2,332	
1915			Gold	2,146	
1890			Gold	529	
1880			Gold	7,122	

**SUMMARY TOTALS: 104J 056**

NAME: **MOSQUITO CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 22,484 grams	723 ounces

Comments:

1940: 1936-40 production; unknown tonnage.  
 1935: 1931-35 production; unknown tonnage.  
 1930: 1926-30 production; unknown tonnage.  
 1925: 1921-25 production; unknown tonnage.  
 1920: 1916-20 production; unknown tonnage.  
 1915: 1911-15 production; unknown tonnage.  
 1890: 1886-90 production; unknown tonnage.  
 1880: 1876-80 production; unknown tonnage.

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MINFILE NUMBER: <b>104J 057</b>	NAME: <b>SEYWERD</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1965	5		Jade/Nephrite		4,989

**SUMMARY TOTALS: 104J 057**

	NAME: <b>SEYWERD</b>	
	<u>Metric</u>	<u>Imperial</u>
	5 tonnes	6 tons
	Milled: tonnes	tons
Recovery:		
	Jade/Nephrite: 4,989 kilograms	10,999 pounds

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MINFILE NUMBER:	<b>104K 002</b>	NAME:	<b>TULSEQUAH CHIEF</b>	STATUS:	Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1957	129,307	129,307	Silver	18,991,958	
			Gold	479,795	
			Cadmium		41,408
			Copper		2,012,460
			Lead		2,433,679
			Zinc		11,181,513
1956	184,782	184,782	Silver	20,998,786	
			Gold	419,611	
			Cadmium		32,920
			Copper		2,568,082
			Lead		1,803,291
			Zinc		9,221,086
1955	178,442	178,442	Silver	20,867,500	
			Gold	649,026	
			Cadmium		39,375
			Copper		2,426,943
			Lead		2,424,523
			Zinc		11,072,506
1954	175,290	175,290	Silver	19,258,729	
			Gold	642,743	
			Cadmium		37,846
			Copper		2,367,720
			Lead		2,219,763
			Zinc		10,351,565
1953	157,046	157,046	Silver	16,150,699	
			Gold	499,919	
			Cadmium		35,704
			Copper		1,879,027
			Lead		2,089,470
			Zinc		9,555,807
1952	87,143	87,143	Silver	8,871,820	
			Gold	210,163	
			Cadmium		18,674
			Copper		1,029,820
			Lead		1,168,352
			Zinc		4,919,215
1951	21,559	21,559	Silver	634,750	
			Gold	30,325	
			Copper		57,163
			Lead		74,676
			Zinc		257,744
1939	1		Gold	62	

**SUMMARY TOTALS: 104K 002**

NAME: **TULSEQUAH CHIEF**

	<u>Metric</u>	<u>Imperial</u>
Mined:	933,570 tonnes	1,029,085 tons
Milled:	933,569 tonnes	1,029,084 tons
Recovery:		
Silver:	105,774,242 grams	3,400,716 ounces
Gold:	2,931,644 grams	94,254 ounces
Cadmium:	205,927 kilograms	453,991 pounds
Copper:	12,341,215 kilograms	27,207,714 pounds
Lead:	12,213,754 kilograms	26,926,711 pounds
Zinc:	56,559,436 kilograms	124,692,177 pounds

Comments:

1957: Tulsequah Chief production only.  
 1956: Combined ore: Tuls. Chief, 178,225 tonnes; Big Bull, 6557 tonnes.  
 1955: Combined ore: Tul. Chief, 107,172 tonnes; Big Bull, 71,270 tonnes.  
 1954: Combined ore: Tuls. Chief, 76,640 tonnes; Big Bull, 98,650 tonnes.  
 1953: Combined ore: Tuls. Chief, 61,330 tonnes; Big Bull, 95,716 tonnes.  
 1952: Combined ore: Tuls. Chief, 26,560 tonnes; Big Bull, 60,584 tonnes.  
 1951: Combined ore: Tuls. Chief, 1022 tonnes; Big Bull, 20,537 tonnes.

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MINFILE NUMBER: <b>104K 003</b>		NAME: <b>NEW POLARIS</b>		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1951	18,779	18,779	Silver	21,181		
			Gold	453,575		
			Copper			4,667
1950	86,787	86,787	Silver	36,764		
			Gold	1,033,490		
			Copper			10,777
1949	85,099	85,099	Silver	43,047		
			Gold	1,223,748		
			Copper			14,562
1948	93,098	93,098	Silver	40,776		
			Gold	906,839		
			Copper			11,841
1947	83,496	83,496	Silver	49,423		
			Gold	706,474		
			Copper			6,107
1946	23,336	23,336	Silver	15,116		
			Gold	101,614		
			Copper			1,460
1942	28,092	28,427	Silver	36,546		
			Gold	544,489		
			Copper			6,146
1941	81,360	81,292	Silver	37,697		
			Gold	593,787		
			Copper			6,263
1940	72,865	72,905	Silver	42,642		
			Gold	713,938		
			Copper			7,797
1939	62,636	62,566	Silver	27,184		
			Gold	528,595		
			Copper			6,301
1938	47,789	53,305	Silver	15,396		
			Gold	397,030		
			Copper			4,037

**SUMMARY TOTALS: 104K 003**

NAME: **NEW POLARIS**

	<u>Metric</u>	<u>Imperial</u>
Mined:	683,337 tonnes	753,250 tons
Milled:	689,090 tonnes	759,592 tons
Recovery:		
Silver:	365,772 grams	11,760 ounces
Gold:	7,203,579 grams	231,600 ounces
Copper:	79,958 kilograms	176,277 pounds

Comments: 1951: Ceased operations March, 1951.



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MINFILE NUMBER: <b>104K 007</b>	NAME: <b>BANKER (L.6169)</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1935	5		Silver	31,570	
			Gold	62	
			Lead		544

**SUMMARY TOTALS: 104K 007**

	NAME: <b>BANKER (L.6169)</b>	
	<u>Metric</u>	<u>Imperial</u>
Mined:	5 tonnes	6 tons
Milled:	tonnes	tons
Recovery:		
Silver:	31,570 grams	1,015 ounces
Gold:	62 grams	2 ounces
Lead:	544 kilograms	1,199 pounds

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 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **104K 079** NAME: **GOLDEN BEAR** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
2001			Gold	1,038,740	
2000	380,607	471,494	Gold	2,939,634	
1999	545,985	545,985	Gold	2,217,088	
1998	259,033	259,033	Gold	1,125,325	
1997	363,616	363,616	Silver Gold	62,000 961,098	
1994	51,317	88,920	Silver Gold	286,728 979,946	
1993	129,172	129,172	Silver Gold	420,783 1,625,963	
1992	168,129	132,961	Silver Gold	380,181 1,816,912	
1991	130,192	111,699	Silver Gold	533,414 1,859,375	
1990	96,453	68,270	Silver Gold	33,001 480,786	

**SUMMARY TOTALS: 104K 079**

NAME: **GOLDEN BEAR**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,124,504 tonnes	2,341,865 tons
Milled:	2,171,150 tonnes	2,393,283 tons
Recovery:	Silver: 1,716,107 grams	55,174 ounces
	Gold: 15,044,867 grams	483,703 ounces

Comments:

- 2001: Estimated production.
- 2000: 90,887 tonnes of material (previously waste) was milled.
- 1998: Heap leaching May 28 - Oct. 21, 1998. Wheaton Annual Report.
- 1997: Heap leaching began in August 1997. Wheaton 1998 Annual Report.
- 1994: Ceased production in September 1994.

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MINFILE NUMBER:	<b>104M 001</b>	NAME:	<b>GRIDIRON</b>	STATUS:	Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1901	68		Silver Gold	2,582 156	

**SUMMARY TOTALS: 104M 001**

		NAME:	<b>GRIDIRON</b>		
		<u>Metric</u>		<u>Imperial</u>	
	Mined:	68 tonnes		75 tons	
	Milled:			tons	
Recovery:	Silver:	2,582 grams		83 ounces	
	Gold:	156 grams		5 ounces	

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MINFILE NUMBER: <b>104M 011</b>	NAME: <b>BEN-MY-CHREE</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1911	7		Silver Gold	31,103 93	

**SUMMARY TOTALS: 104M 011**

	NAME: <b>BEN-MY-CHREE</b>	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 7 tonnes	8 tons
	Milled: tonnes	tons
Recovery:	Silver: 31,103 grams	1,000 ounces
	Gold: 93 grams	3 ounces

**MINFILE PRODUCTION REPORT**  
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MINFILE NUMBER: <b>104M 014</b>		NAME: <b>ENGINEER</b>		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1952			Silver	3,670		
			Gold	6,283		
1949	181		Silver	529		
			Gold	871		
1946	91		Silver	1,462		
			Gold	2,488		
1945			Silver	498		
			Gold	871		
1944	45		Silver	2,706		
			Gold	4,386		
1934	1		Silver	1,182		
			Gold	1,804		
1933	27		Silver	1,991		
			Gold	3,204		
1932	27		Silver	2,675		
			Gold	6,780		
1928	363		Silver	4,137		
			Gold	6,003		
1927	3,800	3,800	Silver	43,544		
			Gold	62,984		
1926	8,400	8,350	Silver	164,784		
			Gold	240,488		
1925	1,542	1,542	Silver	27,619		
			Gold	58,069		
1918	44		Silver	7,465		
			Gold	13,872		
1917	30		Gold	31,103		
1916	197		Silver	16,111		
			Gold	21,990		
1915	290	290	Gold	27,215		
1914	245		Gold	31,103		
1913	281	281	Gold	42,145		

**SUMMARY TOTALS: 104M 014**

NAME: **ENGINEER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	15,564 tonnes	17,156 tons
Milled:	14,263 tonnes	15,722 tons
Recovery:		
Silver:	278,373 grams	8,950 ounces
Gold:	561,659 grams	18,058 ounces

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MINFILE NUMBER:	<b>104N 006</b>	NAME:	<b>BLACK DIAMOND</b>	STATUS:	Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1943	1		Tungsten		815

**SUMMARY TOTALS: 104N 006**

		NAME:	<b>BLACK DIAMOND</b>
		<u>Metric</u>	<u>Imperial</u>
	Mined:	1 tonnes	1 tons
	Milled:	tonnes	tons
Recovery:	Tungsten:	815 kilograms	1,797 pounds
Comments:	1943:	shipment of 815 kilograms wolframite yielded 15.2% WO3	

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MINFILE NUMBER: <b>104N 008</b>	NAME: <b>IMPERIAL</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1900	23		Gold	124	
1899	245		Gold	2,955	

**SUMMARY TOTALS: 104N 008**

		NAME: <b>IMPERIAL</b>	
		<u>Metric</u>	<u>Imperial</u>
	Mined:	268 tonnes	295 tons
	Milled:	tonnes	tons
Recovery:	Gold:	3,079 grams	99 ounces

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER:	<u>104N 011</u>	NAME:	<u>ATLIN RUFFNER</u>	STATUS:	Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1988	1	1	Silver Gold Lead	12,734 68	2,494
1981	1,457	1,457	Silver Gold Cadmium Copper Lead Zinc	26,405 250	15 443 15,832 5,869
1976	1,470	1,610	Silver Gold Copper Lead Zinc	429,843 678	376 34,455 4,017
1975	137	137	Silver Gold Lead	313,518 607	18,386
1974	33	33	Silver Gold Copper Lead	52,720 62	16 1,975
1951	40	40	Silver Gold Lead Zinc	166,183 280	16,419 2,644
1927	49	49	Silver Gold Lead	127,927 156	6,169
1926	147	147	Silver Gold Lead Zinc	705,572 778	23,510 730
1925	9	9	Silver Gold Lead Zinc	62,113 342	579 280
1924	27	27	Silver Gold Lead	69,982 156	7,886
1923	11	11	Silver Gold Copper Lead	31,352 31	85 4,891
1922	12	12	Silver Lead	80,868	5,897
1916	2	2	Gold	31	

**SUMMARY TOTALS: 104N 011**

NAME: **ATLIN RUFFNER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,395 tonnes	3,742 tons
Milled:	3,535 tonnes	3,897 tons
Recovery:		
Silver:	2,079,217 grams	66,848 ounces
Gold:	3,439 grams	111 ounces
Cadmium:	15 kilograms	33 pounds
Copper:	920 kilograms	2,028 pounds
Lead:	138,493 kilograms	305,325 pounds
Zinc:	13,540 kilograms	29,851 pounds

Comments: 1988: Custom ore; unknown tonnage.



**MINFILE PRODUCTION REPORT**  
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MINFILE NUMBER: <b>104N 044</b>		NAME: <b>PICTOU (L.5643)</b>		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1968	1		Silver	342	
			Lead		3
			Zinc		1

**SUMMARY TOTALS: 104N 044**

		NAME: <b>PICTOU (L.5643)</b>	
		<u>Metric</u>	<u>Imperial</u>
Mined:	1 tonnes	1 tonnes	1 tons
Milled:	1 tonnes	1 tonnes	1 tons
Recovery:	Silver: 342 grams	342 grams	11 ounces
	Lead: 3 kilograms	3 kilograms	7 pounds
	Zinc: 1 kilograms	1 kilograms	2 pounds

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MINFILE NUMBER: <b>1040 001</b>	NAME: <b>HOLLIDAY-DISCOVERY</b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1948	5		Silver Lead	5,816	2,774

**SUMMARY TOTALS: 1040 001**

	NAME: <b>HOLLIDAY-DISCOVERY</b>	
	<u>Metric</u>	<u>Imperial</u>
	5 tonnes	6 tons
Mined:		
Milled:		
Recovery:	5,816 grams	187 ounces
	2,774 kilograms	6,116 pounds

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1956	25		Silver Copper Lead	10,451	25 1,947

**SUMMARY TOTALS: 104P 004**

	<u>Metric</u>	<u>Imperial</u>
Mined:	25 tonnes	28 tons
Milled:	tonnes	tons
Recovery:		
Silver:	10,451 grams	336 ounces
Copper:	25 kilograms	55 pounds
Lead:	1,947 kilograms	4,292 pounds

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER:	<b>104P 005</b>	NAME:	<b>CASSIAR</b>	STATUS:	Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1998	450	450	Asbestos		20,000
			Jade/Nephrite		50,000
1992	7,570	7,570	Asbestos		7,570,000
1991	63,140	63,140	Asbestos		63,140,000
1990			Asbestos		86,568,000
1989	2,129,100	1,764,600	Asbestos		106,090,000
1988	3,426,469	1,865,169	Asbestos		106,085,000
1987	1,100,262	941,267	Asbestos		96,014,000
1986	794,015	668,392	Asbestos		78,348,000
1985	1,065,299	841,087	Asbestos		89,350,000
1984	1,015,134	815,865	Asbestos		92,123,000
1983	985,078	713,595	Asbestos		81,653,000
1982	983,151	804,882	Asbestos		76,084,000
1981	1,228,691	971,980	Asbestos		90,914,000
1980	1,308,654	1,006,367	Asbestos		100,089,000
1979	982,884	858,002	Asbestos		94,286,000
1978	7,751,210	568,625	Asbestos		68,266,000
1977	1,198,444	900,899	Asbestos		97,033,000
1976	837,827	623,826	Asbestos		70,443,000
1975	757,875	724,065	Asbestos		76,771,000
1974	829,476	828,449	Asbestos		83,403,000
1973	774,683	815,762	Asbestos		98,852,000
1972	721,597	685,092	Asbestos		95,986,000
1971	641,132	671,271	Asbestos		79,032,000
1970	832,458	625,399	Asbestos		78,680,000
1969	649,648	555,933	Asbestos		72,926,000
1968	672,811	522,577	Asbestos		67,736,000
1967	933,918	686,542	Asbestos		83,635,000
1966	817,959	640,915	Asbestos		80,531,000
1965	674,729	556,468	Asbestos		77,882,000
1964	639,748	533,338	Asbestos		61,198,000
1963	686,349	534,087	Asbestos		57,347,000
1962	653,547	516,703	Asbestos		50,015,000
1961	501,658	422,593	Asbestos		40,926,000
1960	479,855	431,008	Asbestos		36,966,000
1959	330,535	332,731	Asbestos		30,738,000
1958	319,420	326,513	Asbestos		27,286,000
1957	376,347	364,864	Asbestos		28,770,000
1956	308,435	263,542	Asbestos		18,466,000
1955	193,614	156,393	Asbestos		15,592,000
1954	129,910	88,799	Asbestos		7,801,000
1953	79,897	35,933	Asbestos		2,814,000
1952	6,799	208	Asbestos		19,000

**SUMMARY TOTALS: 104P 005**

NAME: **CASSIAR**

	<u>Metric</u>	<u>Imperial</u>
Mined:	37,889,778 tonnes	41,766,330 tons
Milled:	24,734,901 tonnes	27,265,561 tons
Recovery:	Asbestos: 2,677,448,000 kilograms	5,902,760,765 pounds
	Jade/Nephrite: 50,000 kilograms	110,231 pounds

Comments:

- 1998: Jade recovered and asbestos shipped from tailings.
- 1992: Estimate.
- 1990: Stockpiled ore (mined and milled tonnage unknown).
- 1987: Large unknown quantities of jade were produced over the years.

**MINFILE PRODUCTION REPORT**  
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MINFILE NUMBER:	<u>104P 006</u>	NAME:	<u>MAGNO</u>	STATUS:	Developed Prospect
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1971	12		Silver Lead Zinc	1,586	452 562

**SUMMARY TOTALS: 104P 006**

	Metric	Imperial
Mined:	12 tonnes	13 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,586 grams	51 ounces
Lead:	452 kilograms	996 pounds
Zinc:	562 kilograms	1,239 pounds

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER: <b>104P 012</b>		NAME: <b>TAURUS</b>		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1988	4,852	4,398	Gold	4,792		
1987	25,322	37,552	Gold	91,519		
1986	26,872	37,145	Gold	121,380		
1985	38,813	38,111	Gold	174,218		
1984	93,398	93,398	Gold	284,805		
1983	42,256	42,256	Gold	174,646		
1982	37,169	37,169	Gold	251,119		
1960	23	23	Silver	93		
			Gold	1,058		

**SUMMARY TOTALS: 104P 012**

NAME: **TAURUS**

	<u>Metric</u>	<u>Imperial</u>
Mined:	268,705 tonnes	296,197 tons
Milled:	290,052 tonnes	319,728 tons
Recovery:		
Silver:	93 grams	3 ounces
Gold:	1,103,537 grams	35,479 ounces

Comments:

1988: Operations suspended March 6, 1988.  
 1982: Operated by Taurus Resources Ltd.  
 1960: Cornucopia operated by J.J. Copeland and J.J. Couture.

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MINFILE NUMBER: <b>104P 018</b>	NAME: <b><u>NORA</u></b>	STATUS: Past Producer			
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>	<b>Commodity</b>	<b>Grams Recovered</b>	<b>Kilograms Recovered</b>
1940	40	40	Gold	1,371	

**SUMMARY TOTALS: 104P 018**

	NAME: <b><u>NORA</u></b>	
	<u>Metric</u>	<u>Imperial</u>
Mined:	40 tonnes	44 tons
Milled:	40 tonnes	44 tons
Recovery:		
	Gold: 1,371 grams	44 ounces
Comments:		
	1940: EMPR Index 3, p. 207.	

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER: <b>104P 022</b>		NAME: <b>MCDAME BELLE</b>		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1966	1		Silver	1,244	
			Lead		148
			Zinc		104

**SUMMARY TOTALS: 104P 022**

NAME: **MCDAME BELLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1 tonnes	1 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,244 grams	40 ounces
Lead:	148 kilograms	326 pounds
Zinc:	104 kilograms	229 pounds
Comments:		
1966:	Actual Ore Mined = 0.907 tonnes	



**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER: <b>104P 029</b>		NAME: <b>ERICKSON</b>		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1988	71,894	71,894	Silver	645,328		
			Gold	517,046		
1987	90,233	86,346	Silver	523,190		
			Gold	1,143,026		
1986	29,397	24,645	Silver	243,700		
			Gold	720,926		
1985	62,446	62,446	Silver	506,000		
			Gold	634,000		
1984	83,153	83,153	Silver	500,634		
			Gold	813,854		
1983	69,497	69,497	Gold	1,149,706		
1982	38,724	38,724	Gold	655,786		
1981	38,243	38,243	Gold	534,949		
1980	28,804	28,804	Gold	484,662		
1979	28,896	28,896	Silver	567,763		
			Gold	574,668		
1939	118	118	Silver	622		
			Gold	3,546		

**SUMMARY TOTALS: 104P 029**

NAME: **ERICKSON**

	<u>Metric</u>	<u>Imperial</u>
Mined:	541,405 tonnes	596,797 tons
Milled:	532,766 tonnes	587,274 tons
Recovery:		
Silver:	2,987,237 grams	96,042 ounces
Gold:	7,232,169 grams	232,519 ounces

Comments:

1988: Total Energold Corp. suspended production in late October.  
 1983: Name changed to Erickson Gold Mines Ltd.  
 1982: Mill expansion.  
 1979: Operated by Erickson Gold Mining Corp.  
 1939: Operated by McDames Lake Mining Co.

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

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MINFILE NUMBER: <b>104P 046</b>	NAME: <b>RICH</b>	STATUS: Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>
1970	5	
		<b>Commodity</b>
		Silver
		Lead
		Zinc
		<b>Grams Recovered</b>
		13,996
		<b>Kilograms Recovered</b>
		2,525
		494

**SUMMARY TOTALS: 104P 046**

	NAME: <b>RICH</b>	
	<u>Metric</u>	<u>Imperial</u>
Mined:	5 tonnes	6 tons
Milled:	tonnes	tons
Recovery:		
Silver:	13,996 grams	450 ounces
Lead:	2,525 kilograms	5,567 pounds
Zinc:	494 kilograms	1,089 pounds

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER: **104P 070** NAME: **TABLE MOUNTAIN** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1999			Gold	21,700	
1998	1,800	1,800	Gold	28,522	
1997	24,040	24,040	Gold	230,765	
1996	24,006	24,006	Gold	681,322	
			Bismuth		55
			Cadmium		55
			Antimony		1,400
1995	21,496	21,496	Gold	411,188	
			Bismuth		50
			Cadmium		51
			Antimony		1,387
1994	31,075	31,075	Gold	489,009	

**SUMMARY TOTALS: 104P 070**

NAME: **TABLE MOUNTAIN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	102,417 tonnes	112,895 tons
Milled:	102,417 tonnes	112,895 tons
Recovery:		
Gold:	1,862,506 grams	59,881 ounces
Bismuth:	105 kilograms	231 pounds
Cadmium:	106 kilograms	234 pounds
Antimony:	2,787 kilograms	6,144 pounds

Comments:

1999: From 1998 stockpile, tonnage not reported.  
 1998: Bear vein.  
 1997: Tonnes mined, GCNL #47 (March 9), 1998.  
 1994: Information Circular 1996-1, page 8.

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER: <b>104P 084</b>	NAME: <b>MCDAME</b>	STATUS: Past Producer
<b>Production Year</b>	<b>Tonnes Mined</b>	<b>Tonnes Milled</b>
1991	85,000	
		<b>Commodity</b>
		Asbestos
		<b>Grams Recovered</b>
		765,000
		<b>Kilograms Recovered</b>

**SUMMARY TOTALS: 104P 084**

	NAME: <b>MCDAME</b>	
	<u>Metric</u>	<u>Imperial</u>
Mined:	85,000 tonnes	93,696 tons
Milled:	tonnes	tons
Recovery:		
Asbestos:	765,000 kilograms	1,686,536 pounds
Comments:		
1991:	Production forecast (George Cross Newsletter #14, 1991).	

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
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MINFILE NUMBER: <b>114P 007</b>		NAME: <b>MAID OF ERIN (L.722)</b>		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1956	3,142		Silver	1,304,678	
			Gold	156	
			Copper		208,397
1922	43		Silver	46,934	
			Gold	93	
			Copper		9,840
1921	50		Silver	56,234	
			Gold	93	
			Copper		11,641
1918	23		Silver	27,215	
			Copper		5,062
1911	27		Silver	51,538	
			Copper		8,691

**SUMMARY TOTALS: 114P 007**

NAME: **MAID OF ERIN (L.722)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,285 tonnes	3,621 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,486,599 grams	47,795 ounces
Gold:	342 grams	11 ounces
Copper:	243,631 kilograms	537,114 pounds

RUN DATE: 26-Jun-2003  
 RUN TIME: 12:38:44

**MINFILE PRODUCTION REPORT**  
 GEOLOGICAL SURVEY BRANCH  
 ENERGY AND MINERALS DIVISION

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MINFILE NUMBER: <b>114P 008</b>		NAME: <b>STATE OF MONTANA (L.283)</b>		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1909	7		Silver	10,979	
			Copper		1,946
1908	2		Silver	2,799	
			Copper		460

**SUMMARY TOTALS: 114P 008**

NAME: **STATE OF MONTANA (L.283)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	9 tonnes	10 tons
Milled:	tonnes	tons
Recovery:	Silver: 13,778 grams	443 ounces
	Copper: 2,406 kilograms	5,304 pounds
Comments:	1908:	Included Arizona claim.