

MINFILE NUMBER: **092HNE001**

NATIONAL MINERAL INVENTORY:

NAME(S): **FISHER MAIDEN, IRON DUKE, FISSURE MAIDEN (L.3779),
SIWASH SILVER, SPA, PAT**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 46 06 N
LONGITUDE: 120 19 31 W
ELEVATION: 1189 Metres

NORTHING: 5516307
EASTING: 692598

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the Fissure Maiden No. 2 claim (Lot 3779), on the east bank of Siwash Creek, 950 metres north-northwest of the creek's confluence with Tepee Creek (Assessment Report 18211, rock geochemistry map).

COMMODITIES: Zinc Copper Lead Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite
ASSOCIATED: Hematite
ALTERATION: Silica Malachite
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE: 166 +/- 1 Ma			
DATING METHOD: Lead/Lead			
MATERIAL DATED: Zircon			
Tertiary			Otter Intrusions

LITHOLOGY: Granite
Dike

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

INVENTORY

ORE ZONE: ADIT REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1989	
SAMPLE TYPE: Grab		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	161.0000	Grams per tonne
Gold	21.9000	Grams per tonne
Copper	0.5900	Per cent
Lead	15.9700	Per cent
Zinc	10.5600	Per cent

REFERENCE: Assessment Report 19472, page 21 (sample 24677).

CAPSULE GEOLOGY

This showing is situated immediately east of Siwash Creek, 1 kilometre north-northwest of the creek's confluence with Tepee Creek. The Fisher Maiden occurrence consists of a number of shear zones in granite of the Middle Jurassic Osprey Lake batholith. Several dikes related to a body of granite of the early Tertiary Otter intrusions outcrop in the vicinity. The shears are silicified and mineralized with hematite, pyrite and chalcopyrite. An area of intensely fractured granite exhibits malachite over an area of 2.8 square metres. One shear zone exposed in a 15-metres long adit contains fine-grained galena and sphalerite, with minor pyrite and chalcopyrite over a width of up to 10 centimetres and a strike length of 5 metres. A sample from this

CAPSULE GEOLOGY

shear analysed 21.9 grams per tonne gold, 161 grams per tonne silver, 0.59 per cent copper, 10.56 per cent zinc and 15.97 per cent lead (Assessment Report 19472, page 21, sample 24677). A second sample from a trench 130 metres south-southeast of the adit analysed 0.09 gram per tonne gold, 8.6 grams per tonne silver, 0.059 per cent copper, greater than 1 per cent zinc and 0.0244 per cent lead (Assessment Report 18211, rock geochemistry map, sample 31).

BIBLIOGRAPHY

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GSC MEM *243, p. 108
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
GCNL July, 1987
V STOCKWATCH June 12, 1987
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE002**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAL**, MALACHITE 1,2, CHALCOCITE 1,2,
SOL, DD

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 57 36 N
LONGITUDE: 120 28 22 W
ELEVATION: 1125 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5537245
EASTING: 681259

LOCATION ACCURACY: Within 500M

COMMENTS: Located on sample 20319 at the main showing, 1 kilometre south of
Quilchena Creek, 11.5 kilometres east-northeast of the community of
Aspen Grove (Assessment Report 8453, Figures 6 and 7).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Chalcocite
ASSOCIATED: Quartz Calcite Magnetite
COMMENTS: Quartz and calcite form veins hosting mineralization. Magnetite is
locally strong.
ALTERATION: Epidote Garnet Limonite Malachite K-Feldspar
COMMENTS: The product of oxidation is presumed to be limonite.
ALTERATION TYPE: Skarn Epidote Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive Stratabound
CLASSIFICATION: Skarn Hydrothermal Epigenetic
TYPE: K01 Cu skarn K03 Fe skarn
K04 Au skarn
SHAPE: Tabular
MODIFIER: Sheared
COMMENTS: Skarn alteration is related to limy rocks which strike north-
northwest and dip steeply west.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Pennask Batholith

LITHOLOGY: Augite Porphyritic Andesitic Flow
Augite Porphyritic Basaltic Flow
Andesite
Basalt
Argillite
Limy Argillite
Skarn
Feldspar Porphyry
Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Hosted in the northern assemblage of the Eastern belt of the Nicola
Group, just south of the Pennask batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1962
SAMPLE TYPE: Drill Core
COMMODITY _____ GRADE _____
Copper 1.6200 Per cent
COMMENTS: Best result from early diamond drilling, over 6 metres.
REFERENCE: Assessment Report 449.

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	3.4000	Grams per tonne
Gold	0.3400	Grams per tonne
Copper	0.2000	Per cent

COMMENTS: Grab sample assay from the main trenched and drilled area.

REFERENCE: Assessment Report 8453.

CAPSULE GEOLOGY

The Malachite 1,2 occurrence covers a showing of copper mineralization in skarn-altered volcanic rocks, east of the historic Aspen Grove copper camp, between Merritt and Princeton. Initial work consisted of diamond drilling and trenching in the early 1960s on the main showing (Malachite 1,2 and Chalcocite 1,2 claims), on which the occurrence is centred. This is located on access road number 5116, 1 kilometre south of Quilchena Creek, 11.5 kilometres east-northeast of the community of Aspen Grove. A second showing, smaller and less significant but with the same characteristics, is located 1 kilometre to the southwest (Malachite 7, 092HNE269).

The Malachite occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calkalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the northern assemblage of the Eastern belt or facies of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of well-bedded submarine volcanoclastic rocks and volcanic flows. The main Aspen Grove copper camp lies several kilometres to the west in the Central belt, separated by the north-striking Kentucky-Alleyne fault system (Bulletin 69).

The area of the Malachite occurrence is underlain by dark green, augite porphyritic andesitic to basaltic volcanics and fragmental rocks, with subordinate black argillite with local limy horizons, and feldspar porphyry (Assessment Reports 449, 1586). Some volcanic flow breccia contains pink trachytic fragments (Assessment Report 9590). Stratified rocks strike north-northwest and dip moderately to steeply west (Geological Survey of Canada Map 41-1989). Within 1 or 2 kilometres to the north of these rocks is the east-trending contact of the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite.

The volcanics and sedimentary rocks have been altered, probably the result of hydrothermal activity related to the Pennask batholith. Epidote alteration is common; potassium feldspar alteration is more restricted. Skarn alteration is most characteristic of this occurrence, as it hosts the main mineralization. It is closely associated with limy rocks, and is marked by epidote and garnet. North-trending gossanous shear zones have been exposed in trenches near the skarn zones (Assessment Report 449).

Copper mineralization is concentrated in the skarn zones. Pyrite and subordinate magnetite and chalcocite are associated with quartz-calcite veins, or are disseminated in variable amounts (Assessment Report 1586). Chalcocite and malachite are also present at the main showing (Assessment Report 8453). Finely disseminated pyrite is common in most rocks, particularly the argillaceous rocks (Assessment Reports 1718, 9590). A zone of massive, medium-grained pyrite between 1 and 13 metres thick, in altered volcanic rocks, has been found below the surface by diamond drilling; the paragenesis is epidote, magnetite, pyrite (Assessment Report 9590).

Copper values appear to be erratic. In early diamond drilling, the best result reported is 1.62 per cent copper over 6 metres; this section contained at least 50 per cent magnetite (Assessment Report 449, page 6). More recent diamond drilling has resulted in generally low metal values, although one split core sample assayed 0.37 per cent copper and 6.8 grams per tonne silver (Assessment Report 9590). A grab sample from the main trenched and drilled area assayed 0.34 gram per tonne gold, 3.4 grams per tonne silver, and 0.2 per cent copper (Assessment Report 8453).

The high magnetite and pyrite content of the rocks at this occurrence is reflected in significant magnetic and induced polarization anomalies, respectively, over the mineralized zones (Assessment Reports 1586, 8453).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 5
REPORT: RGEN0100

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PR REL Lateegra Resources Corp., September 27, 2002
WWW
<http://www.commerceresources.com/s/Properties.asp?PropertyInfoID=754>

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/02

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE002**

MINFILE NUMBER: **092HNE003**

NATIONAL MINERAL INVENTORY: 092H10 Cu1

NAME(S): **PINE**, REG, DY

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 51 N
LONGITUDE: 120 35 53 W
ELEVATION: 1100 Metres

NORTHING: 5507768
EASTING: 673210

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of three closely-spaced trenches on the north side of a creek flowing southwest into Allison Lake, 400 metres east of the lake (Preliminary Map 17).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 270 x 90 Metres
COMMENTS: Area of trenching. STRIKE/DIP: TREND/PLUNGE: 090/

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Granite
Quartz Monzonite
Granodiorite
Diorite
Gabbro
Andesite
Basalt

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1971
SAMPLE TYPE: Chip
COMMODITY: Copper GRADE
0.2000 Per cent

COMMENTS: Average grade over a length of 48.8 metres.
REFERENCE: National Mineral Inventory.

CAPSULE GEOLOGY

This prospect occurs along the north side of a creek flowing southwest into Allison Lake, up to 400 metres east of the lake. The area along the Allison Creek valley is underlain mostly by biotite hornblende granite and quartz monzonite of the Late Triassic to Early Jurassic Allison Lake pluton. More mafic phases, comprised of granodiorite, diorite and gabbro, are occasionally present within and along the periphery of the intrusion. The northerly trending contact with Upper Triassic Nicola Group andesite and basalt lies east of the valley, and comes to within a kilometre east of Allison Lake. The pluton is traversed along the east side of the valley by

CAPSULE GEOLOGY

the north-striking Allison fault.

The Pine deposit is comprised of seams and disseminations of chalcopyrite and pyrite in reddish granite and quartz monzonite, east of the Allison fault. Stronger copper mineralization occurs along northeast-striking, steeply-dipping fractures and shears. Two trenches, 30 metres apart, cut across a west-striking zone of leached and well-fractured rock, about 400 metres east of Allison Lake. Analyses from the trenches averaged 0.18 and 0.16 per cent copper, both over a width of 18 metres (Assessment Report 1857, page 3). Three additional trenches, excavated in an area 270 metres long and 60 to 90 metres wide, possibly in the same zone, averaged 0.20, 0.19 and 0.37 per cent copper over lengths of 48.8, 42.7 and 45.7 metres, respectively (National Mineral Inventory).

Farther west, along the east side of Allison Lake, immediately east of the Allison fault, gossanous outcrops contain a little pyrite and chalcopyrite, with very sparse malachite.

This prospect was initially trenched some time prior to 1968. Blue Gulch Explorations Ltd. conducted soil sampling, 366 metres of trenching and 641 metres of diamond drilling in three holes between 1968 and 1970. Additional soil and geological surveys were completed just south of the prospect by Blue Gulch Explorations and Pacific Resources Developments Ltd. in 1973 and 1974.

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EMR MP CORPFILE (Blue Gulch Explorations Ltd.)
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DATE CODED: 1985/07/24
DATE REVISED: 1992/05/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE004**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOTE 1**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 56 35 N
LONGITUDE: 120 36 27 W
ELEVATION: 1204 Metres

NORTHING: 5535043
EASTING: 671657

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on the Dote 1 claim, 1.7 kilometres east-northeast of Aspen Grove and 2.25 kilometres northeast of the north end of Kidd Lake (Assessment Report 1910, Map 1).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcocite Bornite Pyrite
ASSOCIATED: Calcite
ALTERATION: Azurite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Porphyry Basalt

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1971
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 51.0000 Grams per tonne
Copper 3.5000 Per cent

COMMENTS: Composite of several grab samples from dump.
REFERENCE: Assessment Report 3051, page 6.

CAPSULE GEOLOGY

The Dote 1 showing is 1.7 kilometres east-northeast of Aspen Grove and 2.25 kilometres northeast of the north end of Kidd Lake. Chalcocite and minor bornite occur as disseminations and as partial rims around calcite amygdules in massive green augite porphyry basalt of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Malachite and azurite are also present. This mineralization is exposed in two shafts, 70 metres apart. A composite of several grab samples from the dump of the eastern shaft assayed 3.5 per cent copper, 0.03 gram per tonne gold and 51 grams per tonne silver (Assessment Report 3051, page 6). A grab sample of sheared basalt from the western shaft assayed 0.89 per cent copper (Assessment Report 2468, page 15). Minor pyrite and malachite occur along a joint plane 140 metres northeast of the eastern shaft. A chip sample assayed 0.2 per cent copper over a length of 1.8 metres (Assessment Report 3051, page 6). Dawood Mines Ltd. and Amax Exploration Inc. conducted geological, geophysical and soil geochemical surveys between 1969 and 1972.

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EMPR P 1981-2
EMPR PF (Asano, E. (1968): Dawood Mines Ltd. - Report on the Aspen
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and 1 to 4800 scale geology map)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
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DATE CODED: 1985/07/24
DATE REVISED: 1992/07/05

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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE005**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOTE 15**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 56 14 N
LONGITUDE: 120 36 56 W
ELEVATION: 1173 Metres

NORTHING: 5534376
EASTING: 671100

LOCATION ACCURACY: Within 500M

COMMENTS: Southernmost shaft on the Dote 15 claim, 1 kilometre east-southeast of Aspen Grove and 1.4 kilometres north-northeast of the north end of Kidd Lake (Assessment Report 1910, Map 1).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Malachite Molybdenite
COMMENTS: Copper and molybdenite mineralization are reported.
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the centre of the Nicola belt.

CAPSULE GEOLOGY

This showing is 1 kilometre east-southeast of Aspen Grove and 1.4 kilometres north-northeast of the north end of Kidd Lake.

The Dote 15 occurrence is hosted in red laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

Copper mineralization, including malachite, occurs immediately west of an old shaft. Molybdenite is reported to accompany the copper. Similar mineralization occurs 400 metres west-northwest, in an area of stripping.

Dawood Mines Ltd. and Amax Exploration Inc. conducted geological, geophysical and soil geochemical surveys between 1969 and 1972. One percussion hole, 30 metres long, was also drilled in the area of stripping during this time.

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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 11
REPORT: RGEN0100

BIBLIOGRAPHY

Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/05

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE006**

NATIONAL MINERAL INVENTORY: 092H10,7 Cu5

NAME(S): **INDEPENDENCE (L.1696)**, FRM, INDY,
MOUNT HENNING

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 38 17 N
LONGITUDE: 120 58 02 W
ELEVATION: 1649 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5500374
EASTING: 646769

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of the main adit on the Independence claim (Lot 1696), .95 kilometre southwest of the summit of Mount Henning, 2.3 kilometres east of Coquihalla Lakes and 18 kilometres northwest of the town of Tulameen (Assessment Report 17431, Figure 4a).

COMMODITIES: Copper Molybdenum Zinc Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Sphalerite Chalcocite

Tetrahedrite Cuprite

ASSOCIATED: Quartz Pyrrhotite
ALTERATION: Carbonate Sericite Clay Silica Malachite

ALTERATION TYPE: Carbonate Sericitic Argillic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Breccia Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION: 4000 x 380 Metres STRIKE/DIP: 150/W TREND/PLUNGE:

COMMENTS: Quartz-feldspar-biotite porphyry.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex
Tertiary			Unnamed/Unknown Informal

ISOTOPIC AGE: 54.5 +/- 1.9 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

LITHOLOGY: Quartz Feldspar Biotite Porphyry
Feldspar Porphyritic Syenite Dike
Feldspar Porphyry Dike
Meta Volcanic
Foliated Greenstone
Granodiorite
Syenite Gabbro Dike
Feldspar Porphyry

HOSTROCK COMMENTS: Isotopic age for Tertiary quartz-feldspar-biotite porphyry is from Geological Survey of Canada Map 41-1989, Sheet 3 (sample eTi10-1).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core

YEAR: 1965

COMMODITY

GRADE

COMMODITY	GRADE	Per cent
Copper	0.1190	Per cent
Molybdenum	0.0110	Per cent

COMMENTS: Average grade over 149 metres.

REFERENCE: Assessment Report 702, hole no. 4 (2.4-151.5 metres).

INVENTORY

ORE ZONE: BRECCIA REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY: Copper 0.6091 Per cent
COMMENTS: Across 9 metres of silicified and carbonate-altered breccia with
pyrite, chalcopyrite, malachite and azurite.
REFERENCE: Assessment Report 17431, page 8.

CAPSULE GEOLOGY

The Independence copper-molybdenum prospect outcrops about 1 kilometre southwest of the summit of Mount Henning, along the divide between Henning (Holm) Creek and the Coquihalla River, 18 kilometres northwest of Tulameen.

The area in the headwaters of Henning Creek is underlain to the west by foliated granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by andesitic to basaltic metavolcanics (foliated greenstone) of the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest (approximately 150 degrees).

The metavolcanics and granodiorite are intruded along the contact by an early Tertiary dike-like body of quartz-feldspar-biotite porphyry of intermediate composition. The body trends north-northwest for 4 kilometres and is up to 380 metres wide. This intrusion is in turn cut by feldspar porphyry dikes. These dikes strike northwest, dip southwest and are less than 1 metre to 6 metres wide. All units are cut by postmineral quartz deficient dikes ranging from syenite to gabbro in composition.

The feldspar and quartz-feldspar-biotite porphyries are mineralized with disseminations of pyrite, chalcopyrite and minor molybdenite. These sulphides also occur in quartz stringers and along fractures. Pyrrhotite, sphalerite, chalcocite, tetrahedrite and cuprite are also reported. The feldspar porphyry dikes are much less mineralized than the quartz-feldspar-biotite porphyry. Stronger mineralization occurs along the walls of barren feldspar porphyritic syenite dikes, where they cut disseminated sulphides.

Copper mineralization underlies an extensive area but generally grades less than 0.2 per cent copper (Assessment Report 55, page 6). A hole drilled 200 metres south of the main adit intersected 149.0 metres averaging 0.119 per cent copper and 0.011 per cent molybdenum (2.4 to 151.5 metres), including 57.9 metres grading 0.125 per cent copper and 0.020 per cent molybdenum (93.6 to 151.5 metres) (Assessment Report 707, hole no. 4). A second hole located 1530 metres north of the previous hole intersected 0.135 per cent copper and 0.0056 per cent molybdenum over 45.7 metres (9.1 to 54.9 metres) (Assessment Report 707, hole no. 2). Gold values in the order of 1.7 grams per tonne were reported in the past (Geological Survey of Canada Memoir 26, page 167). More recent work failed to obtain anomalous gold values (Assessment Report 17431).

Higher grade mineralization (0.4 to 1 per cent copper) is confined to zones of shearing or brecciation cutting the quartz-feldspar-biotite porphyry. Breccia zones are developed adjacent to and between feldspar porphyry dikes that intrude the main porphyry body. The porphyry is partially altered to carbonate, sericite and clay, and mineralized with pyrite, chalcopyrite, molybdenite, malachite and azurite in these zones. A chip sample across one such zone, trending 140 degrees, analysed 0.54 per cent copper over a width of 12 metres (Assessment Report 55, page 6). A second sample across a silicified and carbonate-altered breccia zone with pyrite, chalcopyrite, malachite and azurite assayed 0.609 per cent copper over 9 metres, with silver and gold values of up to 9.8 and 0.126 grams per tonne respectively (Assessment Report 17431, page 8).

This copper-molybdenum porphyry deposit has been periodically assessed by various operators since first being staked in 1901. The deposit was extensively explored underground by Granby Mining, Smelting and Power Company Ltd. between 1906 and 1908. The company completed more than 300 metres of tunnelling, largely along higher grade shear and breccia zones. A number of operators conducted geological, geochemical and geophysical surveys, and 1350 metres of diamond drilling in 10 holes between 1951 and 1981. The prospect was most recently mapped and sampled by Odessa Explorations Inc. in 1987.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE007**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH COPPER**, PRINCE, NERO

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 36 53 N
LONGITUDE: 120 48 27 W
ELEVATION: 1305 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5498104
EASTING: 658376

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching on the North Copper showing, 1.6 kilometres north-northeast of the summit of Boulder Mountain, 3.4 kilometres north of Lockie (Boulder) Creek and 8.5 kilometres north-northwest of Tulameen (Assessment Report 14158, Plate 1 (north sheet)).

COMMODITIES: Copper Zinc Silver

MINERALS

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

DEPOSIT

CHARACTER: Vein Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) 105 Polymetallic veins Ag-Pb-Zn±Au
COMMENTS: Mineralized quartz veins strike northeast.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Chlorite Schist
Andesite
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 38.7000 Grams per tonne
Copper 2.9400 Per cent
Zinc 0.8000 Per cent

COMMENTS: Sample of chlorite schist with chalcopyrite.
REFERENCE: Assessment Report 14158, assay certificate (sample R2 BWS Rx 35).

CAPSULE GEOLOGY

The North Copper showing is 1.6 kilometres north-northeast of the summit of Boulder Mountain and 8.5 kilometres north-northwest of Tulameen.

This showing is hosted in chlorite schist and andesite (greenstone) of the Upper Triassic Nicola Group. These rocks are variably silicified, sheared and brecciated. They are cut by steeply-dipping quartz veins and stringers striking northeast and northwest.

The northeast-striking quartz veins are moderately mineralized with chalcopyrite in an area of brecciation and pyritization. A sample of chlorite schist with chalcopyrite assayed 0.14 gram per tonne gold, 38.7 grams per tonne silver, 2.94 per cent copper, 0.02 per cent lead and 0.80 per cent zinc (Assessment Report 14158, assay certificate, sample R2 BWS Rx 35).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 16
REPORT: RGEN0100

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GCNL #17(Jan. 26), 1983; #6(Jan. 10), 1984; #41, 1986
N MINER Mar. 10, 1986

DATE CODED: 1992/03/18
DATE REVISED: 1992/12/10

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE008**

NATIONAL MINERAL INVENTORY: 092H10 Cu4

NAME(S): **JENSON'S**, H & H

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 34 N
LONGITUDE: 120 52 54 W
ELEVATION: 1740 Metres

NORTHING: 5486247
EASTING: 653348

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 11495, 640 metres south-southwest of the summit of Olivine Mountain and 9.5 kilometres southwest of Tulameen (Assessment Report 16125, Drawing No. 4).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Shear Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Magmatic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) M05 Syngenetic Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Pyroxenite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Copper
GRADE: 0.5000 Per cent

YEAR: 1917

COMMENTS: Sample from a north-trending shear with quartz.
REFERENCE: Minister of Mines Annual Report 1917, page 208.

CAPSULE GEOLOGY

Various copper showings occur just south and east of the summit of Olivine Mountain, 9 to 10 kilometres southwest of Tulameen. The Jenson's showings are hosted in pyroxenite of the Early Jurassic Tulameen Ultramafic Complex.

Mineralization occasionally occurs in north and west-trending shears within the pyroxenite. The north-trending shears contain quartz veins sparsely mineralized with pyrite, chalcopyrite and pyrolusite. The west-trending shears contain chalcopyrite along cleavage planes; chalcopyrite is also disseminated in the pyroxenite in the vicinity of the mineralized planes. Individual chalcopyrite grains are in part embedded in pyroxene crystals, suggesting some of this mineralization may be of magmatic origin. Samples taken across the north-trending shears assayed trace gold and silver and 0.5 per cent copper (Minister of Mines Annual Report 1917, page 208). A grab sample from a quartz vein with malachite and chalcopyrite assayed 0.115 per cent copper and 1.3 grams per tonne silver (Assessment Report 16125, Appendix 1). Assays from the west-trending shears have ranged up to 3 per cent copper (Geological Survey of Canada Memoir 26, page 159).

The showings were prospected and trenched between 1912 and 1917. D.K. Platinum Corporation conducted rock and soil sampling over the area in 1987.

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PAGE: 18
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/05

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE009**

NATIONAL MINERAL INVENTORY: 092H10 Cu8

NAME(S): **SOOTHERAN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 44 N
LONGITUDE: 120 53 42 W
ELEVATION: 884 Metres

NORTHING: 5488382
EASTING: 652323

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the south bank of the Tulameen River, 580 metres east-northeast of the mouth of Britton (Eagle) Creek, 10 kilometres west-southwest of the town of Tulameen (Property File - M.S. Hedley, 1937).

COMMODITIES: Lead Copper Zinc Silver

MINERALS

SIGNIFICANT: Pyrite Galena Chalcopyrite Sphalerite
ASSOCIATED: Quartz
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 2 Metres STRIKE/DIP: 010/ TREND/PLUNGE:
COMMENTS: Zone of quartz veining strikes 010 degrees and dips steeply west.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Peridotite
Dunite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1937
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 21.0000 Grams per tonne
COMMENTS: Sample of 10-centimetre thick band rich in galena.
REFERENCE: Property File - M.S. Hedley, 1937.

CAPSULE GEOLOGY

The Sootheran showing is on the south bank of the Tulameen River, 580 metres east-northeast of the mouth of Britton (Eagle) Creek and 10 kilometres west-southwest of the town of Tulameen.

A zone of quartz veining occurs in peridotite of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The showing is in the northern margin of the dunite-rich core of the complex. The zone strikes 010 degrees and dips steeply west. At one point, it is 1.8 metres wide, containing 0.6 metre of quartz and a 0.3-metre thick mass of country rock, in addition to some sheared and oxidized material.

The quartz is sparsely mineralized with pyrite, galena, chalcopyrite and sphalerite. Galena also occurs in a band, 10 centimetres thick, on the east wall of the zone. Three chip samples taken across the zone assayed traces of gold and a few grams per tonne silver; a sample of the galena band assayed trace gold and 21 grams per tonne silver (Property File - M.S. Hedley, 1937).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 20
REPORT: RGEN0100

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DATE CODED: 1985/07/24
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CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE010**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRITTON**, BRITTON MOUNTAIN, Z

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 18 N
LONGITUDE: 120 55 03 W
ELEVATION: 1128 Metres

NORTHING: 5487533
EASTING: 650717

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the east slope of Britton Mountain, 400 metres northwest of the Tulameen River, 1.2 kilometres southwest of the mouth of Britton (Eagle) Creek and 11.5 kilometres west-southwest of the town of Tulameen (Geological Survey of Canada Map 46A).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Calcite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 400 Metres
COMMENTS: Breccia zone strikes northwest for at least 400 metres. STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Tulameen Ultramafic Complex
Lower Jurassic			

LITHOLOGY: Mylonite
Breccia
Ultramafic
Meta Sediment/Sedimentary
Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 20.1000 Grams per tonne
Copper 0.9351 Per cent
COMMENTS: Sample of brecciated ultramafic rock with 5 per cent disseminated pyrite and minor chalcopyrite.
REFERENCE: Assessment Report 17325, page 4 (sample W712).

CAPSULE GEOLOGY

The Britton showing outcrops on Mount Britton, just northwest of the Tulameen River and 11.5 kilometres west-southwest of the town of Tulameen.

The east slope of Mount Britton is underlain by a mylonitic zone, 800 to 1000 metres wide, developed at the contact between the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex, and Upper Triassic Nicola Group metavolcanics and metasediments. The zone is largely comprised of mylonitic mafic to ultramafic igneous rocks derived from both units.

Mineralization occurs in a zone of brecciation of undetermined width, which has been traced northwest from the bank of the Tulameen River over the east flank of Mount Britton for at least 400 metres. The breccia contains fragments of pyroxenite and altered sediments (layered dunite (?)) with disseminations and stringers of pyrite, chalcopyrite and magnetite up to 1 centimetre thick. In places, the breccia is healed with a calcite-quartz matrix, which is also

CAPSULE GEOLOGY

mineralized. A sample of a massive pyrite vein, 1 centimetre wide, with minor chalcopyrite, assayed 0.705 per cent copper and 11.8 grams per tonne silver (Assessment Report 17325, page 5, sample W708). A sample of brecciated ultramafic rock with 5 per cent disseminated pyrite and minor chalcopyrite analysed 0.935 per cent copper and 20.1 grams per tonne silver (Assessment Report 17325, page 4, sample W712). The showing was periodically explored on surface and underground by W. Britton between 1899 and 1913. West Coast Platinum Ltd. completed geological mapping, and soil and rock sampling in 1987.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE011**

NATIONAL MINERAL INVENTORY: 092H10 Cr1

NAME(S): **GRASSHOPPER MOUNTAIN**, UM, GRASSHOPPER

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 21 N
LONGITUDE: 120 54 02 W
ELEVATION: 1402 Metres

NORTHING: 5489513
EASTING: 651889

LOCATION ACCURACY: Within 500M

COMMENTS: Zone E, 500 metres south-southwest of the summit of Grasshopper Mountain, 1.1 kilometres northwest of the Tulameen River and 10 kilometres west-southwest of the town of Tulameen (Assessment Report 15516, Figure 4, Map 2).

COMMODITIES: Platinum Chromium Palladium Gold

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Vein Massive
CLASSIFICATION: Magmatic Syngenetic Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 800 x 300 Metres STRIKE/DIP:
COMMENTS: Zone of platinum-bearing chromite trends north-northwest for 800 metres.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Tulameen Ultramafic Complex

LITHOLOGY: Dunite
Peridotite
Clinopyroxenite
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: OUTCROP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1987

COMMODITY	GRADE	Per cent
Chromium	17.4270	
Platinum	2.9150	Grams per tonne

COMMENTS: Average grade over a 6 by 6 metre area.
REFERENCE: Assessment Report 15516, page 19.

CAPSULE GEOLOGY

This platinum-chromite prospect outcrops along the southwest flank of Grasshopper Mountain, near its summit, 10 kilometres west-southwest of the town of Tulameen.

Grasshopper Mountain is underlain by dunite and peridotite of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The dunite-rich core of the complex extends south-southeast from Grasshopper Mountain for 5 kilometres to Olivine Mountain, and is successively fringed by zones of clinopyroxenite and gabbro.

Near the summit of the mountain, the dunite is fine to medium grained and homogeneous. The rock is comprised of olivine, fine magnetite, accessory chromite and generally less than 40 per cent serpentine. Stronger zones of serpentinization are erratically distributed and confined to narrow fracture zones and variously oriented fissures containing up to 80 per cent serpentine.

Chromite is the principal accessory mineral, and occurs as

CAPSULE GEOLOGY

erratically distributed clots, disseminations, stringers and isolated pods up to 1.0 by 0.5 metre in size. The mineral comprises 1 to 25 per cent of the dunite by volume, but no concentrations of economic interest are observed (Assessment Report 15516).

Platinum-bearing chromite is found in a northwest-trending zone 800 metres long and up to 300 metres wide. Chip sampling yielded elevated platinum values in five larger outcrops (zones A, B, C, D and E) and numerous smaller isolated occurrences within this zone. Average chromium and platinum values for the five larger outcrops are as follows (Assessment Report 15516, page 19):

Zone	Area	Chromium	Platinum
(metres)	(per cent)	(grams per tonne)	
A	4 x 1	1.200	1.150
B	4 x 1	1.144	2.210
C	6 x 6	17.427	2.915
D	6 x 5	4.712	2.340
E	5 x 7	0.883	1.355

Zones C, D and E occur near the southern end of the region of platinum-bearing chromite, in an area of coarsely disseminated chromite 250 metres long and 150 metres wide. The highest platinum value came from an isolated, irregularly-shaped chromite segregation in the vicinity of zones C and D, which assayed 16.0 grams per tonne platinum, 0.080 grams per tonne palladium and 20 per cent chromium over 1 metre (Assessment Report 15516, page 23). Subsequent drilling yielded values of up to 35 per cent chromium and 2.5 grams per tonne platinum (Assessment Report 19825, page 4).

This prospect was sampled and mapped by Newmont Exploration of Canada Ltd. in 1986. Longreach Resources Ltd. completed 1533 metres of percussion drilling and 70 metres of diamond drilling in 1988. Phoenix Gold Resources Ltd. drilled and sampled the property in 1997. Previous drilling by Newmont Exploration of Canada Ltd. encountered up to 9.26 grams per tonne platinum over 3.05 metres (Exploration in BC 1997, page 40).

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 EMPR P 1992-6
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 GSC MAP 46A; 888A; 889A; 1386A; 41-1989
 GSC MEM 26, pp. 51,153-155,168-170; 243, pp. 33,34,60,109,110
 GSC P 85-1A, pp. 349-358
 GSC SUM RPT 1923, pp. 84A-101A
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 GCNL #205(Oct. 24), 1986; #45(Mar. 5), Mar. 23, 1987; #133, 1988; #155(Aug.13), #181(Sept.19), #227(Nov.26), 1997
 PR REL Bright Star Ventures Ltd., July 19, 2002
 WWW <http://www.brightstar-ventures.com/>; <http://www.infomine.com/>
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DATE CODED: 1985/07/24
 DATE REVISED: 1992/03/09

CODED BY: GSB
 REVISED BY: PSF

FIELD CHECK: N
 FIELD CHECK: N

MINFILE NUMBER: **092HNE012**

NATIONAL MINERAL INVENTORY:

NAME(S): **BONANZA**, GRASSHOPPER

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 32 N
LONGITUDE: 120 53 01 W
ELEVATION: 1189 Metres

NORTHING: 5489887
EASTING: 653105

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the southeast slope of Grasshopper Mountain, 1.1 kilometres east-southeast of the mountain's summit and 9 kilometres west of the town of Tulameen (Geological Survey of Canada Map 888A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 60 Metres
COMMENTS: Breccia zone.

STRIKE/DIP: L01 Subvolcanic Cu-Ag-Au (As-Sb)
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Tulameen Ultramafic Complex
Lower Jurassic			

LITHOLOGY: Schist
Argillite
Peridotite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE:

CAPSULE GEOLOGY

This copper showing is on the southeast slope of Grasshopper Mountain, 1.1 kilometres east-southeast of the mountain's summit and 9 kilometres west of the town of Tulameen.

The Bonanza occurrence comprises a breccia zone, 60 metres wide, developed along the contact between peridotite of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex, and schist and argillite of the Upper Triassic Nicola Group.

Mineralization occurs in the western part of the zone, close to the intrusion and consists of pyrite and chalcopyrite accompanied by calcite.

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EMPR P 1992-6
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Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages.

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE013**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUNRISE** RAMBLER (L.1191)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 34 N
LONGITUDE: 120 51 43 W
ELEVATION: 1003 Metres

NORTHING: 5489993
EASTING: 654671

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz vein near the western boundary of the Rambler claim (Lot 1191), 200 metres north of the Tulameen River road and 7.5 kilometres west of the town of Tulameen (Assessment Report 14448, Figure 5).

COMMODITIES: Gold Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Gold
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 150 Metres STRIKE/DIP: 165/48W TREND/PLUNGE:
COMMENTS: Quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Argillite
Limestone
Meta Sediment/Sedimentary
Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1937
SAMPLE TYPE: Chip
COMMODITY GRADE
Gold 1.4000 Grams per tonne

COMMENTS: Sample across 0.43 metre.
REFERENCE: Property File - M.S. Hedley, 1937, page 9.

CAPSULE GEOLOGY

The Sunrise showing lies 200 metres north of the Tulameen River road and 7.5 kilometres west of the town of Tulameen.

The area on the east flank of Grasshopper Mountain is underlain by various metasediments and metavolcanics of the Upper Triassic Nicola Group. These rocks strike north to northwest and dip steeply west.

A quartz vein strikes 160 to 170 degrees for 150 metres and dips 30 to 65 degrees west. The vein is conformable to the enclosing slaty and calcareous argillite and interbedded limestone. It varies from 0.03 to 1.5 metres wide and is displaced successively eastward in an echelon manner by a series of crossfaults.

The vein is well banded. Wallrock fragments, which can comprise up to 25 per cent of the vein, are typically coated with 2 to 3 millimetres of siderite. Mineralization is sparse and consists of pyrite and chalcopyrite and a little galena, sphalerite and native gold. Gold values are erratic. Three chip samples across 0.43, 0.13 and 0.25 metre assayed 1.4, 31.9 and 3.4 grams per tonne gold respectively (Property File - M.S. Hedley, 1937, pages 9, 10). All samples analysed trace silver.

Two samples from a quartz vein with visible gold, 400 to 500

CAPSULE GEOLOGY

metres to the southeast, assayed 1067 and 1015 grams per tonne gold respectively (Assessment Report 17397, page 2).

Various other quartz veins outcrop to the west, between this occurrence and the Bonanza Queen occurrence (092HNE069). The veins are up to 2.4 metres wide and contain sparse pyrite, and in one instance, minor chalcopyrite. Metal values in these veins range up to trace gold, 14 grams per tonne silver and 3.5 per cent copper (Property File - M.S. Hedley, 1937, page 11).

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GSC MEM 26; *243, p. 100
GSC P 85-1A, pp. 349-358
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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE014**

NATIONAL MINERAL INVENTORY: 092H10 Au1

NAME(S): **RABBITT**, GRASSHOPPER, GAIL GOLD,
B.C. GOLD

STATUS: Past Producer Open Pit Underground MINING DIVISION: Similkameen
REGIONS: British Columbia UTM ZONE: 10 (NAD 83)
NTS MAP: 092H10W
BC MAP:
LATITUDE: 49 33 16 N NORTHING: 5491276
LONGITUDE: 120 52 07 W EASTING: 654152
ELEVATION: 1256 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Surface trace of vein at the Rabbitt mine, 2.5 kilometres
east-northeast of the summit of Grasshopper Mountain and 8 kilometres
west-northwest of the town of Tulameen (Assessment Report 19825,
Figure 9).

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Galena Sphalerite
COMMENTS: Trace galena and chalcopyrite.
ASSOCIATED: Quartz Ankerite
ALTERATION: Chlorite Limonite Silica Clay
ALTERATION TYPE: Chloritic Oxidation Silicific'n Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
DIMENSION: 100 x 35 x 3 Metres STRIKE/DIP: 005/90 TREND/PLUNGE:
COMMENTS: Main ("adit") vein.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Greenstone
Andesite
Graphitic Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: Y
CATEGORY: Unclassified YEAR: 1983
QUANTITY: 1324 Tonnes
COMMODITY
Gold GRADE Grams per tonne
1.6000
REFERENCE: Assessment Report 12434, page 9.

CAPSULE GEOLOGY

The Rabbitt mine is located 0.5 kilometre southwest of Lawless Creek, 2.5 kilometres east-northeast of the summit of Grasshopper Mountain and 8 kilometres west-northwest of the town of Tulameen. The area on the east flank of Grasshopper Mountain is underlain by various metasediments and metavolcanics of the Upper Triassic Nicola Group. These rocks strike north to northwest and dip steeply west. This deposit consists of two intersecting veins hosted in chloritized and sheared greenstone. The main or "adit" vein strikes 000 to 010 degrees for 100 metres and dips vertically to steeply west for at least 35 metres. The vein is 0.30 to 3 metres wide and is accompanied by a quartz vein stockwork along its hangingwall. It is reported to be largely mined out (Assessment Report 15723). The vein is comprised of porcelaneous quartz and ankerite mineralized with chalcopyrite and pyrite, as blebs and scattered grains. A chip sample across 1.15 metres assayed 17.2 grams per tonne gold, 7.2 grams per tonne silver and 0.19 per cent copper (Assessment Report

CAPSULE GEOLOGY

12434, page 9).

The second vein strikes 040 to 045 degrees and intersects the main vein at the south end of the mine workings, where it is up to 1 metre wide. Sulphide mineralization consists of chalcopyrite and pyrite, with traces of galena and sphalerite. A bulk sample of 298 kilograms assayed 2.9 grams per tonne gold (Assessment Report 15723, page 28). This vein is part of a system of veins and breccias that has been traced southwestward from the main workings for 175 metres in chloritized, limonitic, variably silicified and clay-altered andesite and graphitic argillite. One such breccia, a quartz-ankerite breccia, intersected at a vertical depth of 22 metres, averaged 56.40 grams per tonne gold over a core length of 1.83 metres (Assessment Report 12434, page 14).

The mine dump is estimated to contain 1324 tonnes of material averaging 1.67 grams per tonne gold (Assessment Report 12434, page 9).

This deposit was mined by the Rabbitt brothers and Grasshopper Mines Ltd. between 1938 and 1941. A total of 1304 tonnes was mined averaging 25.7 grams per tonne gold and 14.0 grams per tonne silver.

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EMR MP CORPFILE (Grasshopper Mines Ltd., Dentonia Mines Ltd.)
GSC MAP 46A; 888A; 889A; 1386A; 41-1989
GSC MEM 26; *243, p. 99
GSC P 85-1A, pp. 349-358
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GCNL #224(Nov. 18),#242(Dec. 14), 1983; *#12(Jan. 18),#24(Feb. 3), #129(Feb. 10),#114(June 13),1984; #5(Jan. 8),#6(Jan. 9),#205 (Oct. 24),Dec. 29, 1986; #45(Mar. 5), 1987
IPDM Nov./Dec. 1983

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE015**

NATIONAL MINERAL INVENTORY:

NAME(S): **ACE**, HAMILTON BROTHERS, GRASSHOPPER

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 33 07 N
LONGITUDE: 120 53 20 W
ELEVATION: 1414 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5490957
EASTING: 652693

LOCATION ACCURACY: Within 500M

COMMENTS: Area of malachite staining on the northern edge of the Grasshopper 2 claim, 1.15 kilometres northeast of the summit of Grasshopper Mountain, 9 kilometres west-northwest of the town of Tulameen (Assessment Report 7944, compilation map).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Petzite Gold
COMMENTS: Rare petzite and gold.
ASSOCIATED: Quartz Siderite Talc Pyrrhotite Hematite
ALTERATION: Serpentine Malachite
ALTERATION TYPE: Serpentin'zn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: 40 x 1 Metres STRIKE/DIP: 028/ TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Lower Jurassic	Nicola	Undefined Formation	Tulameen Ultramafic Complex

LITHOLOGY: Schistose Meta Sediment/Sedimentary
Serpentinite
Calcareous Rock
Meta Volcanic
Hornblende Clinopyroxenite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Ace showing is 1.15 kilometres northeast of the summit of Grasshopper Mountain, 9 kilometres west-northwest of the town of Tulameen.

The area on the east flank of Grasshopper Mountain is underlain by various metasediments and metavolcanics of the Upper Triassic Nicola Group. These rocks strike north to northwest and dip steeply west. The showing lies 150 to 200 metres northeast of the contact with hornblende clinopyroxenite of the Early Jurassic Tulameen Ultramafic Complex.

Five subparallel and steeply west dipping quartz veins striking 145 to 160 degrees, parallel to the pyroxenite contact, are exposed over an interval of 60 metres. Individual veins are 0.20 to 1.37 metres wide. The veins are hosted in schistose metasediments accompanied by considerable serpentine and calcareous rocks. The wallrocks are predominantly serpentinite.

The veins are comprised of vitreous quartz containing a large amount of rusty weathering carbonate (siderite (?)) and local pockets of talc. Mineralization is sparse and consists mainly of pyrite and chalcopyrite. Rare hematite, petzite (silver-bearing telluride) and native gold are also present. Some pyrite, pyrrhotite and chalcopyrite are locally present in the wallrocks.

The No. 4 vein is the most developed of the five veins. It has been traced along strike for 40 metres and is 0.41 to 1.37 metres wide along one section of stripping, 14 metres long. The vein pinches out to the north and fades into a 1.2-metre wide zone of

CAPSULE GEOLOGY

alteration to the south. Petzite and native gold occur as stringers in the vein near the centre of the area of stripping. Six samples of typical vein material, including four from the No. 4 vein, analysed trace gold (Property File - M.S. Hedley, 1937, page 4). No attempt was made to include material containing petzite or native gold during this sampling. Four samples of malachite-stained quartz yielded insignificant platinum, gold and copper values (Assessment Report 7944, page 4).

The showing was first explored during the late 1930s by the Hamilton brothers. Some prospecting was conducted in 1979.

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- GSC MAP 46A; 888A; 889A; 1386A; 41-1989
- GSC MEM 26; *243, p. 100
- GSC P 85-1A, pp. 349-358
- CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
- Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE016**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAMES X**, RABBITT, BOULDER MOUNTAIN

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 08 N
LONGITUDE: 120 49 10 W
ELEVATION: 1500 Metres

NORTHING: 5496689
EASTING: 657554

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole Jax-78-1 on the summit of Boulder Mountain, 2.2 kilometres north of Lockie (Boulder) Creek and 7.5 kilometres north-northwest of Tulameen (Assessment Report 7159, drill hole location map).

COMMODITIES: Copper Zinc Lead Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Epidote Chlorite Clay
ALTERATION TYPE: Propylitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Massive Vein
CLASSIFICATION: Volcanogenic Syngenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1978
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 7.5000 Grams per tonne
Copper 1.2500 Per cent

COMMENTS: Sample over a core length of 1.5 metres.
REFERENCE: Assessment Report 7159, assay certificate (hole Jax-78-1).

CAPSULE GEOLOGY

The James X showing is on the summit of Boulder Mountain, 2.2 kilometres north of Lockie (Boulder) Creek and 7.5 kilometres north-northwest of Tulameen. This copper-zinc-lead showing is hosted in andesite of the Upper Triassic Nicola Group. The rock exhibits epidote, chlorite and weak clay alteration, and is cut by numerous quartz veins and stringers. Some shearing is also evident. The andesite is mineralized with stringers and blebs of pyrite and chalcopyrite. Massive chalcopyrite and pyrite were also intersected in diamond drilling. One hole angled at -60 degrees east (Jax-78-1) intersected a band of massive sulphide at 6.1 to 6.4 metres depth containing 30 per cent chalcopyrite and 20 per cent pyrite. The mineralized section assayed 1.25 per cent copper, 0.02 per cent zinc, 7.5 grams per tonne silver and 0.03 gram per tonne gold over 1.5 metres (5.5 to 7.0 metres) (Assessment Report 7159, assay certificate). Surface samples are reported to analyse up to 12.5 per cent zinc and 1.60 per cent lead (Assessment Report 7159, page 2).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 33
REPORT: RGEN0100

BIBLIOGRAPHY

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GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
Falconbridge File

DATE CODED: 1992/03/19
DATE REVISED: 1992/10/16

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE017**

NATIONAL MINERAL INVENTORY:

NAME(S): **O'HENRY**, LAWLESS CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 42 N
LONGITUDE: 120 54 32 W
ELEVATION: 1372 Metres

NORTHING: 5497556
EASTING: 651062

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the northeast bank of Henning (Holm) Creek, 2.9 kilometres northwest of the creek's confluence with Lawless Creek and 13 kilometres northwest of the town of Tulameen (Geological Survey of Canada Map 888A).

COMMODITIES: Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 1 Metres
COMMENTS: Quartz veins.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The O'Henry copper showing outcrops on the northeast bank of Henning (Holm) Creek, 2.9 kilometres northwest of the creek's confluence with Lawless Creek and 13 kilometres northwest of the town of Tulameen.

The occurrence consists of one or more quartz veins at least 0.9 metre wide hosted in andesite of the Upper Triassic Nicola Group. Much of the vein consists of white, barren quartz. Locally, the quartz is mineralized with pyrite, chalcopyrite and a few specks of galena and sphalerite.

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GSC MEM 26; *243, p. 97
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CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE018**

NATIONAL MINERAL INVENTORY: 092H10 Cu7,Zn1

NAME(S): **COUSIN JACK**, OTTAWA, FREDDIE BURN,
 RABBITT, ORA FINO, COUSIN JACK (L.263)

STATUS: Prospect	Underground	MINING DIVISION: Similkameen
REGIONS: British Columbia		UTM ZONE: 10 (NAD 83)
NTS MAP: 092H10W		NORTHING: 5497474
BC MAP:		EASTING: 659037
LATITUDE: 49 36 32 N		
LONGITUDE: 120 47 55 W		
ELEVATION: 1280 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Northernmost of two closely-spaced adits in the Cousin Jack zone, 1.65 kilometres east-northeast of the summit of Boulder Mountain, 2.8 kilometres north of Lockie (Boulder) Creek and 7.5 kilometres north-northwest of Tulameen (Assessment Report 14158, Plate 1 (north sheet)).		

COMMODITIES: Zinc Lead Gold Silver Copper

MINERALS

SIGNIFICANT: Sphalerite	Pyrite	Galena	Chalcopyrite	
ASSOCIATED: Quartz	Carbonate			
ALTERATION: Quartz	Sericite	Clay	Chlorite	Epidote
ALTERATION TYPE: Silicific'n		Sericitic	Argillic	Propylitic
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Vein	Concordant	Discordant	
CLASSIFICATION: Hydrothermal	Epigenetic		
TYPE: I05	Polymetallic veins	Ag-Pb-Zn±Au	
DIMENSION: 1200	Metres	STRIKE/DIP: 360/	TREND/PLUNGE:
COMMENTS: Zone of quartz-carbonate veining.			

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Andesite
 Greenstone
 Andesitic Dacitic Flow
 Dacite
 Pyroclastic Volcanic
 Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	20.0000 Grams per tonne
Gold	5.7900 Grams per tonne
Copper	0.0900 Per cent
Lead	1.2200 Per cent
Zinc	12.4900 Per cent
COMMENTS: Across a 1-metre wide vein with sphalerite and galena.	
REFERENCE: Assessment Report 13396, assay certificate (sample 6588).	

CAPSULE GEOLOGY

The Cousin Jack prospect outcrops along the northeast flank of Boulder Mountain, 2 to 3 kilometres north of Lockie (Boulder) Creek and 7 to 8 kilometres north-northwest of Tulameen.

The northeastern slopes of Boulder Mountain are underlain by andesitic to dacitic flows and pyroclastic volcanic rocks of the Upper Triassic Nicola Group. These rocks strike north, dip west and are regionally metamorphosed up to greenschist facies. A weak to moderately developed foliation dips 10 to 20 degrees west. The

CAPSULE GEOLOGY

volcanics are flanked to the east by an elongate body of granodiorite of Late Triassic to Early Jurassic age outcropping along Otter Lake.

A zone of concordant to discordant quartz-carbonate veins occurs in andesite (greenstone) over a north-south distance of 1200 metres. Individual veins strike north for lengths of up to 380 metres and dip shallow to steeply west. They vary from 2 centimetres to 3 metres wide, but average less than 0.5 metre in width.

The andesite is sheared and hydrothermally altered in this zone of veining. The rock exhibits pervasive quartz-sericite-argillic alteration in the hangingwall and well-developed propylitic alteration in the footwall of steeply west dipping veins.

The veins and surrounding wallrock are variably mineralized with sphalerite, pyrite, galena and chalcopyrite. The veins are frequently pyritic and are sometimes mineralized with polymetallic massive sulphides. Such vein-hosted sulphides are massive to weakly interbanded with quartz. The locally convolute banding suggests an epithermal origin (Assessment Report 15315). Pyrite, galena and sphalerite are present in silicified wallrock as stringers and bands.

Surface sampling suggests the veins average 1 to 3 per cent combined lead and zinc, 0.2 per cent copper, 6.9 grams per tonne silver and 6.9 grams per tonne gold (Assessment Report 15315, page 21). A chip sample across a 1-metre wide vein with sphalerite and galena assayed 1.22 per cent lead, 12.49 per cent zinc, 0.09 per cent copper, 5.79 grams per tonne gold, and 20 grams per tonne silver (Assessment Report 13396, assay certificate, sample 6588). A chip sample taken across 0.9 metre of siliceous and pyritic andesite yielded 0.807 per cent lead, 7.666 per cent zinc, 0.186 per cent copper, 2 grams per tonne gold and 12.9 grams per tonne silver (Assessment Report 13396, assay certificate, sample 54287). Assays from diamond drilling ranged up to 1.1 grams per tonne gold, 26.4 grams per tonne silver, 1.90 per cent lead and 4.11 per cent zinc (Assessment Report 15993, page 7). The highest gold and silver values were found with highest lead and zinc values in siliceous andesite with minor carbonate.

This prospect was explored as early as 1901. Boulder Mining Company Ltd. conducted 98 metres of tunnelling in several adits between 1903 and 1905. The property was periodically assessed by several operators with minor development between 1922 and 1966. By 1971, Gold River Mines Ltd. had commenced a program of soil sampling and trenching, which culminated in the drilling of 33 diamond-drill holes totalling 1768 metres in 1972 and 1973. Since then, the deposit has been geophysically surveyed, trenched, mapped and sampled by various operators between 1980 and 1986. This work was followed with the drilling of 12 holes totalling 662 metres by Abermin Corporation in 1987.

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GSC MEM 26; 243, pp. 96,97
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1909, p. 114
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #17(Jan. 26), 1983; #6(Jan. 10), 1984; #117(June 18), 1985; #41,
1986
N MINER Mar. 10, 1986

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE019**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILLTOP**, RABBITT, JOHN X

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 05 N
LONGITUDE: 120 48 48 W
ELEVATION: 1469 Metres

NORTHING: 5492904
EASTING: 658106

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 6576, 1.8 kilometres east-southeast of the summit of Mount Rabbitt and 4.5 kilometres northwest of Tulameen (Assessment Report 13396, Figure 3A).

COMMODITIES: Copper Silver Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Volcanogenic
TYPE: G04 Besshi massive sulphide Cu-Zn
DIMENSION: 1 Metres
COMMENTS: Massive sulphides.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	25.0000 Grams per tonne
Copper	2.1300 Per cent
Lead	0.0300 Per cent
Zinc	0.3200 Per cent

COMMENTS: Chip sample of massive sulphide horizon across 1 metre.
REFERENCE: Assessment Report 13396, assay certificate (sample 6577).

CAPSULE GEOLOGY

The Hilltop showing is 1.8 kilometres east-southeast of the summit of Mount Rabbitt and 4.5 kilometres northwest of Tulameen. The Red Bird adit (092HNE020) is 650 metres east-northeast of here.

A horizon of massive sulphides, 0.2 to 0.6 metre thick, is hosted in strongly sheared and fractured andesite of the Upper Triassic Nicola Group. Trenching in the immediate vicinity of the deposit indicates a very limited strike length.

The horizon is comprised of pyrite and lesser chalcopyrite. A grab sample of massive sulphide mineralization assayed 2.66 per cent copper, 0.10 per cent lead, 0.06 per cent zinc, 12.3 grams per tonne silver and 0.03 gram per tonne gold (Assessment Report 13396, assay certificate, sample 6576). A chip sample across the sulphide horizon assayed 2.13 per cent copper, 0.03 per cent lead, 0.32 per cent zinc, 25.0 grams per tonne silver and 0.07 gram per tonne gold over 1 metre (Assessment Report 13396, assay certificate, sample 6577).

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EMPR PF (Brican Resources Ltd. (1988): Statement of Material Facts

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 38
REPORT: RGEN0100

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DATE CODED: 1992/03/20
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE020**

NATIONAL MINERAL INVENTORY: 092H10 Cu3

NAME(S): **RED BIRD**, LODE, SPOKANE-MOTHERLODE,
 SHAMROCK, JOHN X, FEDERATION COPPER MINES,
 RABBITT, LLOYD GEORGE

STATUS: Prospect	Underground	MINING DIVISION: Similkameen
REGIONS: British Columbia		
NTS MAP: 092H10W		UTM ZONE: 10 (NAD 83)
BC MAP:		
LATITUDE: 49 34 10 N		NORTHING: 5493076
LONGITUDE: 120 48 17 W		EASTING: 658724
ELEVATION: 1400 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Sample site 6578 (adit), 2.4 kilometres east-southeast of the summit of Mount Rabbitt and 4 kilometres northwest of Tulameen (Assessment Report 13396, Figure 3A).		

COMMODITIES: Copper Silver Gold Zinc Lead

MINERALS

SIGNIFICANT: Pyrite	Chalcopyrite	Sphalerite	Galena	
ASSOCIATED: Quartz				
ALTERATION: Silica	Sericite	Chalcocite	Malachite	Azurite
ALTERATION TYPE: Silicific'n	Sericitic		Oxidation	
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Massive	Disseminated	Stratiform	
CLASSIFICATION: Volcanogenic			
TYPE: G04 Besshi massive sulphide Cu-Zn			
DIMENSION: 1200 x 3 Metres		STRIKE/DIP: 360/45W	TREND/PLUNGE:
COMMENTS: Sulphide horizon.			

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesitic Dacitic Breccia
 Andesitic Dacitic Tuff
 Andesite
 Dacite
 Greenstone Flow
 Greenstone
 Siliceous Schist
 Sericitic Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: LENS	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1913
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	27.0000 Grams per tonne
Gold	0.6900 Grams per tonne
Copper	2.4000 Per cent
COMMENTS: Across 1.07 metres.	
REFERENCE: Minister of Mines Annual Report 1913, page 235.	

CAPSULE GEOLOGY

The Red Bird prospect outcrops along the east flank of Mount Rabbitt, approximately 2 kilometres east of its summit and 4.5 kilometres northwest of Tulameen.
 The area is primarily underlain by andesitic to dacitic breccias and tuffs, with minor intercalated flows (greenstone) of the Upper Triassic Nicola Group. These rocks are metamorphosed up to greenschist facies. They generally strike northwest and dip at various angles southwest.
 The volcanics host a stratiform and lensoidal sulphide horizon

CAPSULE GEOLOGY

of possible volcanogenic origin. The hostrocks in the vicinity of the horizon are siliceous and sericitic schists and are commonly altered white to grey. The horizon trends north-northwest for at least 1.2 kilometres. Individual mineralized zones strike 135 to 155 degrees, dip gently west and are 1 to 4 metres thick.

Mineralization consists mostly of pyrite, with lesser chalcopyrite and minor sphalerite and galena. Secondary minerals include chalcocite, malachite, azurite and hematite. The sulphides are massive to poorly banded to disseminated or as stringers, in a gangue of sericite schist and massive to blebby quartz. Chalcopyrite, sphalerite and galena occur interstitially or as blebs.

Trenching and tunnelling are largely confined to three zones, the Red Bird, Spokane-Motherlode and Shamrock. At the Shamrock zone, the most northerly set of workings, massive sulphides including pyrite and chalcopyrite, are exposed discontinuously for 150 metres. The horizon is 1 to 2.5 metres thick here. A sample taken across 1.8 metres assayed trace gold, 3.4 grams per tonne silver and 0.4 per cent copper (Minister of Mines Annual Report 1913, page 235).

To the south, at the Red Bird workings, two adjacent sulphide lenses, each up to 0.4 metre thick and 5 metres long, occur near the portal of a 120-metre long adit. A sample taken across a true width of 1.07 metres assayed 0.69 gram per tonne gold, 27 grams per tonne silver and 2.4 per cent copper (Minister of Mines Annual Report 1913, page 235). A second chip sample of the footwall sericite schist analysed 0.828 per cent copper, 0.034 per cent lead, 0.065 per cent zinc and 15.6 grams per tonne silver over a thickness of 1.8 metres (Assessment Report 13396, assay certificate, sample 54276).

Farther south, at the Spokane-Motherlode workings, the sulphide horizon continues south for 200 metres. A sample of sorted ore from a trench assayed trace gold, 21 grams per tonne silver and 2.46 per cent copper (Minister of Mines Annual Report 1928, page 269). A chip sample across 0.5 metre of cherty silica with sulphides assayed 0.29 per cent copper and 4.8 grams per tonne silver (Assessment Report 13396, assay certificate, sample 6572).

This occurrence was prospected as early as 1913, and was extensively tunnelled and trenched between 1928 and 1932. The deposit was more recently worked by Copper Mountain Consolidated Ltd. between 1962 and 1968, who completed trenching, geophysical surveys and 381 metres of diamond drilling in five holes. Northern Lights Resources Ltd., Kenam Resources Ltd., and Ventures West Minerals Ltd. conducted additional geophysical, geological and geochemical surveys between 1978 and 1980. Similar but more intensive surface exploration was conducted by Brican Resources Ltd. and Abermin Corporation between 1982 and 1986.

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CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE021**

NATIONAL MINERAL INVENTORY:

NAME(S): **LLOYD GEORGE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 48 N
LONGITUDE: 120 49 16 W

NORTHING: 5492363
EASTING: 657558

ELEVATION: 1356 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on quartz vein, 300 metres east of Rabbitt Creek, 1.65 kilometres southeast of the summit of Mount Rabbitt and 5 kilometres northwest of Tulameen (Property File - M.S. Hedley, 1937, page 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)

DIMENSION: 38 x 2 Metres

STRIKE/DIP: 040/65E

TREND/PLUNGE:

COMMENTS: Quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Lloyd George showing is exposed 300 metres east of Rabbitt Creek, 1.65 kilometres southeast of the summit of Mount Rabbitt and 5 kilometres northwest of Tulameen.

The showing consists of a quartz vein hosted in greenstone of the Upper Triassic Nicola Group. The vein strikes 040 degrees and dips 65 degrees southeast. It has been traced along strike for 38 metres and varies from 0.9 to 1.8 metres in width. The quartz is locally mineralized with chalcopyrite and pyrite. Small amounts of pyrite and chalcopyrite are also found in the enclosing greenstone.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE022**

NATIONAL MINERAL INVENTORY:

NAME(S): **EL ALAMEIN**, WILDCAT, BRITTON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 32 22 N
LONGITUDE: 120 50 23 W
ELEVATION: 838 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5489668
EASTING: 656289

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the south bank of the Tulameen River, 220 metres east-southeast of the mouth of Lawless Creek and 5.5 kilometres west-southwest of the town of Tulameen (Minister of Mines Annual Report 1960, Figure 5).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Gold Pyrite Chalcopyrite
ASSOCIATED: Calcite Quartz
ALTERATION: Actinolite Sericite Carbonate Chlorite
ALTERATION TYPE: Sericitic Carbonate Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Stockwork Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins
SHAPE: Bladed
DIMENSION: 850 x 190 x 9 Metres STRIKE/DIP: 120/62S TREND/PLUNGE:
COMMENTS: Shear zone.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Greenstone
Argillite
Rhyolite Porphyry
Hornblende Diorite Dike
Greywacke

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1949
SAMPLE TYPE: Chip
COMMODITY: Silver 21.0000 Grams per tonne
Gold 96.7000 Grams per tonne

COMMENTS: Across 1.2 metres.
REFERENCE: Minister of Mines Annual Report 1949, page 129.

CAPSULE GEOLOGY

The El Alamein mine is situated on the south bank of the Tulameen River, 200 metres east-southeast of the mouth of Lawless Creek and 5.5 kilometres west-southwest of the town of Tulameen. The Tulameen River valley, in this vicinity, is underlain by greenstone (chlorite schist) with lesser felsic volcanics and minor interbedded sediments of the Upper Triassic Nicola Group. These rocks strike northwest, dip steeply southwest and are regionally metamorphosed up to greenschist facies. The mine is developed in a shear zone up to 9 metres wide, striking 120 degrees and dipping 60 to 65 degrees southwest. The zone roughly follows the contact between argillite to the northeast and rhyolite porphyry to the southwest. It has been traced southeasterly from the river bank up the north slope of Olivine Mountain for 850 metres, over a vertical elevation of 190 metres.

CAPSULE GEOLOGY

The northwestern part of the zone is hosted in a hornblende diorite dike, 6 metres wide, which also occurs in the hangingwall of the shear farther southeast. The dike-hosted section of the zone is 1.2 to 2.4 metres wide.

Hostrocks are variably altered in the shear zone. The footwall argillite and interbedded greywackes are only slightly altered, while the hornblende diorite and rhyolite porphyry are significantly altered. Moderately sheared material contains sericite, carbonate and chlorite, while intensely sheared material consists entirely of actinolite.

The zone contains narrow stringers of calcite and quartz erratically mineralized with native gold. The stringers are 2.5 to 15 centimetres wide and from 0.3 to 1 metre long. One set of stringers strikes northeast and dips 60 degrees southwest, and a second set strikes northwest and dips 45 degrees northeast. Gold is present in a section of the shear zone extending southeast from the river bank for 23 metres. The gold occurs as crenulated layers and discontinuous wisps well within calcite-quartz stringers, along partings of wallrock enclosed by vein material, or along the walls of calcite-quartz stringers. Pyrite and chalcopyrite occur in the veinlets and are disseminated in the sheared and brecciated diorite. A sample taken across 1.2 metres at the face of the middle of three adits assayed 96.7 grams per tonne gold, 21 grams per tonne silver and nil platinum (Minister of Mines Annual Report 1949, page 129). A second sample taken across 0.46 metre assayed 27 grams per tonne gold and nil platinum; this sample is of actinolite from the upper adit and includes a quartz stringer, 7.6 centimetres wide (Minister of Mines Annual Report 1949, page 128).

The deposit was discovered in 1937 when a slide exposed showings of native gold in the river bank. It was eventually mined from three adits developed in the steep south bank of the river by El Alamein Mines Ltd. Gold production between 1949 and 1951 amounted to 6252 grams recovered from an unknown amount of ore.

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CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/12

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE023**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOTEM POLE** TB

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 40 53 N
LONGITUDE: 120 50 19 W
ELEVATION: 1463 Metres

NORTHING: 5505450
EASTING: 655916

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on TB 3 claim, 1.05 kilometres east-northeast of the confluence of Thynne Creek and its southward-flowing tributary, 16 kilometres north-northwest of Tulameen (Assessment Report 4515, soil sampling map).

COMMODITIES: Copper Silver Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite
ASSOCIATED: Quartz Calcite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 1 Metres
COMMENTS: Mineralized zone. STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Andesite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

CAPSULE GEOLOGY

This prospect is 1 kilometre east-northeast of the confluence of Thynne Creek and its southward-flowing tributary and 16 kilometres north-northwest of Tulameen.

The Totem Pole deposit is hosted in andesite of the Upper Triassic Nicola Group. A granodiorite stock of Late Triassic to Early Jurassic age intrudes the Nicola Group immediately to the north.

The occurrence is comprised of a shear zone containing breccia bands, with fragments up to 15 centimetres in diameter, interbanded with andesite. Mineralization occurs where the shear is cut by silicified crossfaults and consists of pyrite, chalcopyrite and molybdenite, in quartz and calcite stringers. These sulphides occur in two zones 0.30 to 1.2 metres wide.

Lucky Tod Mining Company shipped 25 tonnes of ore grading 30 grams per tonne silver and 4.0 per cent copper in 1916. The deposit was more recently trenched and soil sampled by Pan Arctic Explorations Ltd. in 1973.

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CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/26

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE023**

MINFILE NUMBER: **092HNE024**

NATIONAL MINERAL INVENTORY: 092H9 Cu2

NAME(S): **LUCKY STRIKE**, DC, JURA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 55 N
LONGITUDE: 120 26 18 W
ELEVATION: 914 Metres

NORTHING: 5489746
EASTING: 685354

LOCATION ACCURACY: Within 500M

COMMENTS: Lucky Strike claim group, 1.3 kilometres southeast of Jura Siding of the Kettle Valley Railway, near the divide between Allison and Hayes creeks, about 10 kilometres northeast of Princeton (Minister of Mines Annual Report 1927, page 248).

COMMODITIES: Copper Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Igneous-contact Porphyry Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith

LITHOLOGY: Mafic Intermediate Flow
Mafic Intermediate Pyroclastic
Feldspathic Pegmatite
Limestone

HOSTROCK COMMENTS: Nicola Group rocks are intruded by pegmatite apophyses possibly related to the Bromley batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Regional
GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY GRADE
Gold 0.4600 Grams per tonne
Copper 0.8230 Per cent

COMMENTS: A 2-metre chip sample, sample #TL92H0159R.
REFERENCE: Assessment Report 16265.

CAPSULE GEOLOGY

The Lucky Strike showing occurs within 1.6 kilometres southeast of the Kettle Valley Railway, near the divide between Allison and Hayes creeks, about 10 kilometres northeast of Princeton.

This area of the divide, south of Switchback Creek, is underlain by mafic to intermediate flows and pyroclastics, with minor interbedded limestone of the Upper Triassic Nicola Group. These rocks are intruded by "tongues" of light-coloured, coarse-grained, feldspathic pegmatite, possibly originating from the Early Jurassic Bromley batholith, which lies east of the showing, across Hayes Creek.

Mineralization consists of chalcopyrite and pyrite, together with quartz and epidote, filling fractures in the pegmatite and in the volcanics near the pegmatite. Extensive malachite staining is developed along such mineralized fractures. Traces of copper mineralization also occurs in narrow fractures cutting the Nicola

CAPSULE GEOLOGY

Group rocks. A 2-metre chip sample assayed 0.46 gram per tonne gold and 0.823 per cent copper (Assessment Report 16265, sample #TL92H0159R).

This showing was explored in 1927 and 1928 by G. Broderick and T. Hume. Three adits, one shaft and a number of trenches were excavated over a distance of 300 metres.

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EMPR ASS RPT 4419, 16265
EMPR INF CIRC 1993-1, p. 17
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, p. 91
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE025**

NATIONAL MINERAL INVENTORY: 092H9,10 Cu1

NAME(S): **DRY CREEK, SNOW**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 35 N
LONGITUDE: 120 29 27 W
ELEVATION: 945 Metres

NORTHING: 5498263
EASTING: 681267

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the east bank of Rampart (Dry) Creek, 900 metres north-northeast of the creek's confluence with Summers Creek and 17 kilometres north-northeast of Princeton (Assessment Report 3396, Map 2).

COMMODITIES: Lead Zinc Copper

MINERALS

SIGNIFICANT:	Pyrite	Galena	Sphalerite	Chalcopyrite
ASSOCIATED:	Quartz			
ALTERATION:	Clay	Silica	Limonite	Malachite Azurite
	Gypsum			
ALTERATION TYPE:	Argillic		Silicific'n	Oxidation
MINERALIZATION AGE:	Unknown			

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Cretaceous	Nicola	Undefined Formation	Summers Creek Pluton

LITHOLOGY: Andesitic Agglomerate
Andesite
Granodiorite
Granite

HOSTROCK COMMENTS: This showing is hosted in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.	

CAPSULE GEOLOGY

This showing is on the east bank of Rampart (Dry) Creek, 900 metres north-northeast of the creek's confluence with Summers Creek and 17 kilometres north-northeast of Princeton.

A shear zone cuts andesitic agglomerate of the Upper Triassic Nicola Group, about 60 metres southwest of granodiorite and granite of the middle and Late Cretaceous Summers Creek pluton. The zone contains pyrite, galena, sphalerite and chalcopyrite in a matrix of quartz and sheared and altered country rock. Secondary minerals include limonite, malachite, azurite and gypsum. Strong argillic alteration and silicification are also reported. Occasionally sparse, disseminated chalcopyrite and malachite/azurite staining occur in the vicinity of the showing.

The Dry Creek occurrence was first explored by a single adit excavated in 1922. Quintana Minerals Corporation drilled three rotary holes totalling 468 metres, in the vicinity of the adit in 1968. Texas Gulf Sulphur Company and Iso Explorations Ltd. conducted geological, geophysical and soil geochemical surveys over the showing in 1971 and 1972. Iso Explorations also drilled three holes totalling 267 metres, in 1972.

BIBLIOGRAPHY

EMPR AR 1922-168; 1966-176; 1968-204
EMPR ASS RPT *3396
EMPR GEM 1971-279; 1972-126,127

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE026**

NATIONAL MINERAL INVENTORY:

NAME(S): **HEMATITE** FK, PAT

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 36 33 N
LONGITUDE: 120 22 05 W
ELEVATION: 908 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5498505
EASTING: 690138

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 8516-01, on the south bank of Finnegan Creek, 670 metres southeast of the creek's confluence with Hayes Creek and 19.5 kilometres northeast of Princeton (Assessment Report 13903, Figure 10).

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Hematite Galena Sphalerite
ALTERATION: Sericite Clay Epidote Chloride Silica
ALTERATION TYPE: Sericitic Argillic Propylitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 10 Metres
COMMENTS: Mineralized fault zone. STRIKE/DIP: TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE: 166 +/- 1 Ma			
DATING METHOD: Lead/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Granite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This occurrence is in the Osprey Lake batholith, near its west margin.

CAPSULE GEOLOGY

The Hematite showing is on the south bank of Finnegan Creek, 670 metres southeast of the creek's confluence with Hayes Creek and 19.5 kilometres northeast of Princeton.

A northerly striking fault, 10 to 15 metres wide, cuts granite of the Middle Jurassic Osprey Lake batholith, bringing coarse-grained porphyritic granite to the west in contact with medium grained granite to the east. The granite is strongly fractured and altered within the fault zone. Secondary minerals include abundant sericite and clay, some epidote and chlorite, and minor silica, situated mostly along fractures.

Mineralization consists of abundant hematite along fractures within the fault zone, and disseminated in mildly propylitic-altered wallrocks. Some galena and sphalerite are reported to accompany the hematite. The mineralized fault zone is exposed over a width of 10 metres. Six rock samples collected from a trench analysed less than 0.01 gram per tonne gold, 0.1 to 0.2 gram per tonne silver, 0.0004 to 0.0031 per cent copper, 0.0002 to 0.0008 per cent lead and 0.0022 to 0.0071 per cent zinc (Assessment Report 13903, Figure 5, samples 8516-1 to 8516-6).

This showing was first explored in 1928 by W.G. Wilkins. Brewster Lake Mines Ltd. and Rimco completed geological, magnetometer and soil surveys over the showing in 1971 and 1973. The occurrence was also soil sampled and prospected by Verdstone Gold Corporation in 1984 and 1985.

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RUN TIME: 10:48:34

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REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR *1928-263
EMPR ASS RPT *3450, 4833, 13008, *13903
EMPR EXPL 1984-191; 1985-C180
EMPR GEM 1972-125; 1973-138
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, p. 111
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
GCNL #105 (May 31), 1985

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE027**

NATIONAL MINERAL INVENTORY:

NAME(S): **DECANO**, CAMP, GLEN LAKE,
SPIRIT, CMS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 44 32 N
LONGITUDE: 120 00 28 W
ELEVATION: 1128 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5514268
EASTING: 715572

COMMENTS: Molybdenum showing in roadcut on the west bank of Camp Creek, 500 metres southwest of the mouth of Chapman Creek and 6.4 kilometres northeast of the east end of Thirsk Lake (Assessment Report 8792, Figure 6).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Pyrite Molybdenite Ferrimolybdite Chalcocopyrite
ASSOCIATED: Quartz
ALTERATION: Sericite Pyrite Kaolinite Ferrimolybdite
ALTERATION TYPE: Sericitic Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F-type)
DIMENSION: 750 x 160 Metres STRIKE/DIP: 125/ TREND/PLUNGE:
COMMENTS: The largest mineralized dike.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic			Pennask Batholith
	ISOTOPIC AGE: 194 +/- 1 Ma		
	DATING METHOD: Uranium/Lead		
Middle Jurassic	MATERIAL DATED: Zircon		Osprey Lake Batholith

LITHOLOGY: Granodiorite
Feldspar Porphyritic Quartz Monzonite
Quartz Monzonite Dike
Orthoclase Porphyritic Granite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the southern margin of the Pennask batholith.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Grab
COMMODITY: Molybdenum GRADE: 0.4800 Per cent
COMMENTS: Grade given for MoS2.
REFERENCE: Assessment Report 7788, page 3.

CAPSULE GEOLOGY

The Decano molybdenum showing is exposed in several roadcuts on both sides of Camp Creek, about 500 metres southwest of the mouth of Chapman Creek and 6.4 kilometres northeast of the east end of Thirsk Lake.

The area along Camp Creek, in the vicinity of Chapman Creek, is underlain by medium to coarse-grained, light grey granodiorite of the Early Jurassic Pennask batholith. Pink orthoclase porphyritic granite of the Middle Jurassic Osprey Lake batholith outcrops about 800 metres south of the showing.

The granodiorite is cut by several dikes of altered feldspar

CAPSULE GEOLOGY

porphyritic quartz monzonite, that may have been emplaced along previously existing faults striking west-northwest. The largest dike strikes 125 degrees and is 750 metres long and up to 1690 metres wide. The dikes have been strongly altered and reduced to a fractured and vuggy mixture of quartz (primary) and sericite (secondary) accompanied by variable amounts of pyrite. Quartz also forms veins and stringers. Kaolinized feldspar phenocrysts are visible in less-altered dikes. The granodiorite wallrock exhibits some alteration along fractures, where sericite and pyrite are developed in thin envelopes along such fractures.

The dikes are mineralized with molybdenite and ferrimolybdenite, as fine-grained disseminations in the quartz-sericite matrix, and to a lesser extent in fractures, quartz veins and vugs. Traces of chalcopyrite occur in the granodiorite in the vicinity of the dikes. A grab sample assayed 0.48 per cent MoS₂, and cuttings from percussion drilling assayed 0.025 to 0.051 per cent MoS₂ (Assessment Report 7788, page 3). Three rock samples of siliceous material from altered and sheared dike rock analysed less than 0.005 gram per tonne gold, up to 1 gram per tonne silver, 0.002 to 0.006 per cent copper and 0.003 to 0.009 per cent molybdenum (Assessment Report 21951, page 3).

The showing was intensely explored between 1965 and 1969. A number of rotary holes were drilled by Maverick Mines Ltd. in 1965. Additional drilling was conducted by Juniper Mines Ltd. in 1968, with the completion of fifteen percussion holes totalling 785 metres. The two companies also conducted trenching and geological, soil and geophysical surveys during this time. Similar surveys were completed by Eagle Resources Ltd., Petco Enterprises Ltd. and J. Maekevitch between 1978 and 1980. The occurrence was restaked and prospected in 1990 and 1991 by D.B. Wagner after stream silt samples from Camp Creek yielded anomalous gold values.

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EMPR ASS RPT *1141, 2224, *6563, 6793, *7788, *8792, 21951
EMPR EXPL 1977-E129; 1978-E145; 1979-148; 1980-199
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/12/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE028**

NATIONAL MINERAL INVENTORY: 092H16 Pb1

NAME(S): **MABEL, CAMP, ROSSO,
LORI, SIWASH SILVER, SPA**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 45 40 N
LONGITUDE: 120 19 25 W
ELEVATION: 1189 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5515508
EASTING: 692746

LOCATION ACCURACY: Within 500M

COMMENTS: Site of channel sample at the Camp showing, 200 metres northwest of the confluence of Siwash and Tepee creeks, 36 kilometres northeast of Princeton (Assessment Report 7992, page 10).

COMMODITIES: Lead Zinc Copper Silver Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Tetrahedrite Sphalerite Galena
ASSOCIATED: Magnetite Hematite Quartz
ALTERATION: Chlorite Kaolinite
ALTERATION TYPE: Chloritic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 45 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Mineralization is contained in a north-trending zone of chloritization, 30 to 45 metres wide, cut by east-striking shears.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic
ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon
Osprey Lake Batholith

LITHOLOGY: Granite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Channel
COMMODITY GRADE
Silver 78.6700 Grams per tonne
Copper 0.0950 Per cent
Lead 0.3790 Per cent
Zinc 0.3030 Per cent

COMMENTS: Channel sample taken across 126 metres of strongly chloritized granite.

REFERENCE: Assessment Report 7992, page 10.

CAPSULE GEOLOGY

The Mabel prospect is centred 200 metres northwest of the confluence of Siwash and Tepee creeks, 36 kilometres northeast of Princeton.

The occurrence is hosted in coarse-grained granite of the Middle Jurassic Osprey batholith. The mineralized granite is occasionally brecciated and strongly chloritized, and contains pink feldspar phenocrysts.

A north-trending zone of disseminated magnetite, 30 to 45 metres wide, in chloritized and kaolinized granite, is mineralized with specular hematite and lesser pyrite, chalcopyrite, tetrahedrite,

CAPSULE GEOLOGY

sphalerite and galena. Much of this mineralization is concentrated along shears and veinlets. The shears generally strike east and dip steeply. Hematite, pyrite and chalcopyrite are also found in the occasional quartz vein. A channel sample of strongly chloritized granite assayed 0.095 per cent copper, 78.67 grams per tonne silver, 0.379 per cent lead and 0.303 per cent zinc over 126 metres (Assessment Report 7992, page 10). Relatively high silver values are associated with large patches of hematite (Assessment Report 7547, page 3). Hematite-rich samples have assayed as high as 1714 to 2057 grams per tonne silver (George Cross News Letter No. 40 (Feb. 27), 1967). One 3-metre wide shear zone contains near massive hematite that is reported to carry gold (Geological Survey of Canada Memoir 243, page 107).

Local prospectors first investigated this occurrence with the excavation of shallow shafts, short adits, and a number of opencuts in 1927. The prospect was intensively explored by Spa Mines Ltd. and Quality Exploration Corporation Ltd. between 1966 and 1969. The two companies conducted geological, soil geochemical and geophysical surveys, trenching, stripping and 740 metres of diamond drilling in 5 holes. Additional surface exploration was carried out by Brenda Mines Ltd. and Ark Energy Ltd. between 1979 and 1983.

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EMPR ASS RPT 2005, 2389, 2390, *7547, *7992, 8631, 8696, 12037, 15863, 19472
EMPR EXPL 1979-159,160; 1980-210; 1983-266
EMPR GEM 1969-280,281
EMPR PF (Jefjen Capital Corporation (1988): Filing Statement No. 80/88, Vancouver Stock Exchange (see 092HNE032); Livgard, E. (1986): Summary of Report of Siwash Silver Property, Similkameen Mining Division for Westron Venture Ltd., in Westron Venture Ltd. (1987): Prospectus, Vancouver Stock Exchange; Tully, D.W. (1978): Report on the Lori #1, 2, 3, 4 Mineral Claims, Siwash Creek Area)
GSC MAP 888A; 1386A; 41-1989
GSC MEM *243, p. 107
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
GCNL *#40 (Feb. 27), 1967; *#52 (March 14), 1968; July, 1987
V STOCKWATCH June 12, 1987
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE029**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANNIE OAKLEY**, WART

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 30 N
LONGITUDE: 120 18 34 W
ELEVATION: 1530 Metres

NORTHING: 5528205
EASTING: 693312

LOCATION ACCURACY: Within 500M

COMMENTS: Annie Oakley fault zone along a cloverleaf off-ramp of the Coquihalla Highway (Okanagan Connector), 1.7 kilometres south of the south end of Elkhart Lake and 48.5 kilometres north-northeast of Princeton (Assessment Report 20994, Figure 3).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Annie Oakley fault.

STRIKE/DIP: 130/20S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group, 1.2 kilometres northwest of the Osprey Lake batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

INVENTORY

ORE ZONE: ROADCUT

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Bulk Sample
COMMODITY GRADE
Silver 0.7000 Grams per tonne
Gold 1.2000 Grams per tonne

REFERENCE: Assessment Report 20994, page 10 (sample 16961).

CAPSULE GEOLOGY

The Annie Oakley occurrence lies along the Coquihalla Highway (Okanagan Connector), 1.7 kilometres south of the south end of Elkhart Lake and 48.5 kilometres north-northeast of Princeton.

This showing is hosted in variably silicified andesite of the Upper Triassic Nicola Group, 1.2 kilometres northwest of the Middle Jurassic Osprey Lake batholith.

The andesite is cut by a fault zone (Annie Oakley fault), striking 130 degrees and dipping 20 degrees south. This fault is possibly a splay off the Brew fault (see Brew, 092HNE275), 1.35 kilometres northwest. The zone is strongly clay altered and occasionally cut by quartz veins up to 6 centimetres wide. Trace to 1 per cent fine-grained pyrite is present within the fault.

A sample of chips from a 2-centimetre wide drusy quartz vein, associated with a narrow clay shear, assayed 2.43 grams per tonne gold, 38.1 grams per tonne silver, 0.27 per cent copper and 1.71 per cent arsenic (Assessment Report 21922, page 9, Table 2, sample WART-R2). Two other samples of quartz vein material, containing

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ENERGY AND MINERALS DIVISION

PAGE: 56
REPORT: RGEN0100

CAPSULE GEOLOGY

scattered grains and bands of galena and sphalerite, assayed 1.17 to 2.23 grams per tonne gold, 264.7 to 1046 grams per tonne silver, 0.15 to 0.53 per cent lead, 0.92 per cent zinc and 0.38 to 0.82 per cent arsenic (Assessment Report 21922, page 9, Table 2, samples WART-R1, WART-R3). A bulk sample yielded 1.2 grams per tonne gold and 0.7 gram per tonne silver (Assessment Report 20994, page 10, sample 16961).

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EMPR EXPL 1988-C109
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/07/21
DATE REVISED: 1992/07/27

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE029**

MINFILE NUMBER: **092HNE030**

NATIONAL MINERAL INVENTORY:

NAME(S): **EL PASO**, PEM, RHS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 48 41 N
LONGITUDE: 120 22 16 W
ELEVATION: 1402 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5520976
EASTING: 689130

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of a drillhole on the Pem No. 2 claim, 500 metres northeast of Siwash Creek, 4.2 kilometres northwest of the creek's confluence with Galena Creek and 40 kilometres north-northeast of Princeton (Assessment Report 4894, Map 3).

COMMODITIES: Zinc Lead

MINERALS

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

DEPOSIT

CHARACTER: Vein Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
DIMENSION: 34 x 24 x 1 Metres STRIKE/DIP: 053/53S TREND/PLUNGE:
COMMENTS: Mineralized vein strikes 040 to 065 degrees and dips 40 to 65 degrees southeast.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Middle Jurassic			Osprey Lake Batholith

LITHOLOGY: Andesite
Granite
Granodiorite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

CAPSULE GEOLOGY

The El Paso showing is 500 metres northeast of Siwash Creek, 4.2 kilometres northwest of the creek's confluence with Galena Creek and 40 kilometres north-northeast of Princeton.

Two adits expose a vein of banded quartz, 0.46 to 1.2 metres wide, in andesite of the Upper Triassic Nicola Group, 300 metres northwest of the contact with granite and granodiorite of the Middle Jurassic Osprey Lake batholith. The vein strikes 040 to 065 degrees and dips 40 to 65 degrees southeast. It has been traced in the two adits over a strike length of 24 metres and downdip for 34 metres.

The wallrock is brecciated and carbonatized, and the vein itself is brecciated and healed with calcite veinlets. Mineralization consists of arsenopyrite, pyrite, sphalerite and galena.

Two parallel, vein-like zones of silicification and pyritization were intersected in one adit and a drillhole 30 metres south of the quartz vein. The two zones are 6 metres apart and 3 to 6 metres wide.

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EMPR GEM 1973-160,161
EMPR PF (*Carr, J.M. (1963): Sketch Map of El Paso Middle Tunnel)
GSC MAP 888A; 889A; 1386A; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 58
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM *243, p. 109
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE031**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE STONE**, FIX, SIWASH SILVER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 46 48 N
LONGITUDE: 120 20 28 W
ELEVATION: 1417 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5517563
EASTING: 691412

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on top of a ridge, 750 metres southwest of the confluence of Siwash and Galena creeks, 37.5 kilometres north-northeast of Princeton (Minister of Mines Annual Report 1927, page 248).

COMMODITIES: Copper Lead Zinc

MINERALS

SIGNIFICANT: Tetrahedrite Pyrite Galena Sphalerite
ALTERATION: Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 15 Metres STRIKE/DIP: 100/77N TREND/PLUNGE:
COMMENTS: Quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE: 166 +/- 1 Ma			
DATING METHOD: Lead/Lead			
MATERIAL DATED: Zircon			
Tertiary			Otter Intrusions

LITHOLOGY: Brecciated Granite
Quartz Porphyritic Monzonite Granite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

CAPSULE GEOLOGY

This occurrence outcrops atop a ridge, 750 metres southwest of the confluence of Siwash and Galena creeks and 37.5 kilometres north-northeast of Princeton.

The Blue Stone showing occurs in an 8-metre wide breccia zone in granite of the Middle Jurassic Osprey Lake batholith, immediately south of a northwest-trending body of quartz porphyritic monzonite/granite of the early Tertiary Otter intrusions.

A quartz vein, 2.5 to 10 centimetres wide, strikes 100 degrees and dips 77 degrees north. An adit, 50 metres long, intersected the vein 15 metres below a series of opencuts. The vein is mineralized with tetrahedrite and pyrite, and the occasional grain of galena and sphalerite. Abundant azurite occurs on the vein in the old workings. The showing was explored by F. Barber and W. Cunningham in 1927.

BIBLIOGRAPHY

EMPR AR *1927-248
EMPR ASS RPT 1800, 7547, 7992, 8696, 8926, 15863, 18211, 19472
EMPR EXPL 1979-159,160; 1980-210
EMPR GEM 1969-280
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243, p. 109
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE031**

MINFILE NUMBER: **092HNE032**

NATIONAL MINERAL INVENTORY: 092H16 Pb1

NAME(S): **SNOWSTORM**, THREE ADIT GAP, MONTY,
LUCKY STRIKE, AMIE, AMANDA,
SIWASH SILVER, E.J.A., B.H.,
H.J.B., OWEN

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 46 23 N
LONGITUDE: 120 19 40 W
ELEVATION: 1219 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5516825
EASTING: 692399

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the west bank of Siwash Creek, 1.6 kilometres north-northwest of the creek's confluence with Tepee Creek, 38 kilometres northeast of Princeton (Geological Survey of Canada Memoir 243, page 108) (Note: this Memoir incorrectly identifies this occurrence as the Claremont showing).

COMMODITIES: Zinc Lead Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena
ASSOCIATED: Quartz
ALTERATION: Kaolinite Sericite Silica Carbonate
ALTERATION TYPE: Argillic Sericitic Silicific'n Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: STRIKE/DIP: 065/45S TREND/PLUNGE:
COMMENTS: Mineralization occurs in two prominent shear zones striking northeast and dipping northwest and southeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Tertiary Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon
Middle Jurassic

Osprey Lake Batholith

LITHOLOGY: Quartz Porphyritic Monzonite Granite
Granite

HOSTROCK COMMENTS: Stock of early Tertiary monzonite/granite intrudes granite of the Osprey Lake batholith. Age date from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1929
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 699.0000 Grams per tonne
Gold 15.0000 Grams per tonne
Lead 5.0000 Per cent
Zinc 16.0000 Per cent

COMMENTS: Chip sample taken across 0.6 metre.
REFERENCE: Minister of Mines Annual Report 1929, page 278.

CAPSULE GEOLOGY

This occurrence is on the west bank of Siwash Creek, 1.6 kilometres north-northwest of the creek's confluence with Tepee Creek, 38 kilometres northeast of Princeton.

This prospect is hosted in a stock of quartz porphyritic monzonite/granite, near its southwestern margin. The stock intrudes granite of the Middle Jurassic Osprey Lake batholith. This stock is one of a series of small granitic bodies of early Tertiary age

CAPSULE GEOLOGY

referred to as the Otter intrusions. The granite exhibits strong kaolinite-sericite-silica-carbonate alteration.

The Snowstorm deposit is comprised of two prominent shear zones/breccia veins, and several smaller shears in the vicinity. The two main shears strike 035 and 065 degrees and dip steeply northwest and 45 degrees southeast respectively. The zones are 0.15 to 1.8 metres wide respectively. They are mineralized with abundant pyrite, and some sphalerite and galena, as blebs and small grains, in a gangue of quartz and brecciated wallrock. A chip sample from the bottom of the No. 1 adit assayed 15 grams per tonne gold, 699 grams per tonne silver, 5 per cent lead and 16 per cent zinc across 0.6 metre (Minister of Mines Annual Report 1929, page 278). A chip sample across a vein cut in the No. 2 tunnel assayed trace gold, 55 grams per tonne silver, 1 per cent copper and 13.4 per cent zinc over 0.15 metres (Minister of Mines Annual Report 1929, page 277).

Similar copper, lead and zinc mineralization occurs in quartz veins and siliceous zones east and west of the two shears on both sides of Siwash Creek. One area referred to as the Monty showing, is situated on the east side of the creek, about 140 metres east-southeast of the underground workings. A sample of sphalerite mineralization analysed 0.090 gram per tonne gold, 8.6 grams per tonne silver, 0.0590 per cent copper, greater than 1 per cent zinc and 0.0244 per cent lead (Assessment Report 18211, rock geochemistry map, sample 31). A hole drilled on the west side of the creek, 230 metres south-southwest of the two adits, intersected quartz stringers mineralized with pyrite, sphalerite and galena. A section of this mineralization yielded 15.6 grams per tonne silver, 0.572 per cent lead and 1.209 per cent zinc over 7.7 metres (Assessment Report 19472, page 18, hole SS-81-24, 33.5 to 41.2 metres, samples 24659 to 24663).

The occurrence was initially developed by local prospectors between 1925 and 1928. This work included the excavation of two adits 18 metres apart, the Nos. 1 and 2 adits, into the steep southwest bank of Siwash Creek. Siwash Development Company Ltd. continued underground development in 1951 and 1952. The company drifted on one of the mineralized shears, but no ore was shipped. Various geological, geophysical and soil geochemical surveys were completed by Diana Explorations Ltd., Brenda Mines Ltd., Westron Venture Ltd., Tower Hill Mines Ltd. and Inel Resources Ltd. between 1970 and 1989. Brenda Mines Ltd. also drilled four holes on both sides of the creek in 1981. Westron Venture Ltd. drilled up to 12 rotary drillholes on or in the vicinity of the occurrence in 1987. (Note: this occurrence is not to be confused with the nearby Renfrew occurrence to the north (092HNE165); recent work by various operators does not appear to have located the underground workings of the Renfrew showing).

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EMPR ASS RPT 2798, 3282, 4969, 7547, 7992, 8696, 8926, *15863, *18211, *19472
EMPR EXPL 1979-159,160; 1980-210
EMPR GEM 1970-389,390; 1971-276,277; 1972-141; 1973-160
EMPR PF (International Tower Hill Mines Ltd. (1991): Prospectus, Vancouver Stock Exchange; Jefjen Capital Corporation (1988): Filing Statement No. 80/88, Vancouver Stock Exchange; Livgard, E. (1986): Summary of Report of Siwash Silver Property, Similkameen Mining Division for Westron Venture Ltd., in Westron Venture Ltd. (1987): Prospectus, Vancouver Stock Exchange (see 092HNE028); Tully, D.W. (1971): Report on the Amanda-Amie and Paco Claim Groups, in Diana Explorations Ltd. (1971): Prospectus, Vancouver Stock Exchange (see 092HNE098))
EMR MP CORPFILE (Diana Explorations Ltd.)
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, p. 108
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
GCNL July, 1987
V STOCKWATCH June 12, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE033**

NATIONAL MINERAL INVENTORY:

NAME(S): **JESSIE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 52 N
LONGITUDE: 120 02 55 W
ELEVATION: 1009 Metres

NORTHING: 5511064
EASTING: 712752

LOCATION ACCURACY: Within 500M

COMMENTS: Main showing adjacent to the Kettle Valley Railway on the north bank of Trout Creek, 350 metres east of Thirsk Siding and 2.5 kilometres east-northeast of the east end of Thirsk Lake (Assessment Report 20170, Figure 2).

COMMODITIES: Zinc Copper Lead Gold Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 34 x 23 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized quartz vein strikes north-northeast and dips steeply.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Osprey Lake Batholith
ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Orthoclase Porphyritic Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1928
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 24.0000 Grams per tonne
Gold 19.2000 Grams per tonne
Copper 0.3000 Per cent
Zinc 54.0000 Per cent
COMMENTS: High-grade sample of vein material.
REFERENCE: Minister of Mines Annual Report 1928, page 264.

CAPSULE GEOLOGY

The Jessie showing is adjacent to the Kettle Valley Railway on the north bank of Trout Creek, 350 metres east of Thirsk Siding and 2.5 kilometres east-northeast of the east end of Thirsk Lake. A steeply dipping quartz vein, striking north-northeast, cuts orthoclase porphyritic granodiorite of the Middle Jurassic Osprey Lake batholith. The vein is 5 to 20 centimetres wide and has been followed along strike for 34 metres and downdip for 23 metres. Some faulting of the vein is evident in underground workings. Mineralization consists of sphalerite and galena and minor pyrite and chalcopyrite. A sample of high-grade vein material from the lower of two tunnels assayed 19.2 grams per tonne gold, 24.0 grams per tonne silver, 0.30 per cent copper and 54 per cent zinc (Minister of Mines Annual Report 1928, page 264). A more representative sample from the lower tunnel assayed trace gold, 41.1 grams per tonne silver and 1.8 per cent copper (Minister of Mines

CAPSULE GEOLOGY

Annual Report 1928, page 264).

Two adits, 3 and 24 metres long, were excavated adjacent to and immediately below the railway tracks by E. Hales and D. McDonald in 1928. B.R. Mowry conducted an electromagnetic survey over the deposit in 1990.

BIBLIOGRAPHY

EMPR AR *1928-264
EMPR ASS RPT 20170
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243, p. 111
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE034**

NATIONAL MINERAL INVENTORY:

NAME(S): **KATHLEEN MOUNTAIN**, DISKO, LEAP,
RAT, TC

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 45 02 N
LONGITUDE: 120 07 20 W
ELEVATION: 1564 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5514872
EASTING: 707293

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the Disko 2 claim 2, 5.0 kilometres west-southwest of the summit of Mount Kathleen and 1.7 kilometres east of Trout Creek (Assessment Report 9308, Figure 2).

COMMODITIES: Gold Silver Copper Molybdenum Zinc
Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Sphalerite Galena
ASSOCIATED: Quartz Carbonate Siderite Calcite Pyrolusite
Hematite Magnetite

ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au
DIMENSION: 20 x 3 Metres STRIKE/DIP: 107/
COMMENTS: Mineralized fracture zone, 2 to 3 metres wide, strikes 107 degrees and TREND/PLUNGE:
has been traced downdip for 20 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
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Lower Jurassic

Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

Tertiary

Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Granodiorite
Mafic Dike
Rhyolite Porphyry
Granite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2 page 94. Tertiary date from Ass Rpt 9308.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the southern margin of the Pennask batholith.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Silver	100.0000	Grams per tonne
Gold	5.5000	Grams per tonne
Copper	0.3200	Per cent

COMMENTS: Average grade over a true width of 3.0 metres, 20 metres downdip.
REFERENCE: Assessment Report 4896, page 13.

CAPSULE GEOLOGY

The Kathleen Mountain occurrence is 5.0 kilometres west-southwest of the summit of Mount Kathleen and 1.5 to 1.8 kilometres east of Trout Creek. The main showing occurs in chloritized granodiorite in the southern margin of the Early Jurassic

CAPSULE GEOLOGY

Pennask batholith, immediately east of a stock of granite of the early Tertiary Otter intrusions. The batholith is intruded by several mafic dikes in the vicinity of the showing.

The granodiorite is cut by a zone of fracturing 2 to 3 metres wide, striking 107 degrees. The dark-weathering fractures comprising this zone are mineralized with minor amounts of pyrite and chalcopryrite in a gangue of siderite, quartz, pyrolusite and magnetite. Diamond drilling indicates the zone is of limited extent and of irregular shape. A diamond-drill hole intersection, 20 metres down-dip, assayed 5.5 grams per tonne gold, 100 grams per tonne silver and 0.32 per cent copper over a true width of 3.0 metres (Assessment Report 4896, page 13). A second hole drilled vertically, analysed 10.3 grams per tonne gold, 117 grams per tonne silver and 0.149 per cent copper over a core length of 4.57 metres (Assessment Report 5932, page 4, hole 2, 7.62 to 12.19 metres). A channel sample assayed 8.18 grams per tonne gold, 31.6 grams per tonne silver and 0.347 per cent copper across 2.7 metres (Assessment Report 12790, certificate of assay, sample MK No. 2).

Veins of carbonate, quartz, pyrite, sphalerite and galena have been noted nearby. A hole drilled 70 metres north of the fracture zone intersected a section of silicified rhyolite porphyry with sulphide, hematite, manganese (pyrolusite (?)) and calcite veining, averaging 2.27 grams per tonne gold and 6.58 grams per tonne silver over 15.2 metres (Assessment Report 14556, geochemistry certificate, hole 85-2, 61.0 to 76.2 metres). Threads and stringers of molybdenite, with sparse coarse pyrite and rare chalcopryrite also occur in the vicinity.

A quartz-filled shear zone, striking 020 degrees, lies about 150 metres southeast of the fracture zone. An adit, 60 metres long, was excavated along this shear without intersecting significant mineralization. A grab sample from the adit dump assayed 0.04 gram per tonne gold, 8.0 grams per tonne silver and 0.018 per cent copper (Assessment Report 12790, certificate of assay, sample MK No. 1).

Minor gold values are associated with the mafic dikes. A sample from the margin of such a dike assayed 1.15 grams per tonne gold (Assessment Report 12790, certificate of assay, sample 3).

Two adits were initially excavated into this showing earlier this century. Two holes were then drilled on the fracture zone some time previous to 1974. An additional six holes totalling 177 metres were drilled on the zone by Exel Explorations Ltd. in 1975, after completing magnetometer and soil surveys in 1973. The occurrence was then prospected and sampled by Canadian Nickel Company Ltd. in 1981 and Del La Mothe Exploration in 1984, before being drilled by Argonex International in 1985. The company drilled two holes totalling 183 metres.

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EMPR ASS RPT 3643, *4896, *5932, *9308, *12790, *14556
EMPR EXPL 1976-E88; 1979-160; 1984-199; 1985-C189
EMPR GEM 1971-289; 1973-162,163
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243, p. 110
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
GCNL *#189 (Oct. 2), #199 (Oct. 17), *#225 (Nov. 25), 1975
N MINER Oct. 9, 1975

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/30

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE035**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALLISON CREEK LIMESTONE**, OLIPHANT MOUNTAIN, DISTRICT LOT 1186

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 31 N
LONGITUDE: 120 31 41 W
ELEVATION: 908 Metres

NORTHING: 5492493
EASTING: 678765

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of limestone exposure, 700 metres northeast of Allison Creek, 2.7 kilometres north-northwest of the creek's confluence with Summers Creek and 11 kilometres north of Princeton (Bulletin 69, Figure 1, Map 2).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Upper Triassic
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
DIMENSION: 1100 x 400
COMMENTS: Limestone bed.

Stratiform
Industrial Min.

Metres

STRIKE/DIP: 011/58W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola
Eocene Princeton

FORMATION
Undefined Formation
Allenby

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Andesitic Flow
Basaltic Flow
Andesite
Basalt
Crystal Tuff
Lithic Tuff
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: OUTCROP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY

YEAR: 1968

Limestone GRADE Per cent
94.0000

COMMENTS: Grade given for calcium carbonate. Calcium carbonate content varies from 90 to 97 per cent in surface samples.

REFERENCE: Property File - Imperial Metals and Power Ltd., 1968, page 13.

CAPSULE GEOLOGY

The Allison Creek Limestone prospect is located approximately 800 metres northeast of Allison Creek and 11 kilometres north of Princeton.

The area is underlain by the Eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by granite stocks of middle to Late Cretaceous age and unconformably overlain by volcanics and sediments of the middle to Upper Cretaceous Spences Bridge Group and clastic sediments of the Eocene Allenby Formation (Princeton Group).

A mass of well-bedded to massive reefoid limestone, hosted in andesitic to basaltic flows and crystal and lithic tuff, trends north for 1.1 kilometres along the western slopes of Oliphant Mountain.

CAPSULE GEOLOGY

The limestone is unconformably overlain to the north by Allenby Formation sediments and varies up to 400 metres in width. Bedding strikes 011 degrees and dips 58 degrees west. Various surface samples taken over the southern portion of the deposit (District Lot 1186) analysed 90 to 97 per cent calcium carbonate (Property File - Imperial Metals and Power Ltd., 1968, page 13).

The deposit was sampled by Imperial Metals and Power Ltd. between 1962 and 1968, while searching for a source of limestone required for the manufacture of metallized iron ore pellets.

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- EMPR ASS RPT 11859
- EMPR BULL *69, p. 30
- EMPR FIELDWORK 1975, pp. 55-58
- EMPR MAP 21 (1976)
- EMPR OF 1987-19
- EMPR P 1981-2
- EMPR PF (*Imperial Metals and Power Ltd. (1968): Lodestone Iron Project (see 092HSE034); N.D. Lea and Associates Ltd. (1962): Imperial Metals and Power Ltd. - Lodestone Iron Project (see 092HSE034))
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC OF 2167, pp. 93-98
- GSC P 85-1A, pp. 349-358
- CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/26
DATE REVISED: 1992/03/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE036**

NATIONAL MINERAL INVENTORY: 092H15 Cu2

NAME(S): **COPPER STAR**, DOR, V.V. AND E.,
DOR 19,29

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H15E 092I02E
BC MAP:

Open Pit

MINING DIVISION: Nicola

LATITUDE: 49 59 56 N
LONGITUDE: 120 36 00 W
ELEVATION: 1048 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5541267
EASTING: 671996

LOCATION ACCURACY: Within 500M

COMMENTS: Located on an opencut on a copper showing, 200 metres south of Courtney Lake, 500 metres east of Highway 5A, 7 kilometres north-northeast of the community of Aspen Grove (Assessment Report 17554, Figure 4).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite Copper
COMMENTS: Native copper is uncommon and in minor amounts.
ASSOCIATED: Quartz Calcite Jasper Hematite Magnetite
ALTERATION: Epidote Jasper Hematite Quartz Calcite
Malachite

ALTERATION TYPE: Epidote Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic Porphyry
TYPE: D03 Volcanic redbed Cu

SHAPE: Irregular
MODIFIER: Sheared Fractured
DIMENSION: 290 x 200 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Shear zones and fractures are related to predominantly north-striking fault structures. Strata strike northwest and dip southwest.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
FORMATION: Undefined Formation
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Augite Plagioclase Porphyritic Basalt
Augite Plagioclase Porphyritic Andesite
Basaltic Andesitic Volcanic Breccia
Basaltic Andesitic Volcanic Tuff

HOSTROCK COMMENTS: Hosted in volcanics of the Central belt of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Rock
COMMODITY: Silver GRADE: 2.0000 Grams per tonne
REFERENCE: Assessment Report 17554.

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1972
SAMPLE TYPE: Grab
COMMODITY: Copper GRADE: 0.7000 Per cent
COMMENTS: Highest value of copper, from a grab sample.
REFERENCE: Assessment Report 4779.

CAPSULE GEOLOGY

The Copper Star occurrence covers a small area of copper

CAPSULE GEOLOGY

showings immediately south of Courtney Lake, in the historical Aspen Grove copper camp between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. It is centred on one of a number of opencuts and adits, on a hill 200 metres south of Courtney Lake, 500 metres east of Highway 5A, 7 kilometres north-northeast of the community of Aspen Grove.

The occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The Copper Star occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). This belt mainly consists of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillite and limestone. The volcanics are locally intruded by bodies of comagmatic diorite to monzonite of Late Triassic to Early Jurassic age.

The region is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. Two important fault systems in the Aspen Grove area, the Kentucky-Alleyne fault and a splay of the Allison fault converge in the Copper Star area, just south of Courtney Lake. Numerous shear zones which host mineralization, described below, are probably related to these structures.

The Copper Star group of showings is hosted in red and green, augite and/or plagioclase porphyritic flows, breccias and tuffs of andesitic or basaltic composition (Assessment Report 17554). The volcanics contain magnetite. The strata strike northwest and dip southwest.

Epidote alteration of the volcanics is pervasive, and is commonly accompanied by disseminated jasper or hematite. Alteration is greater in shear fractures, which may also contain quartz and calcite veins as well as jasper and hematite. Epidote alteration, grain size in the volcanics, and copper mineralization all tend to increase from east to west (Assessment Report 17554).

Mineralization is most commonly hosted in the shear zones or in brecciated fracture zones. Here, alteration minerals are accompanied by malachite and pyrite, and smaller amounts of chalcopyrite, bornite, chalcocite, and locally minor native copper (Annual Report 1915; Assessment Report 17554; Geological Survey of Canada Memoir 243). Outside the shear zones, there are local concentrations of disseminated chalcopyrite, and up to 10 per cent pyrite in volcanic tuff and breccia.

A number of old trenches, adits and opencuts exist in the area, and are most commonly located on the altered and mineralized shear zones or fractures in augite porphyry volcanics. The various old workings are scattered about an area, 200 metres wide, trending northeast for 290 metres. Copper values from these areas are generally not high; however, one sample was analysed at 0.29 per cent copper, and another grab sample assayed 0.7 per cent copper (Assessment Reports 4779, 17554). Silver values are also low, the maximum being 2 grams per tonne (Assessment Report 17554).

A small amount of production from the old workings is reported in 1915, when 41 tonnes of hand-sorted ore were shipped to a smelter. According to the returns, this shipment graded 8.7 per cent copper and 75.4 grams per tonne silver (Minister of Mines Annual Report 1915, page 227). Tanjo Mines Ltd. completed geological, geophysical and soil geochemical surveys over the showings between 1970 and 1972. Similar surveys were conducted by Redding Gold Corporation in 1988.

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- EMPR P 1981-2
- EMR MP CORPFILE (United Chieftain Resources)
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- GSC OF 2167, pp. 93-98
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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 70
REPORT: RGEN0100

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Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/18

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE037**

NATIONAL MINERAL INVENTORY:

NAME(S): **CINDY 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 44 38 N
LONGITUDE: 120 33 43 W
ELEVATION: 1366 Metres

NORTHING: 5513009
EASTING: 675646

LOCATION ACCURACY: Within 500M

COMMENTS: Pyrite-copper showing on the Cindy 4 claim, 1.3 kilometres northwest of the B.C. Telephone microwave tower, 6.7 kilometres north-northwest of the summit of Missezula Mountain and 1.1 kilometres southeast of Ketchan Creek (Assessment Report 4465, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Chalcocite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 600 x 400 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization occurs in scattered outcrops in an area measuring 600 by 400 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Brecciated Andesitic Basaltic Flow
Andesite
Basalt
Diorite Dike

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

CAPSULE GEOLOGY

The Cindy 2 showing is 6 to 7 kilometres north-northwest of the summit of Missezula Mountain and 1 kilometre southeast of Ketchan Creek.

Pyrite, chalcopyrite and traces of chalcocite occur in autobrecciated andesitic and basaltic flows of the Upper Triassic Nicola Group (Central belt, Bulletin 69). These sulphides occur in scattered outcrops over an area 600 metres long and 400 metres wide. Minor copper mineralization is also present in several narrow northwest-striking diorite dikes.

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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/05
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE038**

NATIONAL MINERAL INVENTORY:

NAME(S): **CATHY, J AND L**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 07 N
LONGITUDE: 120 54 22 W
ELEVATION: 1063 Metres

NORTHING: 5487217
EASTING: 651551

LOCATION ACCURACY: Within 500M

COMMENTS: Copper-chromite showing on the Cathy 3 claim, 400 metres southeast of the Tulameen River, 950 metres south-southwest of the mouth of Britton (Eagle) Creek and 11 kilometres west-southwest of Tulameen (Assessment Report 2274, Figure 4).

COMMODITIES: Copper Platinum Palladium Chromium

MINERALS

SIGNIFICANT: Chalcopyrite Chromite
ALTERATION: Tremolite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Peridotite
Olivine Clinopyroxenite
Dunite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Syn-mineralization GRADE:
Post-mineralization

INVENTORY

ORE ZONE: CATHY REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1970
SAMPLE TYPE: Grab
COMMODITY GRADE
Copper 0.2100 Per cent

COMMENTS: Grab sample of chalcopyrite and chromite.
REFERENCE: Assessment Report 2274, page 16 (sample TC1).

CAPSULE GEOLOGY

The Cathy copper-chromite showing is 400 metres southeast of the Tulameen River, 950 metres south-southwest of the mouth of Britton (Eagle) Creek and 11 kilometres west-southwest of the town of Tulameen.

This occurrence is hosted in peridotite of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The showing lies in a northwest trending band of olivine clinopyroxenite with minor peridotite that flanks the southwestern margin of the dunite-rich core of the complex.

A small zone of disseminated chalcopyrite and chromite occurs in mildly tremolite-altered peridotite. A grab sample assayed 0.21 per cent copper, 0.17 grams per tonne platinum and 0.12 grams per tonne palladium (Assessment Report 2274, page 16).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 73
REPORT: RGEN0100

BIBLIOGRAPHY

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE038**

MINFILE NUMBER: **092HNE039**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRA**, IRISH BRITCO, MARA

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 36 03 N
LONGITUDE: 120 55 19 W
ELEVATION: 1256 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5496325
EASTING: 650152

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 74-2, 1.0 kilometre east-northeast of the confluence of Skwum Creek and its southward-flowing tributary, Irish Creek, 13 kilometres northwest of Tulameen (Assessment Report 5344, geology map).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite
ASSOCIATED: Quartz Calcite K-Feldspar Magnetite
ALTERATION: Clay Sericite Carbonate Chlorite Silica

ALTERATION TYPE: K-Feldspar Biotite Epidote Sericitic Carbonate Biotite
Chloritic Argillic

MINERALIZATION AGE: Unknown

DEPOSIT

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

COMMENTS: Mineralization is in northwest striking, moderately to steeply west-dipping dikes.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Eagle Plutonic Complex
Jurassic-Cretaceous			Unnamed/Unknown Informal
Tertiary			

ISOTOPIC AGE: 54.5 +/- 1.9 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

LITHOLOGY: Feldspar Porphyry Dike
Feldspar Biotite Porphyritic Dike
Feldspar Quartz Porphyritic Dike
Andesitic Meta Volcanic
Granodiorite

HOSTROCK COMMENTS: Isotopic age date for Tertiary porphyry dikes is from Geological Survey of Canada Map 41-1989, Sheet 3 (sample eTi10-1).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1974
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.0900 Per cent
Molybdenum 0.0120 Per cent

COMMENTS: Over a core length of 15.2 metres.
REFERENCE: Assessment Report 5344, hole 74-2, drill core logs (48.8-64.0 metres).

CAPSULE GEOLOGY

The Ira copper-molybdenum prospect occurs along Skwum Creek and its southward-flowing tributary, Irish Creek, 13 to 14 kilometres northwest of Tulameen.

The area in the vicinity of Skwum Creek is underlain to the west by foliated granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by andesitic metavolcanics of

CAPSULE GEOLOGY

the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest.

The metavolcanics are intruded by a series of early Tertiary feldspar, feldspar-biotite and lesser feldspar quartz porphyry dikes of intermediate composition in the vicinity of the granodiorite-volcanic contact. The dikes are less than a metre to tens of metres in width and have been traced over distances of up to 800 metres. They strike north-northwest, parallel to the granodiorite contact and dip moderately to steeply southwest, subparallel to the foliation in the volcanics, which dips 45 to 85 degrees. The larger dikes tend to be more intensely altered and mineralized.

The dikes and enclosing volcanics are cut by stringers and stockworks of quartz and lesser calcite. Stringers of potassium feldspar are also present in the porphyry. The mineral is occasionally developed adjacent to quartz stringers. Feldspar phenocrysts are variably altered to clay, sericite and carbonate in the dikes. Minor hydrothermal biotite is formed along fractures. Epidote occurs in quartz stringers and along pyrite-filled fractures, especially in the volcanics. The volcanics are chloritized and variably silicified. They are intensely chloritized when cut by quartz and quartz-calcite stockworks.

The dikes and volcanics are mineralized with various sulphides, along fractures and as disseminations. Pyrite is the most common sulphide, usually forming 1 to 3 per cent of the hostrock, sometimes up to 5 per cent. The mineral is commonly developed along randomly oriented fractures and quartz stringers, but occurs also as disseminations, in both the dikes and the volcanics. Traces of chalcopyrite and molybdenite occur in the porphyry and to a lesser extent in the volcanics, along fractures and quartz stringers, and as disseminations. Minor magnetite is also noted.

Elevated copper and molybdenum values were obtained in two of four vertical holes drilled in 1974. One hole analysed 0.090 per cent copper and 0.012 per cent molybdenum at 48.8 to 64.0 metres depth, and 0.094 per cent copper and 0.008 per cent molybdenum at 82.3 to 106.7 metres depth (Assessment Report 5344, hole 74-2). A second hole, located 590 metres to the south, analysed 0.11 per cent copper and 0.004 per cent molybdenum at 64.0 to 76.2 metres depth (hole 74-3).

This copper-molybdenum porphyry deposit was initially developed by four adits excavated some time before 1913 on Irish Creek, 700 metres above the creek's confluence with Skwum Creek. The deposit has been extensively explored by various operators since its rediscovery by Copper Range Exploration Company in 1969. Copper Range Exploration, Rio Tinto Exploration Ltd., Donegal Developments Ltd. and Mara Minerals and Oils Inc. completed numerous geological, geochemical and magnetometer surveys, and 2590 metres of drilling in 9 diamond-drill holes and 26 percussion-drill holes between 1970 and 1980. The drilling tested an area just east of the granodiorite contact over a northwest-southeast distance of 4.5 kilometres.

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GCNL #49 (March 9), 1979

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE040**

NATIONAL MINERAL INVENTORY: 092H10 Cu2

NAME(S): **AXE (SOUTH ZONE)**, MID ZONE

STATUS: Developed Prospect

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H10E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 38 28 N

NORTHING: 5501668

LONGITUDE: 120 31 34 W

EASTING: 678604

ELEVATION: 1310 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of drilling on the South zone, 1 kilometre southwest of Summers Creek, 5.0 kilometres south-southeast of the summit of Missezula Mountain and 20 kilometres north of Princeton (Assessment Report 10886, Plate 10-11).

COMMODITIES: Copper Molybdenum Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite Pyrrhotite
ASSOCIATED: Magnetite Quartz Calcite
ALTERATION: Chlorite Epidote Orthoclase Albite Biotite
Clay Limonite Malachite

COMMENTS: Also azurite and hematite.

ALTERATION TYPE: Propylitic Potassic Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

DIMENSION: 550 x 200 Metres STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Zone of copper mineralization trends northwest for 550 metres along the southwest flank of a fault of similar trend.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Cretaceous	Nicola	Undefined Formation	Summers Creek Pluton

ISOTOPIC AGE: 98.2 +/- 2.6 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Basaltic Andesitic Flow
Andesite
Basalt
Dacite Tuff
Dacite Flow
Porphyritic Diorite Dike
Porphyritic Monzonite
Andesitic Tuff

HOSTROCK COMMENTS: This deposit is in the Eastern volcanic facies of the Nicola Group. Isotopic date for the Summers Creek pluton is from Bulletin 69.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: SOUTH REPORT ON: Y

CATEGORY: Indicated YEAR: 1973

QUANTITY: 37191100 Tonnes

COMMODITY GRADE

Copper 0.4800 Per cent

COMMENTS: Resource estimation is crude due to poor drill core recovery.

REFERENCE: Northern Miner - September 6, 1974.

CAPSULE GEOLOGY

The Axe (South zone) prospect is 1 kilometre southwest of Summers Creek, 5 kilometres south-southeast of the summit of Missezula Mountain and 20 kilometres north of Princeton.

CAPSULE GEOLOGY

This area along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. These rocks are intruded by granodiorite and quartz diorite of the Middle to Late Cretaceous Summers Creek pluton.

This prospect is part of the Axe property, a large porphyry system some 3.2 kilometres in diameter, containing three significant zones of copper mineralization, including the South zone. The other two zones are the Adit (092HNE143) and West (092HNE142) zones. The South zone is 800 metres south of the Adit zone and 1500 metres southwest of the West zone. This porphyry-copper hydrothermal system is related to the intrusion of small stocks and dikes of fine-grained diorite and monzonite occurring through the Adit and West zones. These intrusions are interpreted to be part of the Nicola magmatic suite and may represent the deeper part of Nicola volcanoes.

The South zone is hosted in green to grey augite and/or plagioclase porphyritic basaltic to andesitic flows of the Nicola Group (Central belt, Bulletin 69). The flows are comprised of up to 50 per cent euhedral augite crystals, 15 per cent plagioclase crystals and up to 15 per cent hornblende in a fine-grained matrix. A few dacite tuffs and/or flows occur with the andesites and basalts. The volcanics are cut by a few porphyritic diorite dikes. These rocks are intruded by medium to coarse-grained porphyritic monzonite of the Summers Creek pluton immediately southeast of the deposit.

The hostrocks are strongly faulted, fractured and sheared in all orientations. One prevalent fracture set strikes 045 degrees. A fault striking 140 to 170 degrees, dipping steeply northeast to southwest, traverses the area of copper mineralization. This structure is part of the north-striking Summers Creek fault system.

Mineralized units exhibit significant propylitic and lesser potassic and argillic alteration. The volcanics are chloritized pervasively and along fractures. Epidote commonly accompanies the chlorite and also forms fracture fillings and irregular veins, usually with calcite. Strong zones of albitization are locally present. Secondary orthoclase, often with magnetite and/or epidote, occurs as weakly developed pervasive alteration or as veins. The mineral also forms alteration envelopes along quartz veins. These postmineral (?) veins and associated orthoclase flooding may be a result of the emplacement of the nearby Summers Creek stock. Fine-grained biotite often accompanies chlorite. Clay is developed along the numerous shears and fault zones. Limonite, hematite, malachite and azurite occur along fractures in minor amounts.

Sulphide mineralization is usually in veins, stringers and fracture fillings and to a lesser extent as disseminations. The sulphides consist of pyrite, chalcopyrite, minor molybdenite and rare pyrrhotite. Chalcopyrite exceeds pyrite in areas of stronger mineralization. Abundant disseminated and vein magnetite (up to 15 per cent) is present in such areas. Chalcopyrite and pyrite tend to be disseminated in pervasive chlorite, epidote and albite, and along fractures with chlorite, epidote and some magnetite. Molybdenite occurs in quartz veins, in chlorite-lined fractures, as irregular stringers and as disseminations in locally strong, pervasive epidote and orthoclase alteration. The bulk of the copper mineralization appears to be older than molybdenum mineralization, which may be associated with the Summers Creek stock.

Significant copper mineralization occurs in a zone 200 metres wide, trending northwest for about 550 metres. The deposit is developed along the southwest flank of the previously noted fault striking 140 to 170 degrees. Trenching and diamond drilling up to 1973 has defined indicated reserves of 37,191,100 tonnes grading 0.48 per cent copper (Northern Miner - September 6, 1973). Precious metal values are generally low. One drillhole intersected 30.05 metres grading 0.51 per cent copper, 2.3 grams per tonne silver and 0.099 gram per tonne gold (Assessment Report 9896, page 12, hole M-2).

A second zone, known as the Mid zone, lies 250 metres north of the South zone. Scattered copper mineralization occurs in bedded andesitic crystal and lithic tuffs in an area trending northwest for 250 metres. Pyrite and chalcopyrite are accompanied by orthoclase, epidote, chlorite, calcite and magnetite alteration and veining.

The Axe (South zone) was initially explored by the Meridian Exploration Syndicate in 1967 after being staked by J.A. Stinson in 1966. The company completed geological, geophysical and soil geochemical surveys, 760 metres of trenching and 651 metres of diamond drilling in 7 holes. Amax Exploration Inc. conducted additional geological, geophysical and soil geochemical surveys between 1969 and 1971. Adonis Mines Ltd. diamond-drilled five holes in the South zone and two in the Mid zone in 1972. The company also completed 1800 metres of trenching between 1972 and 1973. The

CAPSULE GEOLOGY

property was then optioned by Global Energy Corporation (formerly Adonis Mines) to Cominco Ltd. in 1980. Cominco completed geological and magnetometer surveys over the deposit in 1981 and 1982.

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EMPR GEM 1969-279,280; 1970-389; 1971-280; 1973-142
EMPR GEOLOGY *1975-G54-G57
EMPR MAP 21 (1976)
EMPR P 1981-2
EMR MIN BULL 223 (#121)
EMR MP CORPFILE (Global Energy Corporation Ltd.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CAN FIN JOUR, Sept. 5, 1973
CIM Special Volume 15, Table 1, Map B (Occurrence 22) (1976)
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
GCNL #128, #248, 1972; *Sept.11, 1973; #89 (May 8), 1979; #184
(Sept.24), 1982; #184(Sept.26), 2000
N MINER Sept.6, 1973

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE041**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELK (END ZONE)**, SIWASH LAKE, ELK,
SIWASH LAKE (SOUTH)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 50 13 N
LONGITUDE: 120 18 42 W
ELEVATION: 1609 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5523969
EASTING: 693304

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of trench SL90-4, 200 metres west of the south end Siwash Lake and 6.1 kilometres north-northeast of the confluence of Siwash and Galena creeks (Assessment Report 21443, Plate 10).

COMMODITIES: Gold Lead Zinc Copper Silver

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Tetrahedrite
ASSOCIATED: Quartz Arsenopyrite
ALTERATION: Clay Sericite
ALTERATION TYPE: Propylitic Argillic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I02 Intrusion-related Au pyrrhotite veins
DIMENSION: 190 x 3 Metres STRIKE/DIP: 055/55S TREND/PLUNGE:
COMMENTS: Southern vein system strikes northeast for 190 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Middle Jurassic			Osprey Lake Batholith
	ISOTOPIC AGE: 166 +/- 1 Ma		
	DATING METHOD: Lead/Lead		
Tertiary	MATERIAL DATED: Zircon		Otter Intrusions

LITHOLOGY: Quartz Monzonite
Feldspar Porphyritic Dike
Andesitic Dike
Andesitic Volcanic
Andesite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the northwest margin of the Osprey Lake batholith.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Chip
COMMODITY GRADE
Gold 2.4900 Grams per tonne

COMMENTS: Average grade over a 40-metre section of the southern vein system diluted to a true width of 2.0 metres.

REFERENCE: Assessment Report 22368, page 39 (trench SL91-4).

CAPSULE GEOLOGY

This occurrence is 200 to 400 metres southwest of the south end Siwash Lake and 6 kilometres north-northeast of the confluence of Siwash and Galena creeks. The Elk (Lake zone) deposit (092HNE295) is about 750 metres to the north.

The Elk (End Zone) prospect is hosted in the northwestern margin of the Middle Jurassic Osprey Lake batholith, about 1300 metres southeast of andesitic volcanics of the Upper Triassic Nicola Group. Near the occurrence the intrusion is cut by a few feldspar

CAPSULE GEOLOGY

porphyritic dikes and plugs of the early Tertiary Otter intrusions. Trenching uncovered two zones of quartz veining in weak propylitic-altered quartz monzonite. The southern vein system contains quartz veins 1 to 20 centimetres wide in a 2 to 3-metre wide zone of shearing and moderate to strong argillic and phyllic (sericitic (?)) alteration. The zone strikes northeast for 190 metres and dips approximately 55 degrees southeast. Attitudes of individual veins vary along the strike of the zone. To the east, veins strike 065 degrees and dip 80 degrees south. This attitude gradually changes along the zone to the west, where the veins strike 045 degrees and dip 65 degrees south. The main 20-centimetre wide vein is more or less continuous and has numerous splays along shears, especially to the east. The zone is cut by a 1.5-metre wide zone of intense argillic alteration and shearing, which displaces the western half northward by 3 metres. A 10 to 30-centimetre wide andesitic dike occurs 2 metres south of the mineralized structure, over part of its strike length.

Quartz veins of the southern zone are mineralized with pyrite (up to 20 per cent), galena (up to 10 per cent) and lesser sphalerite, chalcopyrite, tetrahedrite and arsenopyrite. The surrounding altered intrusive contains up to 5 per cent pyrite. Sulphides are lacking in the northern zone of quartz stringers. A section of the southern zone analysed 2.49 grams per tonne gold over a true width of 2.0 metres and a strike length of 40 metres, based on 32 panel and chip samples (Assessment Report 22368, page 39 trench SL91-4). Individual panel samples assayed up to 13.82 grams per tonne gold over a true width of 0.42 metre (Assessment Report 22368, page 4, trench SL91-4). Silver to gold ratios are elevated, similar to the Elk (Lake zone) occurrence to the north.

This prospect was discovered by Placer Dome Inc. in 1990 after trenching soil and geophysical anomalies outlined by Fairfield Minerals Ltd. in 1987 and 1989. Fairfield Minerals conducted additional trenching and sampling in 1991.

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EMPR EXPL 1988-C108
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/09/30
DATE REVISED: 1992/12/10

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE042**

NATIONAL MINERAL INVENTORY: 092H16 Pb1

NAME(S): **DILLARD ZONE**, NORTHWEST TRENCHES, FIX,
SIWASH SILVER, SILVER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 46 44 N
LONGITUDE: 120 21 47 W
ELEVATION: 1515 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5517384
EASTING: 689836

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of area of trenching on the Fix 048 claim, 2.3 kilometres west-southwest of the confluence of Siwash and Galena creeks, 37.5 kilometres north-northeast of Princeton (Assessment Report 1800, sheet 2).

COMMODITIES: Silver Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Tetrahedrite
ASSOCIATED: Magnetite
ALTERATION: Limonite Pyrolusite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 200 x 200 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: North-trending gossan zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
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Middle Jurassic			Osprey Lake Batholith
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ISOTOPIC AGE: 166 +/- 1 Ma

DATING METHOD: Lead/Lead

MATERIAL DATED: Zircon

Tertiary

ISOTOPIC AGE: 52 Ma

DATING METHOD: Potassium/Argon

Otter Intrusions

LITHOLOGY: Granite
Quartz Porphyritic Monzonite
Granodiorite
Quartz Syenite

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95. Tertiary date from Assessment Report 9308.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

CAPSULE GEOLOGY

This occurrence is centred 2.3 kilometres west-southwest of the confluence of Siwash and Galena creeks, 37.5 kilometres north-northeast of Princeton.

The Dillard Zone showing occurs along the contact between a northwest-trending body of quartz porphyritic monzonite/quartz syenite of the early Tertiary Otter intrusions to the east, and granodiorite of the Middle Jurassic Osprey Lake batholith to the west.

Trenching in a northerly trending gossanous zone, over a 200 by 200 metres area, intersected highly altered quartz syenite containing abundant pyrite and secondary manganese (pyrolusite (?)) and minor amounts of magnetite, chalcopyrite and tetrahedrite. "Noteworthy amounts" of silver and zinc are reported (Assessment Report 1800, page 3). A sample analysed 0.21 to 0.40 per cent zinc and 3.8 to 10 grams per tonne silver (Assessment Report 7992, rock geochemistry maps). Sampling of closely-spaced parallel trenches yielded values of 3.4 to 10.3 grams per tonne silver and 0.1 to 0.3 per cent zinc (George Cross News Letter No. 52 (March 14), 1968).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 82
REPORT: RGEN0100

BIBLIOGRAPHY

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19472
EMPR EXPL 1979-159,160; 1980-210
EMPR GEM 1969-280
EMPR PF (International Tower Hill Mines Ltd. (1991): Prospectus,
Vancouver Stock Exchange (see 092HNE032))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
GCNL *#52 (March 14), *#210 (Oct. 15), 1968

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE043**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARN 16, MARN 18, KEL-GLEN,
MARN 9, NORTH BRENDA**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 55 34 N
LONGITUDE: 120 02 39 W
ELEVATION: 1582 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5534605
EASTING: 712144

LOCATION ACCURACY: Within 500M

COMMENTS: Molybdenite showing near the centre of the Marn 16 claim, 4.0 kilometres north of the north end of Brenda Lake and 2.5 kilometres east of Pennask Creek (Property File - E.J. Lees, 1966).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Pyrite
ASSOCIATED: Quartz Orthoclase
ALTERATION: Chlorite Epidote
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 45 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization occurs in variably orientated fractures and veins within tens of metres of a southeast-striking greywacke-granodiorite contact.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende Porphyritic Granodiorite
Tuffaceous Siltstone
Bedded Ash Tuff

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1966
SAMPLE TYPE: Bulk Sample
COMMODITY GRADE
Copper 0.0450 Per cent
Molybdenum 0.0880 Per cent

REFERENCE: Assessment Report 875, part 2, page 9.

CAPSULE GEOLOGY

This showing is centred 4.0 kilometres north of the north end of Brenda Lake and 2.5 kilometres east of Pennask Creek.

The Marn 16 occurrence is situated in the vicinity of the contact between tuffaceous siltstone and bedded ash tuff of the Upper Triassic Whistle Creek Formation (Nicola Group) and coarse-grained, hornblende porphyritic granodiorite of the Early Jurassic Pennask batholith. The siltstone and tuff are contained in a large pendant of Nicola Group volcanics and sediments lying immediately southwest of the showing.

The granodiorite is cut by fractures and quartz +/- orthoclase veins 1 to 2 centimetres wide, containing blebs and plates of

CAPSULE GEOLOGY

molybdenite and blebs of chalcopyrite and pyrite. Minor chalcopyrite occurs along chlorite +/- pyrite and epidote +/- pyrite fractures and stringers. The mineralized veins and fractures are widely spaced and have various attitudes. A bulk sample of mineralized granodiorite assayed 0.088 per cent molybdenum and 0.045 per cent copper (Assessment Report 875, part 2, page 9).

This mineralization is exposed over a distance of 45 metres along the southeast-striking granodiorite-siltstone contact, usually within tens of metres of the contact. Traces of chalcopyrite are also found within the siltstone. Diamond drilling intersected traces of chalcopyrite and molybdenite in three holes spaced over a distance of 150 metres.

Kel-Glen Mines Ltd. completed geological, soil geochemical and geophysical surveys over the showing in 1966 and 1967, after staking the deposit in 1965. The company also drilled three diamond-drill holes totalling 376 metres and 4 percussion holes in 1966. The showing was restaked by Brenda Mines Ltd., operator of the nearby Brenda mine (092HNE047), in 1979. The company then soil sampled the occurrence in 1980.

BIBLIOGRAPHY

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EMPR ASS RPT *875, 9167
EMPR EXPL 1980-215
EMPR OF *1988-7
EMPR PF (Lees, E.J. (1966): 1 to 12,000 scale maps of claims and geology of Kel-Glen Mines Ltd., Peachland, B.C. property; Lees, E.J. (1966): 1 to 1200 scale map of geology and drillholes of the No. 1 Anomaly, Kel-Glen Mines Ltd., Brenda Lake area)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/08/03

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE044**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMPRESS**, WEST EMPRESS

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 40 15 N
LONGITUDE: 120 10 32 W
ELEVATION: 1612 Metres

NORTHING: 5505864
EASTING: 703785

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole PDH-81-9, 1.2 kilometres southeast of Empress Creek, 1.5 kilometres northeast of Shinish Creek and 7.7 kilometres east of Jellicoe (Assessment Report 10434, Figure 4).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Pyrite Chalcopyrite
ASSOCIATED: Magnetite Quartz
ALTERATION: Silica K-Feldspar Sericite Chlorite Kaolinite
ALTERATION TYPE: Silicific'n Potassic Sericitic Chloritic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 730 x 360 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Mineralization occurs in a north-trending zone at least 730 metres long and at least 360 metres wide over most of its length.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Biotite Hornblende Granodiorite
Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date from the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:
SAMPLE TYPE:	Drill Core	1981
COMMODITY	GRADE	
Copper	0.0093	Per cent
Molybdenum	0.0852	Per cent

COMMENTS: Average grade of percussion-drill hole cuttings over 15.25 metres.
REFERENCE: Assessment Report 10434, Appendix 2 (hole 81-9, 12.2 to 27.45 metres).

CAPSULE GEOLOGY

The Empress molybdenum prospect outcrops on the crest of a broad west-trending ridge separating the headwaters of Empress Creek to the northwest from Shinish Creek to the south. The occurrence is 1 to 2 kilometres north of Shinish Creek and 7.6 to 8.1 kilometres east of Jellicoe. The occurrence is hosted in medium-grained, equigranular biotite hornblende granodiorite and quartz monzonite of the Middle Jurassic Osprey Lake batholith. Pyrite and molybdenite occur as disseminations and veinlets, and in quartz stringers in a north-trending zone, at least 730 and possibly up to 950 metres long and at least 360 metres wide over most of its length. Magnetite is associated with fracture controlled sulphides. This mineralization occurs in quartz-potassium feldspar alteration zones within the area of surface mineralization. The

CAPSULE GEOLOGY

intrusive units have also undergone slight sericite, chlorite and kaolinite alteration. Pyrite and molybdenite were intersected in all of fifteen percussion holes drilled in this area. Traces of chalcopyrite were detected in four of the holes. Analytical results from the fifteen holes averaged 0.00111 per cent molybdenum (Assessment Report 10434, page 12). The best hole analysed 0.0501 per cent molybdenum over 48.8 metres, including 0.0852 per cent molybdenum and 0.0093 per cent copper over 15.25 metres (Assessment Report 10434, hole 81-9, page 12, Appendix 2).

The prospect was discovered and staked by Anaconda American Brass Ltd. in 1968 after elevated molybdenum values were detected in a stream silt survey. The company completed various geological, soil geochemical and geophysical surveys between 1968 and 1970. A number of trenches were excavated and 1122 metres of drilling were completed during this time. Anaconda Canada Exploration Ltd. drilled an additional 15 percussion holes totalling 1019 metres in 1981.

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EMPR ASS RPT 2008, 2036, *10434
EMPR GEM 1969-281; 1970-390
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CIM Special Volume 15, Table 1, Map B (Occurrence 21) (1976)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE045**

NATIONAL MINERAL INVENTORY:

NAME(S): **SELISH MOUNTAIN, GEO**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15W
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 25 N
LONGITUDE: 120 50 08 W
ELEVATION: 1494 Metres

NORTHING: 5539795
EASTING: 655144

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of area of copper mineralization, 1.6 kilometres west-northwest of the summit of Selish Mountain and 16 kilometres west-northwest of Aspen Grove (Assessment Report 3018, Map 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite
ASSOCIATED: Quartz
ALTERATION: Epidote Chlorite Sericite Silica Orthoclase
Limonite Malachite

ALTERATION TYPE: Propylitic Sericitic Silicific'n Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu L03 Alkalic porphyry Cu-Au
DIMENSION: 1500 x 1000 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization occurs over a 1500 by 1000 metres area along the northern margin of a diorite stock.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Andesite
Andesitic Pyroclastic
Diorite

HOSTROCK COMMENTS: This showing is in the Western volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its western margin.

CAPSULE GEOLOGY

This occurrence is centred 1.6 kilometres west-northwest of the summit of Selish Mountain and 16 kilometres west-northwest of Aspen Grove.

Selish Mountain is primarily underlain by andesitic flows and pyroclastics of the Western volcanic facies of the Upper Triassic Nicola Group. These rocks are intruded by a large dioritic to gabbroic stock, which underlies much of the southern flank of Selish Mountain. This stock may be part of a suite of Late Triassic to Early Jurassic dioritic to monzonitic intrusions found in Nicola Group rocks that may be comagmatic with the Nicola Group.

Mineralization occurs over a 1500 by 1000 metres area bounded to the south by the northern margin of the stock, which follows the west-trending crest of Selish Mountain. The volcanics exhibit some epidote, chlorite, sericite and minor orthoclase alteration in this area. The rocks are cut by west-striking fractures dipping steeply north, along some of which quartz veining and silicification has occurred.

Mineralization consists of minor chalcopyrite, pyrite and bornite, with associated limonite and malachite, primarily in massive andesite, but also in pyroclastics and diorite. The sulphides occur as disseminations and small pods in quartz stringers and in silicified volcanics.

The showing was first explored by Torwest Resources Ltd. in 1965 and 1966. The company conducted geological and induced polarization

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 88
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CAPSULE GEOLOGY

surveys, trenching and 460 metres of diamond drilling in seven holes. Craigmont Mines Ltd. completed geological, magnetometer and soil geochemical surveys over the showing in 1970.

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EMPR AR 1965-154; *1966-170
EMPR ASS RPT *3018
EMPR GEM 1970-376; 1971-288
EMPR PF (*Elwell, J.P., (1974): Report on the J Claim Group, in Greenwood Explorations Ltd. (1974): Prospectus, Vancouver Stock Exchange)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE046**

NATIONAL MINERAL INVENTORY:

NAME(S): **B AND R**, DAWN, MOUNT THYNNE

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H10W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 04 N
 LONGITUDE: 120 57 09 W
 ELEVATION: 1756 Metres

NORTHING: 5509265
 EASTING: 647590

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the south end of the B and R No. 10 claim, 500 metres northwest of the divide between Lawless and Brook creeks, 2.75 kilometres northwest of the summit of Mount Thynne and 23.5 kilometres northwest of Tulameen (Property File - J.P. Elwell, 1964, page 11).

COMMODITIES: Magnetite Iron Copper Silver

MINERALS

SIGNIFICANT: Magnetite Pyrite Chalcopyrite
 ALTERATION: Malachite
 ALTERATION TYPE: Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: K01 Cu skarn K03 Fe skarn
 D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Andesitic Flow
 Andesite
 Tuff
 Argillite
 Limestone
 Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: PIT

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1964
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	3.4000 Grams per tonne
Copper	0.1000 Per cent
Iron	5.6000 Per cent

REFERENCE: Property File - J.P. Elwell, 1964, page 11.

CAPSULE GEOLOGY

The B and R showing is 2.75 kilometres northwest of the summit of Mount Thynne and 23.5 kilometres northwest of Tulameen. The Dawn showing (092HNE068) is 750 metres to the southeast.

The occurrence is hosted in a northward trending, steeply dipping sequence of andesitic flows, argillites, tuffs and limestone of the Upper Triassic Nicola Group, immediately southwest of a diorite stock of Late Triassic to Early Jurassic age.

A pit blasted in dark lava (andesite) exposes pyrite and magnetite with minor disseminated chalcopyrite, accompanied by some malachite staining. A grab sample assayed 0.17 gram per tonne gold, 3.4 grams per tonne silver, 0.10 per cent copper and 5.60 per cent iron (Property File - J.P. Elwell, 1964, page 11). A sample of float carrying magnetite, pyrite and a little chalcopyrite, about 60 metres south of the pit assayed 0.34 gram per tonne gold, 17 grams per tonne silver, 0.28 per cent copper and 26.40 per cent iron (J.P. Elwell,

CAPSULE GEOLOGY

1964, page 12).
The showing was periodically explored by various operators
between 1963 and 1966.

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GSC MAP 888A; 1386A; 41-1989
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DATE CODED: 1992/04/08
DATE REVISED: 1992/04/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE047**

NATIONAL MINERAL INVENTORY: 092H16 Cu1

NAME(S): **BRENDA**, BRENDA MINE, COPPER KING

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H16E 082E13W
BC MAP:

Open Pit Underground

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 46 N
LONGITUDE: 120 00 23 W
ELEVATION: 1618 Metres

NORTHING: 5529525
EASTING: 715063

LOCATION ACCURACY: Within 500M

COMMENTS: Open pit, 1.5 kilometres north of Peachland Creek, 8 kilometres east of the summit of Pennask Mountain, 22 kilometres northwest of Peachland (Property File - Plan maps of the Brenda open pit).

COMMODITIES: Copper Molybdenum Silver Gold Zinc
 Lead

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Bornite Sphalerite Galena

COMMENTS: Rare bornite, sphalerite and galena.

ASSOCIATED: Quartz Pyrite K-Feldspar Biotite Epidote

 Calcite Magnetite Specularite

ALTERATION: K-Feldspar Biotite Chlorite Epidote Sericite

 Carbonate Kaolinite Limonite

COMMENTS: Also malachite, azurite, hematite, ferrimolybdenite, powellite and cupriferosus manganese oxides.

ALTERATION TYPE: Potassic Biotite Propylitic Argillic Oxidation

MINERALIZATION AGE: Upper Jurassic

ISOTOPIC AGE: 146 Ma DATING METHOD: Potassium/Argon MATERIAL DATED: Biotite

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

SHAPE: Irregular

MODIFIER: Faulted Fractured

DIMENSION: 720 x 360 x 300 Metres STRIKE/DIP:

COMMENTS: Brenda deposit; age date from Canadian Institute of Mining and Metallurgy Special Volume 15. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Upper Triassic Nicola Undefined Formation

Lower Jurassic Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Quartz Diorite
Granodiorite
Trachyte Porphyry Dike
Tuff
Volcanic Breccia
Flow
Greywacke
Argillite
Shale

HOSTROCK COMMENTS: The host "Brenda stock" forms part of the Pennask batholith. Isotopic age date for the Pennask batholith is from GSC Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Pennask Mountain area is mainly underlain by a roof pendant comprising westerly younging, Upper Triassic sedimentary and volcaniclastic rocks of the Nicola Group. These are intruded and enclosed to the north, east and south by plutonic rocks of the Early Jurassic Pennask batholith and Middle Jurassic Osprey Lake batholith. Both the Nicola rocks and the Pennask batholith are unconformably overlain by Tertiary sediments and volcanics of the Princeton Group.

The Brenda copper-molybdenum deposit is within the "Brenda stock", a composite quartz diorite/granodiorite body which forms part

CAPSULE GEOLOGY

of the Pennask batholith. Several ages and compositions of pre and post-ore dikes cut the stock. The deposit is approximately 390 metres from the contact with Nicola Group rocks to the west.

Nicola Group tuffs, volcanic breccias and flows adjacent to the Brenda stock have been altered to "schistose hornfels". This hornfels, which is as wide as 450 metres, is characterized by the development of bands and aligned lenses of felted brown to black biotite. Schistosity generally strikes roughly parallel to the intrusive contact and dips west at 30 to 70 degrees. The schistose hornfels grades westerly into recognizable west-dipping volcanic rocks which in turn are overlain by greywacke, argillite and shales.

The Brenda stock is a composite, zoned quartz diorite to granodiorite body which can be divided into two units. Unit 1 is of quartz diorite composition and contains abundant mafic minerals (hornblende > biotite) and angular quartz grains, whereas unit 2 is porphyritic granodiorite and contains fewer mafic minerals (biotite > hornblende), well-defined biotite phenocrysts and subhedral quartz grains. The contact between units 1 and 2 is generally gradational, but locally sharp. At sharp contacts, unit 2 is chilled against unit 1.

Dikes of several ages and compositions cut the Brenda stock. At least four types, aplite-pegmatite, andesite, trachyte porphyry and basalt, have been identified in the Brenda orebody. Similar dikes, as well as felsite, dacite and quartz diorite have been mapped beyond the limits of economic mineralization. The aplite-pegmatite dikes are cut by all other dikes and by all mineralized fractures. The andesite dikes have been altered and mineralized during ore formation. Two types of quartz diorite dikes are found and both are cut by quartz-sulphide veins. Dacite porphyry and felsite dikes are also cut by quartz-sulphide veins.

A trachyte porphyry dike up to 4.5 metres wide and 300 metres in strike length is exposed in the Brenda pit. A weakly mineralized vein was observed in the dike which suggested an intermineral age for the dike. Further evidence has clearly shown that the dikes cut all stages of mineralization, except some of the latest quartz veins (Canadian Institute of Mining and Metallurgy Special Volume 15). Several post-mineral hornblende lamprophyre dikes also occur within the Brenda orebody and are probably genetically related to the trachyte porphyry dikes.

Irregular, branching basalt dikes, probably related to Tertiary volcanism, have been intruded along pre-existing fault zones. They cut all phases of mineralization and alteration.

Initial potassium-argon dating of two samples from the Brenda mine area resulted in different ages for hornblende (176 Ma) and biotite (148 Ma). Interpretation of these results suggests that the Brenda stock crystallized about 176 million years ago. Biotite samples from the pit area have been dated at about 146 Ma, which probably represents the age of mineralization (Canadian Institute of Mining and Metallurgy Special Volume 15).

Faults in the Brenda pit are expressed as fracture zones in which the rock is intensely altered to clay minerals, sericite, epidote and chlorite. These fracture zones range in width from a few centimetres to 9 metres. Most strike 070 degrees and dip steeply south. Northwest-striking faults exhibit left-lateral movement. The faults transect all mineralization, except some calcite veins. Sulphides, especially molybdenite, have been smeared along fault planes. Shear zones are wider and more numerous in the north half of the pit, where they control bench limits.

The Brenda orebody is part of a belt of copper-molybdenum mineralization that extends north-northeast from the Nicola Group-Brenda stock contact. Mineralization of economic grade (0.3 per cent copper equivalent) is confined to a somewhat irregular zone approximately 720 metres long and 360 metres wide. Ore-grade mineralization extends more than 300 metres below the original surface. Lateral boundaries of ore-grade mineralization are gradational and appear to be nearly vertical.

Primary mineralization is confined almost entirely to veins, except in altered dike rocks and in local areas of intense hydrothermal alteration which may contain minor disseminations. The grade of the orebody is a function of fracture (vein) density and of the thickness and mineralogy of the filling material. The average total sulphide content within the orebody is 1 per cent or less. Chalcopyrite and molybdenite, the principal sulphides, generally are accompanied by minor, but variable, quantities of pyrite and magnetite. Bornite, specular hematite, sphalerite and galena are rare constituents of the ore. Johnson (1973), in a study of 17 samples from the deposit, reported minor pyrrhotite, mackinawite, carrollite, cubanite, ilmenite, rutile and native gold(?), as well as several secondary sulphides (Canadian Institute of Mining and

CAPSULE GEOLOGY

Metallurgy Special Volume 15). Pyrite is most abundant in altered andesite dikes and in quartz-molybdenite veins. The ratio of pyrite to chalcopyrite in the orebody is about 1:10, with the chalcopyrite content diminishing beyond the ore boundaries.

Because mineralization is confined almost entirely to veins in relatively fresh homogeneous rock, the veins are divided into separate stages, based on crosscutting relations and their mineralogy and alteration effects on the hostrock. The vein density within the orebody is not uniform. Ranges are recorded from less than 9 per metre near the periphery of the orebody to 63 per metre and occasionally 90 per metre near the centre of the orebody. Some veins have very sharp contacts with wallrocks, but most contacts are irregular in detail where gangue and sulphide minerals replace the wallrock. A vein may show features characteristic of fracture-filling in one part and of replacement in another. Mineralized solutions were introduced into fractures and, during development of the resultant veins, minor replacement of the wallrock ensued.

The chronological stages of mineralization are as follows: (1) biotite-chalcopyrite (oldest); (2) quartz-potassium feldspar-sulphide; (3) quartz-molybdenite-pyrite; (4) epidote-sulphide-magnetite; and (5) biotite, calcite and quartz. Stages 1 through 4 are all genetically related to a single mineralizing episode, which was responsible for the orebody. Stage 5 represents a later, probably unrelated, event(s) (Canadian Institute of Mining and Metallurgy Special Volume 15). Stage 2 veins form the bulk of the mineralization in the deposit, and are the most important source of ore.

Hydrothermal alteration at the Brenda deposit generally is confined to narrow envelopes bordering veins. These alteration envelopes commonly grade outward into unaltered or weakly propylitic-altered rock. Where veins are closely spaced, alteration envelopes on adjacent veins may coalesce to produce local areas of pervasive alteration. For the most part, hydrothermal alteration at the Brenda deposit is exceptionally weak for a porphyry copper system.

Four types of alteration are recognized in the Brenda deposit, three of which are related to the mineralizing process. Two of these are potassic (potassium feldspar) and biotite, and the other is propylitic. Later argillic alteration has been superimposed on the system along post-mineral faults.

Potassium feldspar and biotite alteration generally are separated in space, but locally occur together. Both types of alteration accompanied sulphide deposition. Potassium feldspar replaces plagioclase adjacent to most stage 2 and, to a lesser extent, stage 3 veins. These irregular envelopes range in width from a centimetre or less up to a metre, with an average of about 2 centimetres. Potassium feldspar also occurs as a minor constituent of stage 1 veins.

Hydrothermal biotite replaces magmatic mafic minerals (hornblende, biotite) and, more rarely, plagioclase in hostrock adjacent to stage 2 and especially stage 3 veins. These envelopes of hydrothermal biotite range in width from less than 1 millimetre to several centimetres.

Weak to intense propylitic alteration, which is characterized by the development of chlorite and epidote, as well as less obvious microscopic sericite and carbonate, is sporadically distributed throughout the Brenda stock. Large areas within the orebody have not been propylitized and in these areas, veins with potassic alteration envelopes clearly cut across propylitized quartz diorite, indicating an early hydrothermal or even a pre-ore origin for the propylitization (Canadian Institute of Mining and Metallurgy Special Volume 15). A second period of propylitization accompanied the development of stage 4 veins and is reflected as envelopes of epidote and chlorite.

Locally intense argillic alteration is confined to post-mineral fault zones where the hostrock has been highly shattered. Kaolinite, sericite and epidote have almost completely replaced the hostrocks.

Surface weathering, which is expressed predominantly by the development of limonite, extends as a highly irregular blanket over the mineralized zone for depths ranging from a few metres to greater than 30 metres. In this weathered area, limonite stains all fractures. Fault zones have been especially susceptible to surface weathering, and the argillic alteration of these zones may be primarily the result of groundwater action. Secondary minerals developed during weathering, all highly subordinate in quantity to limonite, include malachite, azurite, hematite, ferrimolybdate, powellite and cupriferous manganese oxides. Cuprite, covellite, chalcopyrite, native copper, tenorite and ilsemanite are rare constituents.

CAPSULE GEOLOGY

Copper-molybdenum mineralization in the Brenda deposit was developed during several sequential stages, all of which constitute one mineralizing episode. Each stage occupies unique sets of fractures, which are filled with specific combinations of metallic and gangue minerals. Although the attitudes of veins in each stage are unique in detail, most stages include conjugate steeply dipping sets of northeast and northwest striking veins. If these veins occupy shear fractures, it is probable that they were formed by generally east-west compressive forces. Examination of the structure in the Nicola Group rocks to the west reveals that north-northwest and north trending fold axes also indicate an east-west compression. It is suggested that intermittent east-west compressional forces intensely fractured the rocks of the Brenda stock during several stages of time and tapped a hydrothermal source, either a later phase of the Brenda stock or a separate intrusive system. As each stage of fractures developed, hydrothermal fluids introduced vein material which healed the fractures. Renewed build-up of compressional forces again fractured the rocks, which were again healed. Repetition of this sequence can explain all stages of mineralization within the Brenda deposit. East-west compression continued after ore deposition ceased and produced prominent east-northeast and northwest striking shear zones (Canadian Institute of Mining and Metallurgy Special Volume 15).

The Brenda mine began production in early 1970 with measured geological (proven) reserves of 160,556,700 tonnes grading 0.183 per cent copper and 0.049 per cent molybdenum at a cutoff of 0.3 per cent copper equivalent [eCu = % Cu + (3.45 x % Mo)]. The mine officially closed June 8, 1990.

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DATE CODED: 1985/07/24
DATE REVISED: 1990/11/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE048**

NATIONAL MINERAL INVENTORY:

NAME(S): **BERN**, LITE, NORTH BRENDA

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16E 082E13W
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 36 N
LONGITUDE: 120 00 18 W
ELEVATION: 1710 Metres

NORTHING: 5531073
EASTING: 715101

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of scattered molybdenum and copper occurrences, 630 metres west-southwest of the west end of Long Lake and 2.8 kilometres northeast of the south end of Brenda Lake (Assessment Report 10131, Figure 11).

COMMODITIES: Copper Molybdenum

MINERALS

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

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1100 x 1000 Metres STRIKE/DIP:
COMMENTS: Strongest mineralization occurs along subvertical fractures and quartz veins striking northeast. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

This occurrence is centred 630 metres west-southwest of the west end of Long Lake and 2.8 kilometres northeast of the south end of Brenda Lake. The Brenda occurrence (092HNE047) lies about 1 kilometre to the south.

The Bern showing is hosted in quartz diorite/granodiorite of the Early Jurassic Brenda stock, which is part of the Pennask batholith.

Scattered outcrops of molybdenum and copper mineralization occur over a 1000 metres (north-south) by 1100 metres (east-west) area immediately west of George and Long lakes. This mineralization consists of chalcopyrite and molybdenite, as fracture coatings or in quartz veins. Minor malachite is present throughout the mineralized area. Stronger mineralization occurs along subvertical fractures and veins striking northeast. Fractures lined with secondary biotite commonly host chalcopyrite and minor molybdenite.

Noranda Exploration Company Ltd. conducted various geological, geophysical and soil geochemical surveys over the showing between 1965 and 1970. The company also drilled 5 holes immediately west of George Lake during this time. The occurrence was then geologically mapped and soil sampled by Brenda Mines Ltd. in 1981.

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 97
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1992/07/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE049**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN 2, EJ**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 21 N
LONGITUDE: 120 29 28 W
ELEVATION: 1509 Metres

NORTHING: 5508946
EASTING: 680890

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite-malachite showing 1.6 kilometres east of Summers Creek,
8.35 kilometres due north of the confluence of Swanson and Rampart
creeks (Assessment Report 9821, Figure 2).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Tuff Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

The Golden 2 showing is 1.6 kilometres east of Summers Creek,
8.35 kilometres due north of the confluence of Swanson and Rampart
creeks.

Chalcopyrite and malachite occur together with quartz, calcite
and epidote in an outcrop of tuff breccia and lahar deposits of the
Upper Triassic Nicola Group (Eastern belt, Bulletin 69).

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DATE CODED: 1992/06/08
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE050**

NATIONAL MINERAL INVENTORY:

NAME(S): **OK, COP, BSM,
PIP, RABBIT**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 38 36 N
LONGITUDE: 120 30 09 W
ELEVATION: 1158 Metres

NORTHING: 5501971
EASTING: 680300

LOCATION ACCURACY: Within 500M

COMMENTS: Drillhole R.H. 5 on the OK 23 claim, 500 metres northeast of Summers Creek, 4.6 kilometres north-northwest of the creek's confluence with Rampart Creek, and 20 kilometres north of Princeton (Assessment Report 4166, Map 1).

COMMODITIES: Copper Molybdenum Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Bornite
ASSOCIATED: Magnetite
ALTERATION: Epidote Chlorite Silica Orthoclase Malachite
ALTERATION TYPE: Propylitic Silicific'n Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1000 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of drilling.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Cretaceous	Nicola	Undefined Formation	Summers Creek Pluton

ISOTOPIC AGE: 96.8 +/- 2.6 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

LITHOLOGY: Porphyritic Andesitic Basaltic Flow
Andesitic Basaltic Flow Breccia
Basalt
Andesite
Quartz Diorite
Andesitic Tuff
Andesitic Agglomerate

HOSTROCK COMMENTS: Isotopic age date for the Summers Creek pluton is from Bulletin 69, Figure 1.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

CAPSULE GEOLOGY

The OK prospect outcrops along the steep east side of the Summers Creek valley, about 20 kilometres north of Princeton. This area along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. These rocks are intruded by granodiorite and quartz diorite of the Middle to Late Cretaceous Summers Creek pluton. Copper and molybdenum mineralization is hosted in augite plagioclase porphyritic, andesitic to basaltic flows and flow breccias, and andesitic tuffs and agglomerates of the Nicola Group (Eastern belt, Bulletin 69), and in quartz diorite of the Summers Creek pluton. These rocks exhibit epidote, chlorite, silica and orthoclase alteration. Malachite is occasionally present in surface exposures. Drilling over a north-south distance of about 1 kilometre intersected pyrite, chalcopyrite, molybdenite and magnetite, along

CAPSULE GEOLOGY

fractures and as disseminations in brecciated quartz diorite, and in the surrounding volcanics. This mineralization appears to be zoned. Pyrite grades eastward through weak pyrite-chalcopyrite to pyrite-magnetite-molybdenite. Core from four rotary holes also analysed minor silver values (Assessment Report 4166, page 2). In the northeastern part of the area of drilling, outcrops of agglomerate are mineralized with chalcopyrite and bornite along fractures. Chalcopyrite is also disseminated through granitic clasts in the agglomerate.

This prospect was initially explored by Quintana Minerals Corporation with the drilling of four rotary holes totalling 807 metres in 1968. An additional five percussion holes totalling 152 metres were drilled by Kalco Valley Mines Ltd. in 1970. Amax Potash Ltd., Iso Explorations Ltd. and R.B. Stokes conducted geological, geophysical and soil geochemical surveys in 1971 and 1972. Amax also completed 244 metres of diamond drilling in two holes in 1971. After being restaked in 1980, Cominco Ltd. conducted geological, soil geochemical and geophysical surveys in 1981 and 1982.

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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE051**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRESCENT LAKE, TRAVIS, MOSS,
CHUB, MYRTLE, DIK,
LEN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:
LATITUDE: 49 47 15 N
LONGITUDE: 120 04 04 W
ELEVATION: 1524 Metres
LOCATION ACCURACY: Within 500M

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5519130
EASTING: 711053

COMMENTS: Approximate centre of area of scattered molybdenite occurrences, 2.1 kilometres south-southeast of Crescent Lake and 2.25 kilometres west-northwest of Chapman Lake (Assessment Report 9123, Figure 15).

COMMODITIES: Molybdenum Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Pyrite Molybdenite Galena Sphalerite Chalcocopyrite
ASSOCIATED: Quartz Sericite Fluorite
ALTERATION: Sericite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 800 x 600 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized area.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Pennask Batholith
ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Orthoclase Porphyritic Granite
Granite
Altered Granite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the southern margin of the Pennask batholith.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 165.0000 Grams per tonne
Molybdenum 0.0170 Per cent
Lead 0.1850 Per cent
Zinc 0.0020 Per cent
COMMENTS: Selected sample of mineralized quartz-sericite.
REFERENCE: Assessment Report 9123, page 10.

CAPSULE GEOLOGY

This showing outcrops on the steep north slope of Mount Kathleen, southeast of Trout Creek, centred 2.1 kilometres south-southeast of Crescent Lake and 2.25 kilometres west-northwest of Chapman Lake.

The Crescent Lake occurrence is hosted in medium to coarse-grained, orthoclase porphyritic granite of the Early Jurassic Pennask batholith.

Various forms of molybdenum-lead mineralization outcrop over an 800 (north-south) by 600 (east-west) metres area in the vicinity of

CAPSULE GEOLOGY

the contact between phyllic-altered granite to the north and relatively fresh granite to the south. The altered granite contains minor disseminated molybdenite and pyrite.

Granite-hosted veins and isolated outcrops of quartz-sericite are mineralized with abundant disseminated and stringer pyrite, and minor disseminations and fracture fillings of molybdenite and galena. The quartz-sericite consists of a strong intergrowth of quartz and sericite that may be altered granite or a separate intrusion. A selected sample of mineralized quartz-sericite assayed 0.017 per cent molybdenum, 0.185 per cent lead, 0.002 per cent zinc and 165 grams per tonne silver (Assessment Report 9123, page 10).

The altered and fresh granite is cut by clear quartz veins, 0.2 to 1 centimetre wide, locally forming stockworks. The veins contain fine-grained pyrite, molybdenite and galena along their margins. A second series of quartz veins, possibly derived from a different mineralizing event, contain sphalerite, galena and chalcopyrite. White, purple and light green fluorite veins tend to be associated with these quartz veins.

The showing was first prospected and soil sampled by Brenmac Mines Ltd. and Brencoll Mines Ltd. in 1966 and 1967. Brenda Mines Ltd., operator of the nearby Brenda mine (092HNE047), carried out geological mapping and soil sampling in 1980, and drilled several holes in 1981. The company conducted additional diamond drilling in 1987, after completing geological and geophysical surveys in the same year.

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EMPR EXPL 1980-214; 1981-205; 1988-C108
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE052**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAB, BLUEJAY, SNOWFLAKE,
KM, BAT, GROVE,
TAB 1-5**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 49 58 23 N
LONGITUDE: 120 35 53 W
ELEVATION: 1095 Metres

NORTHING: 5538400
EASTING: 672228

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Zone 1, 700 metres northwest of the northern end of Tule Lake, 4.5 kilometres north-northeast of the community of Aspen Grove (Assessment Report 9386, Map SF-81-2).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Copper Chalcocite Bornite
COMMENTS: Chalcopyrite and native copper are finely disseminated.

ASSOCIATED: Magnetite
ALTERATION: Epidote Calcite Chlorite Albite Quartz
Biotite Hematite Malachite

COMMENTS: Secondary potassium feldspar is also present. Epidote and calcite also occur in veins.

ALTERATION TYPE: Propylitic Carbonate Silicific'n Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Igneous-contact Epigenetic
TYPE: D03 Volcanic redbed Cu L03 Alkalic porphyry Cu-Au
SHAPE: Irregular

DIMENSION: 1000 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Faults and fractures in the area strike north.
Mineralization is contained in an elongate area trending east-northeast for 1000 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
FORMATION: Undefined Formation
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Diorite
Porphyritic Diorite
Porphyritic Gabbro
Porphyritic Andesitic Basaltic Rock
Siltstone
Volcaniclastic
Volcanic Breccia
Hybrid Volcanic Intrusive
Porphyritic Monzonite

HOSTROCK COMMENTS: Hosted in the Central belt of the Nicola Group, including comagmatic intrusive rocks (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY: Silver GRADE: 3.9000 Grams per tonne
COMMENTS: Geochemical analysis of rock sample.
REFERENCE: Assessment Report 13714.

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1978

SAMPLE TYPE: Channel

COMMODITY

GRADE

Copper

1.6000

Per cent

COMMENTS: Sample taken over 3 metres.

REFERENCE: Assessment Report 7122.

CAPSULE GEOLOGY

The Tab occurrence covers a small group of showings of copper mineralization in part of the historical Aspen Grove copper camp, between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. It is centred on a zone of mineralization called Zone 1 in Assessment Report 9386. This is located 1 kilometre east of Highway 5, about 4 kilometres north of the community of Aspen Grove, 700 metres northwest of the northern end of Tule Lake. The Blue Jay prospect (092HNE105) is about 500 metres to the north.

The occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The Tab occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). These rocks mainly consist of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillite and limestone. Locally the strata strike north to northwest and dip southwest. The volcanics are intruded by a north-trending body of comagmatic diorite to monzonite, about 500 metres wide, of Late Triassic to Early Jurassic age. The area is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. East-striking faults are subordinate, and commonly offset intrusive contacts.

The area around the Tab occurrence is underlain by fine-grained porphyritic basaltic and andesitic volcanics and equivalent volcanoclastics, and minor sedimentary rocks, and a composite body of fine, medium and coarse-grained diorite and porphyritic monzonite. Hybrid or gradational volcanic-intrusive characteristics in some rocks in the contact area support a comagmatic origin. Most rocks contain fracture-related and disseminated pyrite and magnetite. Patterns of induced polarization and ground magnetic response correlate well with the concentration of pyrite (Assessment Reports 7122, 6260). The best copper mineralization occurs in rocks with little or no pyrite, that is, on the flanks of the induced polarization conductors (Assessment Report 7122).

Hydrothermal alteration and mineralization is strongest in a zone measuring at least 1100 by 120 metres that straddles the volcanics to the west and the fine-grained margin of the dioritic intrusion to the east (Assessment Reports 6260, 7122). The Tab occurrence is near the southern end of this zone (the Blue Jay occurrence, 092HNE105, is near the northern end). This zone is also characterized by strong fracturing, brecciation in the diorite, and by above-average pyrite. The alteration is propylitic and carbonate, there being widespread epidote (especially along fractures), calcite, chlorite, albite, quartz, biotite, hematite, and secondary potassium feldspar, although some of these minerals may represent metamorphic recrystallization (Assessment Report 7122).

Mineralization is exposed over a north-south distance of 300 metres in numerous trenches in this volcanic-intrusive contact zone, which has also been explored by percussion and diamond drilling (Assessment Report 9386). At the Tab showing, fine patchy disseminated chalcopyrite, pyrite and minor malachite occur in altered and fractured porphyritic diorite/gabbro, which is gradational westwards with andesitic and basaltic volcanics and siltstones (Preliminary Maps 10, 15; Bulletin 69; Assessment Reports 3555, 5875, 6260, 13714, 22148). Biotite alteration is pervasive here (Assessment Report 3555).

Copper values are low grade and erratic, and are generally proportional to the degree of alteration and fracturing, although the primary control appears to be the contact zone of the dioritic intrusion (Assessment Report 9386). The best copper assay from the surface at the Tab showing was 1.6 per cent over 3 metres in a trench (Assessment Report 7122). The best intersections in percussion-drill

CAPSULE GEOLOGY

holes in the area were 0.26 per cent copper over 18.3 metres (hole BJP-7, 79.2 to 97.5 metres), and 0.115 per cent copper over 24.4 metres (hole BJP-1, 51.8 to 76.2 metres) (Assessment Report 7122, Plate 2; Vancouver Stockwatch Jan. 4, 1990, page 10). Precious metal values are low, the maximum being 1.4 grams per tonne silver (Assessment Report 9386). One chip sample analysed 0.17 gram per tonne gold and 1.6 per cent copper over 2.0 metres (Assessment Report 22148, page 18). Silver geochemical anomalies correlate more with magnetic and induced polarization highs, which reflect pyrite content, than with copper anomalies, which is consistent with the inverse relationship between pyrite and copper mineralization (Assessment Report 6260).

Additional copper mineralization is found in an area extending up to 1000 metres west-southwest of the main showing. One showing exposed in numerous trenches, 500 metres southwest, consists of epidote and calcite-veined purple andesitic breccia with minor native copper, chalcocite and malachite mineralization. One rock sample analysed 3.9 grams per tonne silver (Assessment Report 13714).

A third showing lies about 500 metres farther southwest. Here, a shaft and adit contain bornite, chalcopyrite and malachite in green volcanic and laharic breccia.

The Tab prospect has been explored by various operators, beginning with Granby Mining, Smelting and Power Company Ltd. in 1958, which completed a magnetometer survey over the occurrence. Norranco Mining and Refining drilled one hole in 1969 and conducted additional magnetometer surveying in 1971. Cominco Ltd. drilled a number of percussion holes in 1978 and 1979, with negative results. Snowflake Mining Company and Laramide Resources Ltd. completed geological and rock geochemical surveys in 1981 and 1985. Similar surveys were conducted by Quilchena Resources Ltd. in 1991.

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EMPR MAP *10 (1973); *15 (1974)
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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/12

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE053**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIT**, HIT 1, HIT AND MISS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 06 N
LONGITUDE: 120 31 50 W
ELEVATION: 1384 Metres

NORTHING: 5508389
EASTING: 678062

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the main gold-bearing quartz vein in the Hit zone, 1.1 kilometres west of Summers Creek, 2.0 kilometres north-northeast of the summit of Missezula Mountain and 26.5 kilometres north of Princeton (Assessment Report 21402, Figure 5).

COMMODITIES: Gold Silver Zinc Copper Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite Galena Chalcocite
ASSOCIATED: Quartz Carbonate
ALTERATION: Carbonate Sericite Clay Malachite Azurite
ALTERATION TYPE: Carbonate Sericitic Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I02 Intrusion-related Au pyrrhotite veins
DIMENSION: 380 x 100 Metres STRIKE/DIP: 360/
COMMENTS: Mineralization is hosted in a shear zone striking north to northwest over a strike length of at least 380 metres, and varying from 30 to 100 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Tuff
Trachytic Basalt Porphyry
Pyroxene Andesite
Limestone
Plagioclase Porphyritic Andesitic Flow
Agglomerate

HOSTROCK COMMENTS: This prospect is in the Central volcanic facies, near the contact with the Eastern volcanic facies of the Nicola Group.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Channel
COMMODITY GRADE
Silver 119.0000 Grams per tonne
Gold 12.3000 Grams per tonne

COMMENTS: Average grade of main quartz vein system over a strike length of 109.7 metres and an average width of 1.4 metres.

REFERENCE: Assessment Report 21402, page 13, Figure 11.

CAPSULE GEOLOGY

The Hit prospect is centred 1.1 kilometres west of Summers Creek, 2.0 kilometres north-northeast of the summit of Missezula Mountain and 26.5 kilometres north of Princeton.

This area along Summers Creek is underlain by the Central and Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The deposit is hosted in the Central volcanic facies, a north-trending sequence of plagioclase

CAPSULE GEOLOGY

porphyritic andesitic flows, tuffs and agglomerates, dipping about 30 degrees east. The volcanics contain a sericitic felsic unit that is believed to be the altered equivalent of a trachybasalt porphyry found farther south.

A shear zone, striking north to northwest for at least 380 metres, cuts tuff, altered porphyry and pyroxene andesite. The zone dips 60 to 70 degrees east and widens southward from 30 metres at its north end to about 100 metres at its south end.

The volcanics are extensively fractured, sheared and altered within the zone, especially the tuffs and trachybasalt porphyry. The tuffs are carbonatized and clay altered, and the porphyry is variably sericite and clay altered.

Mineralization is hosted in quartz veins and stockworks occurring throughout the shear zone. Individual veins are less than 1 millimetre to 2 metres wide and are most commonly concordant with shearing. The veins contain scattered grains of sulphides, mostly pyrite, and locally sphalerite, chalcopyrite and galena. Sulphide content is related to vein size and density of fracturing. Malachite is developed in surface exposures. Galena tends to be associated with elevated gold and silver values. Channel sampling of a prominent north-trending quartz vein system, in the southern half of the shear zone, yielded an average grade of 12.3 grams per tonne gold and 119 grams per tonne silver over a strike length of 109.7 metres and an average width of 1.4 metres (Assessment Report 21402, page 13, Figure 11). A heavily mineralized grab sample assayed 206 grams per tonne gold (Assessment Report 21402, page 13). Two angled drillholes intersected weakly pyritic quartz veins in weakly and erratically mineralized fault gouge and alteration zones, suggesting that the main quartz vein system has been displaced or warped into a steeper plane. Gold values in drill core ranged up to 0.60 gram per tonne (Assessment Report 22084, page 10).

A series of irregular limestone-hosted shears occur about 170 metres southwest of the south end of the prominent quartz vein system. Small quartz-carbonate veins and stockworks associated with the north-striking, steep dipping shears contain scattered grains of pyrite, galena, chalcopyrite, chalcocite and sphalerite. Malachite and azurite are also present. A rock sample analysed 0.002 gram per tonne gold, 23.7 grams per tonne silver, 0.0499 per cent copper and 0.791 per cent lead (Assessment Report 22084, Figure 5a, sample 12520).

This prospect was discovered by Vanco Explorations Ltd. in 1990, after trenching in an area of gold-bearing quartz vein float uncovered by logging operations. The company completed geological, geophysical and rock geochemical surveys in addition to 853 metres of trenching in 1990. Additional trenches were excavated in 1991 to test the northern and southern extensions of the shear zone. These trenches were largely unsuccessful in reaching bedrock. Vanco Explorations also drilled two holes totalling 186 metres in 1991.

Cassidy Gold Corp. concluded an option agreement in June 2002 to acquire the property.

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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
PR REL Cassidy Gold Corp., June 17, 2002
WWW <http://www.cassidygold.com/index.php>

DATE CODED: 1992/08/12
DATE REVISED: 1992/12/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE054**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN 1**, EJ

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 52 N
LONGITUDE: 120 29 54 W
ELEVATION: 1487 Metres

NORTHING: 5508034
EASTING: 680399

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of mineralized zone, 3.4 kilometres northeast of the summit of Missezula Mountain, 5.65 kilometres southeast of the B.C. Telephone microwave tower (Assessment Report 9821, Figure 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcocite Chalcopyrite
ALTERATION: Limonite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 340 x 70 Metres
COMMENTS: Gossan zone.

STRIKE/DIP: TREND/PLUNGE: 160/

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Tuff
Tuff Breccia
Lahar
Agglomerate

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

CAPSULE GEOLOGY

The Golden 1 showing outcrops on the steep west-facing slope of the Summers Creek valley, 3.4 kilometres northeast of the summit of Missezula Mountain.

A gossanous zone trends 160 degrees for up to 340 metres in a section of tuff and tuff breccia with minor lahar deposits and agglomerate of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). The zone is up to 70 metres wide and gradually narrows to the southeast. Mineralization consists of malachite, bornite, chalcocite and chalcopyrite. Samples taken from the zone have assayed over 1 per cent copper (Assessment Report 9821, page 5).

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GSC MEM 243
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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/08
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE054**

MINFILE NUMBER: **092HNE055**

NATIONAL MINERAL INVENTORY: 092H16 Cu2

NAME(S): **PRIMER (SOUTH ZONE)**, DILL, PRIME,
OC, PRIMER 21

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W 092H09W
BC MAP:

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 22 N
LONGITUDE: 120 27 36 W
ELEVATION: 1445 Metres

NORTHING: 5514611
EASTING: 682944

LOCATION ACCURACY: Within 500M
COMMENTS: Collar of drillhole 66-1, 3.0 kilometres east-southeast of the south end of Missezula Lake and 33.5 kilometres north-northeast of Princeton (Assessment Report 2354, Map 2).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Calcite Quartz Magnetite
ALTERATION: Chlorite Epidote Clay Sericite Silica
Albite Orthoclase Limonite

COMMENTS: Also malachite in gossanous andesite.
ALTERATION TYPE: Propylitic Argillic Sericitic Silicific'n Potassic
Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 440 x 140 Metres STRIKE/DIP:
COMMENTS: Mineralization is contained in two west-trending zones, about 400 metres apart. The northern zone is 440 metres long and up to 140 metres wide, while the southern zone is 740 metres long.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Plagioclase Hornblende Porphyritic Andesite
Hornblende Porphyritic Diorite
Monzodiorite
Monzonite
Feldspar Porphyritic Dike
Trachyandesite
Dacite

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1969

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper

0.2500

Per cent

COMMENTS: Average grade over 207.0 metres.

REFERENCE: Assessment Report 2354, core logs, hole 69-1.

CAPSULE GEOLOGY

The Primer (South zone) prospect is 3 to 4 kilometres east-southeast of the south end of Missezula Lake and 33 to 33.5 kilometres north-northeast of Princeton. The Primer (North zone) occurrence (092HNE056) is 1.5 kilometres northwest.

This region in the vicinity of Missezula Lake is underlain by

CAPSULE GEOLOGY

the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

The deposit is comprised of two west-trending zones of copper mineralization. The northernmost zone is hosted largely in variably plagioclase and hornblende porphyritic andesite, and minor trachyandesite and dacite, of the Nicola Group (Eastern belt, Bulletin 69). The southern zone lies almost entirely in variably hornblende porphyritic diorite, locally grading to monzodiorite and monzonite/micromonzonite. The intrusives and volcanics are cut by feldspar porphyritic dikes. The andesite is highly altered, fractured and oxidized in places. Secondary minerals include chlorite, silica and epidote. Albite and rare orthoclase flooding are evident along calcite, pyrite and epidote stringers. The intrusions exhibit propylitic (chlorite, albite, epidote) and occasional sericitic and argillic alteration and traces of secondary orthoclase. This alteration assemblage is generally associated with stronger fracturing and shearing. Sericitic and argillic alteration is usually quite intense in the micromonzonite. Both the andesite and the intrusions commonly contain veins of calcite and quartz. Gypsum (selenite/anhydrite (?)) veins are particularly abundant in the northern zone, and rare in the southern zone.

Mineralization consists of pyrite and chalcopyrite and trace pyrrhotite as disseminations, blebs, veins and fracture fillings. Chalcopyrite and pyrite commonly occur as disseminations along fractures and to a lesser extent as fine seams and blebs in andesite of the northern zone. The two minerals are also found in calcite and quartz veins and in association with chlorite, epidote and silicic alteration in this zone. Chalcopyrite blebs are sometimes rimmed by epidote or cored by magnetite. The sulphides occur primarily as disseminations and blebs in the southern zone. Chalcopyrite is also found here in calcite +/- pyrite and quartz veins and chlorite and epidote stringers. Chalcopyrite to pyrite ratios are about 1 to 5 for both zones. Malachite is developed along fractures in strongly fractured and gossanous andesite. One to three per cent fine disseminated magnetite is present in the andesite, which tends to increase with increasing amounts of chalcopyrite.

Diamond drilling and trenching in the northern zone has defined an area of copper mineralization trending west for 440 metres and varying up to 140 metres wide. The zone is developed along the northern margin of a largely barren, west trending dike-like body of diorite. One angled drillhole yielded 0.22 per cent copper over 116.7 metres (Assessment Report 2354, core logs, hole 66-1). A second hole drilled 380 metres east graded 0.15 per cent copper and 0.061 gram per tonne gold over 67.1 metres (Assessment Report 22220, Table 3, hole D91-3). Drilling 400 metres to the south has intersected significant copper mineralization in diorite and altered micromonzonite, within a zone trending west-northwest for 740 metres. An angled hole drilled in the central part of this zone, 712 metres southeast of hole 66-1, yielded 0.25 per cent copper over 207.0 metres (Assessment Report 2354, core logs, holes 69-1). A second hole drilled 360 metres east-southeast of hole 69-1 yielded 0.11 per cent copper over 90.8 metres (Assessment Report 2354, core logs, hole 69-5). Gold values in drill core ranged from nil to 0.7 gram per tonne (Assessment Reports 2354, 22220).

This prospect was initially explored by McIntyre Porcupine Mines Ltd. in 1962, after optioning the property from Primer Group Minerals Ltd. The company completed various geophysical and soil geochemical surveys before giving up the option. Primer Group Minerals continued to explore the deposit, conducting some stripping in 1965 and drilling 18 diamond-drill holes totalling 2320 metres and three percussion holes totalling 201 metres between 1966 and 1969. Additional geological, soil geochemical and magnetometer surveys were completed by the company in 1968 and 1969. Piper Petroleum Ltd. conducted geological mapping and magnetometer surveying between 1978 and 1980. The deposit was restaked by Fairfield Minerals Ltd. in 1989 and operated by Placer Dome Inc. in 1990 and 1991. Placer Dome drilled eleven holes totalling 2030 metres after completing soil and geophysical surveys.

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EMPR ASS RPT *2354, 2355, 2356, *6877, 7340, *7521, 8364, 21198,
*22220

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EMPR BULL 69
EMPR EXPL 1978-E154; 1979-158,159, 1980-209,210
EMPR GEM 1969-279; 1971-277,278
EMPR P 1981-2
EMPR PF (*Fairfield Minerals Ltd. (1990): Annual Report (see 092HNE096); Malcolm, D.C. (1976): Report on the Prime Group of Claims, in Piper Petroleum Ltd. (1977): Prospectus, Vancouver Stock Exchange, pp. 28-42 (see 092HNE056); *Northcote, K.E. (1991): Petrographic descriptions of drill core - Dill project, Vancouver Petrographics Ltd.; *Pringle, D.W. (1969): Primer Group Minerals Ltd., Missezula Lake Area, Geological and Engineering Report, with accompanying 1 to 2400 scale plan of drilling and trenching on the South zone prepared by L.J. Manning and Associates Ltd. (1968), and 1 to 12,000 scale tectonic anomaly map prepared by D.A. Chapman and Associates Ltd. (1968))
EMR MP CORPFILE (Lada Development Ltd., Cordero Mining Company, Piper Petroleum Ltd.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
N MINER Sept. 23, 1991
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HNE056**

NATIONAL MINERAL INVENTORY: 092H16 Cu2

NAME(S): **PRIMER (NORTH ZONE)**, PRIME, OB,
KING GEORGE

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 46 04 N
LONGITUDE: 120 28 29 W
ELEVATION: 1250 Metres

NORTHING: 5515872
EASTING: 681840

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 68-8, 1.7 kilometres east of the south end of
Missezula Lake and 34.5 kilometres north-northeast of Princeton
(Assessment Report 2354, Map 2).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Gypsum Quartz Carbonate Magnetite
ALTERATION: Chlorite Epidote Albite Carbonate Sericite
Kaolinite Limonite Malachite

COMMENTS: Also azurite.
ALTERATION TYPE: Propylitic Carbonate Sericitic Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 850 x 200 x 170 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Copper mineralization in a zone trending west-southwest for 850 metres
and up to 170 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Plagioclase Hornblende Porphyritic Andesite
Diorite
Microdiorite
Schist
Diorite Hornblende Porphyritic Dike

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: PRIMER (NORTH) REPORT ON: Y
CATEGORY: Unclassified YEAR: 1973
QUANTITY: 23000000 Tonnes
COMMODITY GRADE
Copper 0.2000 Per cent
REFERENCE: CIM Special Volume 15, Table 1, Occurrence No. 20.

CAPSULE GEOLOGY

The Primer (North zone) prospect is 1.0 to 1.8 kilometres east of the south end of Missezula Lake and 34.5 kilometres north-northeast of Princeton. The Primer (South zone) occurrence (092HNE055) is 1.5 kilometres southeast.

This region in the vicinity of Missezula Lake is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from

CAPSULE GEOLOGY

Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

The deposit is largely hosted in variably plagioclase and hornblende porphyritic andesite of the Nicola Group (Eastern belt, Bulletin 69). A body of diorite and microdiorite, possibly related to the andesite, lies immediately northwest of the deposit. Short sections of schist and occasional hornblende porphyritic diorite dikes occur at depth in the andesite.

The hostrocks are hydrothermally altered in areas of stronger shearing and fracturing. Secondary minerals include chlorite, epidote, albite, carbonate, sericite and kaolinite. The andesite is cut by a prominent set of steeply dipping, north-northwest striking shears and fractures. Numerous northwest and northeast striking shear zones are also evident. Gypsum (selenite) veins are frequent, while quartz and calcite veins are less common.

Mineralization consists of pyrite and chalcopyrite, generally as veins and fracture fillings, but also as disseminations and blebs. Gossanous zones of stronger shearing, fracturing and alteration contain 3 to 20 per cent pyrite, 1 to 3 per cent magnetite and trace to 1 per cent chalcopyrite. Chalcopyrite to pyrite ratios are about 1 to 3. Malachite and azurite accompany chalcopyrite and pyrite in trenches with intensely fractured and sheared andesite. These surface exposures suggest stronger mineralization is controlled by shearing. Disseminated chalcopyrite and pyrite are also found in chloritized andesite. Magnetite occurs as veinlets and is present in chalcopyrite seams in minor amounts. Chalcopyrite is also associated with epidote alteration and to a minor extent, carbonate-quartz veining.

Exploration work has outlined a zone of erratic copper mineralization with anomalous gold values that trends west-southwest for 850 metres and varies from 150 to 170 metres wide over most of its length. Diamond drilling intersected significant copper mineralization to depths of 200 metres. An angled drillhole in the eastern part of the deposit yielded 0.47 per cent copper over 30.5 metres (L. Manning and Associates Ltd, 1968, hole 65-1). Two other holes drilled 127 metres north and 440 metres west of hole 65-1 yielded 0.495 and 0.119 per cent copper over 43.1 and 128.0 metres respectively (Assessment Report 2354, core logs, holes 67-7, 68-2). Unclassified reserves are 23 million tonnes grading 0.20 per cent copper (CIM Special Volume 15, Table 1, Occurrence No. 20). Gold values in drill core ranged from nil to 1 gram per tonne (Assessment Report 2354).

A grab sample of brecciated calcic volcanics with abundant chalcopyrite assayed 4.81 per cent copper, 2.7 grams per tonne gold and 51.1 grams per tonne silver (Assessment Report 21198, section 11.0 - analytical results, sample PN-R3).

This occurrence was initially staked and trenched by local prospectors between 1937 and 1941. Primer Group Minerals Ltd. optioned the property to McIntyre Porcupine Mines Ltd in 1962, after acquiring the property in 1961. The company completed various geological, soil geochemical and geophysical surveys before giving up the option. Primer Group Minerals continued to explore the deposit, drilling 15 diamond-drill holes totalling 1402 metres and seven percussion holes totalling 390 metres between 1965 and 1968. Additional geological, soil geochemical and magnetometer surveys were completed by the company in 1969. Giant Piper Exploration Inc. (formerly Piper Petroleum Ltd.) and Consolidated Silver Butte Mines Ltd. conducted minor surface exploration in 1977, 1978 and 1987.

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EMPR ASS RPT 493, *2354, 2355, 2356, *6412, *6900, 8241, 16985, 17077, *21198
EMPR BULL 69
EMPR EXPL 1977-E137; 1978-E154; 1980-209,210; 1988-C108,C109
EMPR GEM 1969-279; 1972-128; 1973-160
EMPR P 1981-2
EMPR PF (*Pringle, D.W. (1969): Primer Group Minerals Ltd., Missezula Lake Area, Geological and Engineering Report, with accompanying 1 to 2400 scale plan of drilling and trenching on the North zone prepared by L.J. Manning and Associates Ltd (1968), and 1 to 12,000 scale tectonic anomaly map prepared by D.A. Chapman and Associates Ltd. (1968) (see 092HNE055); Malcolm, D.C. (1976): Report on the Prime Group of Claims, in Piper Petroleum Ltd. (1977): Prospectus, Vancouver Stock Exchange, pp. 28-42)
EMR MIN BULL MR 223 B.C. 126
EMR MP CORPFILE (Lada Development Ltd., Cordero Mining Company, Piper Petroleum Ltd.)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 114
REPORT: RGEN0100

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GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243, pp. 92,93
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CIM Special Volume 15, Table 1, Map B (Occurrence 20) (1976)
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HNE057**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAC**

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 07 N
LONGITUDE: 120 00 11 W
ELEVATION: 1548 Metres

NORTHING: 5528330
EASTING: 715350

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrop in a southeast-flowing tributary of Peachland Creek on the Mac claim group, 700 metres northeast of Peachland Creek and 3.2 kilometres southeast of the south end of Brenda Lake (Minister of Mines Annual Report 1966, page 185). See also 082ENW001 (Mac) and 092HNE047 (Brenda Mine).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite
ASSOCIATED: Quartz Orthoclase
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Mac showing occurs between Peachland Creek to the south and the open pit of the Brenda mine (092HNE047) to the north, about 3.2 kilometres southeast of Brenda Lake. See also 082ENW001 (Mac).

Fractured granodiorite of the Early Jurassic Pennask batholith is mineralized with small amounts of chalcopyrite and pyrite on, or near, quartz+/-orthoclase veins. Diamond drilling intersected minor molybdenite and copper mineralization in granodiorite.

Anuk River Mines Ltd. drilled 15 diamond drillholes totalling 1207 metres and 23 percussion holes in 1966.

BIBLIOGRAPHY

EMPR AR *1966-184,185; 1967-183,205
EMPR ASS RPT 9261
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/08/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE058**

NATIONAL MINERAL INVENTORY:

NAME(S): **HN-WEN**, HILL 2,4,11,13, ECHO

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

Underground

MINING DIVISION: Nicola

LATITUDE: 49 56 29 N
LONGITUDE: 120 26 48 W
ELEVATION: 1271 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5535239
EASTING: 683202

LOCATION ACCURACY: Within 500M

COMMENTS: Located on adit number 1 (nearest shaft) in the middle of the mineralized zone, between Quilchena and Pothole creeks, 8 kilometres west of Boot Lake, 13 kilometres east of the community of Aspen Grove (Assessment Report 4230, Map 16).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Pyrrhotite
ASSOCIATED: Quartz Calcite Hematite
ALTERATION: Epidote Quartz Carbonate
Malachite Azurite Limonite

Chlorite Pyrite

ALTERATION TYPE: Epidote Silicific'n Carbonate Chloritic Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Discordant
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

SHAPE: Tabular

DIMENSION: 760 x 90 x 75 Metres STRIKE/DIP: 160/85E

TREND/PLUNGE:

COMMENTS: Mineralized zone is not concordant with strata which strikes 130 degrees and dips 40 degrees southwest.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Pennask Batholith

LITHOLOGY: Augite Porphyritic Andesitic Flow
Augite Porphyritic Basaltic Flow
Andesite
Basalt
Volcanic Tuff
Volcanic Breccia
Argillite
Limy Argillite
Feldspar Porphyry
Diorite

HOSTROCK COMMENTS: Hosted in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1972

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Silver

3.4000

Grams per tonne

Copper

1.1200

Per cent

COMMENTS: Over 1.5 metres, from drillhole HNS 72-1.

REFERENCE: Assessment Report 4230.

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1972

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver 92.6000 Grams per tonne

Gold 0.7000 Grams per tonne

Copper 4.3900 Per cent

COMMENTS: Chip sample assay over 1.5 metres in oxidized material which may not be representative of deposit grade.

REFERENCE: Assessment Report 4230.

CAPSULE GEOLOGY

The HN-WEN occurrence consists of copper mineralization in an area east of the historical Aspen Grove copper camp, between Merritt and Princeton. The occurrence is centred on one of a number of adits in the main mineralized zone, between Quilchena and Pothole creeks, 8 kilometres west of Boot Lake, and 13 kilometres east of the community of Aspen Grove. Adits and trenches were initially cut around 1900; later work included diamond drilling and trenching in the 1960s and 1970s.

The HN-WEN occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of well-bedded submarine volcanoclastic rocks and volcanic flows. The main Aspen Grove copper camp lies several kilometres to the west in the Central belt, separated by the north-striking Kentucky-Alleyne fault system (Bulletin 69).

The area of the occurrence is underlain by augite porphyritic volcanic flows of andesitic to basaltic composition, fragmental rocks including tuff and breccia, and argillites (Assessment Reports 1586, 4230). The argillites are dark grey to black, well bedded, and locally limy. They are somewhat carbonaceous and pyritic. Minor rock types present include feldspar porphyry and locally lenses of diorite. About 2.5 kilometres to the northeast is the contact with the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite.

The contact between the volcanic rocks and the argillites passes through the centre of the mineralized area. The contact is parallel to bedding, striking 130 degrees and dipping 40 degrees southwest, with the volcanic rocks on the northeast side (Assessment Report 4230).

The mineralization is restricted to the volcanics. It is exposed in 3 adits and at least 8 trenches, and is marked by alteration, mainly epidotization, silicification, carbonatization, moderate chloritization and local pyritization. Chalcopyrite is the only copper mineral: it is disseminated, or concentrated in quartz and calcite veins and veinlets between 0.3 and 30 centimetres thick, usually about 8 centimetres thick. Pyrite, pyrrhotite and rare specular hematite are also present in the veins. Locally oxidation has produced abundant malachite, azurite and limonite.

The mineralized zone measures 760 by 90 metres and has a depth of about 75 metres. Diamond drilling indicates that it strikes 160 degrees and dips vertically or steeply east, so it is not parallel to the volcanic-sedimentary contact, indicating that the contact is not the controlling factor. Rather, the veins hosting the mineralization are structurally controlled by numerous faults and fractures which consistently strike 160 degrees and dip 85 degrees east (Assessment Report 4230). Incidentally, the Echo occurrence (092HNE059) lies on this trend, 2 kilometres to the north-northwest, and the mineralization may also extend south-southeast of the HN-WEN occurrence (Assessment Report 4230).

Some significant copper and silver values have been obtained from the workings and diamond drill core. A 1.5-metre chip sample from Adit Number 1 was assayed at 4.39 per cent copper, 92.6 grams per tonne silver, and 0.7 gram per tonne gold (Assessment Report 4230). A grab sample from here was assayed at 4.84 per cent copper, 46.6 grams per tonne silver and 0.7 gram per tonne gold (Assessment Report 4230). Both samples were from oxidized material and may not be representative of grade throughout the deposit (Assessment Report 4230). A drill core sample (hole HNS 72-1) assayed 1.12 per cent copper and 3.4 grams per tonne silver (Assessment Report 4230).

CAPSULE GEOLOGY

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

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EMPR ASS RPT 403, 1089, *1586, 1953, *4230
EMPR BULL 69
EMPR GEM 1973-162
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
PR REL Commerce Resources Corp., June 14, Sept.27, 2002
<http://www.commerceresources.com/s/Properties.asp?PropertyInfoID=754>

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/02

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE059**

NATIONAL MINERAL INVENTORY:

NAME(S): **ECHO 83-85.51**, HILL 256, KEV 70,
LUCK, LADY

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 39 N
LONGITUDE: 120 27 06 W
ELEVATION: 1157 Metres

NORTHING: 5537389
EASTING: 682770

LOCATION ACCURACY: Within 500M

COMMENTS: Located on an opencut on the Echo 85 claim, 850 metres southeast of Quilchena Creek, 8.5 kilometres west-northwest of Boot Lake, 13 kilometres east of the community of Aspen Grove (Assessment Report 1586, Figure 3-R1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

ASSOCIATED: Quartz Calcite

ALTERATION: Epidote Chlorite Malachite

COMMENTS: The main products of low grade alteration are presumed to be epidote and chlorite.

ALTERATION TYPE: Propylitic Chloritic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Pennask Batholith

LITHOLOGY: Augite Porphyritic Andesitic Flow
Augite Porphyritic Basaltic Flow
Andesite
Basalt
Volcanic Tuff
Volcanic Breccia
Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Hosted in the northern assemblage of the Eastern belt of the Nicola Group, just south of the contact with the Pennask batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

CAPSULE GEOLOGY

The Echo occurrence refers to a group of minor copper showings in an area east of the historical Aspen Grove copper camp, between Merritt and Princeton. The occurrence is centred on the northernmost of three showings which were worked on in the 1960s, in a small area (less than 0.5 square kilometre) located southeast of Quilchena Creek, 8.5 kilometres west-northwest of Boot Lake, and 13 kilometres east of the community of Aspen Grove (Assessment Report 1586).

The Echo occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of well-bedded submarine volcanoclastic rocks and volcanic flows. The main Aspen Grove copper camp lies several kilometres to the west in the Central belt, separated by the north-striking Kentucky-Alleyne fault system (Bulletin 69).

CAPSULE GEOLOGY

The area of the occurrence is underlain by augite porphyritic volcanic flows of andesitic to basaltic composition, and volcanic tuff and breccia (Assessment Report 1586; Geological Survey of Canada Map 41-1989). The volcanics may be affected by low grade propylitic and chloritic alteration. Less than 1 kilometre to the north of the occurrence is the east-striking contact of the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite.

Chalcopyrite and malachite are present in trenches and opencuts in volcanics over an area 1000 by 800 metres. Chalcopyrite is disseminated, or concentrated in quartz-calcite veins (Assessment Report 1586).

The Echo occurrence lies directly along the strike of prominent fractures which host significant copper-silver mineralization at the HN-WEN occurrence (092HNE058), 2 kilometres to the south-southeast (Assessment Report 4230).

BIBLIOGRAPHY

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EMPR ASS RPT 1049, *1586, 1953, 9194, 9195
EMPR BULL 69
EMPR EXPL 1980-212,213
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/02

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE060**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 55 12 N
LONGITUDE: 120 19 18 W
ELEVATION: 1585 Metres

NORTHING: 5533175
EASTING: 692255

LOCATION ACCURACY: Within 500M

COMMENTS: Located on a rock outcrop on the Toe 55 claim, 2 kilometres southeast of Boot Lake, 2.6 kilometres west of Paradise Lake, 21 kilometres northeast of the community of Missezula Lake (Assessment Report 1586, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Magnetite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic Igneous-contact
TYPE: D03 Volcanic redbed Cu L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Pennask Batholith

LITHOLOGY: Augite Porphyritic Andesitic Flow
Augite Porphyritic Basaltic Flow
Volcanic Tuff
Volcanic Breccia
Argillite
Diorite
Meta Diorite
Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Hosted in the Eastern belt of the Nicola Group, near the contact with the Pennask batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE:

CAPSULE GEOLOGY

The Toe occurrence consists of minor copper mineralization located sporadically in the area between Paradise and Boot lakes, 21 kilometres northeast of the community of Missezula Lake. This area lies 18 kilometres east of the historical Aspen Grove copper camp, between Merritt and Princeton.

The Toe occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the Eastern belt or facies of the Nicola Group, which is characterized by submarine volcanoclastic rocks and volcanic flows (Bulletin 69; Geological Survey of Canada Map 41-1989). Exposure is limited in the Paradise and Boot lakes area (mainly on the Toe 27-29, 51, 54, 55 claims), which is underlain by augite porphyritic volcanic flows of andesitic to basaltic composition, fragmental rocks including tuff and breccia, minor argillite and diorite (Assessment Reports 1049, 1586).

The Nicola rocks in this area form a northeasterly-closing embayment largely surrounded by the Early Jurassic Pennask batholith, a large intrusion of medium-grained granodiorite to quartz diorite

CAPSULE GEOLOGY

(Geological Survey of Canada Map 41-1989). The contact of the batholith passes through the northwestern part of the Toe claims. The diorite bodies in the volcanics may be related to this intrusion.

The volcanics have been contact metamorphosed and hydrothermally altered by the intrusive activity, resulting in the formation of "metadiorite" locally (Assessment Report 1586). These altered rocks locally contain significant disseminated magnetite and/or pyrite, with minor chalcopyrite in places.

A major copper soil anomaly occurs within the Toe claim group, measuring 3500 by 900 metres; a mercury anomaly is associated (Assessment Reports 1049, 1586). The highest soil anomaly was 0.07 per cent copper (Assessment Report 1586).

BIBLIOGRAPHY

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EMPR ASS RPT 1049, 1089, *1586, 1589, 1703, 1953
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/05

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE061**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUNE**, QUIL, SNOWFLAKE 7

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 58 32 N
LONGITUDE: 120 34 08 W
ELEVATION: 975 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5538746
EASTING: 674310

LOCATION ACCURACY: Within 500M

COMMENTS: Located on mineralization Zone 9, on a road 400 metres west of Quilchena Creek, 3.2 kilometres east of Highway 5A, 6 kilometres northeast of the community of Aspen Grove (Assessment Report 9386, Map SF-81-2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Pyrite Pyrrhotite Magnetite
ALTERATION: Epidote Chlorite Diopside Garnet K-Feldspar
Limonite Ankerite Malachite

ALTERATION TYPE: Propylitic Skarn Potassic Oxidation Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Porphyry Hydrothermal Skarn Epigenetic
TYPE: K01 Cu skarn D03 Volcanic redbed Cu
K03 Fe skarn L03 Alkalic porphyry Cu-Au

SHAPE: Irregular
DIMENSION: 700 Metres STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Zone of mineralization trends northeast. Faults and fractures generally strike north or east, and dip steeply east and north, respectively.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Basaltic Andesitic Volcanic Flow
Basaltic Andesitic Volcanic Tuff
Andesite
Basalt
Cherty Sediment/Sedimentary
Tuff

HOSTROCK COMMENTS: Hosted in the Central belt of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Drill Core
COMMODITY: Copper GRADE: 0.0700 Per cent

COMMENTS: Average grade of cuttings over 91 metres from a percussion-drill hole.
REFERENCE: Assessment Report 9386, page 16.

CAPSULE GEOLOGY

The June occurrence consists of minor copper mineralization in part of the historical Aspen Grove copper camp, between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. It is centred 400 metres west of Quilchena Creek, 3.2 kilometres east of Highway 5A, 6 kilometres northeast of the community of Aspen Grove. The June claims appear to overlap with the Ski claims, which contain mineralization covered by the Court 1

CAPSULE GEOLOGY

(092HNE147) and Snowflake 7 (092HNE203) occurrences.

The June occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). This belt of rocks mainly consists of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillites and limestone. The volcanics are intruded by bodies of comagmatic diorite to monzonite of Late Triassic to Early Jurassic age. The area is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. East-striking faults are subordinate, and commonly offset intrusive contacts.

Outcrop exposure of the Nicola Group is sparse in the area around the June occurrence, being mostly visible in trenches. Bedrock consists of green basaltic to andesitic volcanic flows and tuff (Minister of Mines Annual Report 1966; Geology, Exploration and Mining in B.C. 1973). Propylitic alteration is widespread, with chlorite and local patches of epidote skarn alteration containing secondary clinopyroxene (probably diopside) and garnet (Geology, Exploration and Mining in B.C. 1970, 1973). Potassium feldspar alteration, and limonite or ankerite due to oxidation are also present.

Two prominent fracture sets are evident. One set of fractures and shears strikes east and dips steeply north, and a second set of fractures strikes north and dips steeply east. Numerous quartz veins and veinlets strike west.

Trenching has outlined a zone of sulphide mineralization stretching 700 metres northeastward towards Quilchena Creek. In the more northerly exposures pyrite, pyrrhotite, chalcopyrite and malachite occur as sparse disseminations in the volcanics and as fracture fillings and coarse blebs in some quartz veinlets. Magnetite is widespread. To the southwest, epidote skarn zones host up to 0.5 per cent chalcopyrite, and shear zones in diorite contain up to 1 per cent malachite near zones of carbonate alteration. Farther southwest, pyrrhotite and pyrite, with traces of chalcopyrite and malachite, form massive segregations in cherty sediments and fine-grained tuffs.

A percussion hole drilled near the north end of the zone graded 0.07 per cent copper over 91 metres (Assessment Report 9386, page 16). A chip sample taken in the vicinity analysed 0.085 gram per tonne gold and 2.5 grams per tonne silver over 175 metres (Assessment Report 13714, Drawing No. 2, sample 695). Rock sampling over the rest of the zone yielded metal values of up to 0.0415 per cent copper, 0.105 gram per tonne gold and 1.9 grams per tonne silver (Assessment Reports 9386, 13714).

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EMPR BULL 69, p. 89
EMPR EXPL 1979-157,158; 1981-28; 1985-C188; 1986-C223
EMPR GEM 1970-379; 1973-158; 1974-125,126
EMPR MAP *15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 94
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
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Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove Area, B.C., unpublished B.Sc. thesis, University of Western Ontario
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/21

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE062**

NATIONAL MINERAL INVENTORY:

NAME(S): **WOG, GOW**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 07 N
LONGITUDE: 120 53 46 W
ELEVATION: 981 Metres

NORTHING: 5539115
EASTING: 650820

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Gow 5, 6, 7 and 8 claims (area of drilling and trenching), 5.75 kilometres west of the summit of Selish Mountain and 8.8 kilometres north-northeast of Kingsvale (Geology, Exploration and Mining in B.C. 1974, page 124; claim map 092H/15W (Oct. 1972)).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesitic Pyroclastic
Andesitic Flow
Andesite
Diorite
Gabbro

HOSTROCK COMMENTS: This showing is in the Western volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This occurrence is in the Nicola belt, near its western margin. GRADE: Greenschist

CAPSULE GEOLOGY

The Wog showing is centred 5.75 kilometres west of the summit of Selish Mountain and 8.8 kilometres north-northeast of Kingsvale.

A dioritic to gabbroic stock, possibly of Late Triassic to Early Jurassic age, intrudes andesitic pyroclastics and flows of the Western volcanic facies of the Upper Triassic Nicola Group. The stock underlies much of the south flank of Selish Mountain.

Trenching and diamond drilling has intersected sulphide mineralization in the stock and possibly in the adjacent volcanics, in the vicinity of the stock's northern margin, near its west end. Mineralization consists of disseminations, blebs and discontinuous stringers of chalcopyrite and molybdenite along fractures.

The showing was first explored by Nicanex Mines Ltd. in 1970. The company conducted geological, soil geochemical and induced polarization surveys and 300 metres of percussion drilling in 9 holes. Gold River Mines and Enterprises Ltd. completed 760 metres of trenching and 303 metres of diamond drilling in 2 holes in 1973.

BIBLIOGRAPHY

EMPR GEM 1970-376; *1974-124
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE063**

NATIONAL MINERAL INVENTORY: 092H16 Pb1

NAME(S): **AMANDA**, SIWASH SILVER, PAT

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 47 21 N
LONGITUDE: 120 19 17 W
ELEVATION: 1402 Metres

NORTHING: 5518632
EASTING: 692795

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site No. 3, 1.0 kilometre northeast of the confluence of Siwash and Galena creeks, 38.5 kilometres northeast of Princeton (Assessment Report 4969, Map 5).

COMMODITIES: Zinc Lead Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary			Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

Middle Jurassic

Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Porphyritic Monzonite
Granite

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95. Tertiary date is from Assessment Report 9308.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1970

COMMODITY	GRADE	
Silver	7.0000	Grams per tonne
Lead	0.2500	Per cent
Zinc	4.1500	Per cent

REFERENCE: Property File - A.L. Edgeworth, 1970, assay certificate (sample No.3).

CAPSULE GEOLOGY

The Amanda showing is about 1 kilometre northeast of the confluence of Siwash and Galena creeks and 38.5 kilometres northeast of Princeton.

Silver-zinc-lead mineralization occurs at the southeast end of a stock of quartz porphyritic monzonite/granite, along the contact with granite of the Middle Jurassic Osprey Lake batholith. This stock is one of a series of small granitic bodies of early Tertiary age referred to as the Otter intrusions.

Mineralization consists of galena, sphalerite and pyrite, as small grains in fractures in the vicinity of the contact between the two intrusions. Similar mineralization occurs in the monzonite along shear zones. A sample from the contact assayed trace silver, 0.01 per cent lead and 0.02 per cent zinc (A.L. Edgeworth, 1970, certificate of assay, sample No. 2). A grab sample from a mineralized shear taken immediately north of the contact assayed 7 grams per tonne silver, 0.25 per cent lead and 4.15 per cent zinc (sample No. 3).

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EMPR ASS RPT *2798, 3282, *4969, 7547, 7992, 8926, 8986, 15863,
18211, 19472
EMPR EXPL 1979-159,160; 1980-210
EMPR GEM 1970-389,390; 1971-276,277; 1972-141; 1973-160; 1974-120
EMPR PF (*Tully, D.W. (1971): Report on the Amanda-Amie and Paco Claim
Groups, in Diana Explorations Ltd. (1971): Prospectus, Vancouver
Stock Exchange (see 092HNE098); *Edgeworth, A.L. (1970): Report on
Amanda claims, in Diana Explorations Ltd. (1971): Prospectus,
Vancouver Stock Exchange (see 092HNE098))
EMR MP CORPFILE (Diana Explorations Ltd.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE064**

NATIONAL MINERAL INVENTORY: 092H10 Cu6

NAME(S): **ST. GEORGE (L.259)**, LAW'S CAMP, RAMBLER

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092H10W
 BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 34 22 N
 LONGITUDE: 120 54 22 W
 ELEVATION: 1378 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5493238
 EASTING: 651383

LOCATION ACCURACY: Within 500M

COMMENTS: Area of shafts on the St. George claim (Lot 259), 1.2 kilometres west-southwest of the confluence of Skwum and Lawless (Bear) creeks, 11 kilometres west-northwest of Tulameen (Assessment Report 15419, Figure 4).

COMMODITIES: Gold Silver Copper Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Sphalerite Galena
 ASSOCIATED: Calcite Quartz
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated Massive
 CLASSIFICATION: Replacement Epigenetic
 TYPE: G04 Besshi massive sulphide Cu-Zn
 SHAPE: Bladed
 DIMENSION: 55 x 27 x 4 Metres STRIKE/DIP: /60W TREND/PLUNGE:
 COMMENTS: Sulphide lens.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Limestone
 Quartz Chlorite Biotite Schist
 Greenstone
 Feldspar Porphyritic Dike
 Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1986
 SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	400.6000	Grams per tonne
Gold	15.2000	Grams per tonne
Copper	1.1780	Per cent
Lead	0.0110	Per cent
Zinc	0.3120	Per cent

COMMENTS: Sample of pyrite and pyrrhotite in limestone.
 REFERENCE: Assessment Report 15419, Appendix 3 (sample RAM 3R).

CAPSULE GEOLOGY

The St. George prospect is 1.2 kilometres west-southwest of the confluence of Skwum and Lawless (Bear) creeks and 11 kilometres west-northwest of Tulameen. The St. Lawrence prospect (092HNE065) lies approximately 400 metres to the southeast.

The area southwest of Lawless Creek is underlain by a sequence of dark grey to black pelitic schist, limestone (marble) and chlorite schist (greenstone) of the Upper Triassic Nicola Group. These rocks strike northwest and dip 30 to 70 degrees southwest towards the contact with nearby granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The upper part of this sequence is intruded by feldspar porphyritic dikes and sills, likely originating from the complex. Stratabound massive sulphides are

CAPSULE GEOLOGY

developed in this area, where noncalcareous pelitic schists grade into overlying calcareous schists and marbles.

This deposit consists of a lens of disseminated to massive sulphides dipping 60 degrees west. The lens has been traced along strike for 27 metres and downdip for 55 metres in two shafts. The sulphides occur in limestone over widths of up to 4.3 metres, and are better developed in the hangingwall of the bed. The wallrocks are comprised of quartz-chlorite-biotite schist. The deposit lies 100 metres east of a feldspar porphyritic dike and several hundred metres east of the Eagle Plutonic Complex.

Mineralization consists of pyrite and pyrrhotite, with lesser chalcopyrite, and minor sphalerite and galena, in a gangue of calcite and minor quartz. A grab sample of pyrite and pyrrhotite in limestone from the dump of the western shaft analysed 1.177 per cent copper, 0.011 per cent lead, 0.312 per cent zinc, 400.6 grams per tonne silver and 15.2 grams per tonne gold (Assessment Report 15419, Appendix 3, sample RAM 3R).

The St. George prospect was explored by two shafts, with several drifts and crosscuts, by C.F. Law and the Similkameen Mining and Smelting Company between 1903 and 1913. A total of 27 tonnes were mined by C.F. Law in 1916 grading 34 grams per tonne gold, 533 grams per tonne silver and 0.394 per cent copper (Minister of Mines Annual Report 1960, page 51). Cominco Ltd. drilled around the sulphide lens in 1960, to determine its lateral extent. The prospect was more recently sampled and mapped by Goldwest Resources Ltd., Serem Ltd. and Bordeaux Resources Ltd. between 1980 and 1986.

BIBLIOGRAPHY

- EMPR AR 1903-186; 1904-238; 1905-256; 1906-180; 1908-132; *1913-236, 237; 1914-36; 1916-261,518; *1960-51,53-55
EMPR ASS RPT *10833, 13472, 14717, *15419, 16826
EMPR PF (*The Consolidated Mining and Smelting Company of Canada Ltd. (undated): 1 to 1200 scale map of geology and drill holes of Law's Camp (see 092HNE066))
GSC MAP 46A; 888A; 889A; 1386A; 41-1989
GSC MEM *26, pp. 164,165; 243, p. 98
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1908, p. 64; 1909, p. 114
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #2 (Jan. 3), 1986

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE065**

NATIONAL MINERAL INVENTORY: 092H10 Cu6

NAME(S): **ST. LAWRENCE (L.258)**, LAW'S CAMP, RAMBLER,
 SIMILKAMEEN MINING

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H10W
 BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 34 14 N
 LONGITUDE: 120 54 08 W
 ELEVATION: 1369 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5492999
 EASTING: 651671

LOCATION ACCURACY: Within 500M

COMMENTS: Area of shafts and adit on the St. Lawrence claim (Lot 258), 1.05 kilometres southwest of the confluence of Skwum and Lawless (Bear) creeks, 10.5 kilometres west-northwest of Tulameen (Assessment Report 15419, Figure 4).

COMMODITIES: Zinc Copper Lead Gold Silver

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Sphalerite Galena Chalcopyrite

Magnetite

ASSOCIATED: Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
 CLASSIFICATION: Replacement Epigenetic
 TYPE: G04 Besshi massive sulphide Cu-Zn

DIMENSION: 2 Metres STRIKE/DIP: /48W TREND/PLUNGE:

COMMENTS: Sulphide lens.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Limestone
 Quartz Chlorite Biotite Schist
 Greenstone
 Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1986
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	51.0000 Grams per tonne
Gold	1.3800 Grams per tonne
Copper	0.1590 Per cent
Lead	0.1600 Per cent
Zinc	5.3540 Per cent

COMMENTS: Across 3 metres of pyrite, pyrrhotite and sphalerite in limestone.

REFERENCE: Assessment Report 15419, Appendix 3 (sample RAM 6R).

CAPSULE GEOLOGY

This prospect is 1 kilometre southwest of the confluence of Skwum and Lawless (Bear) creeks, and 10.5 kilometres west-northwest of Tulameen. The Liverpool prospect (092HNE066) lies approximately 400 metres to the southeast.

The area southwest of Lawless Creek is underlain by a sequence of dark grey to black pelitic schist, limestone (marble) and chlorite schist (greenstone) of the Upper Triassic Nicola Group. These rocks strike northwest and dip 30 to 70 degrees southwest towards the contact with nearby granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The upper part of this sequence is intruded by feldspar porphyritic dikes and sills, likely originating from the complex. Stratabound massive sulphides are

CAPSULE GEOLOGY

developed in this area, where noncalcareous pelitic schists grade into overlying calcareous schists and marbles.

The St. Lawrence deposit consists of a massive sulphide lens exposed in three partially caved shafts, up to 1.8 metres thick, dipping 45 to 52 degrees west. The lens is hosted in limestone and quartz-chlorite-biotite schist. Drilling indicates the lens is sharply limited along strike and downdip.

Mineralization consists of pyrrhotite, pyrite and sphalerite, with minor galena, chalcopyrite and magnetite. A 3-metre chip sample taken across a section of pyrite, pyrrhotite and sphalerite in limestone, at the portal of an adit, analysed 0.159 per cent copper, 0.160 per cent lead, 5.354 per cent zinc, 51.0 grams per tonne silver and 1.38 grams per tonne gold (Assessment Report 15419, Appendix 3, sample RAM 6R).

The St. Lawrence prospect was explored by a series of shafts and one 190-metre long adit excavated by C.F. Law and the Similkameen Mining and Smelting Company between 1903 and 1913. Cominco Ltd. drilled around the sulphide lens in 1960 to determine its lateral extent. The prospect was more recently sampled and mapped by Goldwest Resources Ltd., Serem Ltd. and Bordeaux Resources Ltd. between 1980 and 1986.

BIBLIOGRAPHY

- EMPR AR 1903-186; 1904-238; 1905-256; 1906-180; 1907-144; 1908-132;
*1913-236,237; 1914-36; *1960-43,53-55
EMPR ASS RPT *10833, 13472, 14717, *15419, 16826
EMPR PF (*The Consolidated Mining and Smelting Company of Canada Ltd.
(undated): 1 to 1200 scale map of geology and drill holes of Law's
Camp (see 092HNE066))
GSC MAP 46A; 888A; 889A; 1386A; 41-1989
GSC MEM *26, p. 164; 243, p. 98
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1906, p. 54; 1908, p. 64; 1909, p. 114
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #2 (Jan. 3), 1986

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE066**

NATIONAL MINERAL INVENTORY: 092H10 Cu6

NAME(S): **LIVERPOOL (L.1188)**, CHICAGO (L.260), LAW'S CAMP,
RAMBLER, MARCOTTE, SIMILKAMEEN MINING

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 34 02 N
LONGITUDE: 120 53 59 W
ELEVATION: 1369 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5492633
EASTING: 651862

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the Liverpool claim (Lot 1188), 1.2 kilometres southwest of the confluence of Skwum and Lawless (Bear) creeks, 10.5 kilometres west-northwest of Tulameen (Assessment Report 15419, Figure 4).

COMMODITIES: Copper Gold Silver Lead Zinc
Limestone

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Pyrrhotite Galena Sphalerite

ASSOCIATED: Calcite

COMMENTS: Quartz

COMMENTS: As veins and pods in the limestone.

ALTERATION: Limonite Hematite Malachite Azurite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Replacement Epigenetic Sedimentary Industrial Min.

TYPE: G04 Besshi massive sulphide Cu-Zn

DIMENSION: 2 Metres STRIKE/DIP: /35S TREND/PLUNGE:

COMMENTS: Sulphide horizon.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Marble
Limestone
Quartz Chlorite Biotite Schist
Greenstone
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: OUTCROP REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1963

SAMPLE TYPE: Chip

COMMODITY GRADE
Limestone 53.9200 Per cent

COMMENTS: Taken across 34 metres. Grade given for calcium oxide.

REFERENCE: Minister of Mines Annual Report 1963, page 144.

ORE ZONE: ADIT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1929

SAMPLE TYPE: Chip

COMMODITY GRADE
Silver 17.0000 Grams per tonne
Gold 0.6900 Grams per tonne
Copper 1.2600 Per cent

COMMENTS: Across 1.8 metres of massive pyrite with chalcopyrite blebs and disseminations.

REFERENCE: Minister of Mines Annual Report 1929, page 279.

CAPSULE GEOLOGY

The Liverpool prospect lies 1.2 kilometres southwest of the confluence of Skwum and Lawless (Bear) creeks and 10.5 kilometres west-northwest of Tulameen. The St. Lawrence prospect (092HNE065) lies about 400 metres northwest.

The area southwest of Lawless Creek is underlain by a sequence of dark grey to black pelitic schist, limestone (marble) and chlorite schist (greenstone) of the Upper Triassic Nicola Group. These rocks strike northwest and dip 30 to 70 degrees southwest towards the contact with nearby granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The upper part of this sequence is intruded by feldspar porphyritic dikes and sills, likely originating from the complex. Stratabound massive sulphides are developed in this area, where noncalcareous pelitic schists grade into overlying calcareous schists and marbles.

This deposit consists of a layer of semimassive to massive sulphides, 1 to 2 metres thick, hosted in grey, laminated, impure marble and underlain by quartz-chlorite-biotite schist. The beds dip 30 to 40 degrees southwest. Drilling on either side and down dip of the showing failed to intersect ore mineralization.

The sulphides consist of pyrite, chalcopyrite and pyrrhotite, with minor galena and sphalerite. They are extensively oxidized to limonite, hematite, malachite and azurite. A 4-metre chip sample taken across an exposure of limonite, hematite and malachite at the portal of an adit analysed 0.205 per cent copper, 0.026 per cent lead, 0.115 per cent zinc, 29.0 grams per tonne silver and 0.18 gram per tonne gold (Assessment Report 15419, Appendix 3, sample RAM 2R). A chip sample taken across 1.8 metres of massive pyrite, with blebs and disseminations of chalcopyrite, exposed in underground workings, assayed 0.69 gram per tonne gold, 17 grams per tonne silver and 1.26 per cent copper (Minister of Mines Annual Report 1929, page 279).

Similar mineralization is exposed in trenches on the Chicago claim (Lot 260), 200 metres to the south. Here, pyrite, chalcopyrite and sphalerite occur in limestone dipping 25 to 30 degrees west.

The limestone hosting the sulphides outcrops to the west as two northwest trending, parallel bands that may represent a single folded bed. The beds dip 40 to 45 degrees southwest. Most of the limestone is coarse grained and white, and contains relatively abundant veins and pods of quartz. Southern exposures reveal bluish grey and white banded, coarse-grained limestone with a few inclusions of schist. A sample across the width of a 150 metre long, 34 metre wide outcrop, 150 metres southwest of the Liverpool adit, analysed 53.92 per cent CaO, 0.39 per cent MgO, 1.90 per cent insolubles, 0.52 per cent R2O3, 0.32 per cent Fe2O3, 0.02 per cent MnO, 0.037 per cent P2O5, 0.008 per cent sulphur and 43.09 per cent ignition loss (Minister of Mines Annual Report 1963, page 144).

The Liverpool prospect was explored as early as 1901. The showing was periodically tunnelled by L. Marcotte and Hope Range Copper Company between 1921 and 1929. Cominco Ltd. drilled around this sulphide horizon in 1960, to determine its lateral extent. The prospect was more recently sampled and mapped by Goldwest Resources Ltd., Serem Ltd. and Bordeaux Resources Ltd. between 1980 and 1986.

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1913-237,238; 1914-367; 1916-261; 1921-180; 1922-167,168;
1926-228; 1927-255,256; 1928-269; 1929-279; 1930-215;
*1960-42,53-55; *1963-144,145
EMPR ASS RPT 298, *9475, *10833, *10942, 13472, 14717, *15419, 16826
EMPR FIELDWORK 1987, pp. 281-294
EMPR GEM 1972-132
EMPR OF 1988-25; 1992-18, p. 93 (Occurrence L141)
EMPR PF (*The Consolidated Mining and Smelting Company of Canada Ltd.
(undated): 1 to 1200 scale map of geology and drill holes of Law's
Camp)
EMR MP CORP FILE (Victor Mining Corporation Ltd.)
GSC MAP 46A; 888A; 889A; 1386A; 41-1989
GSC MEM *26, pp. 165,166; *243, p. 98
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #2 (Jan. 3), 1986

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE067**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARCOTTE** GRASSHOPPER

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 46 N
LONGITUDE: 120 53 00 W
ELEVATION: 1366 Metres

NORTHING: 5490320
EASTING: 653113

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz vein, 1115 metres east-northeast of the summit of Grasshopper Mountain, 1 kilometre northwest of the Tulameen River and 8 kilometres due west of the town of Tulameen (Assessment Report 14448, Figure 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Hematite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 38 x 1 Metres
COMMENTS: Eastern quartz vein.

STRIKE/DIP: 160/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Schist
Calcareous Schist
Hornblende Clinopyroxenite
Peridotite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Marcotte showing is situated 1.1 kilometres east-northeast of summit of Grasshopper Mountain, 1 kilometre northwest of the Tulameen River and 8 kilometres due west of the town of Tulameen.

A steeply-dipping quartz vein strikes 160 degrees for 38 metres, in hornblende schist of the Upper Triassic Nicola Group. The showing lies 30 to 70 metres east of hornblende clinopyroxenite and peridotite of the Early Jurassic Tulameen Ultramafic Complex. The vein is up to 2.1 metres wide and averages about 1 metre in width. Mineralization is sparse and consists of chalcopyrite, pyrite and hematite.

Some 90 metres to the west, a 1.5-metre wide vein of barren-looking quartz is exposed, striking 140 degrees. The vein is hosted in calcareous schist a short distance east of the clinopyroxenite.

BIBLIOGRAPHY

EMPR AR 1937-D29
EMPR ASS RPT *7944, 10063, 14448, 15723, 19825, 27009
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
EMPR P 1992-6
EMPR PF (*Hedley, M.S. (1937): Special Report on Grasshopper Mountain, page 5 (see 092HNE015))
GSC MAP 46A; 888A; 889A; 1386A; 41-1989
GSC MEM 26; 243, p. 100
GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 135
REPORT: RGEN0100

BIBLIOGRAPHY

Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages.

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE068**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAWN**, B AND R, MOUNT THYNNE

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 47 N
LONGITUDE: 120 56 44 W
ELEVATION: 1747 Metres

NORTHING: 5508754
EASTING: 648105

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the southwestern part of the Dawn 3 claim, 250 metres south of the divide between Lawless and Brook creeks, 2.05 kilometres northwest of the summit of Mount Thynne and 23 kilometres northwest of Tulameen (Property File - J.P. Elwell, 1964, page 11).

COMMODITIES: Magnetite Copper Silver

MINERALS

SIGNIFICANT: Magnetite Pyrite Chalcopyrite
ASSOCIATED: Calcite Epidote
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: K01 Cu skarn K03 Fe skarn
DIMENSION: 9 x 6 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: An area of 3 small pits exposing mineralization.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Andesitic Flow
Andesite
Argillite
Tuff
Limestone
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

INVENTORY

ORE ZONE: PITS REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1964
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 20.6000 Grams per tonne
Copper 0.4500 Per cent

REFERENCE: Property File - J.P. Elwell, 1964, page 11 (sample 6139).

CAPSULE GEOLOGY

This showing is about 2 kilometres northwest of the summit of Mount Thynne and 23 kilometres northwest of Tulameen. The Dawn occurrence is hosted in a northward trending, steeply dipping sequence of andesitic flows, argillites, tuffs and limestone of the Upper Triassic Nicola Group, immediately southwest of a diorite stock of Late Triassic to Early Jurassic age. Mineralization is exposed in three small pits over a 9 by 6 metre area in dark grey-green lava (andesite). Magnetite occurs as massive pods and disseminations, together with disseminated chalcopyrite and pyrite. Some calcite and epidote are associated with this mineralization. Considerable malachite staining is present on surface. A grab sample assayed trace gold, 20.6 grams per tonne silver and 0.45 per cent copper (Property File - J.P. Elwell, 1964, page 11, sample 6139). A second sample assayed trace gold, 5.1 grams per tonne silver and 0.05 per cent copper (sample 6141).

CAPSULE GEOLOGY

The showing was periodically explored by various operators between 1963 and 1966.

BIBLIOGRAPHY

EMPR AR 1963-56,57; 1966-170,171
EMPR ASS RPT 659
EMPR PF (*Elwell, J.P. (1964): Reconnaissance Report on the Dawn and B & R Claims, Nicola and Similkameen Mining Districts, B.C., in Lawless Creek Mines Ltd. (1964): Prospectus, Vancouver Stock Exchange)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/28
DATE REVISED: 1992/04/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE069**

NATIONAL MINERAL INVENTORY:

NAME(S): **BONANZA QUEEN (L.72)**, NEVADA (L.79), GRASSHOPPER,
FAMOUS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 32 32 N
LONGITUDE: 120 52 18 W
ELEVATION: 1067 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5489911
EASTING: 653969

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the Bonanza Queen claim (Lot 72), 400 metres northwest of the
Tulameen River and 8 kilometres west of the town of Tulameen
(Property File - M.S. Hedley, 1937).

COMMODITIES: Copper Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
DIMENSION: 200 x 137 x 1 Metres
COMMENTS: Quartz vein.

STRIKE/DIP: 020/80E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP
Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Tulameen Ultramafic Complex

LITHOLOGY: Greenstone
Clinopyroxenite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1937

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

1.4000

Grams per tonne

Copper

0.3000

Per cent

COMMENTS: Sample of quartz with sulphides.

REFERENCE: Property File - M.S. Hedley, 1937, page 8.

CAPSULE GEOLOGY

The Bonanza Queen prospect outcrops 400 to 600 metres northwest of the Tulameen River and 8 kilometres west of the town of Tulameen.

This occurrence is hosted in greenstone of the Upper Triassic Nicola Group, just north of the contact with clinopyroxenite of the Early Jurassic Tulameen Ultramafic Complex.

A quartz vein striking 020 degrees and dipping 70 to 90 degrees southeast has been traced up the south slope of Grasshopper Mountain for 200 metres, over a vertical elevation of 137 metres. The vein is 0.15 to 0.76 metre thick in the north and 0.25 to 1.07 metres wide in the south.

The quartz is vitreous to semicrystalline and white. About 10 per cent of the vein is comprised of pyrite and chalcopyrite, which are locally quite abundant. A sample of poorly mineralized quartz analysed trace gold, and a sample with sulphides assayed 1.4 grams per tonne gold, trace silver and 0.30 per cent copper (Property File - M.S. Hedley, 1937, page 8). A third sample yielded 45 grams per tonne gold and 175 grams per tonne silver (Geological Survey of Canada Annual Report 1887-1888, page 62A).

CAPSULE GEOLOGY

A shear zone, containing a series of quartz stringers in greenstone, lies 180 metres southeast of the vein. The stringers strike 020 degrees and dip 50 degrees southeast. The shear is mineralized with chalcopyrite and galena. A selected sample assayed 1.4 grams per tonne gold, 34 grams per tonne silver, 0.6 per cent copper and trace lead (Property File - M.S. Hedley, 1937, page 9).

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EMPR AR 1888-318; 1891-577; 1892-544; 1937-D29
EMPR ASS RPT 7944, 10063, 14448, 15723, 15850, 19825, 27009
EMPR EXPL 1979-151
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
EMPR P 1992-6
EMPR PF (*Hedley, M.S. (1937): Special Report on Grasshopper Mountain, pages 7-9 (see 092HNE015))
GSC ANN RPT *1887-1888, p. 62A
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE070**

NATIONAL MINERAL INVENTORY:

NAME(S): **ENNISKILLEN**, KIRBY, BRITTON

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 24 N
LONGITUDE: 120 50 48 W
ELEVATION: 853 Metres

NORTHING: 5489716
EASTING: 655785

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the north bank of the Tulameen River, 300 metres west of the mouth of Lawless Creek and 6 kilometres west-southwest of the town of Tulameen (Minister of Mines Annual Report 1960, Figure 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite

ASSOCIATED: Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 3 Metres
COMMENTS: Shear.

STRIKE/DIP: 140/75W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Schistose Andesite
Greenstone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

This copper showing is on the north bank of the Tulameen River, 300 metres west of the mouth of Lawless Creek and 6 kilometres west-southwest of the town of Tulameen.

The Enniskillen showing consists of a strong shear zone striking 140 degrees and dipping 75 degrees southwest in a 9-metre wide band of black argillite hosted in schistose andesite and greenstone of the Upper Triassic Nicola Group.

The shear contains about 0.3 metre of gouge and intensely sheared rock with disseminated pyrite and chalcopyrite, and widely scattered lenses of calcite, 5.0 by 2.5 centimetres in size.

The showing was trenched and followed underground with a 3-metre long adit between 1949 and 1959.

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EMPR AR 1949-129; 1960-52
EMPR ASS RPT 27009
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
EMPR PF (Anonymous (undated): 1 to 3600 scale plan of placer and mineral claims and workings (see 092HNE022))
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE071**

NATIONAL MINERAL INVENTORY:

NAME(S): **GAVIN CREEK**, ELUSIVE CREEK, SIWASH SILVER

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 47 42 N
LONGITUDE: 120 20 15 W
ELEVATION: 1323 Metres

NORTHING: 5519240
EASTING: 691612

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on Elusive (Gavin) Creek, 1.3 kilometres north-northwest of the confluence of Siwash and Galena creeks, 39.5 kilometres north-northeast of Princeton (Assessment Report 7992, geology map).

COMMODITIES: Copper Zinc Lead

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite Galena
ASSOCIATED: Quartz
ALTERATION: Sericite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Vein Stockwork
CLASSIFICATION: Diatreme Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 300 x 120 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization is hosted in a diatreme trending 300 metres northwest and varying up to 120 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Tertiary

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

Otter Intrusions

Middle Jurassic

Osprey Lake Batholith

LITHOLOGY: Quartz Porphyritic Monzonite
Granite
Granodiorite

HOSTROCK COMMENTS: Mineralized diatreme cuts monzonite stock intruding the Osprey Lake batholith. Isotopic age date is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.1160 Per cent
Lead 0.3880 Per cent
Zinc 1.5200 Per cent

COMMENTS: Over 0.5 metre.
REFERENCE: Assessment Report 9424, page 37.

CAPSULE GEOLOGY

The Gavin Creek showing outcrops along Elusive (Gavin) Creek, 1.15 to 1.45 kilometres north-northwest of the confluence of Siwash and Galena creeks, and 39.5 kilometres north-northeast of Princeton. A diatreme is hosted in a quartz porphyritic monzonite stock ("quartz-eye porphyry") of the early Tertiary Otter intrusions, within granite and granodiorite in the western margin of the Middle Jurassic Osprey Lake batholith. This is one of a number of small pipe-like intrusive bodies developed along a possible north-trending fault zone following Siwash and Elusive creeks. This diatreme trends northwest for 300 metres and is up to 120 metres wide on surface.

CAPSULE GEOLOGY

The diatreme is comprised of pebbles of rhyolite, quartz-eye porphyry, granite, basalt and diorite, 1 to 20 centimetres in diameter, in a fine to medium grained, highly weathered and bleached matrix. Minor phyllic alteration is evident.

Small amounts of chalcopyrite, sphalerite and galena occur along fractures and in narrow quartz veins cutting the diatreme. One 0.50-metre section of drill core assayed 0.116 per cent copper, 0.001 per cent molybdenum, 0.388 per cent lead and 1.52 per cent zinc (Assessment Report 9424, page 37).

The showing was explored by Brenda Mines Ltd. between 1979 and 1981. The company conducted geological, and soil and rock geochemical surveys, and drilled one hole, 194 metres long.

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EMPR EXPL 1979-159,160; 1980-210; 1981-35
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/20
DATE REVISED: 1992/10/19

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE072**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN SOVEREIGN (L.1528)**, BIG DUTCHMAN (L.1531), YANKEE (L.1530),
SOVEREIGN

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:
LATITUDE: 49 57 38 N
LONGITUDE: 120 34 33 W
ELEVATION: 1158 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of area of trenches, pits and shafts on Lots 1528, 1530, and 1531, 900 metres east of the south end of Tule Lake and 4.5 kilometres northeast of Aspen Grove (Preliminary Map 15, Sheet 4)

Underground
MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5537062
EASTING: 673866

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcocite Copper Pyrite Chalcocopyrite
ALTERATION: Epidote Serpentine Malachite Azurite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 400 x 40 Metres STRIKE/DIP:
COMMENTS: Zone of disseminated mineralization trends 150 degrees for up to 400 metres. TREND/PLUNGE: 150/

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Volcanic Breccia
Lahar Breccia
Limestone
Tuff

HOSTROCK COMMENTS: This prospect is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1901
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 10.0000 Grams per tonne
Gold 0.7000 Grams per tonne
Copper 0.9000 Per cent
COMMENTS: Chip sample taken across 4.6 metres.
REFERENCE: Minister of Mines Annual Report 1901, page 1180.

CAPSULE GEOLOGY

The Golden Sovereign prospect is centred 900 metres east of the south end of Tule Lake and 4.5 kilometres northeast of Aspen Grove. A gentle ridge, trending north-northwest and lying between Tule Lake and Quilchena Creek, is underlain by a sequence of green and red volcanic and laharc breccias, with minor thinly-bedded green tuff, of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The units strike northwest and dip 40 to 85 degrees southwest. Copper mineralization is confined largely to one horizon of red breccia exposed near the crest of the ridge. The bed strikes 150 degrees, dips 60 degrees southwest, and is about 50 metres wide on surface. Mineralization consists primarily of disseminated flakes of

CAPSULE GEOLOGY

chalcocite and minor chalcopyrite, occurring in a zone up to 40 metres wide, near the contact with underlying green breccia. The zone is exposed periodically over a strike length of up to 400 metres. Some chalcopyrite is present in the green breccia, where the red and green breccias are faulted against each other. Pyrite is also reported. A chip sample assayed 0.9 per cent copper, 0.7 gram per tonne gold and 10 grams per tonne silver over 4.6 metres (Minister of Mines Annual Report 1901, page 1180). A second chip sample assayed 0.25 per cent copper over 3.0 metres (Minister of Mines Annual Report 1913, page 222).

A second, possibly parallel zone of mineralization, 50 metres wide, is exposed about 100 metres west of the north end of the previous zone. A bed of impure limestone, 50 metres wide, separates the two zones. Here, the breccia exhibits some greenish yellow epidote, and yellowish white serpentine. The mineralized zone contains veinlets of chalcocite and blebs and nuggets of native copper up to 22 kilograms in size. Abundant chalcocite and native copper are concentrated along one prominent shear zone, 0.15 to 1.0 metres wide, striking 050 degrees and dipping 75 to 90 degrees southeast. Malachite and minor azurite are developed along two intersecting sets of fractures in the vicinity of the shear.

The prospect was periodically explored between 1900 and 1913. Nine tonnes of ore grading 5.0 per cent copper were mined in 1916, likely from the high-grade shear zone on the Golden Sovereign claim (Lot 1528). Snowflake Mining Company Ltd. examined the occurrence in 1981.

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*1905-202; 1906-178; 1907-220; 1908-252; *1913-222; 1915-227,228;
1916-518; 1928-223
EMPR ASS RPT *9386
EMPR BULL *69, p. 88
EMPR MAP *10 (1973); *15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 94
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
GSC SUM RPT *1904-75A,76A
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Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE073**

NATIONAL MINERAL INVENTORY: 092H15 Cu1

NAME(S): **BIG SIOUX**, SHEAR, HIGHWAY,
GIANT, HALO, BROACH,
BILL, TOUCH, HAVEROEN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:
LATITUDE: 49 57 08 N
LONGITUDE: 120 36 07 W
ELEVATION: 1134 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Cribbed shaft on the southern Shear 1 claim, 2.5 kilometres northeast of Aspen Grove and 1.2 kilometres east of Highway 5 (Assessment Report 20834, Figure 4). See also Big Kidd (092HNE074).

Open Pit Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5536075
EASTING: 672023

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Chalcocite Bornite
ASSOCIATED: Calcite Epidote
ALTERATION: Epidote Silica Chlorite Malachite
ALTERATION TYPE: Propylitic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork Vein Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 500 x 300 Metres STRIKE/DIP: L03 Alkalic porphyry Cu-Au TREND/PLUNGE:
COMMENTS: A high-grade shear zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Porphyritic Basaltic Andesite
Diorite
Microdiorite

HOSTROCK COMMENTS: This deposit is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: ROADCUT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 34.1000 Grams per tonne
Gold 14.4500 Grams per tonne
Copper 3.2700 Per cent
COMMENTS: Sample taken over 10 metres.
REFERENCE: Assessment Report 20834, page 5.

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1901
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 82.0000 Grams per tonne
Gold 0.7000 Grams per tonne
Copper 12.6000 Per cent
COMMENTS: Composite grab sample from dump.
REFERENCE: Minister of Mines Annual Report 1901, page 1181.

CAPSULE GEOLOGY

The Big Sioux occurrence is centred 2.5 kilometres northeast of

CAPSULE GEOLOGY

Aspen Grove and 1.2 kilometres east of Highway 5A.

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

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

The occurrence is hosted in variably amphibole, augite and feldspar porphyritic basaltic andesite, subjected to extensive fracturing, shearing and faulting. Alteration minerals include abundant epidote, and minor silica and chlorite. Some microdiorite and diorite are also present.

Copper mineralization is exposed along a 300-metre long roadcut and in various old workings north of the roadcut, in an area 500 metres long and 300 metres wide. Mineralization consists primarily of pyrite and chalcopyrite, as disseminations, blebs, fracture fillings, and in calcite and epidote veins. Pyrite also forms thin bands, comprising up to 25 per cent of the hostrock. Malachite occurs along fractures in many surface exposures. Chalcocite forms fracture fillings in one prominent 1.8-metres wide shear zone, striking 075 degrees and dipping 75 degrees north. Minor bornite is also reported. One chip sample taken along the roadcut assayed 3.27 per cent copper, 14.45 grams per tonne gold and 34.1 grams per tonne silver over 10 metres (Assessment Report 20834, page 5). Channel sampling along a trench analysed 0.223 per cent copper, 0.106 gram per tonne gold and 1.26 grams per tonne silver over 27 metres (Assessment Report 7100, page 11, trench 4). A composite grab sample from the dump of a shaft, excavated in the chalcocite-bearing shear zone, assayed 12.6 per cent copper, 0.7 gram per tonne gold and 82 grams per tonne silver (Minister of Mines Annual Report 1901, page 1181).

This deposit was one of the first showings to be explored in the Aspen Grove copper camp. It was staked in 1899, and investigated periodically by H.H. Schmidt up to 1914. One shaft, 10 metres deep, an adit, 46 metres long, and numerous pits and trenches were excavated during this time. Forty-four tonnes of ore were shipped in 1918 grading 9.78 per cent copper and 67.9 grams per tonne silver. David Minerals Ltd., Amax Exploration Inc. and Norranco Mining and Refining completed soil and rock geochemical and geophysical surveys over the deposit between 1968 and 1978. The occurrence was restaked in 1989 after copper mineralization was exposed in a roadcut along the north side of the recently completed Coquihalla Highway (Phase 3 - Okanagan Connector). The deposit was subsequently mapped and sampled by Amex Exploration Services Ltd. in 1990, Northair Mines Ltd. in 1991 and Placer Dome Inc. in 1992.

Christopher James Gold Corp. drilled the area, including the Big Kidd (092HNE074) in 1997.

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1928-223; 1929-245,246; 1965-156; 1968-202
EMPR ASS RPT 1620, 1827, 3512, 5849, *7100, *20834, *21824; 22720,
23392
EMPR BULL 69
EMPR EXPL 1976-E87,E88; 1978-E152,E153
EMPR FIELDWORK 1974, pp. 14-16
EMPR GEM 1969-276; 1971-285; 1972-138
EMPR MAP 10 (1973); 15 (1974)
EMPR P 1981-2
EMPR PF (*Asano, S.E. (1967): Geological Report on the Dote, Reeb,
Snarf, Breach, Bill, Gun, Limber, Pat, and Marion Claims Group,
with accompanying 1 to 18000 scale sketch map of claims and
sampled showings)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, pp. 93,94
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1904-77A
CIM Special Volume 15, Map B (Occurrence 315) (1976)
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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 147
REPORT: RGEN0100

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Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE074**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIG KIDD, GIANT, BIG KIDD BRECCIA, BIG KID BRECCIA, AJAX, HALO, BROATCH, CORKY, HAVEROEN, SHEAR**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

Underground

MINING DIVISION: Nicola

LATITUDE: 49 56 36 N
LONGITUDE: 120 35 46 W
ELEVATION: 1222 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5535100
EASTING: 672473

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Big Kid breccia pipe (unit 8e), 2.5 kilometres east-northeast of Aspen Grove and 2.75 kilometres northwest of the north end of Alleyne Lake (Preliminary Map 15, Sheet 4). (Note: Location given for the Giant showing in Bulletin 69 is incorrect). See also Big Sioux (092HNE073).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Chalcocite Cuprite
Copper

ASSOCIATED: Magnetite Quartz Carbonate Calcite
ALTERATION: Epidote Chlorite Orthoclase Calcite Limonite
Malachite Azurite

ALTERATION TYPE: Propylitic Potassic Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated Shear Vein
CLASSIFICATION: Diatreme Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkaline porphyry Cu-Au D03 Volcanic redbed Cu

SHAPE: Cylindrical
DIMENSION: 300 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization is hosted in a circular breccia pipe, 300 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Intrusive Breccia
Fine Grained Diorite
Microdiorite
Lahar Breccia
Augite Andesite Porphyry
Sediment/Sedimentary

HOSTROCK COMMENTS: This prospect is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: ADIT REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1978
SAMPLE TYPE: Channel	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	13.6600 Grams per tonne
Gold	0.1410 Grams per tonne
Copper	0.9010 Per cent

COMMENTS: Average grade over 14 metres.
REFERENCE: Assessment Report 7100, page 8.

CAPSULE GEOLOGY

The Giant prospect is centred 2.5 kilometres east-northeast of Aspen Grove and 2.75 kilometres northwest of the north end of Alleyne

CAPSULE GEOLOGY

Lake.

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

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

A vertical or subvertical breccia pipe, nearly circular in outline and about 300 metres wide, is developed in a body of fine-grained diorite, which may in part be recrystallized volcanics. The pipe consists of angular to subrounded clasts of volcanics, fine-grained diorite (microdiorite) and pinkish grey monzonite and syenomonzonite porphyry in a matrix of altered diorite intrusive material and finely comminuted rock. The fragments are 1 centimetre to several metres in diameter.

Parts of the breccia, especially on the north and east sides of the pipe, show extensive late magmatic and/or hydrothermal alteration and recrystallization. Breccia clasts in these areas have pronounced grey and pinkish grey alteration rims, and the matrix is extensively replaced by epidote, chlorite and calcite.

Mineralization is erratic and consists of abundant magnetite, and pyrite, lesser chalcopyrite, and traces of bornite and chalcocite, as disseminations, lenses, scattered blebs and veinlets. Cuprite and native copper are also reported. This mineralization tends to favour the zones of alteration, but is not proportional to the intensity of alteration. The sulphides are in part controlled by zones of shearing and fracturing in the northeastern portion of the deposit. Limonite, malachite and azurite are present at or near surface. Pyrite occurs primarily as disseminations up to 5 millimetres in diameter. The mineral also occurs along fractures in association with chalcopyrite, orthoclase, quartz and/or carbonate. Chalcopyrite tends to be finely disseminated and is usually associated with magnetite, intimately associated with pyrite, and forms pseudomorphs after pyrite. Pyrite-chalcopyrite intergrowths are prevalent along fractures. Bornite is often found in magnetite-chalcopyrite blebs and veinlets, which often display epidote halos.

Copper content is quite variable, and precious metal values are low but anomalous. Channel sampling of an adit yielded 0.901 per cent copper, 0.141 gram per tonne gold and 13.66 grams per tonne silver over 14 metres (Assessment Report 7100, page 8, adit no. 1) Channel sampling of a trench, 90 to 190 metres west of the adit, yielded 0.237 per cent copper, 0.095 gram per tonne gold and 3.37 gram per tonne silver over 35 metres (Assessment Report 7100, page 9, trench no. 12). Trenching and sampling of the northern margin of the breccia pipe yielded gold values of up to 1.97 grams per tonne over 6 metres (Assessment Report 8743, Figure 3, samples 3413, 3414).

This occurrence was first explored by H.H. Schmidt, with the excavation of several trenches and one adit, 69 metres long, between 1900 and 1915. An additional three adits, 12 to 90 metres long, were excavated some time between 1916 and the 1950s. The deposit was trenched and drilled by Noranda Mines Ltd. in 1956 after completing geological and geophysical surveys. Additional geophysical and soil geochemical surveys were carried out by Norranco Mining and Refining in 1969 and Amax Exploration Inc. in 1971. Amax also mapped and drilled the deposit in 1972. David Minerals Ltd. conducted geological and self potential surveys, trenching and 112 metres of diamond drilling in three holes between 1975 and 1980. The deposit was sampled by Northair Mines Ltd. in 1991 and Placer Dome Inc. in 1992. Drilling by Placer intersected 71 metres averaging 0.75 gram per tonne gold and 0.2 per cent copper in the north zone of the Big Kidd breccia.

Christopher James Gold Corp. drilled 10 holes, totalling 2074 metres in 1997. A 116-metre intersection graded 0.801 grams per tonne gold and 0.124 per cent copper, including a higher grade section of 19.46 metres grading 3.09 grams per tonne gold and 0.113 per cent copper (Exploration in B.C. 1997, page 38). This intersection is from the North zone. The Southwest zone, 350 metres to the south, and the Northeast zone also contained mineralization.

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N MINER Sept.14, 1992
PR REL Christopher James Gold Corp., Nov.24, 1997; Jan.19,22,30,
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Ontario
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE075**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAGGIE**, SHEAR, TOUCH

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 11 N
LONGITUDE: 120 36 27 W
ELEVATION: 1103 Metres

NORTHING: 5536155
EASTING: 671622

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, west of the Big Sioux occurrence (092HNE073), 2.2 kilometres northeast of Aspen Grove and 800 metres east of Highway 5 (Preliminary Map 15, Sheet 4; Minister of Mines Annual Report 1901, page 1182).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite
ASSOCIATED: Serpentine Chalcedony
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION:
COMMENTS: Shear.

STRIKE/DIP: 155/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Maggie showing is 2.2 kilometres northeast of Aspen Grove and 800 metres east of Highway 5.

Pyrite and chalcopyrite occur disseminated in greenish grey fractured and sheared andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The fractures are occasionally filled with yellowish white serpentine or white chalcedony. One zone of shearing strikes 155 degrees and is mineralized with chalcopyrite and bornite.

A shaft, 15 metres deep, was excavated in the mineralized shear zone between 1901 and 1905 by H. Schmidt.

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EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
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BIBLIOGRAPHY

Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE076**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIG KID (L.1405)**, DOTE 10, HALO,
BROATCH, CORKY, HAVEROEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 56 16 N
LONGITUDE: 120 35 32 W
ELEVATION: 1253 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5534492
EASTING: 672772

LOCATION ACCURACY: Within 500M

COMMENTS: Most southerly shaft on the Halo 200 claim, 2.75 kilometres east of
Aspen Grove and 2.15 kilometres northwest of the north end of Alleyne
Lake (Assessment Report 7716, Figure 3).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ALTERATION: Epidote Chlorite Calcite Malachite
ALTERATION TYPE: Propylitic Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

STRIKE/DIP: D03 Volcanic redbed Cu
090/ TREND/PLUNGE:

COMMENTS: Shear zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
FORMATION: Undefined Formation
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Augite Andesite Porphyry
Andesite
Lahar Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: SHAFT
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Silver 1.8000 Grams per tonne
Copper 0.2600 Per cent

COMMENTS: Average of one channel sample and three grab samples taken from a
shaft and two nearby trenches.

REFERENCE: Assessment Report 7100, page 11.

CAPSULE GEOLOGY

The Big Kid showing is 2.75 kilometres east of Aspen Grove and 2.15 kilometres northwest of the north end of Alleyne Lake.
A west-striking shear zone cuts slightly altered massive green augite andesite porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The andesite exhibits epidote, chlorite and calcite alteration. The shear zone is mineralized with minor bornite and chalcopyrite along fractures. Significant secondary copper mineralization is also reported (Assessment Report 6555). One channel sample and three grab samples taken from one shaft and two nearby trenches averaged 0.26 per cent copper, 0.090 gram per tonne gold and 1.8 grams per tonne silver (Assessment Report 7100, page 11). Drilling on the projected western extension of the zone failed to intersect significant sulphide mineralization.
A roadside pit, 300 metres to the west, exposes a narrow zone of

CAPSULE GEOLOGY

malachite staining in green laharic breccia. A sample assayed 1.45 per cent copper, 11.3 grams per tonne silver and trace gold over 15.2 metres (Property File - S.E. Asano, 1967, page 10, sketch map).

This showing was explored as early as 1901, when a small pit was excavated. Various operators conducted numerous geophysical and soil geochemical surveys over the showing between 1966 and 1971, while assessing the nearby Giant (Big Kidd Breccia) prospect to the north (092HNE074). David Minerals Ltd. drilled one hole, 31.1 metres long, in 1977, and sampled the old workings in 1978.

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- EMPR AR *1901-1089,1182; *1905-202; 1967-173,174; 1968-202
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EMPR P 1981-2
EMPR PF (*Asano, S.E. (1967): Geological Report on the Dote, Reeb, Snarf, Breach, Bill, Gun, Limber, Pat, and Marion Claims Group, with accompanying 1 to 18000 scale sketch map of claims and sampled showings (see 092HNE073))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 93
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1904-76A
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove Area, B.C., unpublished B.Sc. thesis, University of Western Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/03

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE077**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE BIRD**, BLUEBIRD, CORKY

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 56 34 N
LONGITUDE: 120 36 11 W
ELEVATION: 1219 Metres

NORTHING: 5535023
EASTING: 671977

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of southwest-trending adit, 2.0 kilometres east-northeast of Aspen Grove and 3.1 kilometres northwest of the north end of Alleyne Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Andesite Porphyry

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.	

INVENTORY

ORE ZONE: SHOWING	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1928
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	137.0000 Grams per tonne
Copper	22.0000 Per cent
REFERENCE: Minister of Mines Annual Report 1928, page 223.	

CAPSULE GEOLOGY

The Blue Bird showing is 2.0 kilometres east-northeast of Aspen Grove and 3.1 kilometres northwest of the north end of Alleyne Lake. Chalocite and malachite are hosted in fracture zones in augite andesite porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A sample from a seam of intensely oxidized mineralization, 0.20 metre thick, assayed trace gold, 137 grams per tonne silver and 22 per cent copper (Minister of Mines Annual Report 1928, page 223).

BIBLIOGRAPHY

EMPR AR 1900-900; 1901-1088,1183; 1904-239; 1905-202; *1928-223
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EMPR FIELDWORK 1974, pp. 14-16
EMPR MAP 10 (1973); 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 94
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1904-77A

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Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/04

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE078**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOTE 9**, COPPER BELLE, HALO,
BROATCH, CORKY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 56 24 N
LONGITUDE: 120 35 54 W
ELEVATION: 1222 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5534725
EASTING: 672326

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 2.25 kilometres east of Aspen Grove and 2.7 kilometres northwest of the north end of Alleyne Lake (Preliminary Map 15, Sheet 4) (Note: this showing was mistakenly identified as the Copper Belle showing in Bulletin 69; the original Copper Belle showing (092HNE262) is 600 metres southwest).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Bornite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Andesite Porphyry
Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1967
SAMPLE TYPE: Grab
COMMODITY: Copper GRADE Per cent
0.1300

REFERENCE: Property File - S.E. Asano, 1967, sketch map.

CAPSULE GEOLOGY

The Dote 9 showing is 2.25 kilometres east of Aspen Grove and 2.7 kilometres northwest of the north end of Alleyne Lake. Chalcocite, bornite and chalcopyrite occur in fractured augite andesite porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A grab sample assayed 0.13 per cent copper (Property File - S.E. Asano, 1967, sketch map).

BIBLIOGRAPHY

EMPR AR 1968-202
EMPR ASS RPT 856, 1620, 1827, 3512, 7716
EMPR BULL *69, p. 90
EMPR EXPL 1979-157
EMPR FIELDWORK 1974, pp. 14-16
EMPR GEM 1971-285,286; 1972-138
EMPR MAP 10 (1973); 15 (1974)
EMPR P 1981-2
EMPR PF (*Asano, S.E. (1967): Geological Report on the Dote, Reeb, Snarf, Breach, Bill, Gun, Limber, Pat, and Marion Claims Group, with accompanying 1 to 18000 scale sketch map of claims and sampled showings (see 092HNE073))

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GSC P 85-1A, pp. 349-358
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Ontario

DATE CODED: 1985/07/24
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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE079**

NATIONAL MINERAL INVENTORY: 092H15 Cu3

NAME(S): **COPPER STANDARD (L.1403)**, AK, PAY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 55 55 N
LONGITUDE: 120 34 58 W
ELEVATION: 1103 Metres

NORTHING: 5533865
EASTING: 673471

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on the Copper Standard claim (Lot 1403), 1.25 kilometres northwest of the north end of Alleyne Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcocite Bornite
ASSOCIATED: Hematite Magnetite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

DIMENSION: STRIKE/DIP:
COMMENTS: Mineralization occurs along fractures in a north-trending fracture zone.

TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
FORMATION: Undefined Formation
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Augite Andesite Porphyry
Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1928
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	206.0000 Grams per tonne
Gold	0.7000 Grams per tonne
Copper	8.8000 Per cent

REFERENCE: Minister of Mines Annual Report 1928, page 223.

CAPSULE GEOLOGY

The Copper Standard showing outcrops along a steep east-facing slope, 1.25 kilometres northwest of the north end of Alleyne Lake. This occurrence is hosted in massive red augite andesite porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Mineralization consists of chalcocite, bornite, malachite, hematite and magnetite in seams and fractures, within a north-trending fracture zone. A grab sample assayed 0.7 gram per tonne gold, 206 grams per tonne silver and 8.8 per cent copper (Minister of Mines Annual Report 1928, page 223). The showing was explored in the early 1900s with the excavation of a 15-metres deep shaft, and a drift, 17 metres long, extending northwest from the bottom of the shaft. Cal Dynamics Energy Corporation completed soil and geophysical surveys over the old workings in 1978 and 1979.

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1913-223; 1915-226; *1928-223
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EMPR EXPL 1978-E152
EMPR FIELDWORK 1974, pp. 14-16
EMPR MAP 15 (1974)
EMPR P 1981-2
EMPR PF (*Kelly, S.F. (1963): Summary Report and Recommendations on
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092HNE084))
EMR MP CORPFILE (Payco Mines Ltd.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 93
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GSC P 85-1A, pp. 349-358
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Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove
Area, B.C., unpublished B.Sc. thesis, University of Western
Ontario

DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE080**

NATIONAL MINERAL INVENTORY: 092H15 Cu5

NAME(S): **GOLDEN GATE (L.1332)**, MEDAL FRACTION (L.1540), METAL FRACTION, AK, PAY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 55 27 N
LONGITUDE: 120 34 57 W
ELEVATION: 1082 Metres

NORTHING: 5533001
EASTING: 673519

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of area of trenching on the Golden Gate claim (Lot 1332), 1.9 kilometres northwest of the south end of Alleyne Lake and 3.15 kilometres east-northeast of the south end of Kidd Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Copper Chalcopyrite Bornite Chalcocite Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1913

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

0.5000

Per cent

COMMENTS: Chip sample taken across 3.0 metres.

REFERENCE: Minister of Mines Annual Report 1913, page 223.

CAPSULE GEOLOGY

The Golden Gate showing is 1.9 kilometres northwest of the south end of Alleyne Lake and 3.15 kilometres east-northeast of the south end of Kidd Lake.

Native copper, chalcopyrite, bornite, chalcocite, pyrite and cuprite occur in fractures in red laharic breccia, near the contact with green laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

Similar copper mineralization is exposed in several pits and trenches some 300 to 400 metres south-southwest, on the Medal Fraction claim (Lot 1540). Here, the same red breccia contains native copper along fractures and minor disseminated chalcopyrite. A sample assayed 1.2 per cent copper, 0.7 gram per tonne gold and trace silver (Minister of Mines Annual Report 1901, page 1182). A chip sample taken across 3.0 metres assayed 0.5 per cent copper (Minister of Mines Annual Report 1913, page 223).

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EMPR ASS RPT 7050, 8040, 9251

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

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BIBLIOGRAPHY

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EMPR EXPL 1978-E152; 1980-208
EMPR FIELDWORK 1974, pp. 14-16
EMPR GEM 1974-125
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1904-76A
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/30

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE081**

NATIONAL MINERAL INVENTORY: 092H15 Cu7

NAME(S): **EMERALD**, AK, ANOMALY D

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 55 39 N
LONGITUDE: 120 35 53 W
ELEVATION: 1216 Metres

NORTHING: 5533336
EASTING: 672390

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 2.9 kilometres northwest of the south end of Alleyne Lake and 2.2 kilometres northeast of the south end of Kidd Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Basalt Porphyry
Basalt

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Copper
GRADE: 0.1000 Per cent
YEAR: 1971
REFERENCE: Property File - M.K. Lorimer, 1971, page 4.

CAPSULE GEOLOGY

The Emerald showing is 2.9 kilometres northwest of the south end of Alleyne Lake and 2.2 kilometres northeast of the south end of Kidd Lake.

In a shaft, chalcopyrite occurs in augite basalt porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A grab sample from a dump assayed 0.10 per cent copper (Property File - M.K. Lorimer, 1971, page 4).

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EMPR ASS RPT 3758, *7050, 8040, 9251
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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
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GSC SUM RPT 1904-76A,77A
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

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CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE082**

NATIONAL MINERAL INVENTORY: 092H15 Cu7

NAME(S): **GEORGIA (L.1101)**, LYTTON, EMERALD,
MONTE MIRA, MIRA MONTE, ABE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 55 15 N
LONGITUDE: 120 35 40 W
ELEVATION: 1189 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5532603
EASTING: 672673

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 2.25 kilometres northwest of the south end of Alleyne Lake and
2.3 kilometres east-northeast of the south end of Kidd Lake
(Preliminary Map 15, Sheet 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Chalcopyrite Bornite Copper Cuprite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

CAPSULE GEOLOGY

The Georgia showing is 2.25 kilometres northwest of the south end of Alleyne Lake and 2.3 kilometres east-northeast of the south end of Kidd Lake.

A shaft, 11 metres deep, exposes malachite, chalcocite, chalcopyrite and bornite in a fracture zone in red laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Several pits, 220 metres northwest of the shaft, contain chalcocite and native copper in a fracture zone in the same red lahar. Similar copper mineralization, also containing cuprite, occurs disseminated through the volcanics in the vicinity of the showings.

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EMPR AR 1900-899; 1901-1088,1183; 1903-247; 1905-202; 1928-223;
*1967-174
EMPR ASS RPT 3758, 7050, 8040, 9251
EMPR BULL *69, p. 89
EMPR EXPL 1978-E152; 1980-208
EMPR FIELDWORK 1974, pp. 14-16
EMPR GEM 1972-137
EMPR MAP *15 (1974)
EMPR P 1981-2
EMPR PF (Anonymous (undated - early 1900s): 1 to 12000 scale plan showing mineral claims, Aspen Grove camp (see 092HNE Regional File))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

BIBLIOGRAPHY

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DATE CODED: 1985/07/24
DATE REVISED: 1992/06/30

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE083**

NATIONAL MINERAL INVENTORY: 092H15 Cu5

NAME(S): **BANK OF ENGLAND (L.1130)**, Q, CINCINNATTI,
AG, AL 1

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 54 59 N
LONGITUDE: 120 34 59 W
ELEVATION: 1158 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5532135
EASTING: 673507

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site ASG 90104, 1.25 kilometres west-northwest of the south end of Alleyne Lake and 900 metres northeast of Miner Lake (Assessment Report 20551, Figure 3).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Copper sulphides and oxides.
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.	GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1992
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Copper	0.4800 Per cent

COMMENTS: Sample taken over 35 metres.
REFERENCE: George Cross News Letter No. 90 (May 8), 1992.

CAPSULE GEOLOGY

This occurrence is 1.0 to 1.3 kilometres west of Alleyne Lake and 0.7 to 0.9 kilometre northeast of Miner Lake. The Bank of England showing is hosted in green laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Abundant copper sulphides and oxides occur in a fracture zone dipping 70 degrees southwest. A rock sample analysed 3.00 per cent copper and 0.008 gram per tonne gold (Assessment Report 20551, Figure 3, sample ASG 90104). A chip sample taken 200 metres southwest analysed 0.48 per cent copper over 35 metres (George Cross News Letter No. 90 (May 8), 1992). A sample from the face of an opencut assayed 1.5 per cent copper, 1.4 grams per tone gold and trace silver (Minister of Mines Annual Report 1901, page 1182). This showing was first explored by the Bates brothers between 1901 and 1913. Westward Energy and Resources Corporation completed geophysical and geochemical surveys over the showing between 1978 and 1981. The occurrence was sampled by Minequest Exploration Associates Ltd. in 1990 and Pacific Copperfields Inc. in 1992.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

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Ontario

DATE CODED: 1985/07/24
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CODED BY: GSB
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 092HNE083

MINFILE NUMBER: **092HNE084**

NATIONAL MINERAL INVENTORY: 092H15 Cu5

NAME(S): **PAYCINCI**, CINCINNATTI (L.1127), COPPER JACK (L.1189),
NOBLE FIVE (L.1131), PAY, PAYCO,
LISA, MICKEY

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:
LATITUDE: 49 54 49 N
LONGITUDE: 120 34 54 W
ELEVATION: 1204 Metres
LOCATION ACCURACY: Within 500M

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5531830
EASTING: 673616

COMMENTS: Centre of area of trenching and tunnelling, 1.1 kilometres west-northwest of the south end of Alleyne Lake and 3.0 kilometres north-northwest of the south end of Kentucky Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcocite Copper Chalcopyrite Bornite Cuprite
ALTERATION: Malachite Azurite Pyrite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 400 Metres STRIKE/DIP:
COMMENTS: Mineralization occurs over a north-south distance of 400 metres. TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar Breccia
Augite Andesite Porphyry
Andesite
Sediment/Sedimentary

HOSTROCK COMMENTS: This deposit is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This prospect is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: PAYCINCI REPORT ON: Y
CATEGORY: Inferred YEAR: 1998
QUANTITY: 1800000 Tonnes
COMMODITY: Copper GRADE: 1.0000 Per cent
COMMENTS: Reserve estimate.
REFERENCE: Tom Schroeter, 1998.

ORE ZONE: CINCINNATTI REPORT ON: Y
CATEGORY: Indicated YEAR: 1979
QUANTITY: 54000 Tonnes
COMMODITY: Copper GRADE: 0.8760 Per cent
COMMENTS: Drill indicated reserves based on 2 drillholes.
REFERENCE: Assessment Report 7654.

CAPSULE GEOLOGY

The Cincinnatti prospect is centred 1.1 kilometres west-northwest of the south end of Alleyne Lake and 3.0 kilometres north-northwest of the south end of Kentucky Lake.
The deposit is located in the southern portion of an area of

CAPSULE GEOLOGY

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

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

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

Drill indicated reserves are 54,000 tonnes grading 0.876 per cent copper (Assessment Report 7654, page 1). Precious metal values are generally low. Six rock samples analysed 1.1 to 2.4 per cent copper, 0.005 to 0.010 gram per tonne gold and 1.3 to 5.7 grams per tonne silver (Assessment Report 14108, Figure 5, samples 2051 to 2056). One chip sample taken along a trench yielded 0.89 per cent copper over 49 metres (George Cross News Letter No. 90 (May 8), 1992).

The Cincinnatti deposit was first explored by the Bates brothers in the early 1900s. A number of trenches, and one adit 120 metres long, were excavated between 1899 and 1913. Payco Mines Ltd. and Alscope Consolidated Ltd. conducted geological and geophysical surveys, trenching and diamond and percussion drilling between 1963 and 1967. An additional 15 holes totalling 1000 metres were drilled by Gold River Mines and Enterprises Ltd. in 1973 and Sienna Developments Ltd. in 1979. The deposit was most recently sampled by Pacific Copperfields Ltd. in 1992.

In 1998, Christopher James Gold Corp. optioned the property. Reserves are estimated at 1.8 million tonnes grading 1 per cent copper (Tom Schroeter, 1998).

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EMPR BULL 69, p. 89
EMPR EXPL 1979-156
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EMPR GEM *1974-125
EMPR MAP 10 (1973); 15 (1974)
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EMPR PF (*Kelly, S.F. (1963): Summary Report and Recommendations on the Payco Mines Ltd. Claims near Aspen Grove, B.C., and accompanying 1 to 600 scale plan of diamond drill holes, trenches and workings)
EMR MIN BULL MR 223 B.C. 125
EMR MP CORPFILE (Payco Mines Ltd.)
EMR MP RESFILE (PAY) RES
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DATE CODED: 1985/07/24
DATE REVISED: 1992/06/29

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE085**

NATIONAL MINERAL INVENTORY: 092H15 Cu5

NAME(S): **LITTLE LOTTIE (L.1190)**, HAPPY JACK (L.1187), LOTTIE FRACTION (L.1191),
FINN, KEN, AL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 54 25 N
LONGITUDE: 120 35 30 W
ELEVATION: 1189 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5531065
EASTING: 672922

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 4003R, 1.9 kilometres west-southwest of the south end of
Alleyne Lake and 2.7 kilometres northwest of the south end of
Kentucky Lake (Assessment Report 14108, Figure 5).

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Chalcocite Galena
ASSOCIATED: Epidote Calcite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Plagioclase Porphyritic Basalt
Volcanic Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau	
TERRANE: Quesnel		
METAMORPHIC TYPE: Regional	RELATIONSHIP:	GRADE: Greenschist
COMMENTS: This occurrence is in the central part of the Nicola belt.		

INVENTORY

ORE ZONE: SHOWING	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1985
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Copper	0.7700 Per cent
REFERENCE: Assessment Report 14108, Figure 5 (sample 4003R).	

CAPSULE GEOLOGY

This showing is 1.9 kilometres west-southwest of the south end of Alleyne Lake and 2.7 kilometres northwest of the south end of Kentucky Lake.

The Little Lottie occurrence is hosted in reddish to green augite plagioclase porphyritic basalt, near the contact with red volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The basalt is cut by north-northeast striking veins and lenses of epidote and calcite up to 0.5 metre wide, mineralized with malachite and chalcocite. Some galena is also reported. A rock sample analysed 0.77 per cent copper and 1.0 gram per tonne silver (Assessment Report 14108, Figure 5, sample 4003R).

This showing was initially prospected between 1900 and 1904 by Messrs. Lowe and Brown. Geological and rock and soil geochemical surveys were conducted by Vanco Explorations Ltd. in 1985 and Minequest Exploration Associates Ltd. in 1990.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 172
REPORT: RGEN0100

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Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove
Area, B.C., unpublished B.Sc. thesis, University of Western
Ontario

DATE CODED: 1985/07/24
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CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE086**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOM CAT (L.1517)**, PYRAMID

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 52 54 N
LONGITUDE: 120 35 44 W
ELEVATION: 1222 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5528246
EASTING: 672734

LOCATION ACCURACY: Within 500M

COMMENTS: Westernmost trench on the Tom Cat claim (Lot 1517), 2.0 kilometres west-northwest of the north end of Bluey Lake and 2.25 kilometres west-southwest of the south end of Kentucky Lake (Preliminary Map 15, sheet 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Bornite Chalcopyrite Copper
ASSOCIATED: Magnetite Hematite
ALTERATION: Chlorite Sericite
ALTERATION TYPE: Chloritic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu L01 Subvolcanic Cu-Ag-Au (As-Sb)
L05 Porphyry Mo (Low F- type)
DIMENSION: 45 x 30 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Lahar Breccia
Basaltic Flow Breccia
Basalt
Lahar
Basaltic Flow

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1965
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.3150 Per cent
COMMENTS: Average grade over 45.7 metres.
REFERENCE: Minister of Mines Annual Report 1965, page 157 (hole 1, 0 to 45.7 m).

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1913
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 1.6000 Per cent
COMMENTS: Chip sample taken over a length of 3.0 metres.
REFERENCE: Minister of Mines Annual Report 1913, page 223.

CAPSULE GEOLOGY

The Tom Cat prospect is 2.0 kilometres west-northwest of the north end of Bluey Lake and 2.25 kilometres west-southwest of the south end of Kentucky Lake.

CAPSULE GEOLOGY

This deposit is hosted in green laharc breccia or basaltic flow breccia near the contact with red laharc breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The unit strikes north-northwest and dips 60 degrees east. Massive basaltic flows outcrop to the northeast. Alteration of the breccia consists of some chloritization of olivine and pyroxene, and sericitization of feldspar.

The laharc breccia is erratically mineralized with chalcocite, magnetite, bornite, chalcopyrite, native copper and hematite, as disseminations and fracture coatings. Trenching and diamond drilling has intersected this mineralization over a width of 30 metres and a depth of at least 45 metres. One drillhole analysed 0.32 per cent copper over 45.7 metres (Minister of Mines Annual Report 1965, page 157, hole 1). Two chip samples assayed 2.4 and 1.6 per cent copper over 2.1 and 3.0 metres respectively (Minister of Mines Annual Report 1913, page 223).

The occurrence was initially prospected and trenched by W. Murray between 1906 and 1913. Pyramid Mining Company Ltd. drilled 13 holes totalling 1042 metres in 1965.

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CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE087**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOOMERANG (L.1541)**, BLUEY, BLOO,
KENTUCKY, ALSCOPE, OREAPHEMIA (L.1542)

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 45 N
LONGITUDE: 120 34 45 W
ELEVATION: 1186 Metres

NORTHING: 5528006
EASTING: 673920

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on the Boomerang claim (Lot 1541), 830 metres northwest of the north end of Bluey Lake and 1.4 kilometres southwest of the south end of Kentucky Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcocite Bornite
ASSOCIATED: Magnetite Calcite Epidote
ALTERATION: Chlorite Malachite Azurite
ALTERATION TYPE: Chloritic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Breccia Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
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 Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Diorite
Microdiorite
Andesite Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1985	
SAMPLE TYPE: Rock		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	7.9000	Grams per tonne
Gold	0.9800	Grams per tonne
Copper	2.3374	Per cent

REFERENCE: Assessment Report 14141, Drawing 5b (sample 2205).

CAPSULE GEOLOGY

The Boomerang showing is 830 metres northwest of the north end of Bluey Lake and 1.4 kilometres southwest of the south end of Kentucky Lake. Chalcocite, bornite and malachite occur along fractures in fine-grained diorite (microdiorite) or dioritized volcanics of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The diorite is chloritized and occasionally brecciated. Where brecciated, blebs and stringers of bornite, chalcocite and malachite occur between the fragments. Abundant disseminated magnetite, calcite and epidote are reported to accompany the brecciation. The mineralized zone appears to trend northwest. Three of five rock samples analysed 0.183 to 2.34 per cent copper, 0.4 to 7.9 grams per tonne silver and 0.016 to 0.980 gram per tonne gold (Assessment Report 14141, Drawing 5b, samples 2003, 2205, 2563). A selected sample assayed 14.7 per cent copper, 4.1 grams per tonne gold and 74.1 grams per tonne silver

CAPSULE GEOLOGY

(Minister of Mines Annual Report 1901, page 1183).
Similar mineralization occurs 350 metres northwest, where chalcocite, malachite and azurite form fracture coatings in several narrow, north-striking shears in chloritized diorite. Additional mineralization is found 200 metres west of the shears, where malachite and chalcocite occur at the intersections of shears striking 060 and 150 degrees in red andesite breccia. This showing was explored as early as 1901. Several trenches and shallow shafts were excavated by 1904 and two diamond-drill holes were drilled by 1928. Scope Development Ltd. and Alscope Consolidated Ltd. conducted trenching, soil sampling, geophysical surveying and some diamond drilling in 1964 and 1967. Various geological, geochemical and geophysical surveys were completed by F. Gingell between 1976 and 1981, Vanco Explorations Ltd. in 1985 and Laramide Resources Ltd. in 1987.

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1967-175
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EMPR BULL 69, p. 88
EMPR EXPL 1976-E87; 1979-156; 1981-49; 1985-C187
EMPR MAP *15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
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CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE088**

NATIONAL MINERAL INVENTORY:

NAME(S): **PORTLAND (L.1124)**, PORTLAND MINING COMPANY, QUEBEC (L.1126),
COVINGTON (L.1123), VICKSBURG (L.1125), PYRAMID

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 52 35 N
LONGITUDE: 120 35 51 W
ELEVATION: 1128 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5527655
EASTING: 672613

COMMENTS: Shaft on Lot 1125, 1.95 kilometres west-northwest of the north end of Bluey Lake and 2.6 kilometres southwest of the south end of Kentucky Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite
ASSOCIATED: Magnetite Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 9 Metres
COMMENTS: Mineralized zone.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Lahar Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1913
SAMPLE TYPE: Grab
COMMODITY GRADE
Copper 0.4000 Per cent

REFERENCE: Minister of Mines Annual Report 1913, page 223.

CAPSULE GEOLOGY

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

Chalcocite, magnetite and hematite occur in a fracture zone in red and green laharc breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The mineralized zone is reported to be over 9 metres wide. A sample from about 100 tonnes of dump material assayed 0.4 per cent copper (Minister of Mines Annual Report 1913, page 223). A sample from an open-cut assayed 0.9 per cent copper (Minister of Mines Annual Report 1901, page 1183).

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

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EMPR P 1981-2

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 178
REPORT: RGEN0100

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GSC P 85-1A, pp. 349-358
GSC SUM RPT 1904-77A, 78A
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE089**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUNKER HILL**, BLOO, NOR

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 20 N
LONGITUDE: 120 35 06 W
ELEVATION: 1225 Metres

NORTHING: 5527221
EASTING: 673526

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched chalcocite-bornite showing, 1.05 kilometres west-southwest of the north end of Bluey Lake and 2.25 kilometres southwest of the south end of Kentucky Lake (Preliminary Map 15, Sheet 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Bornite Chalcopyrite Pyrite
ALTERATION: Carbonate Malachite Azurite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Pyroxene Plagioclase Porphyritic Andesite
Volcanic Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY: Copper 0.3914 Per cent

REFERENCE: Assessment Report 14141, Figure 5b (sample 88603).

CAPSULE GEOLOGY

The Bunker Hill showing is 1.05 kilometres west-southwest of the north end of Bluey Lake and 2.25 kilometres southwest of the south end of Kentucky Lake.

Several trenches and old pits expose chalcocite, bornite, chalcopyrite, pyrite, malachite and azurite in brecciated and altered pyroxene plagioclase porphyritic andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Brown carbonate (?) alteration is associated with sulphide mineralization. A rock sample analysed 0.391 per cent copper (Assessment Report 14141, Figure 5b, sample 88603).

Copper mineralization is also found 470 metres east-southeast of the trenches, in red volcanic breccia and lahar deposits. Four rock samples analysed 0.229 to 0.857 per cent copper (Assessment Report 14141, Figure 5b, samples 2211, 2285, 2286, 2289).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 180
REPORT: RGEN0100

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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE090**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOR 30**, VANCOUVER, VICTORIA,
WESTMINSTER, CLIMAX, BOSS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 51 42 N
LONGITUDE: 120 34 55 W
ELEVATION: 1213 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5526055
EASTING: 673783

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched chalcocite showing, 800 metres west of the south end of Bluey Lake (Preliminary Map 15, Sheet 5).

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 100 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Volcanic Breccia
Lahar
Porphyritic Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 37.8000 Grams per tonne
Copper 4.6753 Per cent
REFERENCE: Assessment Report 14141, Drawing 5b, (sample 2272).

CAPSULE GEOLOGY

The Nor 30 showing is 800 metres west of the south end of Bluey Lake.

A vein of massive chalcocite, up to 13 centimetres wide, occurs in red volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The vein is bordered by 1 metre of disseminated chalcocite. This zone has been traced along strike for about 100 metres. Twelve metres to the north, a wide shear zone is mineralized with chalcopyrite and pyrite. Seven rock samples collected in the immediate vicinity of the chalcocite vein and shear zone analysed 0.867 to 4.68 per cent copper (Assessment Report 14141, Drawing 5b). Silver values ranged up to 37.8 grams per tonne.

Several small trenches, 340 metres west-southwest of the main showing, expose malachite and chalcopyrite in porphyritic andesite.

This showing was prospected as early as 1900. Fidelity Uranium Mines Ltd. conducted trenching and geological mapping in 1956. Vanco Explorations Ltd. and Laramide Resources Ltd. completed geological

CAPSULE GEOLOGY

and soil and rock geochemical surveys in 1985 and 1987.

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EMPR BULL 69, p. 89
EMPR MAP *15 (1974)
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EMPR PF (Anonymous (undated - early 1900s): 1 to 12000 scale plan
showing mineral claims, Aspen Grove camp (see 092HNE Regional
File))
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243, p. 95
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1904-78A
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE091**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAISY, JOSEE**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 50 48 N
LONGITUDE: 120 32 59 W
ELEVATION: 1350 Metres

NORTHING: 5524462
EASTING: 676153

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching on the Daisy prospect, 2.25 kilometres southeast of the south end of Bluey Lake, 3.7 kilometres north of the north end of Missezula Lake (Assessment Report 12351, geology map).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Bornite Chalcocite
ASSOCIATED: Hematite Magnetite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 350 x 30 Metres STRIKE/DIP:
COMMENTS: Mineralization is hosted in a shear zone striking north-northwest and dipping steeply west.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite
Volcanic Breccia
Lahar
Volcanic Sandstone
Diorite

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1928
SAMPLE TYPE: Chip
COMMODITY:

COMMODITY	GRADE	
Silver	3.4000	Grams per tonne
Copper	0.8000	Per cent

COMMENTS: Chip sample taken across 9.1 metres.
REFERENCE: Minister of Mines Annual Report 1928, page 222.

CAPSULE GEOLOGY

The Daisy prospect is 2.1 to 2.4 kilometres southeast of the south end of Bluey Lake and 3.5 to 3.8 kilometres north of the north end of Missezula Lake.

This region north of Missezula Lake is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

CAPSULE GEOLOGY

A shear zone 20 to 30 metres wide, striking north-northwest and dipping steeply west, cuts massive green andesite and underlying coarse red volcanic breccia (lahar (?)) of the Nicola Group (Central belt, Bulletin 69). The volcanics strike 140 degrees and dip 35 degrees northeast. An elongate body of diorite occurs along a splay of the north-striking Kentucky-Alleyne fault system to the southeast.

The shear zone is erratically mineralized with minor bornite and chalcocite smeared along fractures, over a strike length of 350 metres. Malachite and azurite occur frequently along fractures. Hematite and magnetite are also reported. This mineralization is best developed in the andesite. An overlying bed of volcanic sandstone is barren, while only minor amounts of mineralization are found in the breccia. Two samples taken over 4 metres yielded up to 11 grams per tonne silver, 1.07 per cent copper and trace gold (Assessment Report 12351, page 6). An additional chip sample assayed trace gold, 3.4 grams per tonne silver and 0.8 per cent copper over 9.1 metres (Minister of Mines Annual Report 1928, page 222). A sample of sorted ore assayed trace gold, 61.7 grams per tonne silver and 7.8 per cent copper (Minister of Mines Annual Report 1915, page 224).

A second area of copper mineralization occurs 400 metres south-southeast, where copper carbonates and sulphides are developed along fractures.

This deposit was first explored in 1915, when several trenches and a 3-metre long adit were excavated. Cominco conducted diamond drilling and trenching in 1979. One intersection returned 0.14 per cent copper over 32 metres. J.M. Murphy completed soil and geological surveys in 1983 and 1984. Unuk Gold Corp. worked the property in 1997.

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GSC MEM 243, p. 95
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
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GCNL #134(July 14), #221(Nov.18), 1997

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/24

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE092**

NATIONAL MINERAL INVENTORY: 092H15,16,9,10 Cu6

NAME(S): **SHAMROCK, NELLIE, SHANNON,
ESTHER, WARM**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E 092H15E
BC MAP:
LATITUDE: 49 44 57 N
LONGITUDE: 120 30 22 W
ELEVATION: 975 Metres

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5513727
EASTING: 679649

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of 5 closely-spaced trenches with chalcocite and native copper, 500 metres west of Summers Creek and 2.1 kilometres south-southwest of the south end of Missezula Lake (Preliminary Map 17).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcocite Chalcopyrite Pyrite Copper
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 37 x 5 Metres STRIKE/DIP: TREND/PLUNGE: 015/
COMMENTS: Zone of mineralized shears trends 015 degrees for 30 metres and is 3 to 6 metres wide over most of its length.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar
Andesitic Flow Breccia
Andesite
Volcanic Conglomerate
Diorite Dike

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This showing is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 1.4200 Per cent
COMMENTS: Average grade of sampling over a length of 30 metres and an average width of 5.2 metres.
REFERENCE: National Mineral Inventory.

CAPSULE GEOLOGY

This showing outcrops along the steep west bank of the Summers Creek valley, about 2 kilometres south-southwest of the south end of Missezula Lake.

The Shamrock showing is hosted in massive to crudely bedded lahar deposits and volcanic conglomerate of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). The beds strike north and dip 40 to 60 degrees west. Previous mapping has also described the lahars as being andesitic flow breccias.

The volcanics are cut by a zone of narrow shears and fractures striking 020 to 025 degrees and dipping 70 degrees northwest. The zone trends 015 degrees for 37 metres and is 3 to 6 metres wide over

CAPSULE GEOLOGY

most of its length. The shears are displaced by two postmineral faults striking 075 and 150 degrees and dipping 80 to 90 degrees north and 80 degrees northeast respectively.

Mineralization consists of massive veinlets and disseminations of chalcocite and a few grains of chalcopyrite and pyrite developed along the shears and fractures. Native copper is also reported. The sulphides are accompanied by malachite and azurite. Three chip samples, taken across widths of 4.3 to 4.9 metres and spaced evenly over a strike length of 17 metres, averaged 2.40 per cent copper (Assessment Report 3955, page 2). A composite sample of the three chip samples assayed 4.8 grams per tonne silver and 0.10 gram per tonne gold (Assessment Report 3955, page 11). Sampling over a length of 30 metres and an average width of 5.2 metres yielded 1.42 per cent copper (National Mineral Inventory).

A trench 137 metres southwest of the shear zone exposes minor disseminated chalcocite over a length of 60 metres. This mineralization may be related to a diorite dike. A series of grab samples from the trench averaged 0.23 per cent copper (Assessment Report 3955, page 11). Other northeast and northwest striking shears mineralized with chalcopyrite, chalcocite and pyrite occur north and south of the main zone of shearing over a distance of 600 metres. The shears appear to be confined to the same stratigraphic horizon.

This showing was first explored in 1929, with the excavation of several trenches and a short adit. A small shipment of ore mined that year averaged 5.78 per cent copper (Minister of Mines Annual Report 1929, page 278). Consolidated Woodgreen Mines Ltd. conducted additional trenching and drilled at least three holes in 1963. Various geological, geophysical and geochemical surveys were completed over the showing by Delkirk Mining Ltd., Belcarra Explorations Ltd. and Rio Tinto Canadian Exploration Ltd. between 1969 and 1972. The deposit was sampled for precious metals by Vanco Explorations Ltd. in 1985.

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- EMPR PF (*Malcom, D.C. (1971): Report on Belcarra Mines Limited (N.P.L.), Nellie Group, Similkameen Mining Division, British Columbia, in Belcarra Explorations Ltd. (1971): Prospectus, Vancouver Stock Exchange)
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- GSC P 85-1A, pp. 349-358
- CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE093**

NATIONAL MINERAL INVENTORY:

NAME(S): **PRINCETON COAL**, UP

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 30 N
LONGITUDE: 120 30 13 W
ELEVATION: 686 Metres

NORTHING: 5486962
EASTING: 680718

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole PC-1, 440 metres southwest of Allison Creek and 5.5 kilometres north of Princeton (Coal Assessment Report 195, Plate 2).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Clay
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: A04 Bituminous coal
SHAPE: Tabular

Massive
Fossil Fuel

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Coal
Sandstone
Claystone
Siltstone
Mudstone
Grit
Shale
Rhyolite Tephra

HOSTROCK COMMENTS: Isotopic age date for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: Rank is high-volatile bituminous C.

PHYSIOGRAPHIC AREA: Thompson Plateau
Overlap Assemblage
RELATIONSHIP: Post-mineralization
GRADE: HVol Bituminous

CAPSULE GEOLOGY

Princeton Coal is located about 0.5 kilometre southwest of Allison Creek and 5.5 kilometres north of Princeton.

This coal deposit is situated in the north-central part of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-trending Rainbow Lake anticline. The northern area, in which this deposit occurs, consists of a gently folded homoclinal panel, with dips ranging from 15 to 25 degrees.

Princeton Coal is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). The more significant coal seams occur in a sequence of sandstone with lesser claystone, siltstone and mudstone, and minor grit. The seams are commonly overlain and underlain by carbonaceous mudstone or claystone containing abundant fossils.

One vertical drillhole (PC-1) intersected five significant coal seams 1.07 to 2.13 metres thick at depths of 36.6 to 51.1 metres. Six other vertical holes drilled to the east, west and south, within 400 metres of this hole, intersected thinner high-ash seams.

The coal is high-volatile bituminous C in rank (A.S.T.M.).

CAPSULE GEOLOGY

classification). The five coal seams vary from being dull, slightly muddy, and blocky to hard, shiny, and vitrain rich. Blebs of amber (resinite) are occasionally present. Samples from the five seams analysed 14.06 to 39.2 per cent fixed carbon, 27.81 to 51.51 per cent ash, 0.40 to 1.07 per cent sulphur, and 6172 to 9130 British Thermal Units per pound (dry basis) (Coal Assessment Report 195, core logs). Two of the better intersections analysed as follows (in per cent, dry basis) (Coal Assessment Report 195):

	Sample 1	Sample	
Length (metres)	1.22		1.07
Volatile matter	37.58		39.20
Fixed carbon	38.59		49.21
Ash	27.81		29.28
Sulphur	0.88		0.40
Calorific value (B.T.U.'s per pound)	9130		8868

Sample 1 is of fairly pure coal with blebs of amber (hole PC-1, 37.5-38.7 metres). Sample 2 is of dull, black, blocky coal (hole PC-1, 46.2-47.2 metres).

The general area was first drilled by Cominco Exploration, during a search for sediment-hosted uranium mineralization. This drilling intersected several thin coal seams. The coal-bearing sediments were then tested by a second series of four rotary holes totalling 351 metres in 1980 by Cominco and Fording Coal Ltd. Cominco drilled an additional 7 holes totalling 537 metres in 1981.

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DATE CODED: 1992/03/03
DATE REVISED: 1992/05/24

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE094**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLLINS GULCH**, BEAR'S DEN, FRASER GULCH,
TULAMEEN COAL, TULAMEEN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H10E 092H10W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 30 50 N
LONGITUDE: 120 44 05 W
ELEVATION: 1160 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5487051
EASTING: 663970

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of a drillhole in the headwaters of Fraser Gulch (incorrectly labeled Bear's Den), 3 kilometres west-northwest of Coalmont and 4 kilometres southeast of Tulameen (Coal Assessment Report 200, Figure 3, sheet 2).

COMMODITIES: Coal Clay

MINERALS

SIGNIFICANT: Coal Clay
ASSOCIATED: Bentonite
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Fossil Fuel Industrial Min.
TYPE: A04 Bituminous coal
SHAPE: Tabular
MODIFIER: Folded Faulted
DIMENSION: 1850 x 23 Metres
COMMENTS: Single coal zone with up to 4 seams of clean coal.

STRIKE/DIP: 120/45S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.0 +/- 1.7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Amphibole

LITHOLOGY: Coal
Clay
Sandstone
Shale
Mudstone
Bentonite
Siltstone
Andesitic Volcanic
Andesite
Pebble Conglomerate

HOSTROCK COMMENTS: Isotopic age date is for the Cedar dacite (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Overlap Assemblage
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization
COMMENTS: Rank is high-volatile bituminous B. GRADE: HVol Bituminous
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: COLLINS GULCH

REPORT ON: Y

CATEGORY: Inferred YEAR: 1970
QUANTITY: 5600000 Tonnes

COMMODITY: Coal GRADE: 100.0000 Per cent

COMMENTS: For a strike length of 4300 metres to a mining depth of 46 metres.
REFERENCE: Property File - Wright Engineers Ltd., 1970, pages 2-4.

INVENTORY

ORE ZONE: FRASER

REPORT ON: Y

CATEGORY: Indicated YEAR: 1974

QUANTITY: 1590000 Tonnes

COMMODITY	GRADE
Coal	100.0000 Per cent

COMMENTS: Over a strike length of 1500 metres to a mining depth of 60 metres.

REFERENCE: Coal Assessment Report 198, page 1.

CAPSULE GEOLOGY

The Collins Gulch deposit is exposed in outcrop and various surface and underground workings for 2 kilometres between Collins Gulch and Fraser Gulch, 3 to 4.5 kilometres southeast of Tulameen and 2.5 to 4.5 kilometres west-northwest of Coalmont.

Collins Gulch occurs along the northeastern margin of the Tulameen Basin, a structural basin comprised of a northwest-trending syncline that preserves a sequence of sedimentary rocks with lesser intercalated volcanics of the Eocene Allenby Formation (Princeton Group), up to 840 metres thick. The sequence rests unconformably on a basement of Upper Triassic Nicola Group metamorphosed volcanics and sediments. The syncline doubly plunges towards the centre of the basin. In the northwest, the fold is open with both limbs dipping approximately 45 degrees. In the southeast, the fold is asymmetric with the dips being approximately 45 degrees and 20 degrees on the northeast and southwest limbs, respectively. The basin is bounded by high-angle faults and is dissected by additional high-angle northwest to northeast-striking faults.

The deposit is hosted in a coal-bearing shale member approximately 130 to 200 metres thick, underlain by up to 120 metres of sandstone, siltstone and andesitic volcanics, and overlain by 580 to 700 metres of sandstone and pebble conglomerate, with interbeds of shale, ash and coal in the lower sections. The member consists of up to 30 metres of coal interbedded with mudstone, bentonite (ash) shale, and sandstone. The coal occurs in the lower 80 metres of the member in a zone of mostly brown to grey to black fissile shale and mudstone with lesser coal and white to buff bentonite, that ranges from 11 to 23 metres in thickness and contains 3.7 to 17 metres of clean coal (Coal Assessment Report 197, pages 3, 4).

Two seams of cleaner coal occur in Collins Gulch, 4.0 kilometres southwest of its confluence with the Tulameen River. The seams are at least 1.8 metres thick and are separated by a stratigraphic interval possibly 6 metres thick. Much of this intervening strata may also be coal (Geological Survey of Canada Paper 52-19, page 10). Seven metres of concealed strata underlying the lower seam may be partially comprised of coal.

At the Bear's Den prospect, 1000 metres east-southeast of Collins Gulch, three seams of coal occur in a stratigraphic section 120 metres thick. The two upper seams were explored by adits. The upper, middle and lower seams are 9.1, 8.8 and 4.0 metres thick respectively, and contain 8.61, 8.08 and 4.0 metres of clean coal respectively (Geological Survey of Canada Paper 52-19, Figure 1A).

At the Fraser Gulch prospect, 1800 metres southeast of Collins Gulch, four coal seams, 1.2 to 7.3 metres thick, were intersected in one drillhole over 13.7 metres (Coal Assessment Report 197, pages 3, 4).

The coal-bearing horizon generally strikes 110 to 130 degrees over most of its length and dips about 45 degrees southwest. Individual beds dip 35 to 80 degrees southwest. Coal-bearing sections are exposed discontinuously over a strike length of 1850 metres. The coal zone is estimated to contain inferred reserves of 5.6 million tonnes over a strike length of 4300 metres to a depth of 46 metres (Wright Engineers Ltd., 1970, page 2-4). Drill indicated reserves at Bear's Den and Fraser Gulch are 1.59 million tonnes over a strike length of 1500 metres to a depth of 60 metres, with a coal to waste ratio of 3 to 1 (Coal Assessment Report 198, page 1).

The coal is non-agglomerating to weakly agglomerating and is high-volatile bituminous B in rank. The material is commonly crushed and broken up due to shearing related to the folding of the strata. Four samples analysed as follows (in per cent):

	Sample 1	Sample 2	Sample 3	Sample 4
Moisture	4.65	5.08	7.87	3.26
Volatile matter	32.67	31.58	30.59	43.33
Fixed carbon	54.83	57.06	51.10	49.70
Ash	7.85	6.28	10.44	3.71
Sulphur	0.31	-	-	-
Calorific value	12440	-	-	-

(B.T.U.'s per pound)

CAPSULE GEOLOGY

Coke yield - nil nil 53.41
Sample 1 is from drill core (?) from a hole drilled at Fraser Gulch (Coal Assessment Report 198, certificate of analysis). Samples 2 and 3 are from the same seam exposed at Collins Gulch (Minister of Mines Annual Report 1901, pages 1177, 1178). Sample 4 is also from Collins Gulch, which produced a tender but coherent coke (Geological Survey of Canada Summary Report 1909, page 116).

A sample of clay taken from an adit at Collins Gulch was found to be quite plastic. Preheating to 550 degrees Celsius did not destroy the plasticity of the material but permitted slow drying without cracking. The clay has an air shrinkage of 5.3 per cent and a fire shrinkage of 8 per cent at cone 5. Absorption at this cone is 6.8 per cent. The clay is not fused up to cone 13, but is not a fire clay (Geological Survey of Canada Memoir 24, page 116).

The deposit was explored in early 1901 by Nicola Coal Company. Columbia Coal and Coke excavated a number of adits at Collins Gulch, Bear's Den and Fraser Gulch between 1910 and 1913. The company abandoned the prospect because of the excessive shearing of the coal, and continued development of its holdings on Blakeburn Creek (092HSE 157). The exposure at Collins Gulch was re-examined in 1948, leading to the excavation of two adits by Collins Gulch Collieries Ltd. in 1950 and 1951. The company produced 257 tonnes of coal in 1951 (Minister of Mines Annual Report 1951, page 249). Geological mapping, trenching and drilling were conducted by Netherlands Acceptance Corporation and Cyprus Anvil Mining Corporation between 1974 and 1982.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/03

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE095**

NATIONAL MINERAL INVENTORY:

NAME(S): **SADIM**, RUM

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 07 N
LONGITUDE: 120 32 39 W
ELEVATION: 1457 Metres

NORTHING: 5510240
EASTING: 677019

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 6, 2.2 kilometres due south of the B.C.
Telephone microwave tower, 2.3 kilometres west of Summers Creek and
28.5 kilometres north of Princeton (Assessment Report 16889, Map 1).

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Altaite

Hessite

ASSOCIATED: Quartz

ALTERATION: Carbonate Silica Epidote Chlorite

ALTERATION TYPE: Carbonate Silicific'n Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein Shear
CLASSIFICATION: Mesothermal Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 100 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Gold-bearing stockwork trends north for 100 metres in the hangingwall
of an east-dipping shear zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesitic Tuff
Andesitic Flow
Andesite
Carbonaceous Limestone
Tuff

HOSTROCK COMMENTS: This deposit is in the Eastern volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Silver 25.4000 Grams per tonne

Gold 3.5660 Grams per tonne

COMMENTS: Average grade over 9.0 metres.

REFERENCE: Assessment Report 16889, Figure 11a (hole 87-6, 21.5 to 30.5 metres).

CAPSULE GEOLOGY

The Sadim gold prospect is 2.3 kilometres west of Summers Creek and 28.5 kilometres north of Princeton.

This region along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

CAPSULE GEOLOGY

Locally, the area is underlain a sequence of intermediate to mafic flows, breccias and tuff, and lesser argillite and limestone of the Nicola Group (Central belt, Bulletin 69). These beds strike slightly west of north and dip moderately to steeply east. The volcanics and sediments are propylitized with abundant epidote-pyrite-chlorite-carbonate and host erratic copper-pyrite zones.

These rocks are cut by a major east-dipping shear zone, possibly a thrust fault, which trends north, and ranges up to 15 metres in width. The zone occurs along a dark grey carbonaceous limestone and separates andesitic flows and tuffs to the west from mixed tuffs to the east. The shear has caused intense fracturing and alteration in the adjacent tuffs, especially in the hangingwall. The tuffs are moderately to strongly carbonatized and variably silicified. A sample of an andesitic tuff contained plagioclase crystals and minor quartz in a fine-grained carbonate matrix.

A quartz vein stockwork is developed in the hangingwall tuffs. The stockwork is comprised of quartz veins ranging from less than a millimetre to greater than 1 metre in width. Two prominent sets of veins comprise this stockwork. One set strikes 060 degrees and a second set strikes 120 degrees. All veins dip 50 to 70 degrees south.

The quartz veins are erratically mineralized with disseminated sulphides, consisting mostly of pyrite and chalcopyrite, and lesser galena. Petrographic studies also indicate traces of sphalerite and lead and silver tellurides (altaite and hessite). The sulphides commonly occur along vuggy vein margins or in the centre of the veins. Chip sampling of trenches yielded gold values of 0.050 to 4.35 grams per tonne over 1 metre (Assessment Report 15969, page 9). The precious metals content of the stockwork is directly related to the intensity of quartz veining, fracturing and sulphide content. Galena is strongly associated with higher gold and silver values. Gold to silver ratios are remarkably constant at about 1 to 8 (Assessment Report 16889). The nature of this mineralization and alteration suggests the deposit is of mesothermal origin (Assessment Report 16889).

Diamond drilling and trenching have intersected two zones containing significant gold. The Main zone contains the bulk of the gold-bearing stockwork mineralization. The stockwork and associated alteration are best developed over a north-south distance of 100 metres. To the north, the zone grades into unaltered, barren tuff, while to the south, the zone is interpreted to be truncated at surface by a northeast-striking fault. It appears to be open downdip to the east. Drilling intersected gold mineralization in vein clusters and stockworks 2 to 24 metres thick. One section averaged 3.566 grams per tonne gold and 25.4 grams per tonne silver over 9.0 metres (Assessment Report 16889, Figure 11a, hole 87-6, 21.5 to 30.5 metres). Drilling indicates precious metal content increases from south to north.

A similar zone of shear-controlled alteration (East zone), trends north, parallel to and within 100 metres east of the Main zone. The zone contains several large quartz veins about 1 metre wide. One east-striking, steeply south-dipping quartz vein assayed 151.1 grams per tonne gold and 410.9 grams per tonne silver over 1.0 metre (Assessment Report 16889, page 10).

This deposit was discovered by Laramide Resources Ltd. in 1985 after carrying out geological and soil and rock geochemical surveys. This work was followed with the excavation of a number of trenches in 1986 and 1987, and the completion of additional geological and rock geochemical surveys. The company then drilled 15 holes totalling 1235 metres in 1987. Toby Ventures Inc. drilled in two parts of the property in 2002.

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- GCNL #43 (March 2), 1987
- PR REL Toby Ventures Inc., July 19, 2002

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 194
REPORT: RGEN0100

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DATE CODED: 1987/09/02
DATE REVISED: 1992/06/04

CODED BY: LLC
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE096**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELK**, ELK (SIWASH NORTH), SIWASH NORTH,
DUCHESS

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:
LATITUDE: 49 51 01 N
LONGITUDE: 120 18 43 W
ELEVATION: 1646 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Siwash North deposit, 1.1 kilometres northwest of Siwash Lake, 40 kilometres west of Peachland (Assessment Report 19835).

Underground
MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5525450
EASTING: 693231

COMMODITIES: Gold Silver Copper Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Gold Chalcopyrite Sphalerite Galena
Tetrahedrite Pyrrhotite Electrum
ASSOCIATED: Quartz Ankerite Calcite Barite Fluorite
ALTERATION: Sericite Quartz Pyrite Clay Chlorite
ALTERATION TYPE: Sericitic Argillic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I02 Intrusion-related Au pyrrhotite veins I01 Au-quartz veins
I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
DIMENSION: 925 x 335 x 2 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Siwash North structure.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation Osprey Lake Batholith
Middle Jurassic
ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Altered Granite
Quartz Monzonite
Granodiorite
Andesite Dike
Basaltic Andesite
Siliceous Tuff
Agglomerate
Feldspar Porphyry Dike
Quartz Feldspar Porphyry Dike

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Thompson Plateau
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Combined YEAR: 1996
QUANTITY: 121350 Tonnes
COMMODITY GRADE
Silver 35.3000 Grams per tonne
Gold 25.4000 Grams per tonne
COMMENTS: Includes open-pit and underground probable resources and a further possible underground resource.
REFERENCE: Information Circular 1997-1, page 21.

CAPSULE GEOLOGY

The Elk property is underlain by Upper Triassic volcanics and sediments of the Nicola Group and by Middle Jurassic granites and

CAPSULE GEOLOGY

granodiorites of the Osprey Lake batholith. The contact between these units trends northeasterly across the property. Early Tertiary feldspar porphyry stocks and dikes of the Otter intrusions occur throughout the property.

The western property area is underlain by steeply west-dipping andesitic to basaltic flows, agglomerates, tuffs and minor siltstone and limestone units of the Nicola Group. The eastern half of the property is underlain by granitic rocks of the Osprey Lake batholith. Early Tertiary feldspar porphyry and quartz feldspar porphyry stocks and dikes of the Otter intrusions cut both of the above. Breccias containing rounded volcanic, dioritic and granitic fragments in a granitic matrix crosscut Nicola rocks, Osprey Lake batholith and Otter intrusions rocks. The elongate breccia bodies vary in width from 5 to 30 metres and trend northeasterly. These zones may be portions of major fault structures, but displacement, if any, is not readily apparent. Andesite dikes are the youngest units mapped, postdating all of the above. They are dark greyish green, fine grained and vary in thickness from 30 centimetres to 5 metres. They are commonly muscovite-altered and brown weathering. Strong orange and blue clay alteration is also evident in these rocks. Mineralization appears to be spatially associated with these (Tertiary (?)) andesite dikes which are locally cut by quartz veins.

The Nicola Group lithologies mapped on the Elk property consist of dark greyish green, massive basaltic andesite (some porphyritic containing pyroxene and/or amphibole phenocrysts and some containing 0.5-millimetre laminae of sand-sized black grains); pale grey-green siliceous laminated tuff; and brownish green to pale green agglomerates containing fragments from 5-50 centimetres in size. The Nicola rocks are occasionally silicified, carbonatized or epidote-altered. Iron oxide staining and finely disseminated pyrite are common.

Nicola rocks on the west side of the property dip approximately 60 degrees west, forming the east limb of a syncline. The syncline trends roughly north-south and its axis passes about 5 kilometres west of the property. Structural deformation in the area appears to be minimal.

The Osprey Lake granitic rocks are pinkish grey, medium to coarse-grained, equigranular quartz monzonite to granodiorite in composition. Pink, sugary textured aplite dikes cut the quartz monzonite. Quartz diorite related to the batholith is far less common and occurs as stocks. Dikes of quartz monzonite and hornblende-biotite-quartz monzonite also occur. Alteration includes weak to strong propylitic, argillic, phyllic and silicic assemblages.

The Otter intrusions comprise quartz feldspar porphyry, feldspar porphyry and quartz-biotite-feldspar dikes and stocks. The quartz feldspar porphyry is extensively clay altered.

Gold-silver mineralization on the Elk property is hosted primarily by pyritic quartz veins and stringers in altered pyritic granitic and, less frequently, volcanic rocks. Crosscutting relationships indicate that the veins are Tertiary in age; they may be related to Tertiary Otter intrusive events. To date, mineralization has been located in four areas on the Elk property: Siwash North, South Showing (092HNE261), North Showing (092HNE281) and Siwash Lake (092HNE041, 295). The Siwash Lake zone is 800 metres south of the Siwash North deposit; the North Showing and South Showing areas are 2 and 3 kilometres south of Siwash North respectively.

In the Siwash North area, gold occurs in veins measuring 5-70 centimetres wide, hosted by a zone of strongly sericitic altered granite and, in the west, volcanic rocks. In general, the mineralized zone trends east-northeast with southerly dips from 20-80 degrees (from east to west), and appears to be related to minor shearing. Quartz veining occurs in a number of parallel to subparallel zones. Each zone consists of one or more veins within an elevation range of 5 to 10 metres that can be correlated as a group to adjacent drillholes. In the eastern parts of the area, up to six subparallel zones occur. Five of these zones are consistent enough to be labelled the A, B, C, D and E zones. Mineralization in the west has been identified in one or locally two zones (the B and C zones). The main mineralized zone (B) is consistent, with only minor exceptions, across the entire drill grid. The Siwash North structure has been tested to 335 metres downdip and along a strike length of 925 metres. The zone remains open to depth and along strike.

At surface, supergene alteration has leached out most of the sulphides with some pyrite and chalcopyrite remaining. Mineralization occurs primarily as native gold, occasionally as spectacular aggregates of coarse flakes in frothy quartz (strong pyrite boxwork) or in fractures in the vein. Electrum was noted in one area as very coarse-grained flakes associated with strong

CAPSULE GEOLOGY

manganese staining. Gold is rarely seen in boxworks in sericitic (phyllic) alteration.

In drill core, mineralization has not been affected by supergene processes. Metallic minerals in drill core include pyrite, chalcopyrite, sphalerite, galena, tetrahedrite, maldonite?, pyrrhotite and native gold (in order of decreasing abundance). Gold is strongly associated with pyrite and with a blue-grey mineral. Photomicrographs show the gold commonly in contact with this mineral, which may be a gold-bismuth alloy (maldonite?) or a copper-bismuth-antimony sulphosalt.

Gangue mineralogy consists primarily of quartz and altered wallrock fragments. Ankerite is commonly present, with lesser amounts of calcite. Minor barite is also present. Fluorite was noted in one vein as very small (less than 1 millimetre) zoned purple cubes scattered in the quartz.

Stronger alteration generally accompanies higher grade gold mineralization. Seven main types of alteration were recognized in the granitic rocks throughout the property: propylitic, argillic, sericitic, potassium feldspar stable phyllic, phyllic, advanced argillic and silicic. Locally, potassic alteration, skarnification and silicification are evident, but are relatively minor and do not appear to be related to mineralization.

Propylitic alteration is generally light green with biotite and hornblende altered to chlorite, and plagioclase is saussuritized. In volcanics, the colour is generally olive green, and the rock is soft. Argillic alteration is exemplified by bleached rock, with plagioclase white and clay-altered; potassium feldspar is slightly altered. Volcanics are bleached to light green or grey. Sericitic alteration is typically pale green with a micaceous sheen, with plagioclase altered to sericite; trace disseminated pyrite may be present. This type of alteration is often associated with quartz veins and appears to be the lowest grade alteration associated with gold mineralization. It is not recognized in volcanics. Potassium feldspar stable phyllic alteration is light pink, green or yellowish with potassium feldspar fresh and pink and blocky. Plagioclase and mafic minerals are altered to fine-grained quartz-sericite-pyrite. It often occurs with veins and is associated with gold mineralization; it is not recognized in volcanics. Phyllic alteration is generally grey, fine-grained quartz-sericite-pyrite alteration usually associated with veins and often gradational to quartz and often auriferous. Advanced argillic alteration is exemplified by most or all of feldspar being destroyed, quartz is "free-floating". The alteration is often sheared and white in colour and is often associated with quartz veins. Volcanics are white or blue coloured. Silicic alteration is quartz veining or replacement that is hard with moderate conchoidal fracture.

There is a strong symmetrical zoning of alteration around the quartz veins: vein - advanced argillic - phyllic - potassium feldspar stable phyllic - argillic - propylitic.

Measured geological reserves of the Siwash North deposit are 308,414 tonnes grading 22.17 grams per tonne gold and 24.68 grams per tonne silver using a cutoff grade of 10 grams per tonne gold. Reserves are based on results from 107 drillholes at 50-metre grid spacings along 804 metres of strike length to 304 metres down-dip. All veining intercepts have been adjusted for true width and assays diluted to 2-metre mining widths (George Cross News Letter No. 223 (November), 1991).

The revised drill indicated reserve, based on more realistic open pit and underground mining widths of 0.39 to 0.79 metre with a 20.5 grams per tonne gold cutoff grade, is 122,458 tonnes averaging 54.5 grams per tonne gold (George Cross News Letter No. 65 (April 2), 1993).

In 1995, Fairfield Minerals with the support from the Explore B.C. Program carried out an extensive program including geochemistry, 13,972 metres of surface and underground diamond drilling in 315 holes and reserve calculations. Surface drilling was done on fences 10-50 metres apart, underground drilling on fences 10 metres apart. Reserve calculations by the company and consultant Roscoe Postle gave the following results (Explore B.C. Program 95/96 - A38):

	Company	Roscoe Postle
Probable (undiluted)	16,991 tonnes at 50.2 g/t gold	28,200 tonnes at 26.6 g/t gold
Possible (undiluted)	50,260 tonnes at 42.0 g/t gold	66,400 tonnes at 31.4 g/t gold

The 1996 exploration program consisted of 6873 metres of drilling in 91 holes. The Siwash zone has been traced along a 914 metre strike length and down-dip to 245 metres.

CAPSULE GEOLOGY

Reserves estimated by the company at January 1, 1996 were 121,350 tonnes grading 25.4 grams per tonne gold and 35.3 grams per tonne silver. These include a diluted, probable open-pit resource of 11,340 tonnes grading 58.97 grams per tonne gold, an underground probable resource below the open pit of 20,225 tonnes grading 26.74 grams per tonne gold, and a further possible underground resource of 89,790 tonnes grading 23.66 grams per tonne gold (Information Circular 1997-1, page 21).

From 1992 and 1995 (inclusive), 16,570 tonnes of tonnes of ore were mined and milled and 1519 kilograms of gold and 1903 kilograms of silver recovered. In 1996, Fairfield shipped all remaining stockpiles, estimated to contain 2700 tonnes and grading greater than 12 grams per tonne (Information Circular 1997-1, page 21). A total of 994 metres of ramp access and three development levels exist underground.

Almaden Minerals Ltd. drilled 2,600 metres of core in 16 NQ holes as of August 19, 2002 and expects to increase the mineral resource of the property (PR REL Almaden Minerals Ltd., August 19, 2002).

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GCNL #102(May 29), #176(Sept.13), #234(Dec.6), 1989; #43(Mar.1), #75(Apr.18), #157(Aug.15), #161(Aug.21), #181(Sept.19), #204(Oct.22), #230(Nov.28), 1990; #93(May14), #127(Jul.3), #138(Jul.18), #223(Nov.20), #174(Sept.10), #175(Sept.11), #194(Oct.8), *#223 (Nov.20), 1991; #178(Sept.15), #213(Nov.4), 1992; #164(Aug.28), 2000
N MINER Sept.25, 1989; Apr.30, Sept.3, 1990; Apr.1, Sept.23, Dec.16, 1991; Sept.21, Nov.23, 1992; Feb.1, 1993; June 12, 1995; July 1, 1996; Feb.28, 2000; Aug.5, Oct.7, Dec.2, 2002
PR REL Almaden Minerals Ltd. and Wheaton River Minerals Ltd., June 10, 2002; Almaden Minerals Ltd., Aug.19, 2002; Feb.20, 2003
WWW http://www.infomine.com/index/properties/ELK_-_SIWASH_NORTH.html;
<http://www.almadenresources.com>; <http://www.almadenminerals.com/>

DATE CODED: 1987/05/25
DATE REVISED: 1997/05/02

CODED BY: LDJ
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE097**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED GOLD**, ROCKET, CHAMPION CREEK,
 OKANAGAN, NICKEL PLATE, GALARNEAU

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H10W
 BC MAP:
 LATITUDE: 49 30 35 N
 LONGITUDE: 120 55 51 W
 ELEVATION: 1006 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Sulphide showing at a quarry on the Tulameen River road, 250 metres west-northwest of the mouth of Champion Creek and 13 kilometres west-southwest of the town of Tulameen (Open File 1988-25; G.T. Nixon, personal communication, 1988).

MINING DIVISION: Similkameen
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5486179
 EASTING: 649789

COMMODITIES: Molybdenum Copper Zinc Silver Gold

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Pyrite Bornite Sphalerite
 Tetrahedrite Covellite
 ASSOCIATED: Calcite Quartz
 ALTERATION: Quartz Garnet Epidote Hornblende Pyroxene
 ALTERATION TYPE: Skarn
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear Vein
 CLASSIFICATION: Skarn Hydrothermal Epigenetic
 TYPE: K01 Cu skarn K04 Au skarn
 K07 Mo skarn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	Eagle Plutonic Complex
Jurassic-Cretaceous			

LITHOLOGY: Marble
 Mica Schist
 Chlorite Schist
 Skarn
 Granodiorite
 Granodiorite Dike

HOSTROCK COMMENTS: Marbles and mica schists predominate near the Eagle granodiorite contact.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1987
 SAMPLE TYPE: Grab
 COMMODITY GRADE
 Silver 7.8000 Grams per tonne
 Zinc 0.7806 Per cent
 COMMENTS: Grab sample of quartz-pyrite vein.
 REFERENCE: Assessment Report 17324, page 4.

ORE ZONE: ADIT REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1913
 SAMPLE TYPE: Chip
 COMMODITY GRADE
 Silver 17.0000 Grams per tonne
 Gold 1.4000 Grams per tonne
 COMMENTS: Chip sample taken at the face of an adit over 0.46 metre.
 REFERENCE: Minister of Mines Annual Report 1913, page 234.

CAPSULE GEOLOGY

This molybdenum-copper showing outcrops on either side of the Tulameen River, 13 kilometres west-southwest of the town of Tulameen.

The Red Gold occurrence is hosted in Upper Triassic Nicola Group metamorphic rocks, immediately east of the contact with the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The Nicola Group rocks in this vicinity are comprised of weakly skarned marbles and mica and chlorite schists of upper greenschist grade. These rocks dip steeply westward, parallel to the contact with schistose, medium-grained granodiorite of the Eagle Plutonic Complex. Dikes of granodiorite intruding the Nicola Group are boudinaged and folded by a regional deformation that appears to be either syn or post-mineralization.

A zone of disseminated molybdenite, chalcopyrite, bornite, pyrite and trace covellite occurs in a roadside quarry on the north side of the river, 250 metres west-northwest of the mouth of Champion Creek. Most of the mineralization is in the marbles, and lies close to the Eagle contact (0 to 10 metres distance). A sample taken across the face of a nearby adit assayed 1.4 grams per tonne gold, 17 grams per tonne silver and a trace of copper over 0.46 metre (Minister of Mines Annual Report 1913, page 234).

Similar mineralization occurs sporadically along a stretch of Champion Creek, beginning near the creek's mouth, and continuing upstream for about 1.5 kilometres. Disseminated molybdenite, pyrite, chalcopyrite, sphalerite, and tetrahedrite are found in skarn-altered limestones in a gangue of quartz, reddish garnet, epidote, hornblende and pyroxene. High gold and silver assays are reported from this mineralization (Geological Survey of Canada Memoir 26, page 161).

The schists and marbles along Champion Creek are occasionally cut by shears containing near vertical quartz veins up to 6 centimetres wide. The veins are mineralized with pyrite, sphalerite and tetrahedrite. A sample of such a vein taken near an old adit, 200 metres south of the creek's mouth, analysed 0.044 gram per tonne gold, 7.8 grams per tonne silver and 0.7806 per cent zinc (Assessment Report 17324, page 4).

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- EMPR ASS RPT 15928, *17324, 27009
- EMPR BULL 9, p. 92
- EMPR FIELDWORK 1987, pp. 281-294, plate 2-2-6
- EMPR OF 1988-25
- GSC MAP 46A; 888A; 889A; 1386A; 41-1989
- GSC MEM *26, pp. 160,161,170,171; 243, p. 112
- GSC P 85-1A, pp. 349-358
- GSC SUM RPT 1906, p. 54; 1909, pp. 114,115
- CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1988/04/18
DATE REVISED: 1992/03/09

CODED BY: GTN
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE098**

NATIONAL MINERAL INVENTORY: 092H16 Pb1

NAME(S): **PACO, JUNE, SIWASH SILVER,
SOUTH SILVER, AMANDA, PAT**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09W 092H16W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 44 49 N
LONGITUDE: 120 20 05 W
ELEVATION: 1341 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5513905
EASTING: 692002

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site Paco No. 2, 600 metres west of Siwash Creek and 9.65 kilometres north of the creek's confluence with Hayes Creek (Assessment Report 3282, Map 4).

COMMODITIES: Lead Copper Silver Gold Zinc

MINERALS

SIGNIFICANT: Galena Chalcopyrite Pyrite Bornite Tetrahedrite
Sphalerite
ASSOCIATED: Quartz
ALTERATION: Talc Chlorite Epidote
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 600 Metres STRIKE/DIP:
COMMENTS: Three northwest-trending zones of disseminated sulphides occur over a distance of 600 metres. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

Tertiary

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

Otter Intrusions

LITHOLOGY: Quartz Monzonite
Quartz Feldspar Porphyry

HOSTROCK COMMENTS: The date for the Osprey Lake batholith is from Geological Survey of Canada Paper 1991-2, page 95. Tertiary date from Ass. Rpt. 9308, p.3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

INVENTORY

ORE ZONE: PIT REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1971
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Silver		1145.0000	Grams per tonne
Copper		0.0600	Per cent
Lead		8.7100	Per cent
Zinc		0.2700	Per cent

COMMENTS: Chip sample of vein taken across 0.6 metre.
REFERENCE: Assessment Report 3282, page 8 (sample Paco No. 1).

CAPSULE GEOLOGY

This showing outcrops along the west side of Siwash Creek, 9 to 10 kilometres north of the creek's confluence with Hayes Creek. The June occurrence is hosted in coarse to medium-grained quartz monzonite with pink feldspar, of the Middle Jurassic Osprey Lake batholith. The mineralized monzonite is occasionally brecciated and tends to exhibit pale green talc-chlorite-epidote alteration in zones

CAPSULE GEOLOGY

of disseminated sulphides.

Mineralization consists primarily of disseminated galena, chalcopyrite and pyrite, contained in three northwest-trending zones, 300 to 380 metres long and 20 to 80 metres wide. The zones are arranged in an en echelon manner, over a northeast distance of 600 metres. Similar mineralization is hosted in the occasional quartz vein. A sample of a quartz vein containing disseminated bornite, pyrite, galena and chalcopyrite assayed 309 grams per tonne silver, 2.80 per cent lead, 0.072 per cent zinc and 0.32 per cent copper (Assessment Report 3282, page 8, sample Paco No. 2). A chip sample of a quartz (?) vein with pyrite, chalcopyrite, tetrahedrite, galena and sphalerite, taken 90 metres to the north, assayed 1145 grams per tonne silver, 8.71 per cent lead, 0.27 per cent zinc and 0.06 per cent copper over 0.6 metre (Sample Paco No. 1). Gold values of up to 10 grams per tonne over 2 metres are reported from surface workings (Assessment Report 20329, page 9). The mineralization comprising this showing is thought to represent the marginal phase of a porphyry hydrothermal system centred to the north, possibly associated with a body of quartz feldspar porphyry of the early Tertiary Otter intrusions (Assessment Report 15863).

Various operators have conducted soil geochemical and geophysical surveys over this showing, beginning with Diana Explorations Ltd. in 1971. Other operators included Agur Logging Company Ltd. (1978), Brenda Mines Ltd. (1979-1980) and Westron Venture Ltd. (1986). Six holes totalling 141 metres were drilled between 1973 and 1978 by Diana Explorations and Agur Logging.

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EMPR GEM 1971-276,277; 1972-141; 1973-160; 1974-120
EMPR PF (Jefjen Capital Corporation (1988): Filing Statement No. 80/88, Vancouver Stock Exchange (see 092HNE032); Livgard, E. (1986): Summary of Report of Siwash Silver Property, Similkameen Mining Division for Westron Venture Ltd., in Westron Venture Ltd. (1987): Prospectus, Vancouver Stock Exchange (see 092HNE028); Tully, D.W. (1971): Report on the Amanda-Amie and Paco Claim Groups, in Diana Explorations Ltd. (1971): Prospectus, Vancouver Stock Exchange)
EMR MP CORPFILE (Diana Explorations Ltd.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CIM Special Volume 15, Map B (Occurrence 313) (1976)
GCNL July, 1987
V STOCKWATCH June 12, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE099**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUM, COKE, KR,**
ANOMALY B, KETCHAN CREEK COPPER

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:
LATITUDE: 49 44 03 N
LONGITUDE: 120 31 57 W
ELEVATION: 1518 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of trench 7, 1050 metres southeast of the B.C. Telephone microwave tower, 5.5 kilometres north-northeast of the summit of Missezula Mountain and 30.5 kilometres north of Princeton (Assessment Report 6036, Map 1).

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5511997
EASTING: 677803

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Chalcocite
ASSOCIATED: Quartz Carbonate
ALTERATION: Chlorite Sericite Carbonate
ALTERATION TYPE: Propylitic Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 250 x 200 Metres STRIKE/DIP:
COMMENTS: Copper mineralization occurs in a zone trending north for 250 metres along the west flank of the Missezula Mountain fault. TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Hornblende Augite Microdiorite
Lapilli Tuff
Crystal Tuff
Chloritic Phyllite
Carbonate Sericite Schist
Andesitic Basaltic Flow
Andesite
Basalt
Limestone

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 0.1600 Per cent
COMMENTS: Average grade over 183 metres.
REFERENCE: Property File - Sookochoff, L., 1975, page 9 (trench 7).

CAPSULE GEOLOGY

The Rum copper prospect overlooks the steep west side of the Summers Creek valley, 30.5 kilometres north of Princeton. The Coke occurrence (092HNE240) is 950 metres to the north. This region along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and

CAPSULE GEOLOGY

flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

Locally, the area is underlain by andesitic to basaltic flows, with lesser lapilli and crystal tuffs and minor sediments of the Nicola Group (Central belt, Bulletin 69). This sequence is intruded by a north trending, sill-like body of hornblende augite microdiorite, 3000 by 600 metres in area. The stock is truncated to the east by the north-northeast striking Missezula Mountain fault, a branch of the Summers Creek fault to the east, which juxtaposes steeply dipping lapilli and crystal tuffs with minor limestone lenses against the diorite. Rocks along the fault are strongly fractured and gossanous. The tuffs are altered to chloritic phyllites and carbonate-sericite schists.

Near the fault, the microdiorite hosts pyrite, as disseminations and fracture coatings, and lesser chalcopyrite, bornite and chalcocite, in fracture fillings and quartz-carbonate veins. Chalcopyrite is also weakly disseminated. Similar mineralization occurs in the Coke prospect to the north. Trenching and diamond drilling indicates copper mineralization is largely confined to a north-trending zone, 250 metres long and up to 200 metres wide. Chip sampling of a trench analysed 0.16 per cent copper over 183 metres, including 0.29 per cent over 53.3 metres (L. Sookochoff, 1975, page 9, trench 7). A second trench averaged 0.10 per cent copper over 137 metres (trench 8W). One percussion hole yielded 0.09 per cent copper over 27.4 metres (L. Sookochoff, 1975, page 10, hole PR 10, 9.2 to 36.6 metres). Core from a diamond-drill hole assayed 1.41 per cent copper over 0.76 metre (L. Sookochoff, 1975, page 11, hole K-3, 48.62 to 49.38 metres). Rock sampling yielded gold values of up to 0.071 gram per tonne (Assessment Report 14304, sample R1).

This prospect was discovered by Plateau Metals Ltd. in 1963, after detecting a strong lineament extending southward from the Coke occurrence. The deposit has been extensively explored by various operators since then. A number of geological, geophysical and soil surveys were completed between 1963 and 1976 by Plateau Metals, Adera Mining Ltd., Amax Exploration Inc., Kalco Valley Mines Ltd. and Ruskin Developments Ltd. Two percussion holes totalling 110 metres and 7 diamond drill-holes totalling 757 metres were drilled by these companies between 1966 and 1972. Since then, several geophysical and soil and rock geochemical surveys were conducted by Cominco Ltd. in 1980 and 1981, and P. Peto in 1985 and 1986.

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EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1971-281
EMPR MAP 17 (1975)
EMPR P 1981-2
EMPR PF (*Sookochoff, L. (1975): Geological Report on the Rum claims of Ruskin Development Ltd., in Ruskin Developments Ltd. (1975): Prospectus, Vancouver Stock Exchange; *Sookochoff, L. (1974): Geological Report on the Rum claims of Ruskin Development Ltd.; old National Mineral Inventory card)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
GCNL *#4 (Jan. 8), #115 (June 16), July 22, 1976
WWW <http://www.infomine.com/index/properties/RUM.html>

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/03

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE100**

NATIONAL MINERAL INVENTORY:

NAME(S): **HED**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 04 N
LONGITUDE: 120 00 49 W
ELEVATION: 1832 Metres

NORTHING: 5489304
EASTING: 716144

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of percussion-drill hole 27 on the Hed 51 claim, 7.7 kilometres east of McNulty Creek and 18.5 kilometres north-northeast of the town of Hedley (Assessment Report 9929, Figure 2).

COMMODITIES: Copper Molybdenum Silver

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Bornite Chalcocite Pyrite
ALTERATION: Kaolinite Malachite Azurite
ALTERATION TYPE: Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1100 x 550 Metres
COMMENTS: Area of drilling. STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende Biotite Granodiorite
Biotite Hornblende Granodiorite
Quartz Biotite Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This occurrence is in the northern margin of the Bromley batholith.

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Inferred YEAR: 1981
QUANTITY: 22994985 Tonnes
COMMODITY GRADE
Copper 0.1610 Per cent
Molybdenum 0.0400 Per cent

COMMENTS: Possible reserves grading 0.067 per cent MoS2 and based on 14 widely-spaced diamond and percussion-drill holes drilled by Anaconda Canada Exploration Ltd. in 1981. The 14 holes average about 90 metres in depth with many of the holes stopped in ore-grade material. The area encompassed measures about 1000 by 300 metres with a vertical mineralized interval of 27 metres.

REFERENCE: George Cross News Letter No.48 (March 7), 1996.

CAPSULE GEOLOGY

The Hed showing outcrops in the headwaters of Hedley Creek, 7.7 to 8.2 kilometres east of McNulty Creek and 18 to 19 kilometres north-northeast of the town of Hedley.
The occurrence is hosted in the Early Jurassic Bromley batholith, immediately south of the contact with the Middle Jurassic Osprey Lake batholith. Mineralization occurs primarily in hornblende biotite granodiorite, and to a lesser extent in biotite hornblende granodiorite and quartz-rich biotite granodiorite. Hydrothermal alteration is limited to some kaolinization of feldspar

CAPSULE GEOLOGY

grains.

Mineralization consists mostly of veinlets of chalcopyrite, chalcopyrite-bornite, chalcopyrite-bornite-molybdenite and molybdenite, and rare pyrite-chalcopyrite veinlets. Chalcopyrite is also disseminated in the granodiorite. Drilling in an area 1100 metres (north-south) by 550 metres (east-west) intersected discontinuous mineralized zones containing chalcopyrite, minor molybdenite and traces of bornite, chalcocite, malachite and azurite. A hole analysed 0.24 per cent copper, 0.0013 per cent molybdenum, 1.1 gram per tonne silver and 0.053 gram per tonne gold over 9.15 metres (Assessment Report 9929, page 43, hole 27, 6.10 to 15.25 metres). A second hole, 840 metres south-southeast of hole 27, graded 0.18 per cent copper, 0.0014 per cent molybdenum, and 0.73 gram per tonne silver over 9.15 metres (Assessment Report 9929, page 20, hole 13, 9.15 to 18.30 metres).

The showing was discovered and staked by Anaconda American Brass Ltd. in 1969 after anomalous molybdenum and copper values were obtained from a stream silt survey. The company and Canex Aerial Exploration Ltd. conducted various geological, soil geochemical and geophysical surveys between 1970 and 1972. Canex also drilled six percussion holes totalling 416 metres in 1972. Anaconda Canada Exploration Ltd. drilled an additional 18 percussion holes totalling 1464 metres in 1981.

Possible reserves are 22,994,985 tonnes grading 0.067 per cent MoS₂ (0.040 per cent molybdenum) and 0.161 per cent copper or a copper equivalent of 0.386 per cent copper. The reserves are based on 14 widely-spaced diamond and percussion-drill holes drilled by Anaconda Canada Exploration Ltd. in 1981. The 14 holes average about 90 metres in depth with many of the holes stopped in ore grade material. The area encompassed measures about 1000 by 300 metres with a vertical mineralized interval of 27 metres (George Cross News Letter No.48 (March 7), 1996). The property is held by Verdstone Gold Corp. and Amcorp Industries Inc.

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CIM Special Volume 15, Map B (Occurrence 312) (1976)
GCNL #216, (Nov.9), 1995; *#48(Mar.7), 1996; #71(Apr.14), 1997
WWW <http://infomine.com/index/properties/HED.html>

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE101**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROK**, EN2

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 33 N
LONGITUDE: 120 25 52 W
ELEVATION: 1213 Metres

NORTHING: 5494642
EASTING: 685710

LOCATION ACCURACY: Within 500M

COMMENTS: Aplite outcrop on the Rok 31 claim, 1.5 kilometres northwest of Hayes Creek, 14.5 kilometres north-northeast of Princeton (Assessment Report 3189, Map 2).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Aplite
Microdiorite
Hornblende Magnetite Biotite Diorite

HOSTROCK COMMENTS: Date from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Rok showing outcrops 1.5 to 3 kilometres northwest of Hayes Creek and 14 to 16 kilometres northeast of Princeton. Molybdenite occurs as rare flakes in the aplitic border phase of the Middle Jurassic Osprey Lake batholith. The aplite surrounds and intrudes a zoned sill 3 kilometres long and 0.7 kilometre wide, comprised of microdiorite and hornblende-magnetite-biotite diorite, possibly of Triassic age. Molybdenite is reported to form rosettes in one instance (Assessment Report 14804). The showing was mapped and soil sampled by Amax Exploration Inc. in 1971. Suburban Resources Ltd. prospected the showing in 1983.

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EMPR ASS RPT 3189, 14804
EMPR GEM 1971-277
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/26

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE102**

NATIONAL MINERAL INVENTORY:

NAME(S): **DD, J. LAURA,
RUSH**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 40 19 N
LONGITUDE: 120 36 30 W
ELEVATION: 869 Metres

NORTHING: 5504903
EASTING: 672559

LOCATION ACCURACY: Within 500M

COMMENTS: Copper-magnetite showing on the northwest bank of Allison Creek, 970 metres northeast of the creek's confluence with Borgeson Lake (Assessment Report 4168, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Magnetite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic 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>
Triassic-Jurassic			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The DD showing outcrops on the northwest bank of Allison Creek, 970 metres northeast of the creek's confluence with Borgeson Lake.

Minor chalcopyrite occurs in association with magnetite in coarse, grey granodiorite of the Late Triassic to Early Jurassic Allison Lake pluton.

The showing was soil sampled and mapped in 1971 and 1972 by Laura Mines Ltd. and Northwind Mines Ltd.

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EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1971-283; 1972-130; 1973-147
EMPR MAP 17 (1975); 21 (1976)
EMPR P 1981-2
EMPR PF (Poloni, J.R. (1972): Report on the J (1-14) Mineral Claims, Allison Lake Area, Similkameen Mining Division, for Northwind Mines Ltd., in Northwind Mines Ltd. (1972): Prospectus, Vancouver Stock Exchange, pp. 20-25)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE103**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEX**, ESP, RED BOX,
THOR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 45 56 N
LONGITUDE: 120 32 19 W
ELEVATION: 1375 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5515472
EASTING: 677248

LOCATION ACCURACY: Within 500M

COMMENTS: Malachite showing on the Dex 5 claim, 450 metres east-northeast of a small unnamed lake, 1.95 kilometres southeast of the south end of Ketchan Lake and 2.4 kilometres southwest of Missezula Lake (Assessment Report 4709, Map 4).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Andesitic Breccia

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

The Dex showing is 450 metres east-northeast of a small unnamed lake, 1.95 kilometres southeast of the south end of Ketchan Lake and 2.4 kilometres southwest of Missezula Lake.

Malachite occurs in an outcrop of andesite and andesitic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

BIBLIOGRAPHY

EMPR ASS RPT *4415, 4709, 17118
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1973-155
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/06
DATE REVISED: 1992/06/07

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE104**

NATIONAL MINERAL INVENTORY:

NAME(S): **FK, PAT**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 35 37 N
LONGITUDE: 120 21 39 W
ELEVATION: 1219 Metres

NORTHING: 5496794
EASTING: 690720

LOCATION ACCURACY: Within 500M

COMMENTS: Pit in copper showing, 2.4 kilometres southeast of the confluence of Finnegan and Hayes creeks and 19 kilometres northeast of Princeton (Assessment Report 3450, Map 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Malachite
ASSOCIATED: Hematite
ALTERATION: Clay Malachite
ALTERATION TYPE: Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
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>
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE: 166 +/- 1 Ma			
DATING METHOD: Lead/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Granite

HOSTROCK COMMENTS: The isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
COMMENTS: This occurrence is in the Osprey Lake batholith, near the west margin.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

This showing is 2.4 kilometres southeast of the confluence of Finnegan and Hayes creeks and 19 kilometres northeast of Princeton. The FK occurrence is hosted in strongly fractured and altered granite of the Middle Jurassic Bromley batholith, possibly within the same northerly striking fault zone that hosts the Hematite occurrence (092HNE026), 1.8 kilometres to the north. The dump of an old pit contains fragments of coarse-grained porphyritic granite with strong argillic alteration. Malachite occurs along fractures in most of the fragments. Minor specular hematite is disseminated through the granite.

BIBLIOGRAPHY

EMPR ASS RPT 3450, 4833
EMPR GEM 1972-125; 1973-138
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE105**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE JAY**, SNOWFLAKE, GROVE,
KM, SNOWFLAKE 3

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 58 51 N
LONGITUDE: 120 35 55 W
ELEVATION: 1064 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5539263
EASTING: 672160

COMMENTS: Collar of drillhole 91-1, 850 metres east of Highway 5A, 1.5 kilometres north-northwest of the northern end of Tule Lake and 5 kilometres north of the community of Aspen Grove (Assessment Report 22148, Figure 4).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite Copper
ASSOCIATED: Carbonate Pyrite Magnetite

COMMENTS: Hydrocarbons of unknown origin were detected in one percussion-drill hole.

ALTERATION: Epidote Calcite Chlorite Albite Quartz
Biotite Hematite Malachite

COMMENTS: Secondary potassium feldspar is also present.

ALTERATION TYPE: Propylitic Carbonate Silicific'n Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Porphyry Igneous-contact Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

SHAPE: Irregular
DIMENSION: 300 x 200 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Faults and fractures in the area strike north. Strata generally strike north to northwest and dip southwest.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Porphyritic Basaltic Andesitic Volcanic
Andesite
Basalt
Diorite
Hybrid Volcanic Intrusive
Volcanic Breccia
Volcanic Tuff
Sediment/Sedimentary Rock
Porphyritic Monzonite

HOSTROCK COMMENTS: Hosted in the Central belt of the Nicola Group, and in comagmatic intrusive rocks (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Drill Core
COMMODITY Gold GRADE 0.2040 Grams per tonne
Copper 0.1900 Per cent

COMMENTS: Average grade over 97.6 metres.
REFERENCE: Assessment Report 22148, page 22 (hole 91-1, 14.0 to 111.6 metres).

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 1.8000 Grams per tonne
Gold 0.6000 Grams per tonne
COMMENTS: Geochemical analyses, from a single rock sample.
REFERENCE: Assessment Report 13714.

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1978
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 0.2900 Per cent
COMMENTS: Chip sample taken along the bottom of a trench, over 45 metres.
REFERENCE: Assessment Report 7122, page 3.

CAPSULE GEOLOGY

The Blue Jay occurrence is a copper prospect in the historical Aspen Grove copper camp, between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. This prospect is located about 800 metres east of Highway 5A, 1.5 kilometres north-northwest of the northern end of Tule Lake and 5 kilometres north of the community of Aspen Grove. The Tab occurrence (092HNE052) is about 500 metres to the south.

The occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The Blue Jay occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). These rocks mainly include subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillite and limestone. Locally the strata strike north to northwest and dip southwest. The volcanics are intruded by a north-trending body of comagmatic diorite to monzonite, about 500 metres wide, of Late Triassic to Early Jurassic age. The area is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. East-striking faults are subordinate, and commonly offset intrusive contacts.

The area of the Blue Jay occurrence is underlain by fine-grained porphyritic basaltic and andesitic volcanics and equivalent volcanoclastics, and minor sedimentary rocks, and a composite body of fine, medium and coarse-grained diorite and porphyritic monzonite. Hybrid volcanic-intrusive characteristics in some rocks in the contact area support a comagmatic origin. Most rocks contain fracture-related and disseminated pyrite, up to 8 per cent, and magnetite. Patterns of induced polarization response correlate well with the concentration of pyrite. The best copper mineralization occurs in rocks with little or no pyrite, that is, on the flanks of the induced polarization conductors (Assessment Report 7122).

Hydrothermal alteration and mineralization is strongest in a zone measuring at least 1100 by 120 metres that straddles the volcanics to the west and the fine-grained margin of the dioritic intrusion to the east (Assessment Reports 6260, 7122). The Blue Jay occurrence is near the northern end of this zone (the Tab occurrence, 092HNE052, is near the southern end). This zone is also characterized by strong fracturing, brecciation in the diorite, and by above-average pyrite. The alteration is propylitic and carbonate, there being widespread epidote (especially along fractures), calcite, chlorite, albite, quartz, biotite, hematite, and secondary potassium feldspar, although some of these minerals may represent metamorphic recrystallization (Assessment Report 7122).

Mineralization is exposed in numerous trenches over a 300 by 200 metres area in this volcanic-intrusive contact zone, which has also been explored by percussion and diamond drilling (Bulletin 69; Preliminary Maps 10, 15; Assessment Report 9386). One prominent zone of mineralization, up to 30 metres wide, has been traced northward for 230 metres. Malachite is quite common on fracture surfaces; minor chalcopyrite, bornite, and chalcocite are diffusively

CAPSULE GEOLOGY

disseminated in rusty weathering carbonate-pyrite zones. Native copper is present locally in fine-grained diorite and volcanics as fine disseminated specks; it and the chalcocite are probably primary and not of supergene origin (Assessment Report 7122).

Copper values are low grade and erratic, and are generally proportional to the degree of alteration and fracturing, although the primary control appears to be the contact zone of the dioritic intrusion (Assessment Report 9386). One sample taken along the bottom of a trench assayed 0.29 per cent copper over 45 metres (Assessment Report 7122, page 3). Two percussion holes drilled in the area of the trenches analysed at least 0.1 per cent copper over 15 metres or more (Assessment Report 9386, Map SF-81-2). A diamond-drill hole, containing fine, patchy disseminated pyrite, chalcopyrite and minor bornite in sheared and propylitic-altered andesite, analysed 0.19 per cent copper and 0.204 gram per tonne gold over 97.6 metres (Assessment Report 22148, page 22, hole 91-1, 14.0 to 111.6 metres). Precious metal values are low, but anomalous, and do not necessarily correlate with high copper values. Rock sampling in 1985 yielded gold values of 0.135 to 0.595 gram per tonne and silver values of up to 1.8 grams per tonne (Assessment Report 13714, page 9). More recent sampling yielded gold values of up to 1.67 grams per tonne (Assessment Report 22148, page 18). One percussion-drill hole contained hydrocarbons of unknown origin (Assessment Report 7122).

The Blue Jay prospect has been explored by various operators, beginning with Granby Mining, Smelting and Power Company Ltd. in 1958, which completed a magnetometer survey over the occurrence. Valnica Copper Mines Ltd. drilled 6 holes totalling 600 metres in 1967. Ashland Oil and Refining Company and Rio Tinto Canadian Exploration Ltd. geologically and magnetically surveyed the deposit in 1968 and 1971. A number of percussion holes were drilled by Craigmont Mines Ltd. in 1973 and Cominco Ltd. in 1978 and 1979. Snowflake Mining Company Ltd. and Laramide Resources Ltd. completed geological and rock geochemical surveys in 1981 and 1985. Quilchena Resources Ltd. conducted geological and geophysical surveys and drilled three holes totalling 710 metres in 1991.

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EMPR ASS RPT 250, 1842, *3555, 4893, *5875, 6260, *7122, *9386, *13714, *22148
EMPR BULL *69, pp. 75-77,88
EMPR EXPL 1976-E88; 1977-E136,E137; 1978-E153; 1979-157,158; 1981-28; 1985-C188
EMPR GEM 1971-286; 1973-159
EMPR MAP *10 (1973); *15 (1974)
EMPR P 1981-2
EMPR PF (Quilchena Resources Ltd. (1992): 1 to 50,000 scale map of 1991 drilling on the Snowflake claims)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 94
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CIM Special Volume 15, Table 1, Map B (Occurrence 27) (1976)
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
GCNL *#198 (Oct. 15), 1991
V STOCKWATCH Jan 4, 1990, p. 10
Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove Area, B.C., unpublished B.Sc. thesis, University of Western Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/13

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE106**

NATIONAL MINERAL INVENTORY:

NAME(S): **BO, EJ, VARGAS**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 51 N
LONGITUDE: 120 31 03 W
ELEVATION: 945 Metres

NORTHING: 5507957
EASTING: 679018

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the west bank of Summers Creek, 2.25 kilometres northeast of the summit of Missezula Mountain and 24.5 kilometres north of Princeton (Bulletin 69, Figure 1, occurrence 50).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesitic Pyroclastic

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

The BO showing occurs along the west bank of Summers Creek, 23 to 26 kilometres north of Princeton.

Sparse bornite and chalcopyrite occur in discontinuous calcite veins in andesitic pyroclastics of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

The showing was mapped and soil sampled by Texas Gulf Sulfur Company Ltd. in 1971.

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EMPR BULL 69, p. 90
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1971-281; 1972-127; 1973-139
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE107**

NATIONAL MINERAL INVENTORY:

NAME(S): **RABBIT**, APRIL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 33 N
LONGITUDE: 120 29 50 W
ELEVATION: 1384 Metres

NORTHING: 5503744
EASTING: 680622

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of andesite with chalcopyrite on the Rabbit 67 claim, 600 metres southwest of the south end of Rampart Lake and 6.2 kilometres due north of the confluence of Summers and Rampart creeks (Assessment Report 3605, Map 2).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite
Andesitic Agglomerate

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

The Rabbit showing outcrops 600 metres southwest of the south end of Rampart Lake and 6.2 kilometres due north of the confluence of Summers and Rampart creeks.

An andesite outcrop of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69) is mineralized with chalcopyrite along tight fractures. Epidote-altered andesite outcrops nearby. Three hundred metres southeast, andesitic agglomerate contains disseminated chalcopyrite, both in clasts and in the enclosing matrix.

BIBLIOGRAPHY

EMPR ASS RPT 2987, *3605, *4225, 4226
EMPR GEM 1971-280
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/29

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE108**

NATIONAL MINERAL INVENTORY:

NAME(S): **TC, SPRING, FORK,
PO**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 46 40 N
LONGITUDE: 120 08 14 W
ELEVATION: 1213 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5517856
EASTING: 706097

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole B85-1 on the east bank of North Trout Creek, 240 metres northwest of the creek's confluence with Trout Creek and 3.0 kilometres southeast of Whitehead Lake (Assessment Report 17560, Map 3).

COMMODITIES: Zinc Lead Copper Silver

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Chalcopyrite Tetrahedrite
ASSOCIATED: Quartz Hematite
ALTERATION: Clay Sericite Silica Limonite Pyrolusite
ALTERATION TYPE: Argillic Sericitic Silicific'n Oxidation Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear Vein Breccia
CLASSIFICATION: Epithermal Skarn Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) K01 Cu skarn
DIMENSION: 60 Metres STRIKE/DIP: /S TREND/PLUNGE:
COMMENTS: Main zone of alteration dips steeply south and is 60 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Tertiary Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Quartz Feldspar Porphyritic Monzonite
Granodiorite
Skarn
Quartz Feldspar Porphyry
Porphyritic Rhyodacite

HOSTROCK COMMENTS: Date for the Otter intrusions is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 2.0000 Grams per tonne
Lead 0.0700 Per cent
Zinc 1.4900 Per cent

COMMENTS: Average grade over 3.0 metres.
REFERENCE: Assessment Report 14989, assay certificate (hole B85-1, 30.5-33.5 m).

CAPSULE GEOLOGY

The TC showing comprises a series of mineralized and altered outcrops lying in the vicinity of the confluence of North Trout Creek and Trout Creek, about 3.0 kilometres southeast of Whitehead Lake.

The area south and east of Whitehead Lake is underlain by a granitic stock of the early Tertiary Otter intrusions. The stock trends west-northwest for 3.5 kilometres and is up to 2.5 kilometres wide. It is situated between the Middle Jurassic Osprey Lake batholith to the south, west and north, and the Early Jurassic Pennask batholith to the east.

A zone of strong clay alteration and minor silicification, quartz veining and brecciation is developed in quartz feldspar

CAPSULE GEOLOGY

porphyritic monzonite, along the east bank of North Trout Creek, 240 metres northwest of the creek's confluence with Trout Creek. Drilling indicates the zone dips steeply south and is about 60 metres wide. Surface exposures contain abundant limonite and pyrolusite. Numerous narrow shears, with rusty clay, are developed throughout the zone. The nature of the alteration suggests this occurrence may be of epithermal origin (Assessment Report 14989).

Mineralization consists of disseminated and stringer pyrite, sphalerite, galena and tetrahedrite. One drillhole intersection analysed less than 0.07 gram per tonne gold, 2 grams per tonne silver, 1.49 per cent zinc, 0.07 per cent lead and less than 0.01 per cent copper over 3.0 metres (Assessment Report 14989, hole B85-1, 30.5 to 33.5 metres). A chip sample yielded 0.00073 per cent antimony, 0.0382 per cent zinc and 0.18 per cent lead over 1.5 metres (Assessment Report 19420, page 33, trench TR001E).

Two additional zones of mineralization occur along North Trout Creek, 250 metres north of the main showing. A sheared and clay-altered contact between quartz feldspar porphyry and porphyritic rhyodacite is exposed over a length of 7 metres. Limonite and pyrolusite occur throughout the zone. A chip sample analysed 10 grams per tonne silver and 0.0710 per cent lead over 1.5 metres (Assessment Report 19420, page 22, zone N2). A moderately sericite-altered breccia zone lies 40 metres west-northwest. The breccia is comprised of quartz feldspar porphyry and porphyritic rhyodacite fragments, and is mineralized with up to 5 per cent disseminated pyrite, with associated limonite and pyrolusite. A chip sample yielded 0.101 per cent zinc over 1.5 metres (Assessment Report 19420, page 24, zone P4).

Three blocks of altered and skarnified granodiorite, engulfed in quartz feldspar porphyry, occur up to 750 metres south of the main showing on the west side of Trout and North Trout creeks. The granodiorite blocks are variably mineralized with disseminations and blebs of specular hematite, chalcopyrite, pyrite, sphalerite and galena. Chalcopyrite also occurs in quartz veins in one of the blocks.

This occurrence was first explored by Pan Ocean Oil Ltd. in 1971 and 1972 with the completion of soil, silt, geological and magnetometer surveys. Additional soil sampling was conducted by Brenda Mines Ltd. in 1981. Boomer Resources Inc. drilled three holes totalling 137 metres on the main showing in 1986, after its discovery in 1985. Placer Dome Inc. carried out an extensive program of geological, soil geochemical and geophysical surveying in 1988 and 1989.

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EMPR GEM 1971-289; 1972-141,142
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE109**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAGO**, OX, CAT

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 55 23 N
LONGITUDE: 120 37 01 W
ELEVATION: 1125 Metres

NORTHING: 5532798
EASTING: 671051

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched chalcocite-chalcopyrite-bornite showing, 1.75 kilometres northwest of the north end of Miner Lake and 500 metres east of Kidd Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite Copper
ALTERATION: Carbonate Quartz Malachite Azurite
ALTERATION TYPE: Carbonate Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork Shear
CLASSIFICATION: Hydrothermal Skarn Epigenetic
TYPE: D03 Volcanic redbed Cu K01 Cu skarn
DIMENSION: 1000 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization is contained in a north-northwest trending zone, 1000 metres long.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Lahar Breccia
Graphitic Argillite
Limestone
Skarn

HOSTROCK COMMENTS: This prospect is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1972
SAMPLE TYPE: Drill Core
COMMODITY: Copper GRADE: 0.8300 Per cent
COMMENTS: Average grade over 15.8 metres.
REFERENCE: Assessment Report 3789, page 3 (Hole 72-5, 15.3 to 31.1 metres).

CAPSULE GEOLOGY

The Dago prospect outcrops along the east side of Kidd Lake, 1.6 to 2.1 kilometres northwest of the north end of Miner Lake. The deposit is located along the western margin of an area of hilly upland situated in the centre of the Aspen Grove copper camp, known as the Fairweather Hills. The Fairweather Hills region is underlain by the Central volcanic facies of the Upper Triassic Nicola Group, comprising intermediate, feldspar and feldspar augite porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Locally, the area is underlain by red and green laharc breccias, augite andesite porphyry and minor sediments of the Nicola Group (Central belt, Bulletin 69). The units generally strike north-northwest and dip east. This sequence is broken up into a

CAPSULE GEOLOGY

series of tilted fault blocks trending north.

Copper mineralization occurs in green laharic breccia, limestone and graphitic argillite near the north-northwest striking contact with red laharic breccia to the east. This mineralization is accompanied by brown-weathering carbonate alteration, and consists primarily of disseminated and fracture-controlled chalcopyrite, bornite and chalcocite, often with malachite and azurite. Chalcopyrite and malachite are also occasionally found in narrow shear zones. Small areas of quartz carbonate skarn contain chalcopyrite and bornite.

Trenching and diamond drilling have intersected narrow sections of copper mineralization in a zone trending north-northwest for 1000 metres. One angled drillhole intersected a 15.8-metre section of limestone with chalcocite, chalcopyrite, bornite and native copper assaying 0.83 per cent copper (Assessment Report 3789, page 3, hole 72-5, 15.3-31.1 metres). A second vertical hole drilled 115 metres south of Hole 72-5 intersected a zone of graphitic argillite with chalcopyrite, analysing 1.40 per cent copper over 9.1 metres (Hole 72-7, 29.0-38.1 metres). A grab sample of quartz carbonate skarn with banded chalcopyrite, taken 700 metres south-southeast of hole 72-7, assayed 1.74 per cent copper (Assessment Report 3789, page 3). Resampling of old drill core yielded gold values of up to 0.79 gram per tonne and silver values of up to 31.4 grams per tonne (Assessment Report 19591, page 8).

White River Mines Ltd. drilled 14 holes totalling 1926 metres in 1972 after completing geological, geophysical and soil geochemical surveys. Additional drilling was conducted by Tri-Power Minerals Corporation, with the completion of five percussion holes totalling 225 metres in 1977. The deposit was remapped by D.R. Morgan in 1982 and 1985, and magnetically surveyed by Rise Resources Inc. in 1990.

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- EMPR FIELDWORK 1974, pp. 14-16
- EMPR GEM 1972-137; 1977-E135,136
- EMPR MAP 15 (1974)
- EMPR P 1981-2
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- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC OF 2167, pp. 93-98
- GSC P 85-1A, pp. 349-358
- CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
- GCNL #110 (1972)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE110**

NATIONAL MINERAL INVENTORY:

NAME(S): **NELLIE 28, PRIME**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 23 N
LONGITUDE: 120 29 16 W
ELEVATION: 1097 Metres

NORTHING: 5514574
EASTING: 680942

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing exposed in a steep canyon wall, 700 metres east of Summers Creek and 1.5 kilometres southeast of the south end of Missezula Lake (Assessment Report 3955, page 10).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 60 Metres STRIKE/DIP: 155/70E TREND/PLUNGE:
COMMENTS: Zone of sulphide mineralization.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Volcanic
Felsic Intrusive

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1972
SAMPLE TYPE: Grab
COMMODITY GRADE
Copper 0.4200 Per cent
COMMENTS: Sample of altered outcrop with disseminated chalcopyrite and malachite.
REFERENCE: Assessment Report 3955, page 11 (sample 2580).

CAPSULE GEOLOGY

The Nellie 28 showing outcrops in the steep canyon wall of a west-flowing tributary of Summers Creek, 700 metres east of the creek and 1.5 kilometres southeast of the south end of Missezula Lake.

Disseminated chalcopyrite and pyrite occur in a zone of intense alteration and fracturing between a felsic intrusive and massive, green volcanics of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). The mineralized zone is 60 metres wide, trends 155 degrees and dips steep to 70 degrees east. The deposit exhibits abundant malachite and azurite staining. A grab sample of a large, angular talus boulder below the canyon wall assayed 1.24 per cent copper (Assessment Report 3955, page 11, sample 2581). A grab sample from a small cream coloured, strongly altered outcrop with disseminated chalcopyrite and malachite assayed 0.42 per cent copper (sample 2580).

The showing was discovered in 1972 by Belcarra Explorations Ltd. during a program of prospecting and soil sampling. Shortly afterwards, Rio Tinto Canadian Exploration Ltd. completed

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 221
REPORT: RGEN0100

CAPSULE GEOLOGY

magnetometer and induced polarization surveys over the showing in 1972.

BIBLIOGRAPHY

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EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE111**

NATIONAL MINERAL INVENTORY:

NAME(S): **SIWASH**, SIWASH CREEK COPPER, COPPER

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 49 18 N
LONGITUDE: 120 23 39 W
ELEVATION: 1372 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5522061
EASTING: 687432

LOCATION ACCURACY: Within 500M

COMMENTS: Northern copper showing, 200 metres east of Siwash Creek, 6.15 kilometres northwest of the creek's confluence with Galena Creek and 41 kilometres north-northeast of Princeton (Assessment Report 7987, Figure 14).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Chalcocite

ASSOCIATED: Magnetite

ALTERATION: Albite Epidote Chlorite Silica Garnet

Actinolite Malachite

ALTERATION TYPE: Propylitic Skarn Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein

CLASSIFICATION: Porphyry Skarn

TYPE: L03 Alkalic porphyry Cu-Au Metres

DIMENSION: 120 x 50 Metres

COMMENTS: Area of mineralization.

Shear Hydrothermal

Epigenetic Cu skarn

STRIKE/DIP: K01 TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesite
Skarn
Diorite
Monzonite Dike

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Contact Regional

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE:

COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1974

SAMPLE TYPE: Channel

COMMODITY

GRADE

Copper 0.4200 Per cent

COMMENTS: Channel sample from a trench taken over 21.3 metres.

REFERENCE: Assessment Report 5547, page 8.

CAPSULE GEOLOGY

The Siwash occurrence is 100 to 200 metres east of Siwash Creek, 6 kilometres northwest of the creek's confluence with Galena Creek and 40.5 to 41 kilometres north-northeast of Princeton.

Two significant copper showings occur immediately north and south of an elongate, northwest-trending body of diorite up to 400 metres wide, in andesite of the Upper Triassic Nicola Group. This intrusion may be one of a number of monzonitic to dioritic bodies of Late Triassic to Early Jurassic age that are thought to be comagmatic with the Nicola Group.

The northernmost showing consists of chalcopyrite pods, veinlets and disseminations in skarn-altered andesite over an area 120 metres long and 50 metres wide. Some pyrite and malachite

CAPSULE GEOLOGY

accompany this mineralization. Secondary minerals include epidote, albite, chlorite, garnet and actinolite. A channel sample assayed 0.42 per cent copper over 21.3 metres (Assessment Report 5547, page 8).

The second showing is 460 metres south-southwest, in albitized and slightly silicified andesite. Mineralization consists of chalcopyrite, mostly as disseminations, but also as veinlets, over a 36 by 20 metre area. The showing is intruded by a pinkish monzonite dike containing pyrite and sparse chalcopyrite. A channel sample assayed 0.43 per cent copper over 9.1 metres (Assessment Report 5547, page 8). A sample of a 0.3-metre section of black gouge in a northeast-striking shear zone assayed 0.4 per cent copper (Assessment Report 5547, page 9). Chalcocite and magnetite are reported to accompany mineralization in one or both showings.

Several other occurrences are found in the vicinity. Minor chalcopyrite is hosted in sheared andesite and is disseminated in weakly chloritized andesite.

This occurrence was geologically mapped, soil sampled and geophysically surveyed by Phelps Dodge Corporation, Utah Mines Ltd. and Brenda Mines Ltd. between 1972 and 1980.

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- EMPR EXPL 1975-E78; 1980-211
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- EMPR PF (Phelps Dodge Corporation (1972): 1 to 2400 scale maps of geology, soil geochemistry and magnetometer survey)
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC P 85-1A, pp. 349-358
- CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE112**

NATIONAL MINERAL INVENTORY:

NAME(S): **LORRY, SP**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 51 N
LONGITUDE: 120 24 52 W
ELEVATION: 1676 Metres

NORTHING: 5511913
EASTING: 686321

LOCATION ACCURACY: Within 1 KM

COMMENTS: Northwestern part of the Lorry-SP claim group, 2.4 kilometres southeast of the south end of Dillard Lake and 8.7 kilometres northeast of the north end of Rampart Lake (Assessment Report 4341, page 2, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Pyrrhotite
ASSOCIATED: Epidote Garnet
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Middle Jurassic			Osprey Lake Batholith

ISOTOPIIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Bedded Tuff
Porphyritic Flow
Porphyritic Granodiorite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (GSC Map 41-1989). Date from GSC Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

The Lorry showing is about 2.5 kilometres southeast of the south end of Dillard Lake and 9 kilometres northeast of the north end of Rampart Lake.

Minor amounts of pyrite, chalcopyrite and pyrrhotite occur as disseminations and fracture fillings in bedded tuffs and thin porphyritic flows of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). This mineralization is developed immediately northwest of the contact with medium grained porphyritic granodiorite of the Middle Jurassic Osprey Lake batholith. The volcanics contain epidote and garnet near the contact.

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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE113**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAN, ON**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 36 N
LONGITUDE: 120 33 39 W
ELEVATION: 1448 Metres

NORTHING: 5503686
EASTING: 676029

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the Fan 27 claim, 300 metres east of MacKenzie Creek and 3.1 kilometres south-southwest of the summit of Missezula Mountain (Assessment Report 4083, Map 6).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic
TYPE: D03 Volcanic redbed Cu

L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Brecciated Andesite

HOSTROCK COMMENTS: This showing occurs in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

COMMENTS: This occurrence is in the central part of the Nicola belt.

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

The Fan showing is 300 metres east of MacKenzie Creek and 3.1 kilometres south-southwest of the summit of Missezula Mountain.

Light disseminations of chalcopyrite and pyrite occur in an outcrop of brecciated andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

This showing was initially explored by Zone Explorations Ltd. with the completion of a soil geochemical survey in 1970. Equatorial Resources Ltd. conducted geological mapping and soil, magnetometer and induced polarization surveys in 1972 and 1973.

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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE114**

NATIONAL MINERAL INVENTORY:

NAME(S): **PIP, OK, ZONE A**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 38 43 N
LONGITUDE: 120 30 47 W
ELEVATION: 908 Metres

NORTHING: 5502162
EASTING: 679531

LOCATION ACCURACY: Within 500M

COMMENTS: Drillhole A-10, between the east bank of Summers Creek and the Summers Creek road, 4.95 kilometres north-northwest of the confluence with Rampart Creek and 20 kilometres north of Princeton (Assessment Report 21630, map of 1991 drilling).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Orthoclase Sericite Chlorite Epidote
ALTERATION TYPE: Potassic Propylitic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 1200 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization outcrops over a distance of 1200 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesite Tuff
Siltstone
Dacite Tuff

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Drill Core
COMMODITY: Copper GRADE: 0.1850 Per cent
COMMENTS: Average grade over 3.05 metres.
REFERENCE: Assessment Report 21630, Appendix B, page 2 (Hole A-4, 42.67-45.72 m).

CAPSULE GEOLOGY

This prospect occurs on both sides of Summers Creek, lying mostly west of the creek, about 20 kilometres north of Princeton. This area along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. These rocks are intruded by granodiorite and quartz diorite of the middle and Late Cretaceous Summers Creek pluton. The Pip occurrence is hosted in well-bedded andesite tuffs, with interbedded siltstones, and minor dacite tuffs of the Nicola Group. These rocks exhibit potassic, propylitic and sericitic alteration. Secondary minerals include orthoclase, sericite, chlorite and epidote. Mineralization consists of pyrite and lesser chalcopyrite, as disseminations and as fracture coatings. This mineralization outcrops along the west bank of Summers Creek over a distance of

CAPSULE GEOLOGY

about 1.2 kilometres. Percussion drilling in this area and immediately east of the creek yielded copper values of up to 0.185 per cent over 3.05 metres (Assessment Report 21630, Appendix B, page 2).

Amax Potash Ltd. and Iso Explorations Ltd. completed geological, geophysical and soil geochemical surveys over the prospect in 1971 and 1972. Iso Explorations also conducted 1047 metres of percussion drilling in 20 holes in 1972. Cominco Ltd. optioned the property in 1980, and completed geological, soil geochemical and geophysical surveys in 1981 and 1982. The company drilled 2 diamond drill-holes totalling 232 metres in 1982 and 11 percussion holes totalling 375 metres in 1991, of which only 4 reached bedrock.

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE115**

NATIONAL MINERAL INVENTORY: 092H15 Cu4

NAME(S): **LOG, STRIKE, LORNA,
MISSEZULA LAKE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 46 48 N
LONGITUDE: 120 33 15 W
ELEVATION: 1311 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5517041
EASTING: 676075

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole L-75-4, 450 metres east of Ketchan (Duke) Lake,
900 metres northeast of the lake's south end and 2.2 kilometres
southwest of Missezula Lake (Assessment Report 8309, Drawing 79-4).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Chalcocite
ASSOCIATED: Magnetite
ALTERATION: Epidote Chlorite Sericite Orthoclase Silica
Malachite Biotite

ALTERATION TYPE: Propylitic Potassic Sericitic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 1400 x 600 x 218 Metres STRIKE/DIP:
COMMENTS: Zone of copper mineralization trends northwest for 1400 metres and is
up to 600 metres wide.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Diorite
Microdiorite
Andesitic Flow
Andesite
Andesitic Lapilli Tuff
Andesitic Crystal Tuff
Lahar

HOSTROCK COMMENTS: Diorite is related to the Nicola volcanics and is much the same age
(Bulletin 69, page 48).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Drill Core
COMMODITY
Copper GRADE 0.3786 Per cent
COMMENTS: Average grade over 86.6 metres.
REFERENCE: Assessment Report 21746, Table 2 (hole B-10, 4.9 to 91.5 metres).

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1966
SAMPLE TYPE: Chip
COMMODITY
Silver GRADE 8.2300 Grams per tonne
Copper 0.1700 Per cent
COMMENTS: Average grade over 29 metres.
REFERENCE: Assessment Report 977, page 9.

CAPSULE GEOLOGY

The Log prospect is 400 to 1200 metres east of Ketchan (Duke) Lake, 1.6 to 2.25 kilometres southwest of Missezula Lake and 35.5 to 36.5 kilometres north of Princeton.

This region southwest of Missezula Lake is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

Locally, the area is underlain by northwest striking, moderately northeast dipping andesitic flows, with lesser andesitic lapilli and crystal tuffs and minor lahar deposits of the Nicola Group (Central belt, Bulletin 69). This sequence is intruded by a west-trending mass of fine to medium-grained diorite (microdiorite), roughly centred about Ketchan Lake, measuring 4000 by 2000 metres. The diorite commonly contains seams and irregular replacements of orthoclase. Epidote is widespread, and is frequently developed along northwest striking, northeast dipping fractures. Disseminations and veinlets of magnetite are also present in this stock.

Mineralization is hosted in the diorite and consists of pyrite and chalcopyrite, usually as disseminations, but also as fracture fillings. Rare bornite and chalcocite are also reported. Seams, patches and blebs of orthoclase, epidote and/or magnetite are sometimes associated with this mineralization. Some malachite is also present in surface exposures. Chlorite, sericite and traces of secondary biotite occur with the sulphides at depth.

Trenching and drilling have intersected copper mineralization in a northwest-trending zone 1400 metres long and up to 600 metres wide, roughly paralleling the northeastern margin of the stock. Rotary drilling near the centre of the zone intersected disseminated chalcopyrite to a depth of 218 metres (Assessment Report 5824, hole L-75-4). A channel sample of hard, well fractured, silicified diorite, containing evenly disseminated fine crystals of chalcopyrite, yielded 1.36 per cent copper over 3.05 metres (National Mineral Inventory). A section of gossan near the north end of the zone analysed 0.17 per cent copper and 8.23 grams per tonne silver over 29 metres (Assessment Report 977, page 9). A hole drilled in the vicinity yielded 0.22 per cent copper over 39.6 metres (Assessment Report 977, page 7, hole P3). A second hole drilled 695 metres south-southeast of hole P3 analysed 0.379 per cent copper and 0.076 gram per tonne gold over 86.6 metres (Assessment Report 21746, Table 2, hole B-10).

This prospect was first staked by Plateau Metals Ltd. in 1962 after copper mineralization was uncovered during a logging operation. The company completed a magnetometer survey and drilled three holes, totalling 145 metres, in 1962. An additional seven holes, totalling 512 metres, were drilled in 1966 after the property was optioned to Adera Mining Ltd. Various geophysical and geological surveys and 768 metres of trenching were also completed in 1966. The deposit was restaked by Bethlehem Copper Corporation in 1973. The company drilled 3 percussion holes totalling 322 metres, two diamond-drill holes totalling 227 metres and 1 rotary hole, 218 metres deep, in 1974 and 1975. Cominco Ltd. completed 637 metres of percussion drilling in eight holes in 1991.

BIBLIOGRAPHY

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- EMPR ASS RPT *977, 978, 3107, 5331, *5601, 5824, 7543, 8309, 16439, *21746
- EMPR BULL 69, p. 88
- EMPR EXPL *1975-E76,E77; 1979-155
- EMPR FIELDWORK 1974, pp. 9-13
- EMPR GEM 1971-285; 1974-125
- EMPR MAP 17 (1975)
- EMPR P 1981-2
- EMPR PF (Bethlehem Copper Corporation (1974): Airphoto and 1 to 12000 scale map of drill holes)
- EMR MP CORPFILE (Plateau Metals Ltd.)
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC OF 2167, pp. 93-98
- GSC P 85-1A, pp. 349-358
- CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

MINFILE NUMBER: **092HNE116**

NATIONAL MINERAL INVENTORY:

NAME(S): **P, LAKE**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 43 N
LONGITUDE: 120 37 11 W
ELEVATION: 856 Metres

NORTHING: 5503766
EASTING: 671773

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing in a pit on the east bank of Allison Creek near Highway 5, immediately south of the south end of Borgeson Lake (Assessment Report 4168, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

ISOTOPIC AGE: 200 +/- 5 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Allison Lake Pluton

LITHOLOGY: Biotite Hornblende Granite
Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The P showing is exposed in a pit on the east bank of Allison Creek near Highway 5, immediately south of the south end of Borgeson Lake.

Minor amounts of chalcopyrite and pyrite occur along fractures in biotite hornblende granite and quartz monzonite of the Late Triassic to Early Jurassic Allison Lake pluton.

The showing was soil sampled and prospected by Northwind Mines Ltd. in 1972 and Nufort Resources Inc. in 1980.

BIBLIOGRAPHY

EMPR ASS RPT 4168, 8184
EMPR BULL 69
EMPR EXPL 1980-201
EMPR FIELDWORK 1975, pp. 55-58
EMPR GEM 1972-130
EMPR MAP 21 (1976)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE117**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOP**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 26 N
LONGITUDE: 120 44 12 W
ELEVATION: 1256 Metres

NORTHING: 5536330
EASTING: 662343

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 5, 2.25 kilometres southwest of the south end of Harmon Lake and 8.0 kilometres west-northwest of Aspen Grove (Assessment Report 4172, Map 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite
COMMENTS: Chalcocite occurs as amygdule infillings.
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 50 x 30 x 27 Metres
COMMENTS: Area of copper mineralization.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Amygdaloidal Porphyritic Flow

HOSTROCK COMMENTS: This prospect is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
YEAR: 1972

COMMODITY: Copper
GRADE: 0.4420 Per cent

COMMENTS: Average grade of percussion-drill hole cuttings over 25.9 metres.
REFERENCE: Assessment Report 4172, page 2 (hole 5, 1.5 to 27.4 metres).

CAPSULE GEOLOGY

The Top prospect is 2.25 kilometres southwest of the south end of Harmon Lake and 8.0 kilometres west-northwest of Aspen Grove.

The deposit is situated on the eastern flank of a broad north-northeast trending ridge separating Howarth Creek to the west from Kane Valley to the east. The eastern portion of the ridge is underlain by the Central volcanic facies of the Upper Triassic Nicola Group, comprising intermediate, feldspar and feldspar augite porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic.

Locally, the area is underlain by amygdaloidal, porphyritic flows, containing numerous feldspar phenocrysts.

Mineralization consists of chalcocite, as amygdule infillings. Malachite accompanies this mineralization in surface exposures. Trenching and stripping has uncovered copper mineralization over an area 50 metres long and 30 metres wide. One percussion hole, drilled to a depth of 30.4 metres in this area, analysed 0.442 per cent

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 232
REPORT: RGEN0100

CAPSULE GEOLOGY

copper over 25.9 metres (Assessment Report 4172, page 2, hole 5, 1.5 to 27.4 metres). A second hole, 30 metres to the west and 12.2 metres deep, analysed 0.435 per cent copper over 6.1 metres (hole 3, 6.1 to 12.2 metres).

Alakon Metals Ltd. drilled 8 percussion holes totalling 291 metres in 1972, after completing soil geochemical and geophysical surveys in that same year.

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EMPR ASS RPT *4172
EMPR GEM 1972-139
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE118**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH MDA**, MDA, CORB,
THOR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:
LATITUDE: 49 46 24 N
LONGITUDE: 120 32 11 W
ELEVATION: 1371 Metres

MINING DIVISION: Nicola
Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5516342
EASTING: 677379

LOCATION ACCURACY: Within 500M
COMMENTS: Magnetite-copper showing on the MDA 86 claim, 1.9 kilometres east of the south end of Ketchan Lake and 1.4 kilometres southwest of Missezula Lake (Assessment Report 4227, Map 7).

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 600 x 300 Metres STRIKE/DIP:
COMMENTS: Area of weak epidote alteration and copper mineralization extends 600 metres north and 300 metres east of a diorite stock. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Fine Grained Diorite
Andesite Flow
Andesite
Andesitic Pyroclastic

HOSTROCK COMMENTS: Diorite is related to the Nicola volcanics and is much the same age (Bulletin 69, page 48).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 3.1000 Grams per tonne
Copper 0.1452 Per cent
REFERENCE: Assessment Report 14141, Drawing 13a (sample 88611).

CAPSULE GEOLOGY

The North MDA showing is 1.9 kilometres east of the south end of Ketchan Lake and 1.4 kilometres southwest of Missezula Lake. Chalcopyrite occurs together with magnetite and epidote in an elongate stock of fine-grained diorite, near its east end. Malachite occasionally accompanies this mineralization. The stock intrudes andesitic flows and pyroclastics of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The andesites exhibit epidote alteration accompanied by some weak copper mineralization in a poorly defined area extending up to 600 metres north and 300 metres east of the stock. A rock sample assayed 3.1 grams per tonne silver and 0.1452 per cent copper (Assessment Report 14141, Drawing 13a, sample 88611).

CAPSULE GEOLOGY

Sheba Copper Mines Ltd. geologically mapped, soil sampled and magnetically surveyed the showing in 1972. Vanco Explorations Ltd. and Laramide Resources Ltd. sampled and mapped the showing in 1985 and 1987.

BIBLIOGRAPHY

EMPR ASS RPT *4227, *14141, 17118
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1972-135
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE119**

NATIONAL MINERAL INVENTORY:

NAME(S): **EJ, ROADBLOCK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 47 N
LONGITUDE: 120 30 25 W
ELEVATION: 1158 Metres

NORTHING: 5509711
EASTING: 679722

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of chalcocite veins, 470 metres east of Summers Creek and 4.0 kilometres northeast of the summit of Missezula Mountain (Assessment Report 4345, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Pyrite Chalcopyrite
ALTERATION: Malachite Chlorite
ALTERATION TYPE: Oxidation Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Flow Breccia
Bedded Tuff
Greenstone
Andesite
Basalt

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

This copper showing is 470 metres east of Summers Creek and 4.0 kilometres northeast of the summit of Missezula Mountain.

The EJ showing is hosted in a sequence of flow breccias and bedded tuffs of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). The volcanics are mineralized over a small area with blebs and veinlets of chalcocite up to 6 millimetres in diameter. Blebs and pods of malachite-stained breccia occur 200 metres northeast of the chalcocite mineralization.

In the vicinity, basalt and greenstone (andesite) are occasionally chloritized and mineralized with disseminations and veins of pyrite and chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT 1928, 4345
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1969-279; 1972-127; 1973-140
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE120**

NATIONAL MINERAL INVENTORY:

NAME(S): **AT, ACE, SUN, SYM**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 38 14 N
LONGITUDE: 120 37 03 W
ELEVATION: 1036 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5501023
EASTING: 672020

COMMENTS: Centre of area of trenching on the steep west bank of a creek that flows northward into the south end of Dry Lake, 600 metres southwest of the lake (Assessment Report 6697, geology map).

COMMODITIES: Zinc Copper Lead Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Galena
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Silica Malachite Azurite
ALTERATION TYPE: Chloritic Epidote Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au D03 Volcanic redbed Cu
COMMENTS: Mineralized shears strike 155 to 165 degrees and dip 45 to 60 degrees southwest and 40 to 60 degrees northeast to vertical.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Andesite
Biotite Hornblende Granite
Biotite Hornblende Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1977
SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	5.5000	Grams per tonne
Copper	0.1400	Per cent
Lead	0.0900	Per cent
Zinc	1.3500	Per cent

COMMENTS: Sample taken across a 1-metre zone of silicified and fractured andesite with pyrite, chalcopyrite, sphalerite and galena.

REFERENCE: Assessment Report 6697, page 10 (Sample 69002).

CAPSULE GEOLOGY

The AT showing is exposed along the west bank of a creek that flows northward into the south end of Dry Lake, 600 metres southwest of the lake.

The showing is hosted in a mass of andesite of the Upper Triassic Nicola Group, surrounded by biotite hornblende granite/granodiorite in the western margin of the Late Triassic to Early Jurassic Allison Lake pluton. The showing lies just west of the faulted (?) northwest-striking contact between the andesite and

CAPSULE GEOLOGY

the intrusive. The granite exhibits some chloritization and epidote alteration. The volcanics are chloritized and silicified, and contain pervasive, fine disseminated pyrite in the vicinity of the showing.

Trenching exposes irregular bands and shears mineralized with pyrite, chalcopyrite, sphalerite, galena, malachite and azurite. The shears strike 155 to 165 degrees and dip 45 to 60 degrees southwest and 40 to 60 degrees northeast to vertical. Zones of siliceous and strongly fractured andesite, containing white quartz and mineralized with similar sulphides found in the shears, are also present. A sample across a shear zone assayed 6.5 grams per tonne silver, 1.11 per cent copper, 0.06 per cent lead and 2.14 per cent zinc over 0.3 metre (Assessment Report 6697, page 10, Sample 876K). A sample of a zone of siliceous and fractured andesite assayed 5.5 grams per tonne silver, 0.14 per cent copper, 0.09 per cent lead and 1.35 per cent zinc over 1 metre (Sample 69002).

The showing was first trenched and soil sampled by Coseka Resources Ltd. (formerly Coin Canyon Mines Ltd.) in 1971. Additional soil, magnetometer and geological surveys were conducted by Komo Explorations Ltd. in 1972 and Cardero Resources Ltd. in 1977.

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- EMPR BULL 69, p. 90
- EMPR EXPL 1977-E130
- EMPR FIELDWORK 1975, pp. 55-58
- EMPR GEM 1971-282,283; 1972-129,130; 1973-141,142
- EMPR MAP 21 (1976)
- EMPR P 1981-2
- EMPR PF (Allen, A.R. (1976): Report on the Ace Property, Similkameen Mining Division, B.C., in Cardero Resources Ltd. (1977): Prospectus, Vancouver Stock Exchange)
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC OF 2167, pp. 93-98
- GSC P 85-1A, pp. 349-358
- CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE121**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 50 N
LONGITUDE: 120 36 00 W
ELEVATION: 1058 Metres

NORTHING: 5509585
EASTING: 673011

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of roadcut exposure with shear zones, 170 metres northwest of Allison (Ketchan) Creek, 1.3 kilometres northeast of the north end of Allison Lake (Assessment Report 4420, Map 4).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic redbed Cu
COMMENTS: Mineralization is contained in three, narrow, northwest-trending shear zones.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Granite

HOSTROCK COMMENTS: Isotopic age date for the Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Al showing outcrops along a roadcut 170 metres northwest of Allison (Ketchan) Creek and 1.3 kilometres northeast of the north end of Allison Lake.

Three narrow northwest-trending shear zones occur in granite of the Late Triassic to Early Jurassic Allison Lake pluton over a distance of 40 metres along the roadcut. The shears are mineralized with chalcopyrite and malachite.

The showing was initially geologically mapped and soil sampled by J.R. Poloni in 1972. Territorial Petroleum Ventures Ltd. conducted additional geological mapping and soil sampling in 1981 and 1983.

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE121**

MINFILE NUMBER: **092HNE122**

NATIONAL MINERAL INVENTORY: 092H10 Cu7

NAME(S): **SOUTH COPPER**, INTERNATIONAL (L.283), KLOCKMAN
BOULDER MOUNTAIN, RABBITT

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 35 45 N
LONGITUDE: 120 48 52 W
ELEVATION: 1450 Metres

NORTHING: 5495989
EASTING: 657935

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching on the South Copper showing, 750 metres south-southeast of the summit of Boulder Mountain, 1.4 kilometres north of Lockie (Boulder) Creek and 6.5 kilometres north-northwest of Tulameen (Assessment Report 14158, Plate 1 (north sheet)).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Chlorite Silica Epidote Hematite
ALTERATION TYPE: Propylitic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Vein Massive
CLASSIFICATION: Volcanogenic Syngenetic
TYPE: G04 Besshi massive sulphide Cu-Zn
SHAPE: Tabular
DIMENSION: 150 x 150 x 3 Metres STRIKE/DIP: 143/20W TREND/PLUNGE:
COMMENTS: Undulating sulphide horizon strikes 131 to 154 degrees and dips 10 to 30 degrees west.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite Pyroclastic
Andesite
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 1.2900 Per cent
COMMENTS: Average grade over a core length of 2.1 metres.
REFERENCE: Property File - L. Sookchohoff, 1973, p. 7 (hole 73-1, 3.7-5.8 metres).

CAPSULE GEOLOGY

The South Copper prospect is 750 metres south-southeast of the summit of Boulder Mountain, 1.4 kilometres north of Lockie (Boulder) Creek and 6.5 kilometres north-northwest of Tulameen.

Boulder Mountain is underlain by andesitic to locally dacitic flows and pyroclastic volcanics of the Upper Triassic Nicola Group. These rocks are unconformably overlain along the west flank of the mountain, in the headwaters of Lockie Creek, by felsic to intermediate volcanics of the middle to Upper Cretaceous Spences Bridge Group. The Nicola Group rocks strike north, dip west and are regionally metamorphosed up to greenschist facies.

The deposit consists of a shallow dipping, undulating sulphide horizon, possibly of volcanogenic origin, hosted in andesitic fragmental volcanics. The horizon strikes 131 to 154 degrees and dips 10 to 30 degrees west, parallel to flow banding in the volcanics. It has been traced by diamond drilling and trenching over

CAPSULE GEOLOGY

a strike length of 150 metres and a dip length of 150 metres. The horizon consists of a zone of pyritized, chloritized, silicified, bleached and sheared andesite (greenstone), containing 2 to 20-centimetre wide stratabound to crosscutting chalcopyrite-pyrite rich bands and quartz-carbonate-chalcopyrite-pyrite veins. The zone is 1.0 to 3.0 metres thick, and averages 1.5 metres in thickness. A halo of hematite and epidote alteration surrounds this pyritic horizon. One drillhole analysed 1.29 per cent copper over 2.1 metres (hole 73-1, 3.7 to 5.8 metres), and a second hole, 120 metres to the north, analysed 0.21 per cent copper over 1.5 metres (hole 73-8, 2.5 to 4.0 metres) (Property File - L. Sookochoff, 1973, page 7). Four grab samples of massive sulphide mineralization assayed less than 0.10 to 0.12 gram per tonne gold, 39.1 to 87.8 grams per tonne silver and 8.36 to 20.80 per cent copper (Assessment Report 10266, Table 1, samples 81-2 to 5).

This copper deposit was first explored in 1901. The prospect remained largely undeveloped until Gold River Mines Ltd. conducted trenching and drilled 9 holes totalling 894 metres during 1972 and 1973. Since then, the deposit has been geophysically surveyed, trenched, mapped and sampled by various operators between 1980 and 1986, including most recently Abermin Corporation.

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EMPR GEM 1971-283-284; 1974-122
EMPR OF 1999-2
EMPR PF (*Sookochoff, L. (1973): Interim Report on the Diamond Drill Program of Gold River Mines Ltd., Boulder Mountain Property)
EMR MP CORP FILE (Gold River Mines and Enterprises Ltd., Texal Development Ltd.)
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1909, p. 114
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #17(Jan. 26), 1983; #6(Jan. 10), 1984; #41, 1986
N MINER Mar. 10, 1986
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE123**

NATIONAL MINERAL INVENTORY:

NAME(S): **MID COPPER**, BOULDER MOUNTAIN, RABBITT

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 36 24 N
LONGITUDE: 120 48 33 W
ELEVATION: 1410 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5497205
EASTING: 658282

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching on Mid Copper showing, 900 metres northeast of the summit of Boulder Mountain, 2.5 kilometres north of Lockie (Boulder) Creek and 7.5 kilometres north-northwest of Tulameen (Assessment Report 14158, Plate 1 (north sheet)).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Stratabound Vein
CLASSIFICATION: Volcanogenic Syngenetic
TYPE: G04 Besshi massive sulphide Cu-Zn
SHAPE: Bladed
MODIFIER: Faulted
DIMENSION: 90 x 37 x 3 Metres STRIKE/DIP: 012/31W TREND/PLUNGE:
COMMENTS: Sulphide horizon strikes 000 to 023 degrees and dips 21 to 40 degrees west.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite Pyroclastic
Greenstone
Felsic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Drill Core
COMMODITY: Copper GRADE: 0.3100 Per cent
COMMENTS: Over a core length of 1.5 metres.
REFERENCE: Property File - L. Sookochoff, 1973, Fig.6 (hole 73-5, 9.5-11 metres).

CAPSULE GEOLOGY

The Mid Copper prospect is 900 metres northeast of the summit of Boulder Mountain, 2.5 kilometres north of Lockie (Boulder) Creek and 7.5 kilometres north-northwest of Tulameen.

Boulder Mountain is underlain by andesitic to locally dacitic flows and pyroclastic volcanics of the Upper Triassic Nicola Group. These rocks are unconformably overlain along the west flank of the mountain, in the headwaters of Lockie Creek, by felsic to intermediate volcanics of the middle to Upper Cretaceous Spences Bridge Group. The Nicola Group rocks strike north, dip west and are regionally metamorphosed up to greenschist facies.

The deposit consists of a horizon of sulphide mineralization, possibly of volcanogenic origin, hosted in andesitic fragmental volcanics and capped by a massive, white weathering, silicified felsic tuff. The horizon strikes 000 to 023 degrees and dips 21 to 40 degrees west. It has been traced by diamond drilling over a

CAPSULE GEOLOGY

strike length of 90 metres and a dip length of 37 metres. Downdip, a northwest-striking fault displaces the deposit over a vertical distance of approximately 7 metres.

The horizon contains chalcopyrite and pyrite in narrow stratabound to cross cutting sulphide stringers and quartz-carbonate veins, within a zone of pyritized, chloritized, silicified, bleached and sheared andesite (greenstone), 1.5 to 3.0 metres thick. One drillhole analysed 0.31 per cent copper over 1.5 metres (hole 73-5, 9.5 to 11.0 metres), and a second hole, 90 metres north-northwest, analysed 0.21 per cent copper over 1.5 metres (hole 73-7, 0.3 to 1.8 metres) (Property File - L. Sookochoff, 1973, Figure 6). A sample of a quartz-chalcopyrite vein assayed less than 0.07 gram per tonne gold, 2.4 grams per tonne silver, 0.47 per cent copper, less than 0.01 per cent lead and less than 0.01 per cent zinc (Assessment Report 14158, assay certificate, sample R2 BWS Rx 22).

This prospect was initially explored by Gold River Mines Ltd. in 1972 and 1973. The company conducted trenching and 171 metres of drilling in 5 holes. Since then, the deposit has been geophysically surveyed, trenched, mapped and sampled by various operators between 1980 and 1986, and most recently Abermin Corporation.

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EMPR OF 1999-2
EMPR PF (*Sookochoff, L. (1973): Interim Report on the Diamond Drill Program of Gold River Mines Ltd., Boulder Mountain Property (see 092HNE122))
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #17(Jan. 26), 1983; #6(Jan. 10), 1984; #41, 1986
N MINER Mar. 10, 1986
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE124**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR, TOBA**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 44 26 N
LONGITUDE: 120 25 27 W
ELEVATION: 1603 Metres

NORTHING: 5512970
EASTING: 685584

LOCATION ACCURACY: Within 500M

COMMENTS: Pyrite-malachite-chalcopyrite showing in the headwaters of Rampart Creek, 1.2 kilometres south-southeast of the south end of Dillard Lake and 6 kilometres east of Summers Creek (Assessment Report 4491, Map 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Limonite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Star showing outcrops in the headwaters of Rampart Creek, 1.2 kilometres south-southeast of the south end of Dillard Lake and 6 kilometres east of Summers Creek.

The occurrence is comprised of two small outcrops of well-fractured green andesite, 30 metres apart, of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). The andesite is mineralized with limonite, pyrite, malachite and chalcopyrite along fractures.

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EMPR BULL 69
EMPR EXPL 1981-36
EMPR GEM 1973-139
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE125**

NATIONAL MINERAL INVENTORY:

NAME(S): **DOT**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 19 N
LONGITUDE: 120 30 46 W
ELEVATION: 856 Metres

NORTHING: 5494011
EASTING: 679821

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole PDH-4, 0.5 kilometre west of Summers Creek, 4.2 kilometres north-northeast of the creek's confluence with Allison Creek (Assessment Report 10521, Figure 3).

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Pyrite
ALTERATION: Limonite Hematite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Grit

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
YEAR: 1982
COMMODITY
Silver
GRADE
14.8000 Grams per tonne
COMMENTS: Average grade over 3.05 metres.
REFERENCE: Assessment Report 10521, page 6, hole PDH-4 (36.6-39.6 metres).

CAPSULE GEOLOGY

The Dot showing is 0.5 kilometre west of Summers Creek and 4.2 kilometres north-northeast of the creek's confluence with Allison Creek.

The showing is hosted in a section of grit of the Eocene Princeton Group, unconformably overlying andesitic volcanics of the Upper Triassic Nicola Group. The grit occasionally contains pyrite, which is mostly altered to limonite and hematite. One percussion hole analysed 0.020 gram per tonne gold, 14.8 grams per tonne silver and 0.0119 per cent copper over 3.05 metres (Assessment Report 10521, page 6, hole PDH-4, 36.6-39.6 metres).

Anaconda Canada Exploration Ltd. drilled 7 percussion holes totalling 637.5 metres in 1981, after outlining coincident geochemical and induced polarization anomalies in 1970 and 1971.

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EMPR BULL 69
EMPR FIELDWORK 1975, pp. 55-58
EMPR GEM 1969-280; 1970-388; 1971-280
EMPR MAP 21 (1976)
EMPR OF 1987-19

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 245
REPORT: RGEN0100

BIBLIOGRAPHY

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/15
DATE REVISED: 1992/05/15

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE126**

NATIONAL MINERAL INVENTORY:

NAME(S): **CINDY**, THOR

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 19 N
LONGITUDE: 120 33 05 W
ELEVATION: 1451 Metres

NORTHING: 5514299
EASTING: 676365

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of a zone of pyritic diorite on the Cindy 13 and 15 claims, 1.9 kilometres north-northwest of the B.C. Telephone microwave tower and 1.2 kilometres southeast of Ketchan Creek (Assessment Report 4465, Map 1).

COMMODITIES: Copper Lead Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena

ASSOCIATED: Quartz Magnetite
ALTERATION: Sericite Quartz Biotite Kaolinite Feldspar

ALTERATION TYPE: Sericitic Silicific'n Potassic Argillic Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 400 x 250 Metres STRIKE/DIP:
COMMENTS: Zone of sulphide mineralization trends northwest for 400 metres along a fault of similar trend. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Diorite
Andesitic Flow
Andesite
Dioritic Dike

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Rock
COMMODITY: Silver GRADE: 172.6000 Grams per tonne
REFERENCE: Assessment Report 17118, page 9.

CAPSULE GEOLOGY

The Cindy showing outcrops about 2 kilometres north-northwest of the B.C. Telephone microwave tower north of Missezula Mountain, 1.2 kilometres southeast of Ketchan Creek.

This area southeast of Ketchan Creek is underlain by andesitic tuff, flows and agglomerates, and minor limestone of the Upper Triassic Nicola Group (Central belt, Bulletin 69). These rocks are intruded by dikes and small stocks of fine-grained diorite, hornblende porphyry and feldspar porphyry.

A large zone of hydrothermally altered, gossanous and fractured diorite is faulted against a section of andesitic flows and diorite dikes by a northwest-striking fault. The zone trends northwest along the east flank of the fault for 400 metres and varies up to 250

CAPSULE GEOLOGY

metres in width. Secondary minerals include sericite and quartz, with some biotite, kaolinite and feldspar. This alteration is accompanied by abundant disseminated and fracture-controlled pyrite and minor chalcopyrite. A few quartz stringers in the southern part of the zone contain pyrite, chalcopyrite and galena. A sample assayed 0.265 gram per tonne gold and 172.6 grams per tonne silver (Assessment Report 17118, page 9).

The andesitic flows west of the fault contain scattered occurrences of magnetite, pyrite and minor chalcopyrite accompanied by epidote alteration.

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EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1973-148; 1974-121
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/05

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE127**

NATIONAL MINERAL INVENTORY:

NAME(S): **B AND R NO. 3**, DAWN, MOUNT THYNNE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:
LATITUDE: 49 42 33 N
LONGITUDE: 120 57 18 W
ELEVATION: 1679 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Showing on the northwestern part of the B and R No. 3 claim, 950 metres southwest of the divide between Lawless and Brook creeks, 2.5 kilometres west-northwest of the summit of Mount Thynne and 23 kilometres northwest of Tulameen (Property File - J.P. Elwell, 1964, page 12).

MINING DIVISION: Similkameen
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5508303
EASTING: 647436

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesitic Flow
Andesite
Limestone
Argillite
Tuff
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
YEAR: 1964
COMMODITY
Silver 6.9000 Grams per tonne
Copper 0.3000 Per cent
REFERENCE: Property File - J.P. Elwell, 1964, page 12 (sample 6144).

CAPSULE GEOLOGY

The B and R No. 3 showing is 2.5 kilometres west-northwest of the summit of Mount Thynne and 23 kilometres northwest of Tulameen. The Dawn showing (092HNE068) is 800 metres to the northeast. The occurrence is hosted in a northward trending, steeply dipping sequence of andesitic flows, argillites, tuffs and limestone of the Upper Triassic Nicola Group, immediately southwest of a diorite stock of Late Triassic to Early Jurassic age. Disseminated pyrite and chalcopyrite occur in dark green, malachite-stained lava (andesite), near the contact with a northeast trending, steeply east-dipping limestone bed. A grab sample assayed 0.17 gram per tonne gold, 6.9 grams per tonne silver and 0.30 per cent copper (J.P. Elwell, 1964, page 12, sample 6144). The showing was periodically explored by various operators between 1963 and 1966.

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EMPR AR 1963-56,57; 1966-170,171

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 249
REPORT: RGEN0100

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EMPR PF (*Elwell, J.P. (1964): Reconnaissance Report on the Dawn and
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/04/08
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE128**

NATIONAL MINERAL INVENTORY: 092H10 Cr1

NAME(S): **D, R, CREEK ZONE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 38 N
LONGITUDE: 120 54 10 W
ELEVATION: 908 Metres

NORTHING: 5488181
EASTING: 651765

LOCATION ACCURACY: Within 500M

COMMENTS: Zone sampled by Newmont Exploration, 40 metres northwest of the confluence of Britton (Eagle) Creek with the Tulameen River, 10.5 kilometres west-southwest of the town of Tulameen (Assessment Report 17170, Figure 3).

COMMODITIES: Chromium Platinum Copper Nickel Asbestos

MINERALS

SIGNIFICANT: Chromite Chalcopyrite Sperrylite Millerite Asbestos
ASSOCIATED: Magnetite
ALTERATION: Serpentine
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Vein Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 180 x 155 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Breccia zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Tulameen Ultramafic Complex

LITHOLOGY: Serpentine Breccia
Dunite
Peridotite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks

INVENTORY

ORE ZONE: BRECCIA REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY: Platinum GRADE Grams per tonne
4.4000

REFERENCE: Assessment Report 17170, page 5.

CAPSULE GEOLOGY

The D platinum-chromite showing occurs at the confluence of Britton (Eagle) Creek with the Tulameen River, 10.5 kilometres west-southwest of the town of Tulameen.

This occurrence is hosted in the dunite-rich core of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. Mineralization occurs in a serpentine breccia zone containing fragments of dunite/peridotite cemented by a matrix of serpentine. The zone is 180 metres long, up to 155 metres wide and lies mostly north of the river, on either side of the creek.

Chromite occurs in the breccia and the surrounding dunite in areas of stronger magnesium alteration, mostly along Britton Creek. The mineral forms irregular lenses up to 20 centimetres long and 10 centimetres wide, fracture fillings up to 2 centimetres wide and primary layers of magmatic origin up to 15 centimetres thick.

Platinum occurs in elevated values in the breccia and in the surrounding dunite/peridotite. Two samples from the breccia assayed 2.150 and 4.400 grams per tonne platinum (Assessment Report 17170, page 5). Values of up to 0.481 gram per tonne platinum occur west and south of the breccia zone, in peridotite with little visible chromite (Assessment Report 17170, Figure 3).

CAPSULE GEOLOGY

The breccia zone is noted to be practically free of sulphides (Assessment Report 17170), yet earlier reports suggest the presence of chalcopyrite and millerite. Magnetite, sperrylite and asbestos have also been reported in the past.

The showing was mapped and sampled by Imperial Metals Corporation, Newmont Exploration of Canada and Tiffany Resources between 1984 and 1987.

BIBLIOGRAPHY

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- EMPR ASS RPT 2345, *12190, *17170, 27009
- EMPR EXPL 1988-B71-B81, C105
- EMPR FIELDWORK 1981, pp. 218-222; 1987, pp. 281-294
- EMPR GEM 1972-131; 1973-148,149
- EMPR OF 1986-7, pp. 6-11; 1988-25; 1990-27, pp. 33,34; 1995-25
- EMPR P 1992-6
- EMR MP COMM FILE (MR-CR-301.00)
- EMR MP Metal Controller File 167-C 1-2-45
- GSC EC GEOL No. 13, pp. 89-94 (1934)
- GSC MAP 46A; 888A; 1386A; 41-1989
- GSC MEM 26, pp. 51,153-155,168-170; 243, pp. 33,34,60
- GSC P 85-1A, pp. 349-358
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- CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
- Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE129**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHY**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 50 N
LONGITUDE: 120 55 08 W
ELEVATION: 1280 Metres

NORTHING: 5494077
EASTING: 650435

LOCATION ACCURACY: Within 500M

COMMENTS: South corner of Why 2 claim, 2.2 kilometres north of Murphy Lakes,
1.05 kilometres west-northwest of the confluence of Lawless and Skwum
creeks, and 12 kilometres west-northwest of Tulameen (Assessment
Report 4673, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Magnetite Chalcopyrite Bornite Pyrite
ALTERATION: Quartz Epidote Garnet Silica
ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Skarn
TYPE: K03 Fe skarn K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Argillite
Tuff
Quartzite
Limestone
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

CAPSULE GEOLOGY

The Why showing outcrops 1 kilometre west-northwest of the confluence of Lawless and Skwum creeks and 12 kilometres west-northwest of Tulameen.

A narrow band of skarn alteration occurs in a sequence of argillite, tuff, quartzite and limestone of the Upper Triassic Nicola Group, just east of the contact with foliated granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The skarn band is mineralized with magnetite and minor chalcopyrite and bornite.

Similar mineralization occurs 400 metres southeast, across an east-flowing tributary of Skwum Creek. Here, areas of silicification and quartz-epidote-garnet (?) skarn alteration contain pyrite and magnetite, with minor chalcopyrite. This mineralization occurs just east of a limestone bed striking north-northwest.

BIBLIOGRAPHY

EMPR ASS RPT 4673, 20053
EMPR GEM 1973-150; 1974-122
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE130**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOSS, THOR, THALIA,**
ADONIS, BOSS 132, ZIG

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 50 16 N
LONGITUDE: 120 35 15 W
ELEVATION: 1097 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5523386
EASTING: 673469

COMMENTS: Trenched chalcocite-malachite showing, 2.9 kilometres southwest of the south end of Bluey Lake, 4.0 kilometres northwest of the north end of Missezula Lake (Assessment Report 7724, Plate 1).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 60 x 30 Metres
COMMENTS: Area of sampling.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Lahar Breccia
Agglomerate

HOSTROCK COMMENTS: This prospect is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: OUTCROP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1973

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

0.2400

Per cent

COMMENTS: Average grade over 60 by 30 metres.

REFERENCE: Assessment Report 4495, page 7.

CAPSULE GEOLOGY

This showing is 2.9 kilometres southwest of the south end of Bluey Lake and 4.0 kilometres northwest of the north end of Missezula Lake.

An outcrop of grey-green laharc breccia/agglomerate of the Upper Triassic Nicola Group (Central belt, Bulletin 69) is mineralized with chalcocite, malachite, chalcopyrite and some copper. A sample taken over a 60 by 30 metre area yielded 0.24 per cent copper (Assessment Report 4495, page 7).

The Boss showing was trenched and sampled by Noranda Exploration Company Ltd. in 1973 and mapped and sampled by Cominco Ltd. in 1978 and Vanco Explorations Ltd. in 1985.

BIBLIOGRAPHY

EMPR ASS RPT *4495, 7165, 7724, *14141, 20257
EMPR BULL 69, p. 89
EMPR EXPL 1978-E151
EMPR GEM 1972-135; 1973-156,157

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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BIBLIOGRAPHY

EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/24

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE131**

NATIONAL MINERAL INVENTORY:

NAME(S): **ESP**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 46 07 N
LONGITUDE: 120 33 22 W
ELEVATION: 1533 Metres

NORTHING: 5515770
EASTING: 675977

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcocite-malachite showing on the Esp 34 claim, 750 metres southeast of the south end of Ketchan Lake, 700 metres east of Ketchan Creek and 2.8 kilometres southwest of Missezula Lake (Assessment Report 4709, Map 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite
ALTERATION: Malachite Quartz Epidote Calcite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 50 x 20 Metres STRIKE/DIP:
COMMENTS: Mineralization occurs along fractures in an outcrop measuring 50 by 20 metres.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Feldspar Porphyritic Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

The Esp showing is 750 metres southeast of the south end of Ketchan Lake, 700 metres east of Ketchan Creek and 2.8 kilometres southwest of Missezula Lake.

Small amounts of chalcocite and malachite occur along fractures in an outcrop of feldspar porphyritic andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The mineralized exposure measures 50 by 20 metres. Minor quartz, epidote and calcite veining occur in the vicinity.

BIBLIOGRAPHY

EMPR ASS RPT 4167, *4709
EMPR BULL 69, p. 89
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1972-135; 1973-155
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE132**

NATIONAL MINERAL INVENTORY:

NAME(S): **CONGLIN CREEK**, MISS

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 47 46 N
LONGITUDE: 120 31 28 W
ELEVATION: 1097 Metres

NORTHING: 5518902
EASTING: 678156

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 225 metres east-southeast of the mouth of Conglin Creek on the east side of Missezula Lake (Assessment Report 4694, Map 2).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Andesitic Basaltic Flow
Andesite
Basalt
Pyroclastic
Monzonite
Syenite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This occurrence is in the east-central part of the Nicola belt. GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Chip
COMMODITY: Copper GRADE: 0.2500 Per cent

COMMENTS: Chip sample taken across 13.4 metres.
REFERENCE: Assessment Report 4694, page 3.

CAPSULE GEOLOGY

The various showings comprising the Conglin Creek occurrence outcrop along the east side of Missezula Lake, north and south of Conglin Creek, over a distance of 1000 metres.

Chalcopyrite, pyrite and minor bornite occur as veinlets and fine disseminations in small fracture zones in andesitic to basaltic flows and pyroclastics of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). This mineralization is developed along the west flank of a northwest-trending body of monzonite and syenite of Late Triassic to Early Jurassic age, some 2 kilometres in length. Chalcocite is also reported. Malachite accompanies this mineralization in a number of places. One chip sample assayed 0.25 per cent copper over 13.4 metres (Assessment Report 4694, page 3). A second sample yielded 0.08 gram per tonne gold, 7.1 grams per tonne silver and 3.71 per cent copper (Assessment Report 14141, Figure 12, sample 2022).

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RUN TIME: 10:48:34

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BIBLIOGRAPHY

EMPR ASS RPT *4694, *14141
EMPR BULL 69
EMPR GEM 1973-156
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 114
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/23

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE133**

NATIONAL MINERAL INVENTORY:

NAME(S): **LATE** BUCK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 33 N
LONGITUDE: 120 26 02 W
ELEVATION: 1372 Metres

NORTHING: 5522425
EASTING: 684559

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 1, 170 metres northeast of Thum Lake, 2.0 kilometres north-northwest of the north end of Vincent Lake and 41 kilometres north-northeast of Princeton (Assessment Report 10448, geology map).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Bornite
ASSOCIATED: Epidote Calcite Hematite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 240 x 120 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of mineralization.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Andesitic Breccia
Andesite
Lithic Tuff

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 0.0240 Per cent
COMMENTS: Sample with traces of chalcocite and malachite over 1.0 metre.
REFERENCE: Assessment Report 10448, geology map (sample 1).

CAPSULE GEOLOGY

The Late showing outcrops along the northeast shore of Thumb Lake, 2 kilometres north-northwest of the north end of Vincent Lake and 41 kilometres north-northeast of Princeton. This occurrence is hosted in massive red andesitic breccia, near the contact with massive green andesitic breccia and lithic tuff of the Upper Triassic Nicola Group. Chalcocite and rarer bornite occur in north-trending fracture zones, and less commonly as disseminations, over an area 240 metres long and 120 metres wide. Stringers of epidote, calcite and specular hematite are associated with the chalcocite and bornite. Malachite usually accompanies this mineralization. A sample with traces of chalcocite and malachite analysed 0.024 per cent copper, 0.2 gram per tonne silver and less than 0.001 gram per tonne gold over 1.0 metre (Assessment Report 10448, geology map, sample 1). A second grab sample from a pit excavated in a shear with malachite staining, 150 metres northwest of sample 1, analysed 0.0082 per cent copper, 2.4

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CAPSULE GEOLOGY

grams per tonne silver and 0.001 gram per tonne gold (sample 2).
Great Plains Development Company of Canada Ltd. and Inter-
Continental Energy Corporation completed various geological,
geophysical and soil geochemical surveys over the showing in 1973,
1980 and 1981.

BIBLIOGRAPHY

EMPR ASS RPT 4347, *4552, *10448
EMPR EXPL 1981-295
EMPR GEM 1973-161
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/21

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE134**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUCK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 26 N
LONGITUDE: 120 24 33 W
ELEVATION: 1463 Metres

NORTHING: 5522270
EASTING: 686344

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of a zone of chalcopyrite occurrences, 950 metres northwest of Siwash Creek, 2.3 kilometres northeast of the north end of Vincent Lake and 41.5 kilometres north-northeast of Princeton (Assessment Report 4552, Map 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Magnetite Pyrite
ALTERATION: K-Feldspar Epidote Chlorite
ALTERATION TYPE: Potassic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu L04 Porphyry Cu ± Mo ± Au
DIMENSION: 840 x 270 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Sporadic mineralization in a zone trending northeast for 840 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Osprey Lake Batholith
Middle Jurassic			

LITHOLOGY: Altered Volcanic Breccia
Altered Flow
Intrusive

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

CAPSULE GEOLOGY

This occurrence is centred 950 metres northwest of Siwash Creek, 2.3 kilometres northeast of the north end of Vincent Lake and 41.5 kilometres north-northeast of Princeton.

The Buck showing is hosted in altered volcanic breccias and flows of the Upper Triassic Nicola Group. Secondary minerals include pink feldspar, epidote and chlorite. The alteration is believed to be due to the emplacement of the nearby Middle Jurassic Osprey Lake batholith to the east (Assessment Report 4552).

Sporadic chalcopyrite mineralization, occasionally accompanied by pyrite and magnetite, is localized along fractures in a northeast-trending zone, 840 metres long and up to 270 metres wide.

The showing was explored by Great Plains Development Company of Canada Ltd. in 1972 and 1973.

BIBLIOGRAPHY

EMPR ASS RPT 4347, *4552
EMPR GEM 1973-161
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/21

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE135**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHERE SOUTHWEST**, WHERE 3

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15W
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 46 N
LONGITUDE: 120 49 28 W
ELEVATION: 1463 Metres

NORTHING: 5536761
EASTING: 656030

LOCATION ACCURACY: Within 500M

COMMENTS: Southwesternmost of two skarn zones, 2.4 kilometres south-southwest of the summit of Selish Mountain and 4.2 kilometres west-northwest of the confluence of Howarth Creek and its main east-flowing tributary (Assessment Report 4677, Map 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Magnetite Hematite
ALTERATION: Epidote Garnet Calcite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn K03 Fe skarn
DIMENSION: 50 Metres STRIKE/DIP: 040/90 TREND/PLUNGE:
COMMENTS: Banded skarn zone trends northeast for 50 metres and dips vertically.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Skarn
Diorite
Gabbro

HOSTROCK COMMENTS: This showing is in the Western volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Syn-mineralization GRADE: Greenschist
Post-mineralization

COMMENTS: This showing is in the west-central part of the Nicola belt.

CAPSULE GEOLOGY

The Where Southwest showing is 2.4 kilometres south-southwest of the summit of Selish Mountain and 4.2 kilometres west-northwest of the confluence of Howarth Creek and its main east-flowing tributary. A similar occurrence, Where Northeast (092HNE136), is 460 metres northeast.

A zone of skarn alteration and associated mineralization is developed in andesite in the Western volcanic facies of the Upper Triassic Nicola Group, about 400 metres southeast of a dioritic to gabbroic stock that underlies much of the south flank of Selish Mountain.

The northeast-trending zone outcrops discontinuously over 50 metres. Well-developed banding strikes 040 degrees and dips vertically. The skarn consists of calcite, epidote and minor garnet, with 0.5 to 1.0 centimetre thick lensoidal bands of massive magnetite containing some specular hematite and occasional disseminated chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT 840, *4677
EMPR GEM 1973-154,155
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE136**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHERE NORTHEAST**, WHERE 3

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15W
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 58 N
LONGITUDE: 120 49 17 W
ELEVATION: 1436 Metres

NORTHING: 5537138
EASTING: 656238

LOCATION ACCURACY: Within 500M

COMMENTS: Northeasternmost of two skarn zones, 2.0 kilometres south-southwest of the summit of Selish Mountain and 4.1 kilometres west-northwest of the confluence of Howarth Creek and its main east-flowing tributary (Assessment Report 4677, Map 4).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Hematite
ALTERATION: Epidote Calcite Garnet Malachite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn Epigenetic
TYPE: K01 Cu skarn
DIMENSION: 12 x 8 Metres STRIKE/DIP: 020/18W TREND/PLUNGE:
COMMENTS: Skarn zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Andesite
Skarn
Diorite
Gabbro

HOSTROCK COMMENTS: This showing is in the Western volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Syn-mineralization GRADE: Hornfels
Post-mineralization Greenschist

COMMENTS: This occurrence is in the west-central part of the Nicola belt.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Channel
COMMODITY GRADE
Silver 6.2000 Grams per tonne
Copper 0.4400 Per cent
COMMENTS: Sample over 0.76 metre.
REFERENCE: Assessment Report 4677.

CAPSULE GEOLOGY

The Where Northeast showing is 2.0 kilometres south-southwest of the summit of Selish Mountain and 4.1 kilometres west-northwest of the confluence of Howarth Creek and its main east-flowing tributary. A similar occurrence, Where Southwest (092HNE135), is 460 metres southwest.

A zone of skarn alteration and associated mineralization is developed in hornfelsed andesite in the Western volcanic facies of the Upper Triassic Nicola Group, about 100 metres southeast of a Triassic-Jurassic dioritic to gabbroic stock that underlies much of the south flank of Selish Mountain.

The zone outcrops over an area 12 metres long and 8 metres wide.

CAPSULE GEOLOGY

The skarn is composed of alternating bands of calcite, epidote and burgundy red garnet, striking 020 degrees and dipping 15 to 20 degrees northwest. It contains abundant specular hematite, as massive seams parallel to banding, as disseminations and as massive rosettes. A 1-centimetre thick seam of malachite is also present, and parallels banding. A considerable amount of disseminated chalcopyrite occurs through the skarn. Overall copper content is estimated at 0.2 to 0.3 per cent (Assessment Report 4677, page 9). A channel sample assayed 0.44 per cent copper and 6.2 grams per tonne silver over 0.76 metre (Assessment Report 4677, Map 4).

The showing was mapped and sampled by El Paso Mining and Milling Company in 1973.

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EMPR ASS RPT 840, *4677
EMPR GEM 1973-154,155
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE137**

NATIONAL MINERAL INVENTORY:

NAME(S): **DUCHESS**, AGUR, BEND 99,100

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 58 N
LONGITUDE: 120 18 38 W
ELEVATION: 1560 Metres

NORTHING: 5527214
EASTING: 693267

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in the approximate centre of the Duchess claim group (on the Duchess 24 claim), halfway between Elkhart and Siwash lakes, 17 kilometres northeast of the community of Missezula Lake (Assessment Report 4525, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrrhotite
ALTERATION: Epidote Carbonate
ALTERATION TYPE: Epidote Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Massive
CLASSIFICATION: Igneous-contact Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyritic Andesitic Flow
Augite Porphyritic Basaltic Flow
Andesite
Basalt
Lapilli Tuff
Argillaceous Sediment/Sedimentary
Diorite
Hornblende Biotite Granodiorite
Megacrystic Granite
Megacrystic Granodiorite

HOSTROCK COMMENTS: Hosted in the Eastern belt of the Nicola Group, adjacent to the margin of the Osprey Lake batholith. Age date from GSC Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

CAPSULE GEOLOGY

The Duchess occurrence refers to an area of minor copper mineralization located halfway between Elkhart and Siwash lakes, 17 kilometres northeast of the community of Missezula Lake. This area lies 20 kilometres east-southeast of the historical Aspen Grove copper camp, between Merritt and Princeton.

The Duchess occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The area of the Duchess occurrence straddles the contact between the Eastern belt or facies of the Nicola Group, which is characterized by submarine volcanoclastic rocks and volcanic flows, and the Osprey Lake batholith to the east (Bulletin 69; Geological Survey of Canada Map 41-1989). The volcanics generally consist of

CAPSULE GEOLOGY

augite porphyritic andesitic or basaltic flows and lapilli tuffs, and are accompanied by diorite and minor argillaceous sedimentary rocks (Assessment Reports 4525, 18041, 20994). The Osprey Lake batholith is a large, composite, locally megacrystic granite to granodiorite intrusion of Middle Jurassic age (Geological Survey of Canada Paper 91-2, page 95).

The Duchess occurrence is on the northwestern margin of the batholith, which in this area consists of hornblende biotite granodiorite with a weak foliation parallel to its margin (Assessment Report 4525). The adjacent andesitic volcanics have been contact metamorphosed and hydrothermally epidotized, with minor secondary carbonate (Assessment Report 4525).

This alteration zone is mineralized with pyrrhotite and minor chalcopyrite, which are disseminated in the volcanics or localized in fractures. Locally pyrrhotite forms aggregates between 2 and 5 centimetres across. The chalcopyrite is erratic in its distribution and is generally weak. Pyrite was not recorded.

Strongly altered fault zones, with gold and silver mineralization, occur immediately north of the Duchess occurrence in the Wart claim group (see Annie Oakley (092HNE029) and Brew (092HNE275)).

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EMPR ASS RPT *4525, 18041, 20994
EMPR BULL 69
EMPR EXPL 1979-159; 1980-211,212
EMPR GEM 1973-161,162
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/06

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE138**

NATIONAL MINERAL INVENTORY:

NAME(S): **CROW-REA**, LORI, CRO-MUR,
 WEBB SITE, FLOAT TRAIN, MOR,
 LORNA JUDGE, LOST CHAIN, CROW REA

STATUS: Developed Prospect
 REGIONS: British Columbia
 NTS MAP: 092H09E
 BC MAP:
 LATITUDE: 49 39 49 N
 LONGITUDE: 120 03 00 W
 ELEVATION: 1707 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Hand trenches, 1.75 kilometres southeast of Rowley Creek and 5.5 kilometres south of Trout Creek (Assessment Report 5177, Drawing No. 2).

MINING DIVISION: Osoyoos
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5505410
 EASTING: 712874

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Pyrite Chalcopyrite
 ALTERATION: Silica Chlorite K-Feldspar Kaolin Sericite
 ALTERATION TYPE: Silicific'n Chloritic
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
 CLASSIFICATION: Porphyry Hydrothermal Epigenetic
 TYPE: L05 Porphyry Mo (Low F-type)
 DIMENSION: 17 x 3 Metres STRIKE/DIP: TREND/PLUNGE:
 COMMENTS: Main showing.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE: 166 +/- 1 Ma			
DATING METHOD: Lead/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Granodiorite
 Orthoclase Porphyritic Granite
 Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: WEBB SITE REPORT ON: Y
 CATEGORY: Indicated YEAR: 1996
 QUANTITY: 500000 Tonnes
 COMMODITY GRADE
 Molybdenum 0.1900 Per cent
 COMMENTS: Drill-indicated resource; grade is 0.317 per cent MoS2.
 REFERENCE: Information Circular 1997-1, page 27.

CAPSULE GEOLOGY

The Lori molybdenum showing is 1.75 kilometres southeast of Rowley Creek and 5.5 kilometres south of Trout Creek. The area between Rowley and Lost Chain creeks is underlain by two intrusive phases of the Middle Jurassic Osprey Lake batholith. The more prominent unit consists of coarsely porphyritic granite to granodiorite, characterized by large pink orthoclase phenocrysts up to 2.5 centimetres in diameter. The second phase is comprised of fine to medium-grained quartz monzonite to granodiorite. The main showing consists of a zone of disseminated molybdenite and pyrite, 16.8 metres long and averaging 3 metres wide, in sheared and moderately silicified, medium to fine-grained granodiorite, near the contact with the orthoclase porphyry to the east. Grab sampling indicates the zone averages 0.1 per cent molybdenum (Assessment

CAPSULE GEOLOGY

Report 5177, Map 2b).

Diamond drilling in the vicinity of the main showing intersected minor fine-grained molybdenite in partially silicified and occasionally chloritized fine-grained granodiorite. Traces of molybdenite and chalcopyrite were also detected in the orthoclase porphyry.

Smaller showings of disseminated molybdenite, sometimes accompanied by pyrite, occur in fine to medium-grained granodiorite in the vicinity of the main showing. Silicification usually accompanies this mineralization.

Noranda Exploration Ltd. drilled two holes totalling 301 metres in 1974 after completing geological, magnetometer, stream silt and soil geochemical surveys in the same year.

Amcorp Industries Inc. and Verdstone Gold Corp. drilled over 21 holes in 1995 and 1996. One drill hole intersected 9 metres of 0.26 molybdenum (0.44 per cent MoS₂) (Northern Miner, January 1, 1996).

During 1996, Verdstone Gold Corporation and Molycor Gold Corporation completed 8230 metres of diamond drilling and 2740 metres of percussion drilling on the property. The companies have identified a drill-indicated reserve on the Webb Site zone of 500,000 tonnes grading 0.19 per cent molybdenum (Information Circular 1997-1, page 27).

BIBLIOGRAPHY

- EM EXPL 1996-D2
EMPR ASS RPT *5177, *24558
EMPR GEM 1974-119,120
EMPR INF CIRC *1997-1, p. 27
EMPR PF (Verdstone Gold Corporation Website (Mar.1999): Crow-Rea, 2 p.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
GCNL #125, (Jun.29, #135 (July 14), #141 (July 24), #151 (Aug.8), #161 (Aug.22), #174 (Sept.11), #183 (Sept.22), #189 (Oct.2), #194 (Oct.10), #205 (Oct.25), #213 (Nov.6), #216 (Nov.9), #224 (Nov.22), #232 (Dec.4), #237 (Dec.11), #242 (Dec.18), 1995; #3 (Jan.4), #9 (Jan.12), #26 (Feb.6), #42 (Feb.28), 1996; #82 (Apr.29), 1998
N MINER Jan.1, July 8, 1996

DATE CODED: 1985/07/24
DATE REVISED: 1997/03/26

CODED BY: GSB
REVISED BY: GP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE139**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANITA 11**, SADIM

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 35 N
LONGITUDE: 120 33 55 W
ELEVATION: 1554 Metres

NORTHING: 5507350
EASTING: 675589

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the west side of the Anita 11 claim, 280 metres northeast of Stringer Lake and 1.9 kilometres west-northwest of the summit of Missezula Mountain (Assessment Report 4963, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 120 x 80 Metres
COMMENTS: Area of mineralized outcrops.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Tuff
Lithic Tuff

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.	

CAPSULE GEOLOGY

The Anita 11 showing is about 280 metres northeast of Stringer Lake and 1.9 kilometres west-northwest of the summit of Missezula Mountain.

Pyrite and chalcopyrite occur in dark to black coloured, gossanous tuff and lithic tuff of the Upper Triassic Nicola Group (Central belt, Bulletin 69). This copper mineralization outcrops over an area 120 metres long and up to 80 metres wide.

The showing was mapped and prospected by Bronson Mines Ltd. in 1973 and 1974.

BIBLIOGRAPHY

EMPR ASS RPT 4348, *4963, 4964, 16889
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1973-144; 1974-120,121
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/24

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE140**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEX 2, THOR**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 34 N
LONGITUDE: 120 31 56 W
ELEVATION: 1344 Metres

NORTHING: 5514808
EASTING: 677730

LOCATION ACCURACY: Within 500M

COMMENTS: Malachite showing on the Dex 4 claim, 980 metres east-southeast of a small unnamed lake, 2.7 kilometres southeast of the south end of Ketchan Lake and 2.3 kilometres southwest of Missezula Lake (Assessment Report 4415, page 6).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Weak copper mineralization.
ASSOCIATED: Calcite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.	

CAPSULE GEOLOGY

The Dex 2 showing is 980 metres east-southeast of a small unnamed lake, 2.7 kilometres southeast of the south end of Ketchan Lake and 2.3 kilometres southwest of Missezula Lake.

Weak copper mineralization occurs in calcite veins exposed in a roadcut comprised of andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Malachite is associated with the calcite veining.

BIBLIOGRAPHY

EMPR ASS RPT *4415, 4709, 14141, 17118
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1973-155
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/06
DATE REVISED: 1992/06/07

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE141**

NATIONAL MINERAL INVENTORY:

NAME(S): **FREDDY B (L.1521)**, DANNY 1, RAMBLER,
 LOTUS

STATUS: Prospect	Underground	MINING DIVISION: Similkameen
REGIONS: British Columbia		UTM ZONE: 10 (NAD 83)
NTS MAP: 092H09W		NORTHING: 5489094
BC MAP:		EASTING: 687086
LATITUDE: 49 31 32 N		
LONGITUDE: 120 24 53 W		
ELEVATION: 774 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Approximate centre of an area of mineralized outcrops and old workings, along the west bank of Hayes (Five-mile) Creek, 300 metres south of the creek's confluence with Collet Creek and 10 kilometres northeast of Princeton (Assessment Report 21864).		

COMMODITIES: Copper Silver Zinc Gold

MINERALS

SIGNIFICANT: Chalcopyrite	Pyrite				
ALTERATION: Chlorite	Carbonate	Malachite	Azurite	Gypsum	
ALTERATION TYPE: Epidote	Orthoclase	Silica			
MINERALIZATION AGE: Propylitic	Carbonate		Oxidation	Potassic	Silicific'n
MINERALIZATION AGE: Unknown					

DEPOSIT

CHARACTER: Vein	Disseminated		
CLASSIFICATION: Porphyry	Hydrothermal	Epigenetic	
TYPE: D03	Volcanic redbed Cu		
DIMENSION: 600 x 200	Metres	STRIKE/DIP: 010/80E	TREND/PLUNGE:
COMMENTS: Mineralization along a single set of parallel fractures.			

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	Bromley Batholith
Lower Jurassic			

LITHOLOGY: Mafic Flow
 Mafic Pyroclastic
 Altered Sandstone
 Altered Argillite
 Syeno Diorite
 Diorite
 Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.	

INVENTORY

ORE ZONE: TRENCH	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1991
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Copper	0.3400 Per cent
COMMENTS: Average grade over 35 metres.	
REFERENCE: Assessment Report 21864, Figure 6.	

CAPSULE GEOLOGY

The Freddie B prospect lies along the west bank of Hayes (Five-mile) Creek, immediately south of the creek's confluence with Collet Creek, and 10 kilometres northeast of Princeton. Hayes Creek flows south-southeast, along the contact between the Early Jurassic Bromley batholith and sedimentary facies of the Upper Triassic Nicola Group. The Nicola Group rocks along the west side of the creek consist of mafic flows and pyroclastics, and chlorite-hematite altered sandstones and argillites. Schistosity in the volcanics and sediments strikes 010 degrees and dips 80 degrees east. The Nicola Group rocks are intruded by small bodies and dikes of syenodiorite, diorite and monzonite.

CAPSULE GEOLOGY

The prospect is comprised of a series of scattered outcrops and old workings with copper mineralization, lying in a belt 200 metres wide that follows Hayes Creek northward for 600 metres to the mouth of Collet Creek. Mineralization is hosted in the volcanics and sediments and consists of malachite, azurite and lesser chalcopyrite, along narrow fractures developed parallel to the schistosity. Patchy, fine disseminated pyrite and chalcopyrite are also present. This mineralization is associated with stronger propylitic (chlorite, epidote) and carbonate alteration. Minor silicification and orthoclase alteration is also evident. Gypsum veinlets are locally quite abundant.

An adit driven into the west bank of the creek intersected a zone of numerous mineralized fractures over a width of 15 metres. A longer adit, 10 metres below, is reported to have also intersected this mineralization. A chip sample taken 500 metres north of the adits analysed 0.34 per cent copper over 35 metres, including 0.48 per cent copper, 0.115 grams per tonne gold, 3.8 grams per tonne silver and 0.105 per cent zinc over 8 metres (Assessment Report 21864, Figure 6). Grab samples have yielded copper values of up to 2.2 per cent and silver values of up to 10.6 grams per tonne (Assessment Report 21864, page 19). Anomalous gold values are also reported (Minister of Mines Annual Report 1908, page 130).

This occurrence was initially explored by two adits and several trenches around 1908. It was also prospected and sampled by A. Mitchell in 1976 and by Placer Dome Inc. in 1991.

BIBLIOGRAPHY

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EMPR ASS RPT 943, *6157, *21864
EMPR EXPL 1976-E83
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/24

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE142**

NATIONAL MINERAL INVENTORY: 092H10 Cu2

NAME(S): **AXE (WEST ZONE)**, ADONIS

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 16 N
LONGITUDE: 120 32 32 W
ELEVATION: 1415 Metres

NORTHING: 5503112
EASTING: 677392

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of trenching on the West zone, 1.75 kilometres west of Summers Creek, 3.4 kilometres due south of the summit of Missezula Mountain and 21 kilometres north of Princeton (Assessment Report 10886, Plate 2-11).

COMMODITIES: Copper Molybdenum Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite Pyrrhotite
ASSOCIATED: Magnetite Quartz Epidote Chlorite Orthoclase
ALTERATION: Epidote Chlorite Orthoclase Limonite Malachite

ALTERATION TYPE: Propylitic Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 400 x 270 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Erratic copper mineralization occurs in a zone trending north for 400 metres, varying up to 170 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation Summers Creek Pluton
Cretaceous

ISOTOPIC AGE: 98.2 +/- 2.6 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Diorite
Crystal Lithic Tuff
Lapilli Tuff
Andesitic Basaltic Flow
Basalt
Andesite

HOSTROCK COMMENTS: This deposit is in the Eastern volcanic facies of the Nicola Group. Isotopic date for the Summers Creek pluton is from Bulletin 69.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: WEST REPORT ON: Y
CATEGORY: Indicated YEAR: 1973
QUANTITY: 5805440 Tonnes
COMMODITY GRADE
Copper 0.4700 Per cent
REFERENCE: Northern Miner - September 6, 1973.

CAPSULE GEOLOGY

The Axe (West zone) prospect lies atop the plateau overlooking the steep east-facing slope of the Summers Creek valley, 3 kilometres south of the summit of Missezula Mountain and 21 kilometres north of Princeton.
This area along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and

CAPSULE GEOLOGY

associated alkaline intrusions. These rocks are intruded by granodiorite and quartz diorite of the Middle to Late Cretaceous Summers Creek pluton.

This prospect is part of the Axe property, a large porphyry system some 3.2 kilometres in diameter, containing three significant zones of copper mineralization, including the West zone. The other two zones are the Adit (092HNE143) and South (092HNE040) zones. The West zone is 930 metres west-northwest of the Adit zone and 1500 metres northwest of the South zone. This porphyry-copper hydrothermal system is related to the intrusion of small stocks and dikes of fine-grained diorite and monzonite occurring through the Adit and West zones. These intrusions are interpreted to be part of the Nicola magmatic suite and may represent the deeper part of Nicola volcanoes.

The Axe (West zone) is hosted primarily in a stock of fine to medium grained, equigranular to porphyritic diorite measuring 600 by 300 metres. The diorite is comprised of up to 40 per cent hornblende crystals set in a matrix of plagioclase, with up to 5 per cent interstitial quartz and minor interstitial orthoclase and trace sericite. The stock intrudes crystal-lithic and lapilli tuffs, and basaltic to andesitic flows of the Nicola Group (Central belt, Bulletin 69).

The hostrocks are strongly faulted, fractured and sheared in all orientations. Several major steeply dipping faults strike north to northeast through the area of copper mineralization. These structures are part of the north-striking Summers Creek fault system.

Mineralized units exhibit significant propylitic and lesser potassic alteration. The diorite and surrounding volcanics are strongly chloritized pervasively and along fractures. Epidote commonly accompanies the chlorite and also forms fracture fillings and irregular veins, usually with calcite. Secondary orthoclase, often with magnetite and/or epidote, occurs as weakly developed pervasive alteration or as veins. Limonite and malachite occur along fractures in minor amounts.

Sulphide mineralization is disseminated and in veins, stringers and fracture fillings. The sulphides consist of pyrite, chalcopyrite, minor molybdenite and rare pyrrhotite. Chalcopyrite exceeds pyrite in areas of stronger mineralization. Abundant disseminated and vein magnetite (up to 15 per cent) is present in such areas. Chalcopyrite and pyrite tend to be disseminated in pervasive epidote and chlorite, and along fractures with epidote, chlorite and some magnetite. Pyrite and molybdenite occur in a quartz vein stockwork cutting the diorite. Molybdenite is also present along chlorite-lined fractures, as irregular stringers and as disseminations in locally strong, pervasive epidote and orthoclase alteration. The copper mineralization appears to be older than molybdenum mineralization, which may be associated with the Summers Creek stock.

Trenching and drilling has intersected erratic copper mineralization in a north-trending zone 400 metres long and up to 170 metres wide. A portion of this zone is estimated to contain indicated reserves of 5,805,440 tonnes grading 0.47 per cent copper (Northern Miner - September 6, 1973). Precious metal values are low, but occasionally anomalous. One drillhole intersected 13.3 metres grading 0.0942 per cent copper, 1.56 grams per tonne silver and 0.859 gram per tonne gold (Assessment Report 10886, Appendix G, hole 72-6, 108.6 to 121.9 metres). A second hole assayed 0.47 per cent copper and 0.560 gram per tonne gold over 3.05 metres (Assessment Report 9896, page 12, hole 72-5).

The Axe (West zone) was discovered by Amax Exploration Inc. in 1969 by excavating 9 trenches totalling 790 metres, after completing geological, soil and induced polarization surveys in the same year. The company then drilled 4 diamond-drill holes in 1969 and 14 percussion holes in 1970. Adonis Mines Ltd. drilled an additional 4 holes in 1972. The property was then optioned by Global Energy Corporation (formerly Adonis Mines) to Cominco Ltd. in 1980. Cominco completed geological, rock geochemical and geophysical surveys over the deposit in 1981 and 1982.

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- EMPR GEOLOGY *1975-G54-G57
- EMPR MAP 21 (1976)
- EMPR P 1981-2
- EMR MIN BULL 223 (#121)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 275
REPORT: RGEN0100

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GCNL #128, #248, 1972; *Sept. 11, 1973; #89 (May 8), 1979; #184
(Sept. 24), 1982
N MINER Sept. 6, 1973

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/01

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE143**

NATIONAL MINERAL INVENTORY: 092H10 Cu2

NAME(S): **AXE (ADIT ZONE)**, ADONIS

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 39 08 N
LONGITUDE: 120 31 34 W
ELEVATION: 1150 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5502903
EASTING: 678563

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of area of drilling on the Adit zone, 600 metres west of Summers Creek, 3.85 kilometres south-southeast of the summit of Missezula Mountain and 21 kilometres north of Princeton (Assessment Report 10886, Plate 10-11).

COMMODITIES: Copper Molybdenum Gold Silver Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite Chalcocite Bornite
Pyrrhotite

ASSOCIATED: Chlorite Epidote Albite
ALTERATION: Chlorite Epidote Biotite Albite Limonite
Pyrolusite Malachite Azurite

COMMENTS: Also clay and gypsum.

ALTERATION TYPE: Propylitic Potassic Oxidation Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic

TYPE: L03 Alkaline porphyry Cu-Au

DIMENSION: 1400 x 800 Metres STRIKE/DIP:

TREND/PLUNGE: 360/

COMMENTS: Mineralized zone trends north for 1400 metres and is up to 800 metres wide on surface.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Cretaceous	Nicola	Undefined Formation	Summers Creek Pluton

ISOTOPIC AGE: 98.2 +/- 2.6 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Fine Grained Monzonite
Sericite Schist
Basaltic Andesitic Flow
Basaltic Andesitic Tuff
Andesite
Basalt
Diorite Dike

HOSTROCK COMMENTS: This deposit is in the Eastern volcanic facies of the Nicola Group. Isotopic date for the Summers Creek pluton is from Bulletin 69.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: ADIT

REPORT ON: Y

CATEGORY: Indicated
QUANTITY: 14513600 Tonnes
COMMODITY

YEAR: 1973

Copper GRADE
0.5600 Per cent

REFERENCE: Northern Miner - September 6, 1973.

CAPSULE GEOLOGY

The Axe (Adit zone) prospect outcrops along the steep west side of the Summers Creek valley, about 600 metres west of the creek and 21 kilometres north of Princeton.

This area along Summers Creek is underlain by the Eastern

CAPSULE GEOLOGY

volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. These rocks are intruded by granodiorite and quartz diorite of the Middle to Late Cretaceous Summers Creek pluton.

This prospect is part of the Axe property, a large porphyry system some 3.2 kilometres in diameter, containing three significant zones of copper mineralization, including the Adit zone. The other two zones are the South (092HNE040) and West (092HNE142) zones. The Adit zone is 800 metres north of the South zone and 930 metres east-southeast of the West zone. This porphyry-copper hydrothermal system is related to the intrusion of small stocks and dikes of fine-grained diorite and monzonite through the West and Adit zones. These intrusions are interpreted to be part of the Nicola magmatic suite and may represent the deeper part of Nicola volcanoes.

The Axe (Adit zone) is largely hosted in a stock of porphyritic micromonzonite, 1500 by 500 metres in area, intruding basaltic to andesitic flows and tuffs of the Nicola Group (Central belt, Bulletin 69). The micromonzonite is comprised of 25 to 45 per cent plagioclase crystals and up to 10 per cent hornblende crystals in a matrix of orthoclase. The stock is cut by a few coeval porphyritic diorite dikes. The northern one-quarter of the deposit is hosted in sericite schist derived from strongly sheared flows or tuffs. Minor andesitic to basaltic, granodioritic and rhyolitic dikes of Cretaceous or Tertiary age cut all other rock units.

The hostrocks are strongly faulted, fractured and sheared in all orientations. One prevalent fracture set strikes 045 degrees. A major northeast-striking fault, dipping steeply northwest, traverses the area of copper mineralization. This structure is part of the north-striking Summers Creek fault system.

The monzonite stock and surrounding volcanics are strongly chloritized pervasively and along fractures. Epidote commonly accompanies the chlorite and also forms fracture fillings and irregular veins, usually with calcite. Strong zones of albitization are locally present. Fine-grained biotite often accompanies chlorite. Gypsum veins up to 1.5 centimetres wide occur at depth. Limonite and manganese staining are very common in the upper 30 metres of the zone. Malachite and azurite occur frequently in outcrop, usually along shears and fault zones. Surface exposures are intensely leached and clay altered. Clay is also developed along the numerous shears and fault zones.

Sulphides form up to 20 per cent of the zone and consist of pyrite, chalcopyrite, minor molybdenite, chalcocite and bornite and rare pyrrhotite. They are commonly disseminated and occur to a lesser extent in veins and fracture fillings. Chalcopyrite exceeds pyrite in areas of stronger mineralization. Chalcopyrite and pyrite tend to be disseminated in pervasive chlorite, epidote and albite, and along fractures with chlorite and epidote. Molybdenite occurs in chlorite-lined fractures, as irregular stringers and as disseminations in locally strong, pervasive epidote alteration. The bulk of the copper mineralization appears to be older than molybdenum mineralization, which may be associated with the Summers Creek stock.

The numerous scattered copper occurrences comprising the Adit zone outcrop over a north-south distance of 1400 metres and an east-west distance of up to 800 metres. Diamond drilling has intersected significant copper mineralization in a 500 by 400 metre area in the southwestern part of this zone. Drilling up to 1973 has defined indicated reserves of 14,513,600 tonnes grading 0.56 per cent copper (Northern Miner - September 6, 1973). Silver values are generally low. One drillhole analysed 0.54 per cent copper and 3.3 grams per tonne silver over 53.6 metres (Assessment Report 9896, page 12, hole 73-3). A second hole graded 0.0677 per cent copper, 0.420 gram per tonne gold, 35.2 grams per tonne silver and 0.551 per cent zinc over 3.05 metres (Assessment Report 10886, Appendix G, hole 82-3, sample R82 11612).

The Axe (Adit zone) was first explored with a 30-metre long adit, excavated some time in the mid to late 1930s. Quintana Minerals Corporation conducted geological mapping and drilled several rotary holes in 1968. Amax Exploration Inc. completed various geological, geophysical and soil geochemical surveys and drilled 7 percussion holes and 6 diamond-drill holes between 1969 and 1971. Adonis Mines Ltd. carried out additional geological mapping and drilled 24 percussion holes and 9 diamond-drill holes in 1972 and 1973. The property was then optioned by Global Energy Corporation (formerly Adonis Mines) to Cominco Ltd. in 1980. Cominco drilled 3 holes totalling 411 metres in 1982 after completing geological, rock and soil geochemical and geophysical surveys over the deposit in 1981 and 1982.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 278
REPORT: RGEN0100

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EMPR MAP 21 (1976)
EMPR P 1981-2
EMR MIN BULL 223 (#121)
EMR MP CORPFILE (Global Energy Corporation Ltd.)
GSC MAP 888A; 1386A; 41-1989
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(Sept. 24), 1982
N MINER Sept. 6, 1973
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE144**

NATIONAL MINERAL INVENTORY:

NAME(S): **AU-WEN**, AU, NESBITT,
AU PYRAMID, AU 1-5, FLIM,
FLAM, WEN, HODGE,
MAL

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 57 03 N
LONGITUDE: 120 31 12 W
ELEVATION: 1095 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5536112
EASTING: 677906

LOCATION ACCURACY: Within 500M

COMMENTS: Located on diamond-drill hole 75-7 on the main gold showing, 1 kilometre south of Quilchena Creek, 1.8 kilometres east-northeast of Pothole Lake, 8 kilometres east-northeast of the community of Aspen Grove (Assessment Report 16008, Figure 2.2.1).

COMMODITIES: Gold Silver Copper Lead

MINERALS

SIGNIFICANT: Gold Pyrite Chalcopyrite Pyrrhotite Arsenopyrite
COMMENTS: Native gold is associated with sulphide-bearing quartz veinlets.
ASSOCIATED: Quartz Calcite
ALTERATION: Calcite Epidote Hematite Malachite
ALTERATION TYPE: Carbonate Epidote Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
DIMENSION:
COMMENTS: Bedding in the tuff, but may not be representative. STRIKE/DIP: 060/54N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Pennask Batholith

LITHOLOGY: Andesitic Dacitic Tuff
Cherty Tuff
Argillite
Volcanic Sandstone
Volcanic Siltstone
Porphyritic Andesite
Porphyritic Basalt
Diorite
Biotite Hornblende Granodiorite

HOSTROCK COMMENTS: Hosted in the northern assemblage of the Eastern belt of the Nicola Group. Dioritic intrusions may be subvolcanic or younger.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 26.0000 Grams per tonne
Lead 0.1400 Per cent
COMMENTS: Geochemical analysis of rock sample, best results.
REFERENCE: Assessment Report 7293.

INVENTORY

ORE ZONE: ROCK REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.2900 Per cent
COMMENTS: Geochemical analysis of rock sample, best copper value.
REFERENCE: Assessment Report 7293.

ORE ZONE: MAIN SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 91.0000 Grams per tonne
COMMENTS: Select sample, best of a range of gold assays.
REFERENCE: Assessment Reports 5766, 16008.

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Chip
COMMODITY GRADE
Gold 10.8000 Grams per tonne
COMMENTS: Chip sample assay, over 4.9 metres. Year uncertain.
REFERENCE: Assessment Report 16008.

CAPSULE GEOLOGY

The AU occurrence consists of gold-silver-copper mineralization just east of the historical Aspen Grove copper camp, between Merritt and Princeton. Work on this showing dates back to the 1930s when visible gold was discovered in soil. The occurrence is located 1.8 kilometres east-northeast of Pothole Lake, between Quilchena and Pothole creeks, 8 kilometres east-northeast of the community of Aspen Grove.

The AU occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of well-bedded submarine volcanoclastic rocks, ranging from tuffaceous volcanic siltstones characteristic of the lower part, to coarse volcanic conglomerate and laharic breccias in the upper part. The assemblage is characterized by a paucity of intrusive rocks in comparison to the main Aspen Grove copper camp in the Central belt a few kilometres to the west, separated by the Kentucky-Alleyne fault system (Bulletin 69).

The AU occurrence is centred on the main gold showing, a small stripped, drilled and trenched area just off a gravel road south of Quilchena Creek (Assessment Reports 5766, 16008). This and most of the surrounding area is underlain by andesitic to dacitic tuff, cherty tuff, black argillite, and volcanic sandstone and siltstone. The rocks are strongly fractured in a variety of orientations. Bedding in the tuff has been measured to strike 060 degrees and dip 54 degrees northwest, but it varies.

About 1 kilometre to the north of the main showing is biotite hornblende granodiorite and quartz monzonite of the Early Jurassic Pennask batholith, and about 500 metres to the west are porphyritic andesitic and basaltic volcanic rocks (Bulletin 69; Assessment Report 16008). Small bodies of diorite and micromonzonite, possibly subvolcanic, are quite common in the area, on the surface and in drill core (Assessment Report 16008). Some of the volcanics have sustained carbonate and epidote alteration, and locally they have pervasive hematite (Assessment Report 16008).

Pyrite, pyrrhotite, chalcopyrite and arsenopyrite are disseminated sporadically in the tuffaceous rocks and argillite, up to about 1 per cent, and also occur in fractures (Assessment Reports 11241, 16008). Native gold is associated with the sulphides in narrow quartz-filled fractures in these rocks (Assessment Report 16008). Minor malachite occurs in volcanics. The overall extent of the mineralization has not been determined, although diamond drilling has demonstrated that minor pyrite, pyrrhotite and chalcopyrite, disseminated or associated with quartz or calcite fracture veinlets,

CAPSULE GEOLOGY

does persist below the surface (Assessment Reports 11241, 16008).

Gold values in the area are generally low, but high values have been obtained from trench sampling and drill core at the main showing. Significant gold assays in chip samples range from 6.8 grams per tonne over 5.1 metres to 10.8 grams per tonne over 4.9 metres (Assessment Report 16008). Grab and select samples assayed between 14.4 and 91 grams per tonne gold (Assessment Reports 5766, 16008). The best drill core intersection assayed 4.97 grams per tonne gold over 1.5 metres (Assessment Report 16008).

Copper is associated with the gold mineralization; one rock sample from the main trench yielded 0.29 per cent copper (Assessment Report 7293). Another sample yielded 26 grams per tonne silver and 0.14 per cent lead (Assessment Report 7293). Silver in diamond drill core is generally under 1 gram per tonne (Assessment Report 11241).

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GCNL *#222 (Nov. 19), 1986
PR REL Commerce Resources Corp and Lateegra Resources Corp.,
June 14, 2002
WWW <http://www.commerceresources.com>; <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1996/11/13

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE145**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWFLAKE 6**, BLUE JAY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 59 34 N
LONGITUDE: 120 36 01 W
ELEVATION: 1082 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5540587
EASTING: 671998

LOCATION ACCURACY: Within 500M

COMMENTS: Located on workings, 1 kilometre south of Courtney Lake, 500 metres east of Highway 5A, 6 kilometres north of the community of Aspen Grove (Assessment Report 3555, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite Copper
ALTERATION: Epidote Calcite Quartz Chlorite Malachite

ALTERATION TYPE: Epidote Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
COMMENTS: The host strata strike northwest and dip southwest. Mineralization is close to a minor east-striking fault.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Plagioclase Porphyritic Andesite
Augite Plagioclase Porphyritic Basalt
Andesitic Basaltic Volcanic Breccia
Andesitic Basaltic Tuff
Andesitic Basaltic Lahar

HOSTROCK COMMENTS: Located in the Central belt of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

CAPSULE GEOLOGY

The Snowflake 6 occurrence is a small area of minor copper mineralization in part of the historical Aspen Grove copper camp between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. It is centred on a small cluster of old workings 1 kilometre south of Courtney Lake, 500 metres east of Highway 5A, 6 kilometres north of the community of Aspen Grove (Assessment Report 3555).

The occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The Snowflake 6 occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). This belt mainly consists of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillite and limestone. The volcanics are locally intruded by bodies of comagmatic diorite to monzonite of Late Triassic to Early Jurassic age.

The region is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. Two important fault systems in the Aspen Grove area, the Kentucky-Alleyne fault and a splay of the

CAPSULE GEOLOGY

Allison fault, converge just south of Courtney Lake, in the vicinity of the Snowflake 6 occurrence.

The occurrence is hosted in red and green, augite and/or plagioclase porphyritic flows, breccias, tuffs and laharic deposits of andesitic to basaltic composition (Bulletin 69; Assessment Report 3555). The strata strike northwest and dip southwest. Alteration is generally present, mainly represented by epidote, particularly in fractures, shears and veins. Epidote may be accompanied by calcite, quartz and chlorite.

Several small pits and at least one adit at the Snowflake 6 occurrence lie close to a minor, east-striking fault (Assessment Report 3555). The pits expose fractures mineralized with chalcopyrite, bornite, chalcocite, malachite and azurite, and locally minor native copper. Two rock samples analysed 0.6 to 0.7 gram per tonne silver and 0.005 to 0.015 gram per tonne gold (Assessment Report 13714, Drawing 2, samples 211, 212).

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/18

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE146**

NATIONAL MINERAL INVENTORY:

NAME(S): **CONE, SKI**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 29 N
LONGITUDE: 120 31 23 W
ELEVATION: 1068 Metres

NORTHING: 5540613
EASTING: 677538

LOCATION ACCURACY: Within 500M

COMMENTS: Located on a mineralized outcrop, 3 kilometres east of Quilchena Creek, 9.5 kilometres northeast of the community of Aspen Grove (Assessment Report 925).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite
ALTERATION: Malachite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Plagioclase Porphyritic Andesite
Augite Plagioclase Porphyritic Basalt

HOSTROCK COMMENTS: Hosted in the Central belt of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Cone occurrence is a minor copper showing in part of the historical Aspen Grove copper camp, between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. It is located just northeast of the former Ski group of claims, 3 kilometres east of Quilchena Creek, 9.5 kilometres northeast of the community of Aspen Grove (Bulletin 69; Assessment Report 925).

The Cone occurrence is located in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). This belt of rocks mainly consists of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillites and limestone. The volcanics are intruded by bodies of comagmatic diorite to monzonite of Late Triassic to Early Jurassic age. The area is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. East-striking faults are subordinate, and commonly offset intrusive contacts.

Little information is available on the Cone occurrence itself. It is centred on an outcrop of augite plagioclase porphyritic volcanic rocks of andesitic to basaltic composition (Bulletin 69; Preliminary Map 15). Mineralization at the showing consists of chalcopyrite, pyrite and malachite (Preliminary Map 15; Assessment Report 925). The nature of the mineralization is not specified but in other showings in the area minerals are characteristically disseminated or hosted in quartz veinlets.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

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Area, B.C., unpublished B.Sc. thesis, University of Western
Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/23

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE147**

NATIONAL MINERAL INVENTORY:

NAME(S): **COURT 1**, SKI 13-16

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 16 N
LONGITUDE: 120 33 28 W
ELEVATION: 938 Metres

NORTHING: 5540130
EASTING: 675062

LOCATION ACCURACY: Within 500M

COMMENTS: Located on a trench with mineralization, on an eastern tributary of Quilchena Creek, 3.5 kilometres east of Highway 5A, 7.5 kilometres northeast of the community of Aspen Grove (Preliminary Map 15; Bulletin 69).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite

ASSOCIATED: Pyrite

ALTERATION: Malachite Azurite

COMMENTS: Skarn alteration is not at the main showing, but is a short distance away. Skarn minerals are not specified.

ALTERATION TYPE: Skarn Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Skarn Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Basaltic Volcanic
Andesite
Basalt
Aplite Dike
Skarn

HOSTROCK COMMENTS: Hosted in the Central belt of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

CAPSULE GEOLOGY

The Court 1 occurrence is a minor copper showing in part of the historical Aspen Grove copper camp, between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. It is located on the former Ski group of claims (particularly Ski 13-16), on a tributary of Quilchena Creek, 3.5 kilometres east of Highway 5A, 7.5 kilometres northeast of the community of Aspen Grove (Assessment Report 925; Preliminary Map 15; Bulletin 69).

The Court 1 occurrence is located in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). This belt of rocks mainly consists of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillites and limestone. The volcanics are intruded by bodies of comagmatic diorite to monzonite of Late Triassic to Early Jurassic age. The area is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. East-striking faults are

CAPSULE GEOLOGY

subordinate, and commonly offset intrusive contacts.

The Court 1 occurrence is centred on an outcrop of andesitic to basaltic volcanic rocks in a creek draining into Quilchena Creek (Bulletin 69). This coincides with a copper soil anomaly (Assessment Report 925). These rocks are intruded by aplite dikes (Assessment Report 925). A short distance away there is an outcrop of skarn alteration (Assessment Report 925).

Mineralization at the showing is exposed by stripping, and consists of chalcopyrite, pyrite, malachite and azurite. Chalcopyrite and molybdenite are present at the skarn-altered outcrop. The nature of the mineralization is not specified but in showings in the area minerals are characteristically disseminated or hosted in quartz veinlets.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/04/07

CODED BY: GSB
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE148**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOR 31**, LONE STAR (L.1104), CLIMAX,
BOSS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 51 58 N
LONGITUDE: 120 34 35 W
ELEVATION: 1067 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5526562
EASTING: 674166

COMMENTS: Mineralized zone on the Nor 31 claim, 650 metres northwest of the south end of Bluey Lake (Assessment Report 175, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Chalcopyrite
ASSOCIATED: Calcite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 76 Metres STRIKE/DIP: TREND/PLUNGE: 170/
COMMENTS: Zone of strong chalcocite mineralization trends 170 degrees for 76 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Lahar
Porphyritic Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.9597 Per cent
REFERENCE: Assessment Report 14141, Figure 5b (sample 2279).

CAPSULE GEOLOGY

The Nor 31 showing is 650 metres northwest of the south end of Bluey Lake.
Chalcocite occurs in several shear zones trending 170 degrees in red volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Chalcocite is disseminated and in calcite veins within the shears. A narrow section of good grade material was traced for 76 metres. Three of five rock samples analysed 0.170 to 0.960 per cent copper (Assessment Report 14141, Figure 5b, samples 2279, 2287, 2290). Silver values ranged up to 1.1 grams per tonne.
About 350 metres west-northwest, several trenches expose chalcopyrite and malachite in porphyritic andesite. Four of eight rock samples analysed 0.113 to 0.445 per cent copper (Assessment Report 14141, Figure 5b).

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RUN TIME: 10:48:34

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showing mineral claims, Aspen Grove camp (see 092HNE Regional
File))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE149**

NATIONAL MINERAL INVENTORY:

NAME(S): **NO 19, NOR 22, HUB,
CLIMAX, OTTER CREEK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 44 N
LONGITUDE: 120 36 15 W
ELEVATION: 1143 Metres

NORTHING: 5526065
EASTING: 672184

LOCATION ACCURACY: Within 500M

COMMENTS: Trench with chalcocite, azurite and malachite, 1.2 kilometres east of Otter Creek, 2.4 kilometres west of the south end of Bluey Lake and 6.8 kilometres northwest of the north end of Missezula Lake (Preliminary Map 15, Sheet 5).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 800 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization occurs in an area trending northwest for 800 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Plagioclase Porphyritic Andesite
Volcanic Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY: Copper GRADE Per cent
Copper 0.6567

REFERENCE: Assessment Report 14141, Drawing 5b (sample 2284).

CAPSULE GEOLOGY

The Nor 19 showing is 2.2 to 2.9 kilometres west of the south end of Bluey Lake and 6.55 to 7.35 kilometres northwest of the north end of Missezula Lake.

The occurrence is hosted in augite plagioclase porphyritic andesite and red volcanic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The volcanics are mineralized with chalcocite, chalcopyrite, malachite and azurite in an area trending northwest for 800 metres. Chalcocite and chalcopyrite occur as disseminations and stringers over a length 76 metres in one prominent northwest-striking shear zone. Three rock samples spaced over a distance of 400 metres assayed as follows, from north to south: 0.436, 0.657 and 0.412 per cent copper respectively (Assessment Report 14141, Drawing 5b, samples 2293, 2284, 2086).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 291
REPORT: RGEN0100

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showing mineral claims, Aspen Grove camp (see 092HNE Regional
File))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE150**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZIG 3, BOSS, CLIMAX**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 22 N
LONGITUDE: 120 35 23 W
ELEVATION: 1234 Metres

NORTHING: 5525419
EASTING: 673244

LOCATION ACCURACY: Within 500M

COMMENTS: Native copper-chalcocite showing, 1.45 kilometres southwest of the south end of Bluey Lake and 5.65 kilometres northwest of the north end of Missezula Lake (Preliminary Map 15, Sheet 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper Chalcocite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Plagioclase Porphyritic Andesite
Volcanic Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Copper
GRADE: 0.3000 Per cent
YEAR: 1990

COMMENTS: Sample taken across 25 metres.
REFERENCE: Assessment Report 21406, Figure 4 (Site A).

CAPSULE GEOLOGY

The Zig 3 showing is 1.45 kilometres southwest of the south end of Bluey Lake and 5.65 kilometres northwest of the north end of Missezula Lake.

Native copper and chalcocite occur in augite plagioclase porphyritic andesite and red volcanic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A chip sample from a trench assayed 0.3 per cent copper over 25 metres (Assessment Report 21406, Figure 4, Site A). Analyses of six rock samples collected along a roadcut, 250 metres east of the trench, averaged 0.641 per cent copper over a length of 116 metres (Assessment Report 14141, Drawing 5b).

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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 293
REPORT: RGEN0100

BIBLIOGRAPHY

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DATE CODED: 1985/07/24
DATE REVISED: 1992/06/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE151**

NATIONAL MINERAL INVENTORY:

NAME(S): **THALIA, THOR, BOSS,
PRIZE, ADONIS, BOSS 80,
ZIG**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 49 50 13 N
LONGITUDE: 120 34 02 W

NORTHING: 5523341
EASTING: 674930

ELEVATION: 1055 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Collar of drillhole TPH-79-5, 2.75 kilometres south-southeast of the south end of Bluey Lake, 3.0 kilometres northwest of the north end of Missezula Lake (Assessment Report 7724, Plate 1).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcocite Pyrite Chalcopyrite
ASSOCIATED: Calcite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic redbed Cu
DIMENSION: 1050 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization occurs in an elongate north-northwest trending area, 1050 metres long.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Fine Grained Diorite
Andesite Porphyry
Andesite
Basalt

HOSTROCK COMMENTS: This prospect is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.1400 Per cent
COMMENTS: Average grade over 32.0 metres.
REFERENCE: Assessment Report 7724, page 4 (hole TPH-79-5, 7.6 to 39.6 metres).

CAPSULE GEOLOGY

The Thalia prospect is 1.8 to 2.8 kilometres south of the south end of Bluey Lake, 2.95 to 4.0 kilometres northwest of the north end of Missezula Lake.

This region north of Missezula Lake is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

CAPSULE GEOLOGY

Erratic copper mineralization is hosted in fine-grained diorite/andesite porphyry and basalt of the Nicola Group (Central belt, Bulletin 69), in an elongate area trending north-northwest for 1050 metres. Mineralization consists primarily of chalcocite and malachite along fractures and associated with calcite stringers. Pyrite and chalcopyrite are also present. Strongest mineralization occurs in the most southerly exposures, where one trench sample analysed 0.38 per cent copper over 15 metres (Assessment Report 7724, Plate 1). An adjacent vertical percussion hole graded 0.14 per cent copper over 32.0 metres (Assessment Report 7724, hole TPH-79-5). Analyses of three grab samples taken 480 metres north-northeast averaged 0.23 per cent copper (Assessment Report 21406, Figure 4, site C). A sample of brecciated red basalt with chalcocite, 1000 metres north-northeast, assayed 10 grams per tonne silver and 2.6 per cent copper over 1 metre (Assessment Report 7724, Plate 1). Chalcocite forms scattered blebs and semimassive lenses at this northernmost exposure.

This prospect was initially investigated by Noranda Exploration Company Ltd. with the completion of geological and magnetometer surveys and one drillhole in 1972 and 1973. Cominco Ltd. drilled six percussion holes totalling 277 metres in 1979 after conducting geological and induced polarization surveys in 1978. The deposit was more recently sampled and prospected by Vanco Explorations Ltd. in 1985 and Rayrock Yellowknife Resources Ltd. in 1990.

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GSC MAP 888A; 1386A; 41-1989
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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/24

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE152**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOG 1, THOR, THALIA,
HOOK LAKE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 48 12 N
LONGITUDE: 120 35 01 W
ELEVATION: 1234 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5519566
EASTING: 673872

LOCATION ACCURACY: Within 500M

COMMENTS: Malachite-chalcocite-chalcopyrite showing, 1550 metres north-northwest of the north end of Hook Lake and 2.9 kilometres southwest of the north end of Missezula Lake (Preliminary Map 17).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu
DIMENSION: 600 Metres
COMMENTS: Mineralized outcrops over a north-south distance.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Plagioclase Porphyritic Andesite
Volcanic Breccia

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.	

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Copper

YEAR: 1978

GRADE: 0.7000 Per cent

COMMENTS: Sample taken across 2 metres.
REFERENCE: Assessment Report 7724, Plate 1.

CAPSULE GEOLOGY

The Log 1 showing is 0.9 to 1.5 kilometres northwest of Hook Lake and about 3 kilometres southwest of the north end of Missezula Lake.

Several occurrences of chalcopyrite, chalcocite and malachite are hosted in augite plagioclase porphyritic andesite and volcanic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The mineralized outcrops occur over a north-south distance of 600 metres. A sample across one occurrence of chalcocite and malachite assayed 0.7 per cent copper over 2 metres (Assessment Report 7724, Plate 1). A second sample taken nearby analysed 0.263 per cent copper and 1.9 grams per tonne silver (Assessment Report 14141, Figure 9, sample 2096).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 297
REPORT: RGEN0100

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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE153**

NATIONAL MINERAL INVENTORY:

NAME(S): **NELLIE**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 18 N
LONGITUDE: 120 30 12 W
ELEVATION: 1216 Metres

NORTHING: 5514382
EASTING: 679827

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches with chalcocite and malachite, 400 metres west of Summers Creek and 1.4 kilometres south-southwest of the south end of Missezula Lake (Preliminary Map 17).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.4856 Per cent

REFERENCE: Assessment Report 14141, Drawing 13a (sample 2152).

CAPSULE GEOLOGY

Several trenches situated 400 metres west of Summers Creek and 1.4 kilometres south-southwest of the south end of Missezula Lake expose chalcocite, malachite, chalcopyrite and pyrite in massive to crudely bedded lahar deposits of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). A sample analysed 0.486 per cent copper and 1.4 grams per tonne silver (Assessment Report 14141, Drawing 13a, sample 2152).

BIBLIOGRAPHY

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EMPR FIELDWORK 1974, pp. 9-13
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EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 299
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE154**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOB 8, AIDA, RED**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 25 N
LONGITUDE: 120 37 30 W
ELEVATION: 1103 Metres

NORTHING: 5514314
EASTING: 671058

LOCATION ACCURACY: Within 500M

COMMENTS: Argentite-azurite showing, 520 metres north of the north end of Prosser Lake, 7.8 kilometres southwest of Missezula Lake (Preliminary Map 17).

COMMODITIES: Copper Silver Lead Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Galena Bornite Chalcocite
Argentite Tetrahedrite
ASSOCIATED: Quartz Carbonate Epidote
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au
DIMENSION: 2 Metres STRIKE/DIP: 090/25S TREND/PLUNGE:
COMMENTS: Shear zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Granite
Quartz Monzonite
Diorite
Granodiorite
Andesite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1984

COMMODITY	GRADE	
Silver	145.9000	Grams per tonne
Copper	0.0421	Per cent
Lead	0.6301	Per cent
Zinc	0.4132	Per cent

COMMENTS: Chip sample taken across a true width of 2 metres.
REFERENCE: Assessment Report 13603, page 6.

CAPSULE GEOLOGY

The Mob 8 showing is exposed in the vicinity of a gas pipeline, 520 metres north of the north end of Prosser Lake and 7.8 kilometres southwest of Missezula Lake.

A west-striking shear zone, dipping 25 degrees south, cuts granite and quartz monzonite of the Late Triassic to Early Jurassic Allison Lake pluton. The zone is 2 metres wide and contains small quartz-carbonate lenses accompanied by pyrite, galena, argentite, azurite, malachite, chalcopyrite and tetrahedrite. A selected grab

CAPSULE GEOLOGY

sample assayed trace gold, 25,852 grams per tonne silver and 8.06 per cent copper (Assessment Report 5082, page 5). A chip sample across the shear zone analysed 145.9 grams per tonne silver, 0.0421 per cent copper, 0.630 per cent lead and 0.413 per cent zinc (Assessment Report 13603, page 6). Two shallow holes drilled on the shear zone intersected fine-grained granodiorite and minor andesite, occasionally pyritized and cut by quartz and epidote stringers.

A quartz vein, 5 to 15 centimetres wide, is developed in the hangingwall of the shear zone. It strikes north and dips steeply west. The vein is mineralized with galena, chalcopyrite, chalcocite and malachite. A sample analysed 858.2 grams per tonne silver, 0.862 per cent copper, 2.589 per cent lead and 1.473 per cent zinc (Assessment Report 13603, page 6).

Chalcopyrite and pyrite occur in dark, fine-grained diorite 90 metres west and 120 metres east of the shear zone. One hundred and twenty metres to the north, chalcopyrite and bornite occur in epidote-filled fractures.

E. Sleeman and Bronson Mines Ltd. conducted soil, magnetometer and geological surveys over the showing in 1973 and 1974. The company drilled two holes totalling 22 metres in 1975. Additional prospecting and soil sampling were conducted by J. Balint and West-mar Resources Ltd. in 1984 and 1985.

BIBLIOGRAPHY

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EMPR EXPL 1975-E76
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EMPR GEM 1974-124
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/23

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE155**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOB 2**, MOB 4, RED

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 26 N
LONGITUDE: 120 36 38 W
ELEVATION: 1088 Metres

NORTHING: 5514378
EASTING: 672097

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched copper showing along a road adjacent to the northeast corner of Hornet Lakes (Loosemore Lake), 6.8 kilometres southwest of Missezula Lake (Assessment Report 5082, Map 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite
ASSOCIATED: Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 140 x 80 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of trenching.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Granite
Quartz Monzonite
Diorite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

CAPSULE GEOLOGY

The Mob 2 showing occurs along a road adjacent to the northeast corner of Hornet Lakes (Loosemore Lake), 6.8 kilometres southwest of Missezula Lake.

Several closely-spaced trenches reveal pyrite and chalcopyrite as disseminations and fracturing fillings, in fine-grained granite and quartz monzonite of the Late Triassic to Early Jurassic Allison Lake pluton. A few specks of bornite are also present. The trenches are in an area 140 metres long and up to 80 metres wide. A 5-metre long drillhole intersected fine-grained, dark-coloured diorite, cut by fractures filled with epidote and pyrite.

E. Sleeman and Bronson Mines Ltd. conducted soil, magnetometer and geological surveys over the showing in 1973 and 1974. The company drilled one shallow hole in 1975.

BIBLIOGRAPHY

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EMPR EXPL 1975-E76
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1974-124
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 303
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE156**

NATIONAL MINERAL INVENTORY:

NAME(S): **MS, EJ, ROADBLOCK**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 45 N
LONGITUDE: 120 30 16 W
ELEVATION: 1250 Metres

NORTHING: 5511508
EASTING: 679843

LOCATION ACCURACY: Within 500M

COMMENTS: Westernmost chalcopyrite showing on the east side of the Summers Creek valley, 3.1 kilometres east-southeast of the B.C. Telephone microwave tower and 5.6 kilometres northeast of the summit of Missezula Mountain (Preliminary Map 17).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Lahar

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This showing is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

Several showings of chalcopyrite outcrop on the east side of the Summers Creek valley, 5.6 kilometres northeast of the summit of Missezula Mountain. The chalcopyrite is hosted in massive to crudely bedded lahar deposits of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69).

BIBLIOGRAPHY

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EMPR GEM 1969-279; 1972-127; 1973-140
EMPR MAP *17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE157**

NATIONAL MINERAL INVENTORY:

NAME(S): **MISS, HIT AND MISS**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 40 41 N
LONGITUDE: 120 31 44 W
ELEVATION: 1570 Metres

NORTHING: 5505768
EASTING: 678268

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 72412, 850 metres west of Summers Creek, 1.25 kilometres southeast of the summit of Missezula Mountain and 24 kilometres north of Princeton (Assessment Report 17243, Figure 3).

COMMODITIES: Copper Zinc Lead Silver Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Argentite
ASSOCIATED: Quartz Siderite Carbonate Chlorite Epidote
ALTERATION: Illite Kaolinite Silica Epidote Plagioclase

ALTERATION TYPE: Argillic Propylitic Silicific'n Oxidation Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Bladed
MODIFIER: Faulted

DIMENSION: 350 x 100 x 50 Metres STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Stockwork zone, 50 metres wide, trends north-northeast for 350 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation Unnamed/Unknown Informal
Triassic-Jurassic

LITHOLOGY: Andesitic Flow
Andesitic Tuff
Andesitic Agglomerate
Andesite
Quartz Porphyry
Altered Granodiorite Quartz Diorite
Diorite

HOSTROCK COMMENTS: This deposit is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988

SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Silver	5.8000	Grams per tonne
Gold	0.0490	Grams per tonne
Copper	0.9000	Per cent
Lead	0.0600	Per cent
Zinc	0.8000	Per cent

COMMENTS: Average grade over 2.05 metres.
REFERENCE: Assessment Report 17243, page 5 (hole 72412, 132.8 to 134.85 metres).

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1992

SAMPLE TYPE: Chip

COMMODITY

	GRADE	
Silver	30.7000	Grams per tonne
Gold	1.4600	Grams per tonne
Copper	0.0117	Per cent
Lead	1.6696	Per cent

COMMENTS: Across 25 centimetres.

REFERENCE: Assessment Report 22084, Figure 13 (sample 12534).

CAPSULE GEOLOGY

The Miss prospect outcrops above the steep west slope of the Summers Creek valley, 800 to 1000 metres west of the creek and 24 kilometres north of Princeton.

This area along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions.

The deposit is hosted in a north-trending sequence of plagioclase porphyritic andesitic flows, tuffs and agglomerates, dipping about 30 degrees east. The volcanics appear to be intruded by a narrow, rusty-weathering body of leucocratic quartz porphyry, trending north-northeast for 3.5 kilometres and varying up to 800 metres wide (Bulletin 69; Assessment Report 22084). Detailed mapping and diamond drilling initially suggested this unit may be the product of the strong alteration and locally intense shearing of Nicola Group volcanics in a porphyry hydrothermal environment (Assessment Report 17243). Additional mapping and petrographic work suggests that it is a highly altered and mylonitized granodiorite/quartz diorite (Assessment Report 22084). Lenses and belts of relatively fresh diorite are associated with the quartz porphyry. Petrographic and x-ray diffraction studies indicate it contains abundant quartz and illite, with minor kaolinite, chlorite, plagioclase and trace calcite and orthoclase (Assessment Report 13755). Sericite is also reported. This alteration has been intersected in drilling to depths of up to 300 metres. The eastern contact of the quartz porphyry with Nicola Group andesites is strongly sheared. This shearing coincides with the north-northeast striking Missezula Mountain fault, a structure associated with the north-striking Summers Creek fault system to the east.

The quartz porphyry is mineralized with 1 to 5 per cent disseminated pyrite and occasional, minor chalcopyrite in quartz veinlets. A stockwork of quartz-siderite veins and veinlets has been traced for 350 metres in weakly silica and epidote-altered volcanics along the eastern sheared margin of the quartz porphyry. The stockwork is 50 metres wide and continues to a depth of at least 100 metres. The quartz-siderite veins and veinlets are mineralized with pyrite, chalcopyrite, galena, sphalerite and argentite. Minor amounts of chalcopyrite and pyrite are also found in short north-northeast striking shears, in association with carbonate, chlorite and epidote. The stockwork is disrupted by postmineral faults. One angled drillhole analysed 0.785 gram per tonne gold, 14.9 grams per tonne silver, 0.03 per cent copper, 0.05 per cent lead and 0.17 per cent zinc over 1.22 metres (Assessment Report 17243, page 5, hole 72412, 47.85 to 49.07 metres). A second section of core from the same hole graded 0.049 gram per tonne gold, 5.8 grams per tonne silver, 0.9 per cent copper, 0.06 per cent lead and 0.8 per cent zinc over 2.05 metres (132.8 to 134.85 metres). A chip sample of a vein with banded sulphides, taken from a trench near hole 72412, analysed 1.46 grams per tonne gold, 30.7 grams per tonne silver, 0.0117 per cent copper, and 1.670 per cent lead over 25 centimetres (Assessment Report 22084, Figure 13, sample 12534).

This prospect was initially staked by Canadian Nickel Company Ltd. in 1981. The company then conducted geological, geophysical and soil and rock geochemical surveys over the deposit between 1981 and 1984. The property was subsequently optioned to First Western Platinum Corporation, which drilled three holes totalling 559 metres in 1987. Vanco Explorations Ltd. conducted minor prospecting in 1990, followed by further prospecting, trenching and geophysical and geological surveying in 1991.

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EMPR ASS RPT 10437, 10962, *13755, *17243, 21402, *22084
EMPR BULL 69
EMPR EXPL 1981-292; 1982-182; 1988-C104,C105

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
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PAGE: 307
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1974, pp. 9-13
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE158**

NATIONAL MINERAL INVENTORY:

NAME(S): **ON 1**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 38 18 N
LONGITUDE: 120 33 25 W
ELEVATION: 1372 Metres

NORTHING: 5501286
EASTING: 676388

LOCATION ACCURACY: Within 500M

COMMENTS: Pyrite-chalcopyrite showing, 2.6 kilometres northeast of the confluence of Allison and MacKenzie creeks, 5.3 kilometres south-southwest of the summit of Missezula Mountain (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
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	Nicola	Undefined Formation	
Triassic-Jurassic			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Hornblende Diorite
Gabbro
Quartz Diorite
Crystal Tuff
Lithic Tuff

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The On 1 showing is 2.6 kilometres northeast of the confluence of Allison and MacKenzie creeks, 5.3 kilometres south-southwest of the summit of Missezula Mountain.
Pyrite and chalcopyrite occur in a marginal phase of hornblende diorite, gabbro and quartz diorite of the Late Triassic to Early Jurassic Allison Lake pluton. The showing lies just west of the contact with crystal and lithic tuff of the Upper Triassic Nicola Group.
Zone Explorations Ltd. completed a soil sampling survey over the showing in 1970.

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EMPR GEM 1970-389
EMPR MAP *21 (1976)
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 309
REPORT: RGEN0100

MINFILE NUMBER: **092HNE159**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAIRD LAKE**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 37 44 N
LONGITUDE: 120 34 18 W
ELEVATION: 823 Metres

NORTHING: 5500202
EASTING: 675359

LOCATION ACCURACY: Within 500M

COMMENTS: Malachite showing along Highway 5 on the east side of Laird Lake, 600 metres north of the confluence of Allison and MacKenzie creeks (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Hornblende Diorite
Gabbro
Quartz Diorite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Laird Lake showing is exposed along Highway 5 on the east side of Laird Lake, 600 metres north of the confluence of Allison and MacKenzie creeks.

Malachite occurs in a west-trending belt of hornblende diorite, gabbro and quartz diorite of the Late Triassic to Early Jurassic Allison Lake pluton.

BIBLIOGRAPHY

EMPR BULL 69
EMPR FIELDWORK 1975, pp. 55-58
EMPR MAP *21 (1976)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE159**

MINFILE NUMBER: **092HNE160**

NATIONAL MINERAL INVENTORY:

NAME(S): **OELRICH CREEK**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 49 N
LONGITUDE: 120 32 06 W
ELEVATION: 1052 Metres

NORTHING: 5494885
EASTING: 678184

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite-malachite showing 200 metres southwest of Oelrich Creek, 2.1 kilometres north-northeast of the creek's confluence with Allison Creek (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Siltstone
Volcanic Sandstone
Volcanic Pebble Conglomerate

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.	GRADE: Greenschist

CAPSULE GEOLOGY

The Oelrich Creek showing is 200 metres southwest of Oelrich Creek and 2.1 kilometres north-northeast of the creek's confluence with Allison Creek.

Chalcopyrite and malachite occur in a section of volcanic siltstone, sandstone and pebble conglomerate of the Upper Triassic Nicola Group (Central belt, Bulletin 59).

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EMPR FIELDWORK 1975, pp. 55-58
EMPR MAP *21 (1976)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/15

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE161**

NATIONAL MINERAL INVENTORY:

NAME(S): **LEE, ALLISON**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 29 N
LONGITUDE: 120 30 52 W
ELEVATION: 783 Metres

NORTHING: 5490611
EASTING: 679812

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 0.5 kilometre east of Highway 5 on the Lee claims (area prospected), 0.8 kilometre northeast of the confluence of Allison and Summers creeks (Assessment Report 8735, page 7).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Chlorite Epidote Carbonate Malachite
ALTERATION TYPE: Chloritic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Eocene	Princeton	Undefined Formation	

LITHOLOGY: Meta Sediment/Sedimentary
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Overlap Assemblage
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Grab
COMMODITY
Silver GRADE 7.9900 Grams per tonne
Copper 0.2100 Per cent

REFERENCE: Assessment Report 8735, page 7.

CAPSULE GEOLOGY

The Lee showing is 500 metres east of Highway 5 and 800 metres northeast of the confluence of Allison and Summers creeks. The showing consists of a zone with occasional to rare blebs and disseminations of chalcopyrite in a capping of metasediments of the Upper Triassic Nicola Group, resting on Nicola Group volcanics. Regional mapping suggest the area is instead underlain by clastic sediments of the Eocene Princeton Group (Bulletin 69, Figure 1). The metasediments are extensively chloritized in this zone of sulphide mineralization. Epidote and carbonate are also present. The showing exhibits light to moderate malachite staining. A grab sample assayed 0.21 per cent copper, 0.017 per cent zinc and 7.99 grams per tonne silver (Assessment Report 8735, page 7).
The showing was prospected by Tricor Resources Ltd. in 1980.

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EMPR FIELDWORK 1975, pp. 55-58
EMPR MAP 21 (1976)
EMPR OF 1987-19
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 312
REPORT: RGEN0100

BIBLIOGRAPHY

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GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE162**

NATIONAL MINERAL INVENTORY:

NAME(S): **JRG**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 18 N
LONGITUDE: 120 32 00 W
ELEVATION: 853 Metres

NORTHING: 5492079
EASTING: 678396

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site JRG-16 in a skarn zone, 220 metres northeast of Allison Creek and 2.5 kilometres northwest of the creek's confluence with Summers Creek (Assessment Report 11859, Figure 5).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Magnetite Calcite
ALTERATION: Epidote Quartz Malachite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Skarn Hydrothermal Epigenetic
TYPE: K01 Cu skarn D03 Volcanic redbed Cu
DIMENSION: 36 x 27 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Skarn zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Cretaceous

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Monzonite
Granodiorite
Augite Plagioclase Andesite
Crystal Tuff
Lithic Tuff
Skarn

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: SKARN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver 7.7000 Grams per tonne
Copper 0.3219 Per cent

REFERENCE: Assessment Report 11859, assay certificate (sample JRG-016).

CAPSULE GEOLOGY

The JRG showing is 220 metres northeast of Allison Creek and 2.5 kilometres northwest of the creek's confluence with Summers Creek.

A zone of skarn alteration occurs in a stock of monzonite and granodiorite of the Middle to Late Cretaceous Allison Creek stocks. The zone is developed over an area 36 metres long and up to 27 metres wide. The skarn contains epidote, quartz, magnetite, pyrite, malachite and minor chalcopyrite. A grab sample assayed 0.01 gram per tonne gold, 7.7 grams per tonne silver and 0.322 per cent copper (Assessment Report 11859, assay certificate, sample JRG-016).

An area of mineralized calcite veinlets occurs in augite plagioclase andesite of the Upper Triassic Nicola Group, 400 metres to the north. A sample of a calcite veinlet with malachite and minor

CAPSULE GEOLOGY

pyrite assayed 0.01 gram per tonne gold, 11.4 grams per tonne silver and 1.779 per cent copper (Assessment Report 11859, assay certificate, sample JRG-018).

A third area of mineralization occurs 300 metres southeast of the skarn zone. Here, a roadcut in lithic and crystal tuff contains pyrite and chalcopyrite.

The showing was mapped and sampled by Laurie Resources Inc. in 1983.

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EMPR BULL 69
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EMPR MAP 21 (1976)
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EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE163**

NATIONAL MINERAL INVENTORY:

NAME(S): **TULE LAKE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 28 N
LONGITUDE: 120 35 33 W
ELEVATION: 1158 Metres

NORTHING: 5536714
EASTING: 672681

LOCATION ACCURACY: Within 500M

COMMENTS: Northwesternmost of two closely-spaced shafts, 500 metres southwest of the south end of Tule Lake and 3.4 kilometres northeast of Aspen Grove (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Augite Andesite Basalt Porphyry

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Tule Lake showing is 500 metres southwest of the south end of Tule Lake and 3.4 kilometres northeast of Aspen Grove. Two closely-spaced shafts and one adjacent trench expose chalcocite, bornite and malachite in massive red augite andesite to basalt porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Additional chalcocite is found in three closely-spaced shafts, 300 metres farther south.

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EMPR BULL 69
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EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove Area, B.C., unpublished B.Sc. thesis, University of Western Ontario

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE164**

NATIONAL MINERAL INVENTORY:

NAME(S): **OX, BLAK, HH,
MIX**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 54 49 N
LONGITUDE: 120 36 53 W
ELEVATION: 1122 Metres

NORTHING: 5531754
EASTING: 671244

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched chalcopyrite-malachite showing, 1.3 kilometres northwest of the south end of Miner Lake and 1.1 kilometres southeast of the south end of Kidd Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Chalcocite
ASSOCIATED: Ankerite
ALTERATION: Carbonate Malachite Azurite Ankerite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown
ISOTOPIC AGE: DATING METHOD: Argon/Argon MATERIAL DATED:

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Volcanic Breccia
Limestone
Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY: GRADE
Silver 8.0000 Grams per tonne
Copper 1.0702 Per cent
REFERENCE: Assessment Report 14106, Figure 4 (sample 7).

CAPSULE GEOLOGY

The Ox showing is 1.3 kilometres northwest of the south end of Miner Lake and 1.1 kilometres southeast of the south end of Kidd Lake.
Chalcopyrite, bornite, malachite, azurite, pyrite and chalcocite are hosted in green volcanic breccia, near the contact with limestone and massive green andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69). This mineralization is associated with carbonate alteration. One northerly trending ankeritic shear zone, 25 metres wide, is sparsely mineralized with chalcopyrite. Four rock samples collected over a 200 by 80 metres area analysed 0.174 to 1.07 per cent copper and 0.4 to 12.6 grams per tonne silver (Assessment Report 14106, Figure 4, samples 1, 2, 6, 7).

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EMPR ASS RPT 1850, 2851, 3686, 4474, *10505, *14106

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 317
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR FIELDWORK 1974, pp. 14-16
EMPR GEM 1969-276,277; 1970-380; 1972-136; 1973-157,158
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE165**

NATIONAL MINERAL INVENTORY: 092H16 Ag1,Pb1

NAME(S): **RENFREW, CLAREMONT, AMANDA,
SIWASH SILVER, SNOWSTORM**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 46 57 N
LONGITUDE: 120 19 33 W
ELEVATION: 1311 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5517880
EASTING: 692501

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the east bank of Siwash Creek, 2.4 kilometres north of the creek's confluence with Tepee Creek (Geological Survey of Canada Memoir 243, page 108; Minister of Mines Annual Report 1927, page 247).

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite Chalcopyrite Argentite

Tetrahedrite Arsenopyrite

ASSOCIATED: Quartz Realgar

ALTERATION: Kaolinite Sericite Silica

ALTERATION TYPE: Argillic Sericitic Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Bladed
DIMENSION: 140 x 72 x 1 Metres STRIKE/DIP: 065/50S

TREND/PLUNGE:

COMMENTS: Main vein strikes 041 to 089 degrees for at least 140 metres and dips 45 to 55 degrees southeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Tertiary Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

Middle Jurassic Osprey Lake Batholith

LITHOLOGY: Quartz Porphyritic Monzonite
Granite
Quartz Syenite
Basaltic Dike

HOSTROCK COMMENTS: Mineralization hosted in monzonite stock, which intrudes the Osprey Lake batholith. Date is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Plutonic Rocks

COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1917
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 9250.0000 Grams per tonne
Gold 3.4000 Grams per tonne

COMMENTS: Sample taken across vein in uppermost of three adits.
REFERENCE: Minister of Mines Annual Report 1917, page 206.

CAPSULE GEOLOGY

The Renfrew occurrence is on the east bank of Siwash Creek, 2.4 kilometres north of the creek's confluence with Tepee Creek and 38 kilometres north-northeast of Princeton.

This prospect is hosted in a stock of quartz porphyritic monzonite, granite and quartz syenite, intruding granite of the Middle Jurassic Osprey Lake batholith. This stock is one of a series of small granitic bodies of early Tertiary age referred to as the

CAPSULE GEOLOGY

Otter intrusions. It is strongly altered to a soft watery green to buff rock, possibly the product of kaolinite-sericite alteration. Silicification accompanies this alteration in areas of shearing.

A quartz vein, 15 to 35 centimetres wide, strikes 041 to 089 degrees and dips 45 to 55 degrees southeast. The vein has been traced downdip for 72 metres and along strike for 140 metres in three levels of adits spaced over a vertical elevation of 50 metres. A black fine grained basaltic dike follows the footwall of the faulted vein in the upper two adits.

Mineralization consists of galena, pyrite, argentite, tetrahedrite and arsenopyrite. Realgar forms small segregations in sheared granite near the vein. A sample taken across the vein in the uppermost tunnel assayed 3.4 grams per tonne gold and 9250 grams per tonne silver (Minister of Mines Annual Report 1917, page 206).

Various shear zones, several centimetres to 1.5 metres wide, and striking northeast, occur in the vicinity of the vein. Quartz veins are commonly developed along the shears. These veins and areas of silicification are mineralized with pyrite, sphalerite, galena, chalcopryrite and arsenopyrite.

Three adits totalling 119 metres in length, were excavated in 1916 and 1917. In 1926, 24.5 tonnes of ore grading 3.81 grams per tonne gold, 4291 grams per tonne silver and 2.92 per cent lead were mined and shipped to the smelter in Trail (Minister of Mines Annual Report 1927, page 247). Recent work in the area by various operators, including Brenda Mines Ltd. (1979-1981), Tower Hill Mines Ltd. (1988) and Inel Resources Ltd. (1989), appears to have failed to relocate this occurrence. (Note: this prospect is not to be confused with the Snowstorm showing to the south (092HNE032), whose underground workings have been relocated).

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EMPR ASS RPT 2798, 3282, 4969, 7547, 7992, 8696, 8926, 15863, 18211, 19472
EMPR EXPL 1979-159,160; 1980-210
EMPR GEM 1970-389,390; 1971-276,277; 1972-141; 1973-160
EMR MP CORPFILE (Diana Explorations Ltd.)
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, p. 108
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/18
DATE REVISED: 1992/07/18

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE166**

NATIONAL MINERAL INVENTORY:

NAME(S): **AM, DEN, KENTUCKY,**
ALSCOPE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 53 21 N
LONGITUDE: 120 34 30 W
ELEVATION: 1067 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5529128
EASTING: 674183

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 1.7 kilometres north-northwest of the north end of Bluey Lake and 600 metres west of the south end of Kentucky Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1978

COMMODITY

Copper

GRADE

2.0500 Per cent

COMMENTS: Sample taken over 1.6 metres.
REFERENCE: Assessment Report 6821, page 4.

CAPSULE GEOLOGY

The Am showing is 1.7 kilometres north-northwest of the north end of Bluey Lake and 600 metres west of the south end of Kentucky Lake.

Chalcopyrite, bornite and chalcocite form disseminations and stringers in shear zones within massive green volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A chip sample from an old shaft assayed 2.05 per cent copper over 1.6 metres (Assessment Report 6821, page 4).

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EMPR ASS RPT *6821
EMPR BULL 69
EMPR EXPL 1978-E151
EMPR MAP 15 (1974)
EMPR P 1981-2
EMPR PF (Sookochoff, L. (1973): Geological Report on the Kentucky Lake Property of Cripple Creek Resources Ltd., in Cripple Creek Resources Ltd. (1974): Prospectus, Vancouver Stock Exchange)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 321
REPORT: RGEN0100

BIBLIOGRAPHY

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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/29

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE167**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUEY**, BLOO, NOR

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 35 N
LONGITUDE: 120 35 13 W
ELEVATION: 1204 Metres

NORTHING: 5527680
EASTING: 673371

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on Lot 1550, 1.2 kilometres west-northwest of the north end of Bluey Lake and 2.0 kilometres southwest of the south end of Kentucky Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Silver Lead

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite Galena
ASSOCIATED: Calcite Quartz
ALTERATION: Carbonate Malachite Azurite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Pyroxene Plagioclase Porphyritic Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This occurrence is in the central part of the Nicola belt. GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 5.3750 Grams per tonne
Copper 0.7105 Per cent

COMMENTS: Average of four rock samples taken over 85 metres.
REFERENCE: Assessment Report 14141, Drawing 5b (samples 2059-2062).

CAPSULE GEOLOGY

This showing is 1.2 kilometres west-northwest of the north end of Bluey Lake and 2.0 kilometres southwest of the south end of Kentucky Lake.

The Bluey occurrence is hosted in brecciated and altered pyroxene-plagioclase porphyritic andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

Mineralization consists primarily of chalcopyrite and malachite, as fracture coatings, and as streaks and disseminations interstitial to breccia fragments. Chalcopyrite and galena are found in calcite and quartz veinlets. Chalcocite and azurite are also reported. This mineralization is exposed in several trenches over a 20 square metres area. Pervasive brown carbonate alteration is associated with sulphide mineralization and veining. Analyses of four rock samples spaced along a northerly trending trench over 85 metres averaged 0.711 per cent copper and 5.4 grams per tonne silver (Assessment Report 14141, Drawing 5b, samples 2059-2062).

Numerous geophysical and soil and rock geochemical surveys were conducted by F. Gingell between 1976 and 1981, by Vanco Explorations Ltd. in 1985 and Laramide Resources Ltd. in 1987.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 323
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR EXPL 1976-E87; 1979-156; 1981-49; 1985-C187
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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE168**

NATIONAL MINERAL INVENTORY:

NAME(S): **TINMILSH LAKE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 00 N
LONGITUDE: 120 36 51 W
ELEVATION: 1097 Metres

NORTHING: 5539506
EASTING: 671036

LOCATION ACCURACY: Within 500M

COMMENTS: Native copper showing, 700 metres northeast of the north end of
Tinmilsh Lake, 300 metres west of Highway 5 and 5.0 kilometres north
of Aspen Grove (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Volcanic Breccia
Lahar Breccia
Quartz Diorite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the centre of the Nicola belt.

CAPSULE GEOLOGY

The Tinmilsh Lake showing is 700 metres northeast of the north end of Tinmilsh Lake, 300 metres west of Highway 5 and 5.0 kilometres north of Aspen Grove.

Native copper occurs in red volcanic and laharc breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The showing lies immediately east of the faulted contact with a small body of Triassic-Jurassic quartz diorite.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/07/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE169**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAR**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 48 54 N
LONGITUDE: 120 38 12 W
ELEVATION: 1009 Metres

NORTHING: 5520741
EASTING: 670014

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole B-1, 300 metres west of Otter Creek, 14 kilometres south of Aspen Grove (Assessment Report 5760, Map 1).

COMMODITIES: Copper Silver Molybdenum

MINERALS

SIGNIFICANT:	Pyrite	Chalcopyrite	Molybdenite	Tetrahedrite	Bornite
ASSOCIATED:	Quartz	Magnetite	Hematite		
ALTERATION:	Epidote	Chlorite			
ALTERATION TYPE:	Propylitic				
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Vein	Disseminated			
CLASSIFICATION:	Porphyry	Hydrothermal	Epigenetic		
TYPE:	D03	Volcanic redbed Cu	L03	Alkalic porphyry Cu-Au	

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Tuff

HOSTROCK COMMENTS: This prospect is hosted in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT:	Intermontane	PHYSIOGRAPHIC AREA:	Thompson Plateau
TERRANE:	Quesnel		
METAMORPHIC TYPE:	Regional	RELATIONSHIP:	GRADE: Greenschist
COMMENTS:	This occurrence is in the central part of the Nicola belt.		

INVENTORY

ORE ZONE:	DRILLHOLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1975
SAMPLE TYPE:	Drill Core		
COMMODITY		GRADE	
Silver		2.1400	Grams per tonne
Copper		0.2010	Per cent
COMMENTS:	Average grade over 24.4 metres.		
REFERENCE:	Assessment Report 5760, core logs, hole B-1 (4.6 to 29.0 metres).		

CAPSULE GEOLOGY

The Par prospect occurs along the west bank of Otter Creek, about 14 kilometres south of Aspen Grove. This area west of Otter Creek is underlain by the Central volcanic facies of the Upper Triassic Nicola Group, comprised of intermediate feldspar and feldspar augite porphyritic pyroclastics and flows. The Late Triassic to Early Jurassic Allison Lake pluton lies 1.2 kilometres west of this occurrence. Diamond drilling intersected grey to green-coloured tuff containing stringers and veins of quartz, and "blocks" and bands of magnetite and/or hematite, accompanied by minor epidote and chlorite. Pyrite and chalcopyrite occur as stringers and disseminations, commonly associated with the magnetite. Pyrite is also occasionally found in quartz stringers. Chalcopyrite may occur as sparse inclusions in massive pyrite veins. Molybdenite is sparse and is found in or along the walls of quartz stringers and veins. Tetrahedrite and bornite are also reported. One drillhole intersected 24.4 metres grading 2.14 grams per tonne silver and 0.201 per cent copper (Assessment Report 5760, core logs). Analyses from previous drilling yielded up to 147 grams per tonne silver and 2.8 per cent copper (Assessment Report 5760, page 2).

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RUN TIME: 10:48:34

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CAPSULE GEOLOGY

Tormont Mines Ltd. drilled 18 holes totalling 2759 metres between 1962 and 1965, after completing a magnetometer survey in 1962. An additional hole, 123 metres long, was drilled by A. Robertson in 1975 and 1977.

BIBLIOGRAPHY

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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/23

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE170**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOR**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 36 N
LONGITUDE: 120 33 56 W
ELEVATION: 1265 Metres

NORTHING: 5488853
EASTING: 676168

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 90-5 on the Tor 6 claim, 1.7 kilometres northeast of Asp Creek and 3.5 kilometres west-southwest of the confluence of Summers and Allison creeks (Assessment Report 20739, claim sheet map).

COMMODITIES: Gold Platinum Silver Palladium Rhodium

MINERALS

SIGNIFICANT: Unknown
ALTERATION: Epidote Carbonate Clay
ALTERATION TYPE: Epidote Carbonate Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Cretaceous Spences Bridge Undefined Formation

LITHOLOGY: Basalt
Andesite
Dacitic Basaltic Porphyritic Flow
Basaltic Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Overlap Assemblage Quesnel

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1992
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 10.3100 Grams per tonne
Palladium 0.5800 Grams per tonne
Platinum 0.6500 Grams per tonne
Rhodium 0.1700 Grams per tonne

COMMENTS: Composite drill core sample (22 kilograms) taken intermittently from a 167 metre long diamond-drill hole (92-01).

REFERENCE: George Cross News Letter No. 228 (November 26), 1992.

CAPSULE GEOLOGY

The Tor showing is 1.7 kilometres northeast of Asp Creek and 3.5 kilometres west-southwest of the confluence of Summers and Allison creeks.

The occurrence is hosted in a sequence of dacitic to basaltic, variably porphyritic flows and agglomerates of the Middle and Upper Cretaceous Spences Bridge Group. These volcanics show minor epidote, carbonate and argillic alteration. Minor epidote and calcite veining are also evident.

Two samples of drill core assayed 150 and 110 grams per tonne silver respectively (Assessment Report 20739, certificate of analysis, hole 90-5, 66.2 and 122.0 metres). Both samples also assayed less than 0.005 gram per tonne gold, less than 0.015 gram per tonne platinum and up to 0.0001 per cent copper. The shallower sample is of andesite/basalt with local epidote and minor carbonate alteration, and the deeper sample is of basaltic agglomerate with epidote alteration.

Additional drilling in the vicinity yielded anomalous values in gold and platinum group elements. One hole assayed 16.5 grams per

CAPSULE GEOLOGY

tonne gold and 11.0 grams per tonne platinum over 6.1 metres (George Cross News Letter No. 224 (November 21), 1991, hole No. 7, sample 1, 121.9 to 128.0 metres). A second section of core yielded 16.7 grams per tonne gold, 2.93 grams per tonne platinum, 2.50 grams per tonne palladium and 1.75 grams per tonne rhodium over 12.2 metres (George Cross News Letter Nos. 234 (December 5), 235 (December 6), 1991, hole No. 7, samples 2 and 3, 128.0 to 140.2 metres).

Assay results of a 22-kilogram composite drill core sample from hole 92-01 taken intermittently from the 167-metre diamond-drill hole yielded 10.31 grams per tonne gold, 0.65 gram per tonne platinum, 0.58 gram per tonne palladium and 0.17 gram per tonne rhodium (George Cross News Letter No. 228 (November 26), 1992).

N. Proskin conducted soil geochemical and biogeochemical surveys, and 1130 metres of diamond drilling in seven holes between 1988 and 1991. The holes were resampled by Noble Metals Group Inc. in 1991. The company drilled one hole in 1992.

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EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
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GCNL #216(Nov.8), *#224(Nov.21), #229(Nov.28), *#234(Dec.5),
*#235(Dec.6), *#250(Dec.31), 1991; #70(Apr.8), #227(Nov.25),
#228(Nov.26), 1992

DATE CODED: 1992/05/15
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE171**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRED**, ALLISON

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 59 N
LONGITUDE: 120 30 25 W
ELEVATION: 753 Metres

NORTHING: 5491555
EASTING: 680324

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite showing along the Summers Creek road, 1.9 kilometres northeast of the confluence of Allison and Summers creeks (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Crystal Tuff
Lithic Tuff

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau	
TERRANE: Quesnel		
METAMORPHIC TYPE: Regional	RELATIONSHIP:	GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.		

CAPSULE GEOLOGY

The Fred showing outcrops in a roadcut along the west side of the Summers Creek road, 1.9 kilometres northeast of the confluence of Allison and Summers creeks.

Chalcopyrite and malachite occur in bedded crystal and lithic tuffs of the Upper Triassic Nicola Group. The beds strike 050 degrees and dip 60 degrees northwest.

The showing was geophysically and geochemically surveyed by Tricor Resources Ltd. in 1981.

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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
GCNL #79 (April 27), #99 (May 26), 1981

DATE CODED: 1992/05/15
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE172**

NATIONAL MINERAL INVENTORY:

NAME(S): **WESTERN TRENCHES**, SIWASH SILVER

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 46 10 N
LONGITUDE: 120 20 34 W
ELEVATION: 1402 Metres

NORTHING: 5516385
EASTING: 691333

LOCATION ACCURACY: Within 500M

COMMENTS: Copper-lead showing, 500 metres southwest of Saskat Creek and 1.9 kilometres northwest of the confluence of Siwash and Tepee creeks (Assessment Report 7992, geology map).

COMMODITIES: Zinc Lead Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Hematite Magnetite
ALTERATION: Kaolinite Silica
ALTERATION TYPE: Argillic Silicific'n
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
Tertiary			Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Quartz Feldspar Biotite Porphyry
Granite
Basaltic Dike

HOSTROCK COMMENTS: Date for the Otter intrusions is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Western Trenches showing is about 500 metres southwest of Saskat Creek and 1.9 kilometres northwest of the confluence of Siwash and Tepee creeks.

Lead-zinc-silver mineralization occurs in siliceous zones and in quartz veinlets in the vicinity of the contact between quartz-feldspar-biotite porphyry and strongly kaolinized and silicified granite, both of the early Tertiary Otter intrusions. Fracture fillings and veinlets of hematite accompany this mineralization. In addition, magnetite and lesser pyrite and minor chalcopyrite are localized along a network of northeast and northwest striking basaltic dikes. A sample from a quartz vein, 5 to 15 centimetres wide, assayed 0.41 to 0.80 per cent zinc, greater than 34 grams per tonne silver and greater than 0.8 per cent lead (Assessment Report 7992, part 3, page 11, rock geochemistry maps).

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GSC MEM 243
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DATE CODED: 1992/07/20
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE172**

MINFILE NUMBER: **092HNE173**

NATIONAL MINERAL INVENTORY:

NAME(S): **TROUT**, TROUT 1

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 55 N
LONGITUDE: 120 15 12 W
ELEVATION: 1615 Metres

NORTHING: 5523565
EASTING: 697518

LOCATION ACCURACY: Within 500M

COMMENTS: Molybdenite showing along a roadcut on the southern portion of the Trout 1 claim, 300 metres northeast of Galena Creek, 1.0 kilometre south-southeast of the south end of Lac Le Ronne and 3.1 kilometres northeast of Galena Lake (Assessment Report 8671, Plate 2).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite
ASSOCIATED: Quartz
ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
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>
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Trout molybdenite showing is exposed along a roadcut 300 metres northeast of Galena Creek, 1.0 kilometre south-southeast of the south end of Lac Le Ronne and 3.1 kilometres northeast of Galena Lake.

Minor molybdenite occurs in an outcrop of chloritized quartz monzonite of the Middle Jurassic Osprey Lake batholith. The quartz monzonite is also weakly veined with quartz.

BIBLIOGRAPHY

EMPR ASS RPT *8671, 9976
EMPR EXPL 1980-209; 1981-170
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1992/08/13
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE174**

NATIONAL MINERAL INVENTORY:

NAME(S): **CM, SNOWFLAKE GOLD ZONE, SNOWFLAKE 10, SNOWFLAKE 7, GROVE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 58 46 N
LONGITUDE: 120 34 47 W
ELEVATION: 1012 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5539153
EASTING: 673519

LOCATION ACCURACY: Within 500M

COMMENTS: Located on diamond-drill hole 83-3, 2.3 kilometres east of Highway 5A, 4 kilometres northwest of Pothole Lake, 6 kilometres northeast of the community of Aspen Grove (Assessment Report 12113, Figure 277-3).

COMMODITIES: Copper Gold Silver Zinc Lead
Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Electrum Argentite Sphalerite
Galena Bornite Molybdenite

COMMENTS: Most sulphides are in quartz-calcite veins. Some pyrite is probably syngenetic and some is hydrothermal alteration.

ASSOCIATED: Quartz Calcite Pyrrhotite
ALTERATION: Pyrite Quartz Epidote Calcite Silica

ALTERATION TYPE: Malachite
Silicific'n Pyrite Argillic Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic Porphyry
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 102 Syngenetic
D03 Volcanic redbed Cu Intrusion-related Au pyrrhotite veins

SHAPE: Irregular
MODIFIER: Faulted Sheared
COMMENTS: The hostrocks strike north to northwest and dip gently to steeply west. Faults and fractures strike north.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Carbonaceous Pyritic Calcareous Argillite
Andesitic Tuff
Basaltic Tuff
Limestone
Greywacke
Chert
Siltstone
Andesitic Basaltic Porphyry Flow
Diorite
Monzonite

HOSTROCK COMMENTS: Hosted in the Central belt of the Nicola Group (after Preto, Bulletin 69), in a sequence of sedimentary and tuffaceous volcanic rocks.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 411.0000 Grams per tonne
Gold 36.0000 Grams per tonne
Copper 0.2900 Per cent

COMMENTS: Best intersection in pyritic argillite, over 1.4 metres, in diamond-drill hole 83-8.

REFERENCE: Assessment Report 12113.

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1986
SAMPLE TYPE:	Drill Core		
COMMODITY		GRADE	
Silver		21.9400	Grams per tonne
Gold		4.4900	Grams per tonne
Copper		2.1000	Per cent

COMMENTS: Best intersection in veined and altered volcanics, over 2 metres, in diamond-drill hole SF 86-5.
 REFERENCE: Assessment Report 14983.

CAPSULE GEOLOGY

The CM occurrence is a showing of copper-gold-silver mineralization in part of the historical Aspen Grove copper camp, between Merritt and Princeton, where exploration dates back to the turn of the twentieth century. It is centred on a diamond-drill hole which intersected significant mineralization in 1983; this hole was later discovered to be only 40 metres away from the 1967 diamond-drill hole which discovered the mineralized zone when it was part of the CM claims (Assessment Reports 12113, 14983, 17523; George Cross News Letter 1967). The occurrence is located 2.3 kilometres east of Highway 5A, about 6 kilometres north of the community of Aspen Grove.

The occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The CM occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). These rocks mainly consist of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillites and limestone. Locally the strata strike north or northwest and dip gently to steeply west. The volcanics are intruded by bodies of comagmatic diorite to monzonite of Late Triassic to Early Jurassic age. The area is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. East-striking faults are subordinate, and commonly offset intrusive contacts.

The area of the CM occurrence has been called the Snowflake Gold zone or area (Area 4 in Assessment Report 13714). This is a thinly bedded volcanic-sedimentary sequence consisting of a composite unit of dark grey to black, carbonaceous, pyritic calcareous argillite or impure limestone, greywacke, chert and siltstone, which is overlain and underlain, possibly structurally, by andesitic to basaltic augite porphyry flows, tuffs and breccias (Assessment Reports 12113, 13714). The volcanics are weakly to moderately propylitized, marked by epidote, calcite, quartz and pyrite (Assessment Report 12113). The sequence is cut by a number of faults and shear zones. The Snowflake Gold zone is marked by a strong induced polarization conductor (Assessment Report 14983).

Outcrop in the Snowflake Gold zone is virtually absent, so detailed information is based on drill core (Assessment Reports 12113, 14983, 17523, 18019). A zone of silicification and pyritic and argillic alteration, tens of metres wide, straddles the contacts between the volcanic and sedimentary rocks, particularly the lower contact. In this alteration zone are fracture-controlled quartz and quartz-calcite veins, 1 to 6 centimetres thick, which host pyrite, chalcopyrite, and malachite; gold and silver, mainly as electrum, are associated with these sulphides (Assessment Reports 12113, 13714, 14983). Galena, sphalerite, bornite, molybdenite and argentite are less commonly associated (Assessment Reports 12113, 17523). The rocks also contain pyrite and pyrrhotite as fine disseminations and locally as massive lenses up to 0.3 metre across (Assessment Report 13714).

Overall, rock analyses indicate that higher gold values occur in the thinly bedded, cherty and argillaceous sediments, although there are also high values locally in the volcanics away from the altered contact zone. Gold and silver values in drill core are generally low, although the better intersections, such as in hole 83-8, are in the 1 to 10 grams per tonne range for each metal (Assessment Report 12113). The highest assay from this hole was 36 grams per tonne gold and 411 grams per tonne silver, from a 1.4 metre interval of pyritic argillite that also yielded 0.29 per cent copper (Assessment Report 12113). In 1986 drilling, a zone of veined and altered volcanics

CAPSULE GEOLOGY

analysed 4.49 grams per tonne gold, 21.94 grams per tonne silver, and 2.1 per cent copper over 2 metres (Assessment Report 14983). A hole drilled in 1967 assayed 5.1 grams per tonne gold, 16.5 grams per tonne silver and 0.20 per cent copper (Assessment Report 13714, page 4).

More recent diamond drilling done in the late 1980s further defined the zone and controls of mineralization, although the high-grade values are generally erratic (Assessment Reports 17523, 18019).

This prospect was first discovered by Vananda Explorations Ltd. and Merritt Copper Company Ltd. in 1967, when three diamond-drill holes totalling 438 metres and one percussion hole, 248 metres deep, were drilled to test a geophysical anomaly. The deposit was rediscovered by Laramide Resources Ltd. in 1983, with the drilling of 12 holes totalling 996 metres. An additional 6 holes totalling 577 metres were drilled by Lornex Mining Corporation in 1986. Gerle Gold Ltd. also conducted 1543 metres of diamond drilling in 18 holes in 1987 and 1988. Total drilling between 1983 and 1988 amounts to 3801 metres in 41 holes.

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Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove
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DATE CODED: 1992/03/14
DATE REVISED: 1992/03/21

CODED BY: CJR
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE175**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLAK, OX, HH,**
MIX

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 54 24 N
LONGITUDE: 120 37 01 W
ELEVATION: 1128 Metres

NORTHING: 5530976
EASTING: 671109

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 010, 1.5 kilometres southwest of the south end of Miner Lake and 1.7 kilometres south-southeast of the south end of Kidd Lake (Assessment Report 14106, Figure 4).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 240 x 150 Metres
COMMENTS: Area of mineralization.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Volcanic Breccia
Andesite
Basalt

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY: Copper
GRADE: 0.3178 Per cent

YEAR: 1985

REFERENCE: Assessment Report 14106, Figure 4 (sample 010).

CAPSULE GEOLOGY

The Blak showing is 1.5 kilometres southwest of the south end of Miner Lake and 1.7 kilometres south-southeast of the south end of Kidd Lake

Malachite and minor chalcocite occur over a 240 by 150 metres area in red volcanic breccia and red to green andesite and basalt of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The volcanics are occasionally carbonate altered in the area of mineralization. Two rock samples analysed 0.318 and 0.112 per cent copper and 1.1 and 0.4 grams per tonne silver respectively (Assessment Report 14106, Figure 4, samples 010, 2566).

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EMPR ASS RPT 1850, 2851, 3686, 4474, 10505, *14106
EMPR BULL 69
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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 336
REPORT: RGEN0100

BIBLIOGRAPHY

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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE176**

NATIONAL MINERAL INVENTORY:

NAME(S): **RATS, MAC, ELK,
 JURA COPPER**

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H09W
 BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 33 41 N
 LONGITUDE: 120 27 28 W
 ELEVATION: 1164 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5492971
 EASTING: 683836

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the Elk 4 claim, 420 metres east of Christian Creek, 2.6 kilometres west-northwest of the creek's confluence with Hayes Creek, and 12.5 kilometres north-northeast of Princeton (Property File - G.E.A. von Rosen, 1971, map of previous diamond drilling).

COMMODITIES: Copper Zinc Silver Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite
 ASSOCIATED: Magnetite
 ALTERATION: Epidote Orthoclase Clay Carbonate Limonite
 Malachite

ALTERATION TYPE: Epidote Potassic Argillic Carbonate Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Stockwork Shear
 CLASSIFICATION: Porphyry Hydrothermal Epigenetic
 TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic redbed Cu
 DIMENSION: 500 x 150 Metres STRIKE/DIP:
 COMMENTS: Mineralization is contained in two parallel zones forming a larger single zone 150 metres wide, trending west-northwest for 500 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Mesozoic-Cenozoic			

LITHOLOGY: Basalt
 Diorite
 Monzonite
 Plagioclase Porphyritic Basalt
 Plagioclase Pyroxene Olivine Basalt

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional RELATIONSHIP:
 COMMENTS: This occurrence is in the Nicola belt, near its eastern margin. GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1971
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	3.4000 Grams per tonne
Copper	0.1700 Per cent

COMMENTS: Average grade over 51.8 metres.
 REFERENCE: Property File - G.E.A. von Rosen, 1971, page 8.

CAPSULE GEOLOGY

The Rats copper prospect is about 400 metres east of Christian Creek, 12.5 kilometres north-northeast of Princeton. This area, west of Hayes Creek, north and east of Christian Creek, is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. These rocks are intruded to the north and east by the Middle Jurassic Osprey Lake batholith. The deposit lies about 900

CAPSULE GEOLOGY

metres southwest of the batholith.

Copper mineralization is hosted in folded, sheared and altered basalts of the Nicola Group, adjacent to the southwest margin of a zoned stock comprised of diorite and monzonite. Plagioclase porphyritic basalts are the most common type of flow. Plagioclase pyroxene and olivine pyroxene basalts are also noted. Flow banding indicates some isoclinal folding has taken place, with fold axes plunging north. Shearing is widespread, and appears to occur in four distinct directions. Many of the shears are 1 to 10 metres wide and contain abundant gouge, iron oxide and carbonates, including malachite. The basalts are generally well altered, and are replaced by epidote, pink orthoclase, clay, carbonate and limonite. Epidote and orthoclase are commonly fracture controlled and associated with magnetite and sulphides. The degree of alteration varies, and in some places is related to shearing.

Mineralization exposed in numerous trenches consists primarily of malachite, chalcopyrite, pyrite and magnetite, with minor bornite and chalcocite (?). The sulphides are confined largely to a 150-metre wide zone trending west-northwest for 500 metres. This zone is comprised of two parallel subsidiary zones. The southern zone is 450 metres long and 50 metres wide. It contains the strongest copper mineralization, occurring as disseminations, stringers and stockworks. Locally, chalcopyrite and malachite form up to 10 per cent of the rock by volume. The northern zone is 500 metres long and 100 metres wide, and generally contains less than 1 per cent chalcopyrite and malachite, mostly as disseminations. The mineralization broadly parallels the folding of the basalts, and therefore may predate it. A chip sample taken across the portal of the adit assayed trace gold, trace silver, 0.67 per cent copper and 0.017 per cent molybdenite over a width of 1.5 metres (Property File - G.E.A. von Rosen, 1971, page 8). A chip sample from a trench southeast of the adit assayed 3.4 grams per tonne silver and 0.17 per cent copper over 51.8 metres (G.E.A. von Rosen, 1971, page 8). A sample of a shear zone analysed 36.8 grams per tonne silver, 3.0 per cent copper and 9.7 per cent zinc (Assessment Report 19165, page 10, sample 89-JCR-6).

This prospect was initially explored by a single adit excavated some time prior to 1969. Amax Exploration completed geological, geophysical and soil geochemical surveys over the deposit between 1969 and 1971. Cop-Ex Mining Corporation conducted 430 metres of diamond drilling in 3 holes and 2400 metres of percussion drilling in 28 holes in 1973, after initially drilling 4 shallow holes in 1971.

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Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/26

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE177**

NATIONAL MINERAL INVENTORY:

NAME(S): **AR**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 34 N
LONGITUDE: 120 35 36 W
ELEVATION: 1063 Metres

NORTHING: 5529487
EASTING: 672853

LOCATION ACCURACY: Within 500M

COMMENTS: Trenched chalcopyrite-bornite showing, 2.6 kilometres northwest of the north end of Bluey Lake and 2.0 kilometres west-northwest of the south end of Kentucky Lake (Assessment Report 6761, Sheet 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This showing is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

The AR showing is 2.6 kilometres northwest of the north end of Bluey Lake and 2.0 kilometres west-northwest of the south end of Kentucky Lake.

Two closely-spaced trenches expose chalcopyrite and bornite in green volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/06/29

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE178**

NATIONAL MINERAL INVENTORY:

NAME(S): **V.M. 4, SIWASH SILVER**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 46 30 N
LONGITUDE: 120 20 17 W
ELEVATION: 1359 Metres

NORTHING: 5517015
EASTING: 691651

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole SS-28-81, 200 metres northeast of Saskat Creek and 2.05 kilometres northwest of the confluence of Siwash and Tepee creeks (Assessment Report 9936, Figure 3).

COMMODITIES: Zinc Copper Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite Galena
ASSOCIATED: Hematite
ALTERATION: Siderite Chlorite K-Feldspar
ALTERATION TYPE: Carbonate Chloritic Potassic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary			Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

Middle Jurassic

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

Osprey Lake Batholith

LITHOLOGY: Quartz Porphyritic Monzonite
Quartz Feldspar Porphyry
Granite
Granodiorite

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95. Tertiary date from Assessment Report 9308.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey lake batholith, near its western margin.

CAPSULE GEOLOGY

This occurrence is 200 metres northeast of Saskat Creek and 2.05 kilometres northwest of the confluence of Siwash and Tepee creeks.

The V.M. 4 showing is hosted in a stock of quartz porphyritic monzonite ("quartz-eye porphyry"), quartz feldspar porphyry and granite of the early Tertiary Otter intrusions, within granite and granodiorite of the Middle Jurassic Osprey Lake batholith.

A drillhole intersected alternating sections of quartz porphyritic monzonite and quartz feldspar porphyry exhibiting siderite and chlorite alteration and rare potassium feldspar flooding. Minor phyllic alteration is also evident.

The intrusives are mineralized with disseminated pyrite and specular hematite, and minor veins and blebs of sphalerite, chalcopyrite and rare galena. The pyrite and hematite suggest this mineralization has formed on the fringe of a porphyry hydrothermal system (Assessment Report 9936).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 341
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CIM Special Volume 15, Map B (Occurrence 313) (1976)

DATE CODED: 1992/07/20
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE179**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOY MINING PLACER**, P.L. 1896

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 18 N
LONGITUDE: 120 30 48 W
ELEVATION: 710 Metres

NORTHING: 5488421
EASTING: 679965

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site No. 4 on Placer Lease 1896 along Highway 5, 0.64 kilometre south of the northern limit of the lease, 1.4 kilometres south of Summers Creek and 6.5 kilometres north of Princeton (Property File - A.G. Pentland, 1971, page 4, sketch of placer leases).

COMMODITIES: Gold Platinum

MINERALS

SIGNIFICANT: Gold Platinum
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Quaternary

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Joy Mining Placer occurrence is situated on Highway 5, 1.4 kilometres south of Summers Creek and 6.5 kilometres north of Princeton.

The showing consists of a deposit of poorly sorted gravel containing rounded boulders from pebble size to 0.3 metre or more in diameter in a matrix of rusty-coloured sand. The sand contains a high percentage of heavy minerals. Panning of the sand revealed visible gold and platinum (A.G. Pentland, 1971, page 4).

The showing was evaluated by Joy Mining Ltd. in 1971.

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EMPR PF (*Pentland, A.G. (1971): Placer Leases - Joy Mining Ltd., Princeton, British Columbia)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

DATE CODED: 1992/08/13
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE180**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHRIMPTON CREEK PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H16W 092H15E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 35 N
LONGITUDE: 120 29 13 W
ELEVATION: 1170 Metres

NORTHING: 5526063
EASTING: 680617

LOCATION ACCURACY: Within 500M

COMMENTS: Area of workings on Shrimpton Creek, 6.4 to 8 kilometres above Missezula Lake (Geological Survey of Canada Memoir 243, page 64).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Quaternary

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel
Glacial Till

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Shrimpton Creek flows southwest from its headwaters immediately south of The Wart for 10 kilometres. The creek continues southwest for 6 kilometres before entering Missezula Lake, 38.5 kilometres north of Princeton. Most of the creek flows through a broad, gently sloping valley, which steepens somewhat in the lower 4 kilometres.

Particles of flat, well-worn, flaky gold, 1.5 to 3 millimetres in diameter, were recovered from unsorted glacial material. Most of the gold was found near surface. Material lying on or near bedrock was found to be barren of gold.

The creek was worked by F. Keeling in 1939, between 6.4 and 8 kilometres above Missezula Lake.

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GSC MAP 888A; 1386A; 41-1989
GSC MEM *243, pp. 57,64

DATE CODED: 1992/08/14
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE181**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASPEN GROVE AGATE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 56 47 N
LONGITUDE: 120 35 41 W
ELEVATION: 1158 Metres

NORTHING: 5535443
EASTING: 672562

LOCATION ACCURACY: Within 1 KM

COMMENTS: Agate outcrop along a logging road, 2.6 kilometres east-northeast of Aspen Grove and 1.7 kilometres south-southwest of the south end of Tule Lake (Bulletin of the Lapidary Rock and Mineral Society of B.C., August, 1958).

COMMODITIES: Agate Gemstones

MINERALS

SIGNIFICANT: Agate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Fine Grained Diorite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Aspen Grove Agate showing outcrops along a logging road, 2.6 kilometres east-northeast of Aspen Grove and 1.7 kilometres south-southwest of the south end of Tule Lake.

A deposit of massive agate occurs in fine-grained diorite (possibly recrystallized volcanic) in the Central belt of the Nicola Group (Bulletin 69).

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EMPR MAP 10 (1973); 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
*Bulletin of the Lapidary Rock and Mineral Society of B.C., Aug., 1958
*Western Homes & Living, Oct. 1961
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE182**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARMON LAKE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 18 N
LONGITUDE: 120 41 25 W
ELEVATION: 1146 Metres

NORTHING: 5539890
EASTING: 665563

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site No. 5, 1.9 kilometres north of the north end of Harmon Lake and 7.0 kilometres northwest of Aspen Grove (Minister of Mines Annual Report 1958, page 95, Figure 3).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Dolomite Silica
MINERALIZATION AGE: Upper Triassic
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
SHAPE: Tabular
DIMENSION: 400 x 120 Metres
COMMENTS: Dimensions given for largest limestone lens.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
DATING METHOD: Fossil			
MATERIAL DATED: Various fossils			

LITHOLOGY: Limestone
Volcanic
Tuff
Sandstone

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

INVENTORY

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Limestone
GRADE: 54.4000 Per cent

YEAR: 1958

COMMENTS: Taken across the lens. Grade given for CaO.
REFERENCE: Minister of Mines Annual Report 1958, page 96-Sample 5.

CAPSULE GEOLOGY

At the Harmon Lake occurrence, three lenses of limestone enclosed in volcanics of the Upper Triassic Nicola Group outcrop in the vicinity of Harmon Lake, just northwest of the road that passes west of the lake.

A lens of light creamy grey limestone, 150 metres long and 60 metres thick, forms a prominent bluff 600 metre north of the road. A second lens of light creamy grey limestone located 60 metres northwest of the first lens extends northeastward for 400 metres with thicknesses of up to 120 metres. Protruding lumps and grains of dolomite and silica give the limestone a rough weathered surface. A sample of randomly collected chips taken across the lens near its centre analysed 54.40 per cent CaO, 0.23 per cent MgO, 1.92 per cent insolubles, 0.26 per cent R2O3, 0.12 per cent Fe2O3, 0.023 per cent

CAPSULE GEOLOGY

MnO, 0.026 per cent P2O5, trace sulphur and 43.08 per cent ignition loss (Minister of Mines Annual Report 1958, page 96, sample 5).

A third lens of dark grey limestone in tuff and sandstone, outcrops over a length of 90 metres and a width of 40 metres, 800 metres northwest of the second lens. The limestone is cut by calcite stringers and contains some dolomite and silica.

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EMPR AR *1958-94-96
EMPR BULL 69
EMPR MAP 15 (1974)
EMPR OF 1992-18, p. 93 (Occurrence L140)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE183**

NATIONAL MINERAL INVENTORY:

NAME(S): **OTTER CREEK**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 38 43 N
LONGITUDE: 120 47 00 W
ELEVATION: 823 Metres

NORTHING: 5501552
EASTING: 660021

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Otter Creek valley, 500 metres north of Manning Creek and 11 kilometres north-northwest of Tulameen (Geological Survey of Canada Memoir 24, page 181, Map 46A).

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: B06 Fireclay E07 Sedimentary kaolin
DIMENSION: 5000 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Clay deposit covers the floor of the valley over a distance of 5 kilometres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Recent	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Clay
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Otter Creek showing occurs in the valley of Otter Creek, about 11 kilometres north-northwest of the town of Tulameen. A deposit of clay of Recent age covers the floor of the valley over a distance of 5 kilometres. The material consists of noncalcareous flood-plain silt of fair plasticity, with an air shrinkage of 5.6 per cent. Firing characteristics are as follows (Geological Survey of Canada Memoir 24, page 123):

Cone	Fire shrinkage (per cent)	Absorption (per cent)	Colour
010	nil	17.24	Red
03	5.8	4.5	Dark red

The clay fused at cone 1. Testing indicates it would be suitable for the manufacture of ordinary red bricks.

BIBLIOGRAPHY

EMPR BULL *30, p. 51
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM *24, p. 123; 26, p. 181; 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/04

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE184**

NATIONAL MINERAL INVENTORY: 092H10 Cr2

NAME(S): **OLIVINE MOUNTAIN**, H & H, J & L,
TINA CATHY

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:
LATITUDE: 49 31 09 N
LONGITUDE: 120 52 56 W
ELEVATION: 1637 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Sample site 11492, 600 metres northwest of the summit of Olivine Mountain and 9 kilometres west-southwest of Tulameen (Assessment Report 16125, Drawing No. 4).

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5487327
EASTING: 653278

COMMODITIES: Platinum Chromium

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Vein Massive
CLASSIFICATION: Magmatic Syngenetic Industrial Min.
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>
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Dunite
Olivine Pyroxenite
Peridotite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY GRADE
Chromium 1.0700 Per cent
Platinum 1.9800 Grams per tonne
COMMENTS: Across 7.9 metres.
REFERENCE: Assessment Report 16691, Appendix 4 (sample 31+35-31+61E).

CAPSULE GEOLOGY

This platinum-chromite showing occurs on the northwest slope of Olivine Mountain, 9 kilometres west-southwest of Tulameen.

The showing is hosted in the dunite-rich core of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The dunite outcrops over an elongate area extending up the northwest slope of Olivine Mountain to its summit.

Chromite frequently occurs as clusters of disseminated coarse crystals, particularly in areas of intense serpentinization. The mineral also forms small blebs, minute veinlets, massive pods and lenses up to 100 by 6 centimetres in size within the dunite. These are scattered randomly throughout the dunite, not occurring in any significant concentrations.

In a few instances, chromite mineralization is found to contain elevated platinum values. A grab sample of brown olivine pyroxenite with chromite assayed 3.186 grams per tonne platinum (Assessment Report 16125, Appendix 1, sample 11492). A chip sample, taken 150 metres to the south, assayed 1.98 grams per tonne platinum and 1.07 per cent chromium over 7.9 metres (Assessment Report 16691, Appendix 1, page 4, sample 31+35-31+61E). Two other samples (9442, 57981), of uncertain location, assayed 5.49 and 1.1 grams per tonne platinum

CAPSULE GEOLOGY

respectively, and 21.96 and greater than 1 per cent chromium respectively (Assessment Report 16323, Appendix 4). Sample 57981 is of serpentized dunite with magnetite and chromite. Higher platinum values also occur in strongly serpentized, mildly asbestos-veined peridotite and dunite (Assessment Report 16691).

The summit and north slope of Olivine Mountain were extensively sampled by Tarnation Mining, North American Platinum Corporation, D.K. Platinum Corporation and Dia Met Minerals Ltd. between 1983 and 1987.

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EMPR EXPL 1988-B71-B81
EMPR OF 1986-7, pp. 6-11; 1988-25; 1990-27, pp. 33,34; 1995-25
EMPR P 1992-6
EMPR PF (Croteau, F.L. (1969): Preliminary Geological Report on Certain Mining Claims, Tulameen Area, B.C., in North American Platinum Corporation (1971): Prospectus, Vancouver Stock Exchange; Mason, J.D. (1968): Report on the Olivine Mountain Property of North American Platinum Corporation Ltd., in North American Platinum Corporation (1968): Prospectus, Vancouver Stock Exchange)
EMR MP COMMOD FILE (MR-CR-301.00)
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GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM *26, pp. 153-155,168-170; 243, pp. 33,34,60
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1923, pp. 84A-101A
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
GCNL #73(April 16),#107(June 4), 1985; #167, 1986; #111(June 10), 1987
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages.

DATE CODED: 1992/03/05
DATE REVISED: 1992/03/06

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE185**

NATIONAL MINERAL INVENTORY:

NAME(S): **HP**, OSP, OSPREY-HP

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 09 N
LONGITUDE: 120 08 07 W
ELEVATION: 1341 Metres

NORTHING: 5509494
EASTING: 706556

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole PDH-HP80-1 on the HP 3 claim, 2.5 kilometres east of Empress Creek and 5.3 kilometres north of Shinish Creek (Assessment Report 8581, Plate OSP-80-2).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite
ALTERATION: Kaolinite Sericite Chlorite
ALTERATION TYPE: Argillic Sericitic Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Monzonite
Alaskite
Granodiorite
Aplite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Drill Core

COMMODITY	GRADE
Molybdenum	0.0910 Per cent

COMMENTS: Sample of percussion-drill hole cuttings over 3.1 metres.

REFERENCE: Assessment Report 8581, page 3 (hole 80-1, 79.2 to 82.3 metres).

CAPSULE GEOLOGY

The HP occurrence is 2.5 kilometres east of Empress Creek and about 5 kilometres north of Shinish Creek.

The region between Trout and Shinish creeks is underlain primarily by porphyritic biotite granodiorite of the Middle Jurassic Osprey Lake batholith, characterized by large pink orthoclase phenocrysts. The granodiorite is intruded by several younger phases of the batholith, consisting of medium grained leucocratic quartz monzonite and fine-grained alaskite/aplite.

The intrusion exhibits weak to moderate hydrothermal alteration, consisting of kaolinization and minor sericitization of feldspar and partial chloritization of biotite.

Molybdenite occurs as fracture coatings, predominantly in the quartz monzonite and alaskite. Rare disseminated molybdenite is also present. Traces of chalcopyrite are associated with the molybdenite. Samples of percussion-drill hole cuttings have assayed up to 0.091 per cent molybdenum over 3.1 metres (Assessment Report 8581, page 3, hole 80-1).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 351
REPORT: RGEN0100

CAPSULE GEOLOGY

Cominco Ltd. drilled eight percussion holes totalling 784 metres in 1980 and 1981, after completing soil geochemical surveys in 1979 and 1980.

BIBLIOGRAPHY

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EMPR EXPL 1979-148; 1980-200; 1981-73
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE186**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN LODGE**, RAD, DWI,
PETRA

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 38 N
LONGITUDE: 120 03 55 W
ELEVATION: 1399 Metres

NORTHING: 5512437
EASTING: 711495

LOCATION ACCURACY: Within 500M

COMMENTS: Main showing, 1.4 kilometres north of Trout Creek and 3.5 kilometres west of Camp Creek (Assessment Report 17791, Figure 8).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Pyrolusite Magnetite Hematite Quartz
ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Massive Podiform
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 150 Metres STRIKE/DIP: 070/
COMMENTS: Mineralization is contained in two prominent steeply dipping shear zones striking 070 and 110 degrees, within a system of shears striking west for 150 metres. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Monzonite
Granodiorite

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the northern margin of the Osprey Lake batholith.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 9.3000 Grams per tonne
Gold 12.8000 Grams per tonne

COMMENTS: Sample of magnetite-rich mineralization across 1.50 metres.
REFERENCE: Assessment Report 7988, page 6 (sample 5666).

CAPSULE GEOLOGY

This showing is 1.4 kilometres north of Trout Creek and 3.5 kilometres west of Camp Creek.

The Golden Lode occurrence is hosted in coarse-grained porphyritic quartz monzonite/granodiorite of the Middle Jurassic Osprey Lake Batholith, near the contact with the Early Jurassic Pennask batholith to the north.

The intrusion is cut by a west trending system of shears, 150 metres long. Mineralization is contained in two prominent shears striking 070 and 110 degrees and dipping 65 degrees north and near vertically, respectively. The shears are 1.1 to 9.0 metres wide. Some chloritization is associated with the shearing.

The shear zones contain lenses and pods, up to 2 metres thick, of banded massive to semimassive manganese (pyrolusite (?)),

CAPSULE GEOLOGY

magnetite and hematite, with lesser pyrite and chalcopyrite, oriented subparallel to small lenses and stringers of quartz within the shears. One chip sample assayed 20.7 grams per tonne gold over 0.40 metre and a second chip sample analysed 13 grams per tonne gold over 1.8 metres (Assessment Report 17791, page 1). A third sample containing abundant magnetite yielded 12.8 grams per tonne gold and 9.3 grams per tonne silver over 1.50 metres (Assessment Report 7988, page 6, sample 5666).

An adit and a number of trenches were excavated some time earlier this century. Grand Trunk Resources Inc. conducted additional trenching, in addition to sampling and mapping, in 1979. Montebre Resources Ltd. and H. Adams completed soil, magnetometer and geological surveys over the occurrence in 1987 and 1990.

BIBLIOGRAPHY

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EMPR EXPL 1980-200
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1992/07/29

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE187**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHICO**, ALLISON CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 37 13 N
LONGITUDE: 120 34 23 W
ELEVATION: 1067 Metres

NORTHING: 5499242
EASTING: 675290

LOCATION ACCURACY: Within 500M

COMMENTS: Malachite showing 550 metres northeast of Allison Creek, 950 metres east-southeast of the confluence of Allison and MacKenzie creeks (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Cretaceous

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Lahar
Tuff
Tuffaceous Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Chico showing is 550 metres northeast of Allison Creek, 950 metres east-southeast of the confluence of Allison and MacKenzie creeks.

Malachite occurs in a section of lahars, tuff and tuff breccia of the Middle and Upper Cretaceous Spences Bridge Group.

BIBLIOGRAPHY

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EMPR FIELDWORK 1975, pp. 55-58
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EMPR MAP *21 (1976)
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/16
DATE REVISED: 1992/05/24

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE188**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRASER GULCH**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 47 N
LONGITUDE: 120 44 42 W
ELEVATION: 1265 Metres

NORTHING: 5486936
EASTING: 663229

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site Z1, in the headwaters of Fraser Gulch, 3.5 kilometres west of Coalmont and 3.5 kilometres south-southeast of Tulameen (Open File 1987-19).

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Heulandite Clinoptilolite
ASSOCIATED: Biotite Quartz Feldspar
ALTERATION: Heulandite Clinoptilolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary Replacement Industrial Min.
TYPE: D01 Open-system zeolites
SHAPE: Tabular
DIMENSION: 100 x 3 Metres STRIKE/DIP: 106/54S TREND/PLUNGE:
COMMENTS: Waterlain tuff bed on the northeast limb of the syncline which preserves the Tulameen Basin.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
ISOTOPIC AGE: 49.0 +/- 1.7 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Amphibole			
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Vitric Crystal Tuff
Sandstone
Conglomerate
Shale
Coal
Meta Volcanic
Sediment/Sedimentary

HOSTROCK COMMENTS: Isotopic age date is for the Cedar dacite (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
Overlap Assemblage
RELATIONSHIP: Syn-mineralization GRADE: Zeolite

CAPSULE GEOLOGY

The Fraser Gulch zeolite showing outcrops in the headwaters of Fraser Gulch, 3.5 kilometres west of Coalmont and 3.5 kilometres south-southeast of Tulameen.

The deposit occurs near the northeastern margin of the Tulameen Basin. This structural basin is comprised of a northwest-trending syncline that preserves a sequence of sedimentary rocks with lesser intercalated volcanics of the Eocene Allenby Formation (Princeton Group), up to 840 metres thick. The sequence rests unconformably on a basement of Upper Triassic Nicola Group metamorphosed volcanics and sediments.

The prospect is hosted in a sequence of sandstone and shale, with minor coal, known informally as the Summers Creek sandstone (Open File 1987-19). The zeolitic horizon is contained entirely in a section of sandstone and granule conglomerate.

The deposit is comprised of a heulandite-clinoptilolite rich vitric crystal (biotite, quartz, feldspar) waterlain tuff that strikes 106 degrees and dips 54 degrees southwest. The bed is at least 3 metres thick and can be followed along strike for 100 metres.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
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CAPSULE GEOLOGY

Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on one sample are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
C86-391N	4.5	35.0	29.3	0.7	84.8

BIBLIOGRAPHY

EMPR FIELDWORK 1986, pp. 247-254
EMPR OF *1987-19
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1987/05/06
DATE REVISED: 1992/03/04

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HNE189**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRASSHOPPER MOUNTAIN OLIVINE**, TULAMEEN OLIVINE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 31 35 N
LONGITUDE: 120 54 15 W
ELEVATION: 945 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5488085
EASTING: 651667

LOCATION ACCURACY: Within 500M

COMMENTS: Bulk sample site along the Tulameen River road, 125 metres west of the confluence of Britton (Eagle) Creek and the Tulameen River, 10.5 kilometres west-southwest of the town of Tulameen (Open File 1991-9, Figure 4).

COMMODITIES: Olivine

MINERALS

SIGNIFICANT: Olivine
ALTERATION: Serpentinite Carbonate Talc
COMMENTS: Alteration of fresh dunite is less than two per cent.
ALTERATION TYPE: Serpentin/zn Talc Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Syngenetic Industrial Min.
TYPE: M04 Magmatic Fe-Ti±V oxide deposits
SHAPE: Irregular
DIMENSION: 100 x 75 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Three zones of fresh dunite are each between 50 and 100 metres long and 40 to 75 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Dunite
Serpentinite
Andesitic Meta Volcanic
Meta Sediment/Sedimentary

HOSTROCK COMMENTS: Alaskan-type zoned ultramafic intrusion.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
Plutonic Rocks
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Post-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Bulk Sample
COMMODITY: Olivine
GRADE: 99.0800 Per cent
YEAR: 1987

COMMENTS: From dunite zone with less than two per cent alteration.
REFERENCE: Geological Fieldwork 1987, page 303.

CAPSULE GEOLOGY

The Early Jurassic Tulameen Ultramafic Complex is an elongate northwest-trending body, 17 kilometres long and 2.5 to 6.5 kilometres wide. The hostrocks to the intrusion are andesitic metavolcanics and metasediments of the Upper Triassic Nicola Group, locally metamorphosed from greenschist to amphibolite grade. To the north and northwest, granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex truncates the northern margin.

The dunite core of the complex occupies the slopes of Olivine and Grasshopper mountains and the intervening valley of the Tulameen River. The core is roughly oval in shape and covers an area of about six square kilometres. Mapping by Findlay (1963), outlined areas with 20 to 80 per cent serpentinization. The degree of serpentinization decreases, in general, from east to west.

CAPSULE GEOLOGY

Essentially unaltered olivine is required for industrial purposes.

Detailed mapping and sampling of the least altered zone of the core (less than 20 per cent serpentized) was done in 1986 by G.V. White of the Geological Survey Branch. One hundred and ten 0.5-kilogram grab samples and three 100-kilogram bulk samples were taken. Seventy-four of the grab samples were tested for loss on ignition, 19 of which were below two per cent. The 19 samples outlined three significant areas of "fresh" dunite on the lower slopes of Grasshopper Mountain that showed initial potential for raw olivine. All the samples taken from Olivine Mountain had loss on ignition values in excess of 2 per cent. The three zones are described by White (Fieldwork, 1987) as follows:

"Three zones with loss-on-ignition less than 2 per cent have been identified north of the Tulameen River on the southwest slopes of Grasshopper Mountain. The northern zone, approximately 100 metres long by 75 metres wide, is open to the east. A second, central zone is approximately 50 metres long by 40 metres wide and open to the west. The third, irregular zone, cut by the Tulameen River road, is approximately 100 metres long by 65 metres (maximum) wide."

Sampling was not carried out on the southeastern slopes of Grasshopper Mountain or the northeastern slopes of Olivine Mountain due to the difficulty of access. These areas are within the less than 20 per cent serpentized zone as outlined by Findlay (1963) and therefore have the potential for fresh olivine. The bulk samples taken from the zone along the road were shipped to CANMET laboratories in Ottawa for further testing. The results are described below.

In 1986, a 20-kilogram sample was tested to determine if it would be suitable for foundry sand applications. The testing considered several properties including crushing and screening characteristics, mouldability, clay and water requirements, wet and dry compressibility and permeability. The Grasshopper Mountain olivine sand performed well, or adequately, in all categories in the initial testing. Due to the favourable performance, a second, larger bulk sample was shipped to CANMET for full scale testing as foundry sand.

In 1987, a 454-kilogram bulk sample taken along the Tulameen River road, 113 metres west of the mouth of Britton Creek, was shipped to CANMET for detailed foundry sand testing. The examination included optimum crushing method and grain characteristics. Also examined was the greensand preparation including clay and water requirements, compactability, density, mold hardness and mouldability. Further, the casting performance was assessed for burn-on, scabbing, surface finish and mold penetration. The performance of the sand with repeated use was tested by five sequential castings and the sand was examined for moisture content, clay demand, grain sizing and attrition as well as acid resistance and loss on ignition.

The olivine test sand from Grasshopper Mountain performed well against an industry standard sand, IMC Olivine 50, from the United States. Most results were equivalent and little variation occurred between tests. This indicates that the olivine from Grasshopper Mountain could perform well against sands already available on the market.

Subsequent work was conducted by Dia Met Minerals Ltd., along and above the Tulameen River road, about 400 metres southwest of the mouth of Britton Creek. Here, the dunite is variably serpentized, with both fibrous and asbestiform varieties of serpentine replacing 10 to 90 per cent olivine along grain boundaries and internally. Talc replaces 2 to 5 per cent of the olivine, and minor carbonate alteration is also noted. Loss on ignition for most of the olivine ranged from 2.0 to 4.0 per cent. Beneficiation tests on 23 dunite samples from drill core indicated no sample with greater than 3.5 per cent ignition loss could be reduced to less than 2 per cent ignition loss by grinding and gravity separation (Assessment Report 19480).

The company drilled two holes in 1988, and conducted mapping and surface sampling over a 300 by 200 metre area in 1989.

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- EMPR P 1992-6
- EMR CAN MET Report PMRL 87-20, 87-24
- GSC MAP 46A; 888A; 1386A; 41-1989
- GSC MEM 26, pp. 49-58; 243, pp. 33,34

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 359
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358
CANMET RPT PMRL 87-24
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,
Yale District, British Columbia, unpublished Ph. D. thesis, Queen's
University, 415 pages.

DATE CODED: 1990/04/17
DATE REVISED: 1991/08/20

CODED BY: KDH
REVISED BY: KDH

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HNE190**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALLISON LAKE**, BURNS LAKE, B.C. MARL

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H10E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 40 56 N

NORTHING: 5506054

LONGITUDE: 120 36 17 W

EASTING: 672783

ELEVATION: 853 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Marl bed at the south end of Allison Lake (J.W. McCammon, 1950, personal communication).

COMMODITIES: Marl

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated Massive
CLASSIFICATION: Sedimentary Industrial Min.

TYPE: B07 Bog Fe, Mn, U, Cu, Au

DIMENSION: 180 x 70 x 3 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Flat-lying marl bed.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Recent

Unnamed/Unknown Group

Unnamed/Unknown Formation

LITHOLOGY: Marl

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: MARL BED

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1950

QUANTITY: 16300 Tonnes

COMMODITY

GRADE

Marl

100.0000 Per cent

COMMENTS: Reserves for a 8391 square metres area, with an average thickness of 1.5 metres.

REFERENCE: Industrial Mineral File - J.W. McCammon, 1950.

CAPSULE GEOLOGY

A marl deposit occurs in Allison Lake (Burns Lake), 25 kilometres north-northwest of Princeton.

The Allison Lake deposit underlies a 180 by 70 metre area, at the south end of the lake, with thicknesses of up to 3 metres. Indicated ore reserves are 16,300 tonnes of marl, contained in an 8391 square metre area, with an average thickness of 1.5 metres (Industrial Mineral File - J.W. McCammon, 1950).

A sample of the marl analysed 51.4 per cent CaO, 1.0 per cent MgO, 3.3 per cent insolubles, 1.0 per cent R2O3 and 0.3 per cent Fe2O3 (J.W. McCammon, 1950).

Marl was excavated along the southern shores of Allison Lake by B.C. Marl Company Ltd. for agricultural markets in the Fraser Valley between 1945 and 1948. No production figures are available.

BIBLIOGRAPHY

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EMPR BULL 69

EMPR FIELDWORK 1974, pp. 9-13

EMPR MAP 17 (1975)

GSC MAP 888A; 1386A; 41-1989

GSC MEM 243

GSC OF 2167, pp. 93-98

GSC P 85-1A, pp. 349-358

PERS COMM *McCammon, J.W. (1950): Map and Assay of Allison

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 361
REPORT: RGEN0100

BIBLIOGRAPHY

Lake Marl)

DATE CODED: 1990/04/28
DATE REVISED: 1990/04/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE191**

NATIONAL MINERAL INVENTORY:

NAME(S): **DILL**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 04 N
LONGITUDE: 120 24 59 W
ELEVATION: 1554 Metres

NORTHING: 5514162
EASTING: 686104

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz vein in trench D89-7, 650 metres east of the south end of Dillard Lake and 6.2 kilometres east-southeast of the south end of Missezula Lake (Assessment Report 19593, Plate 4).

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Silica
ALTERATION TYPE: Argillic Propylitic Silicific'n Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu L03 Alkalic porphyry Cu-Au
DIMENSION: 500 x 200 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Erratic gold mineralization occurs in two zones, 490 metres apart. The northern zone is 500 metres long and up to 200 metres wide, while the southern zone is 200 metres long.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Triassic-Jurassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Andesite
Granodiorite
Diorite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This showing is in the Nicola belt, near its eastern margin. GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1989
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Gold	0.8500 Grams per tonne
Copper	0.3600 Per cent

COMMENTS: Panel sample of vein taken over 0.8 by 0.4 by 0.3 metre.
REFERENCE: Assessment Report 19593, page 16 (trench 6).

CAPSULE GEOLOGY

The Dill showing is 0.5 to 1.5 kilometres east of Dillard Lake and 6 to 7 kilometres east-southeast of the south end of Missezula Lake.

The area east of Dillard Lake is largely underlain by andesitic to basaltic flows and pyroclastics of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). These volcanics are intruded by small bodies and dikes of diorite and syenite that may be comagmatic with the volcanics.

Erratic gold and copper mineralization occurs in two zones. In the northernmost zone, gold is associated with pyrite and chalcopyrite in quartz veins and masses. The veins occur primarily in moderately to strongly fractured andesite with argillic,

CAPSULE GEOLOGY

propylitic (chlorite and epidote) and minor silicic alteration. Small masses of granodiorite and diorite with weak, but widespread potassic alteration, are also veined with quartz. The veins generally dip steeply, strike west and vary from less than a centimetre to 70 centimetres wide. Sporadic gold-bearing veins are exposed in an area trending northwest for 500 metres and varying up to 200 metres wide. A 1.5-metre chip sample taken across altered andesite cut by a 1 centimetre thick, steeply dipping quartz vein striking 040 degrees, assayed 156.5 grams per tonne gold and 0.23 per cent copper (Assessment Report 19593, page 17, trench 7, sample 28). A grab sample from this vein assayed 215 grams per tonne gold (sample 9DC-05R). A panel sample of a 35 to 70 centimetres wide, west-striking quartz vein, 230 metres north-northeast of the previous vein, assayed 0.850 gram per tonne gold and 0.36 per cent copper over 0.8 by 0.4 by 0.3 metre (page 16, trench 6).

Weaker gold values occur 490 metres southeast, in an area trending west for 200 metres. A 1.5-metre chip sample of moderately fractured, propylitic-altered andesite assayed 1.773 grams per tonne gold and 0.182 per cent copper (Assessment Report 19593, page 15, trench 1). A grab sample taken 200 metres west-northwest assayed 0.76 gram per tonne gold and 2.0 grams per tonne silver (Assessment Report 18410, page 12, sample D-R17).

This showing was discovered by Fairfield Minerals Ltd. during a program of prospecting and soil sampling in 1987 and 1988. Placer Dome Inc. completed an induced polarization survey and excavated 12 trenches totalling 1900 metres in 1989.

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
GCNL #75, 1990

DATE CODED: 1990/05/09
DATE REVISED: 1992/06/16

CODED BY: LDJ
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE192**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAR CREEK PLACER**, LAWLESS CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H10W

BC MAP:

LATITUDE: 49 37 10 N

LONGITUDE: 120 53 31 W

ELEVATION: 1180 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the surface trace of Lawless Creek, 12.5 kilometres northwest of the town of Tulameen (NTS map sheet 092H/10 (Edition 2)).

UTM ZONE: 10 (NAD 83)

NORTHING: 5498454

EASTING: 652262

COMMODITIES: Gold Platinum

MINERALS

SIGNIFICANT: Gold Platinum
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Lawless (Bear) Creek is a south-flowing tributary of the Tulameen River, some 22 kilometres long, situated west and northwest of the town of Tulameen.

The lower 9 kilometres of the creek flows through a narrow deep valley, which gradually widens upstream to form a broader, more open valley. The narrow section contains shallow gravels confined to the creek bed.

At the Bear Creek occurrence some gold and minor platinum have been recovered from gravels near the mouth of the creek (Geological Survey of Canada Memoir 243, page 63). One gold nugget found in 1886 weighed 585 grams (Minister of Mines Annual Report 1886, page 214).

The gravels were mined intermittently between 1886 and 1899. Estimated production for 1886 is 1800 grams. Pine Valley Explorers Ltd. conducted some development work on its placer leases in 1982.

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EMPR AR 1886-214; 1887-277; 1898-1111; 1899-740
EMPR ASS RPT 16505
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GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM *26, pp. 135,136,137,140; 243, p. 63
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1909, p. 111
CIM Trans. Vol. 13, pp. 309-324 (1910)
GCNL #17(Jan. 26), 1983

DATE CODED: 1992/02/28
DATE REVISED: 1992/04/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE193**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOULDER CREEK PLACER**, LOCKIE CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H10W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 34 50 N

NORTHING: 5494361

LONGITUDE: 120 46 54 W

EASTING: 660354

ELEVATION: 884 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centred on the lowermost 2.4 kilometres of Lockie (Boulder) Creek (section most extensively mined), 4 kilometres north-northwest of the town of Tulameen (Geological Survey of Canada Memoir 26, page 136).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Recent

Unnamed/Unknown Group

Unnamed/Unknown Formation

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Lockie (Boulder) Creek initially flows southward along the west flank of Boulder Mountain for 2.3 kilometres, and then continues eastward for 4 kilometres, entering Otter Lake 4.5 kilometres north of the town of Tulameen.

The creek first flows for 3.5 kilometres through a narrow valley, then enters a canyon, 2.3 kilometres long, before flowing over an alluvial fan on Otter Lake, 0.5 kilometre wide.

At the Boulder Creek Placer occurrence, gold was recovered from gravels in the lower 2.4 kilometres of the creek, and also in a few places above the canyon. One nugget found in 1887, likely the largest gold nugget from the Tulameen district, weighed 1400 grams (Minister of Mines Annual Report 1898, page 1111). Unlike most other streams in the district, no platinum was recovered from the creek's gravels (Geological Survey of Canada Memoir 26, page 136).

The creek was worked intermittently between 1886 and 1909. Estimated production for 1886 to 1900 is 32,000 grams of gold.

BIBLIOGRAPHY

EMPR AR 1887-278; 1888-317; 1889-293; 1890-380; 1891-576; 1892-545; 1898-1111; 1899-743; 1908-133; 1922-168

EMPR BULL 1930-2, p. 55; 1931-1, p. 93; 28, pp. 54,55

GSC MAP 46A; 888A; 1386A; 41-1989

GSC MEM *26, p. 136; 243, p. 63

GSC P 85-1A, pp. 349-358

GSC SUM RPT 1909, pp. 111,112

CIM Trans. Vol. 13, p. 313 (1910)

DATE CODED: 1992/02/28
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE194**

NATIONAL MINERAL INVENTORY:

NAME(S): **CEDAR CREEK PLACER**, MANION CREEK, SALMON AND BARKER LEASES

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H10W

BC MAP:

LATITUDE: 49 31 18 N

LONGITUDE: 120 47 16 W

ELEVATION: 1076 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the surface trace of Manion (Cedar) Creek, 4.0 kilometres south of the Tulameen River and 3 kilometres southwest of the town of Tulameen (NTS map sheet 092H/10 (Edition 2)).

UTM ZONE: 10 (NAD 83)

NORTHING: 5487801

EASTING: 660105

COMMODITIES: Gold

Platinum

MINERALS

SIGNIFICANT: Gold Platinum

MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Manion (Cedar) Creek plunges steeply northward from its headwaters on Hamilton Hill for 4.2 kilometres, entering the Tulameen River 2 kilometres west of the town of Tulameen.

At the Cedar Creek Placer occurrence, gold and platinum-bearing gravels were mined along this creek intermittently between 1886 and 1933. Some coarse gold and platinum, in nuggets weighing 3 to 6 grams, were recovered, in addition to finer dust, by ground sluicing in 1933 (Minister of Mines Annual Report 1933, page 174). Estimated production for 1886 is 1800 grams.

BIBLIOGRAPHY

EM FIELDWORK 2001, pp. 303-312
EM GEOFILE 2000-2; 2000-5
EMPR AR 1886-214; 1887-277; 1933-174
EMPR BULL 21, p. 22; 28, pp. 54,55
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26, pp. 134,140; 243, p. 63
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1909, p. 111
CIM Trans. Vol. 13, pp. 309-324 (1910)

DATE CODED: 1992/02/28
DATE REVISED: 1992/04/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE195**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLLINS GULCH PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 57 N
LONGITUDE: 120 44 26 W
ELEVATION: 853 Metres

NORTHING: 5489107
EASTING: 663486

LOCATION ACCURACY: Within 500M

COMMENTS: Centred on the lower 0.8 kilometre of Collins Gulch (section mined),
2 kilometres southeast of the town of Tulameen (Geological Survey of
Canada Memoir 26, pages 133, 134).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Recent Unnamed/Unknown Group

FORMATION
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Collins Gulch descends rapidly northward on the south side of the Tulameen valley for 3.5 kilometres, and enters the Tulameen River 2 kilometres southeast of the town of Tulameen.

Some coarse gold was recovered from gravels over a section extending up to 0.8 kilometre above the creek's mouth. This part of the creek lies in the floor of the Tulameen valley, below the canyon cut by the creek into the valley side. It has therefore been suggested that the gold-bearing gravels may have originated from the Tulameen River (Geological Survey of Canada Memoir 26, page 134).

The gravels were mined between 1886 and 1890. Estimated production for this period is 6600 grams of gold. These placer deposits are reported to have been largely exhausted by 1889 (Minister of Mines Annual Report 1889, page 293).

BIBLIOGRAPHY

EMPR AR 1885-494; 1886-214; 1887-277; 1888-317; 1889-293; 1908-132
EMPR BULL 28, pp. 54,55
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM *26, pp. 133,134,140; 243, p. 63
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1909, p. 111

DATE CODED: 1991/02/28
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE196**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE CREEK PLACER**, BRITTON CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H10W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 33 38 N

NORTHING: 5491796

LONGITUDE: 120 56 53 W

EASTING: 648388

ELEVATION: 1200 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the southeastward-flowing section of Britton (Eagle) Creek,
13.5 kilometres west-northwest of the town of Tulameen (NTS map sheet
092H/10 (Edition 2)).

COMMODITIES: Gold

Platinum

MINERALS

SIGNIFICANT: Gold Platinum

MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Recent

Unnamed/Unknown Group

Unnamed/Unknown Formation

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Britton (Eagle) Creek flows southeast for 11.5 kilometres before entering the Tulameen River, 10.5 kilometres west-southwest of the town of Tulameen.

The lower part of the creek descends rapidly into the Tulameen River through a narrow V-shaped canyon, 4 kilometres long. The upper part of the creek, and its various tributaries, flow through broader, flaring valleys. The stream contains gravel deposits of limited extent, especially in the lower sections. Above the canyon, the gravels are deeper and more widespread.

Coarse gold and platinum were recovered near the mouth of the creek (Geological Survey of Canada Memoir 26, page 135). These deposits were prospected and mined as early as 1885.

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DATE CODED: 1992/02/28
DATE REVISED: 1992/04/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE197**

NATIONAL MINERAL INVENTORY:

NAME(S): **HINES CREEK PLACER**, HINE CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H10W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 32 13 N

NORTHING: 5489339

LONGITUDE: 120 51 53 W

EASTING: 654488

ELEVATION: 939 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Lower part of Hines Creek, 300 metres southeast of the Tulameen River and 7.5 kilometres west-southwest of the town of Tulameen (NTS map sheet 092H/10 (Edition 2)).

COMMODITIES: Platinum Gold

MINERALS

SIGNIFICANT: Platinum Gold
MINERALIZATION AGE: Recent

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>
Recent	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Hines Creek plunges rapidly northward from its headwaters on Olivine Mountain for 2.3 kilometres, entering the Tulameen River 7.5 kilometres west of the town of Tulameen.

Platinum and gold were recovered from gravels a short distance above the Tulameen River. The quantity of gravel in this creek is quite limited though. The deposits were worked as early as 1885.

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GSC P 85-1A, pp. 349-358

DATE CODED: 1992/02/28
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE198**

NATIONAL MINERAL INVENTORY:

NAME(S): **SLATE CREEK PLACER**, OLIVINE CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

Open Pit Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 04 N
LONGITUDE: 120 49 21 W
ELEVATION: 942 Metres

NORTHING: 5489148
EASTING: 657551

LOCATION ACCURACY: Within 500M

COMMENTS: Placer mine on Olivine (Slate) Creek, 900 metres south of the
Tulameen River, 4.5 kilometres west-southwest of the town of Tulameen
(Minister of Mines Annual Report 1925, page 213).

COMMODITIES: Gold Platinum

MINERALS

SIGNIFICANT: Gold Platinum
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Olivine (Slate) Creek flows northeastward from the west flank of Lodestone Mountain for 11 kilometres, before entering the Tulameen River 4.5 kilometres west of the town of Tulameen.

The stream initially passes through a deep but flat-floored valley, 6 kilometres long, before encountering a short canyon, and then a series of waterfalls, just above its mouth. The more extensive gravel deposits are found in the broader parts of the valley above the falls. In one section, the gravels are 1.8 to 2.4 metres deep and thicken downstream.

A large amount of coarse gold and platinum were recovered from the creek's gravels, mostly from the valley above the canyon. One gold nugget found in 1886 weighed 393 grams (Minister of Mines Annual Report 1886, page 198).

The gravels were mined between 1886 and 1900. Estimated production for this period is 37,800 grams of gold. The creek was extensively explored underground for an old channel above and below the falls, and at its mouth, between 1925 and 1931. One tunnel excavated above the falls was 670 metres long. A shaft sunk from this tunnel is reported to have intersected gold and platinum-bearing gravels containing boulders of pyroxenite, peridotite and dunite (Minister of Mines Annual Report 1928, page 271).

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GSC MAP 46A; 888A; 1386A; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 371
REPORT: RGEN0100

BIBLIOGRAPHY

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CIM Trans. Vol. 13, pp. 309-324 (1910)

DATE CODED: 1992/02/28
DATE REVISED: 1992/11/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE199**

NATIONAL MINERAL INVENTORY:

NAME(S): **TULAMEEN RIVER PLACER**, SOOTHERAN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

Open Pit Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 01 N
LONGITUDE: 120 53 21 W
ELEVATION: 870 Metres

NORTHING: 5488918
EASTING: 652730

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of proven reserves on the Sootheran placer lease on the northwest bank of the Tulameen River, 1.2 kilometres northeast of the mouth of Britton (Eagle) Creek and 9.5 kilometres west-southwest of the town of Tulameen (Property File - N.C. Stines, 1929, map of old workings).

COMMODITIES: Gold Platinum Copper

MINERALS

SIGNIFICANT: Gold Platinum Copper Tetrahedrite
ASSOCIATED: Quartz Magnetite Chromite Olivine

MINERALIZATION AGE: Recent

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>
Recent	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Gravel
Black Sand

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SOOTHERAN LEASE REPORT ON: Y

CATEGORY: Measured YEAR: 1929
QUANTITY: 218000 Tonnes
COMMODITY GRADE
Gold 3.4400 Grams per tonne

COMMENTS: Quantity is given in cubic metres. Commodity is given as gold equivalent for combined gold and platinum.

REFERENCE: Property File - N.C. Stines, 1929, page 7.

CAPSULE GEOLOGY

The Tulameen River flows northward from the Cascade Mountains for 30 kilometres to Grasshopper Mountain, where it changes course and continues eastward for 10 kilometres to the town of Tulameen. The river then flows southeast for 25 kilometres before entering the Similkameen River at Princeton.

The upper part of the river runs through a wide valley extending from its headwaters in Paradise valley southward to Champion Creek. The river continues through a narrow rock-walled canyon between Grasshopper and Olivine mountains to the mouth of Olivine (Slate) Creek. The gravels in this canyon are generally not more than a metre thick and occur in the creek bed and in benches on the sides of the valley, either in or above the level of the canyon. Below Olivine Creek, a broad valley floor with deep gravel deposits opens up and continues past the towns of Tulameen and Coalmont to a point 2 kilometres below Granite Creek. The river then cuts through a canyon to a point 5 kilometres west of Princeton. Here, the river enters a broad valley that eventually merges with that of the Similkameen River at Princeton.

Gold and platinum deposits have been found over the lower 40 kilometres of the river. Most recorded production and exploration has occurred along two stretches. The upper stretch begins about 2 kilometres west of Tulameen and continues up the river for 12

CAPSULE GEOLOGY

kilometres to the mouth of Champion Creek. The lower stretch begins at Coalmont, just above the mouth of Granite Creek, and continues southeast for 19 kilometres to Princeton. See Tulameen River (092HSE235) for a detailed review of the lower section.

Metals found along the Tulameen River tend to occur in old sinuous channels buried deep below glacial gravels, which yield only spotty values. Gold occurs in rough, angular or slightly flattened, rarely well-flattened nuggets. Some of the nuggets contain abundant white quartz. One nugget found near the mouth of Lawless (Bear) Creek weighed 250 grams (Minister of Mines Annual Report 1932, page 140). Platinum forms small rounded grains of uniform size. They are smaller than the gold nuggets and are commonly pitted. Such nuggets produced at a hydraulic mine just below Britton (Eagle) Creek weighed 7.8 to 15.6 grams (Geological Survey of Canada Memoir 26, page 132). Larger platinum nuggets often have a coating or included crystals of cumulate chromite, sometimes with intergrown magnetite and inclusions of olivine (CIM Bulletin, June, 1976). Platinum is also found to occur in pebbles of olivine and chromite (Minister of Mines Annual Report 1924, page 176). The gravels worked along the upper river also yielded black sands comprised of magnetite and chromite, with significant gold and platinum values (Minister of Mines Annual Report 1923, page 187). The ratio of gold to platinum recovered in this part of the river is generally about 1 to 1, but is observed to decrease upstream to the mouth of Britton Creek, where it is 1 to 2 (Geological Survey of Canada Memoir 26, pages 132, 144; 243, page 59). Small quantities of native copper and gold-bearing pellets of tetrahedrite also occur in these placer deposits.

Some of the richest placers mined in the Tulameen district occur along the upper Tulameen River, in the canyon between Champion and Olivine creeks, both in the river bed and in adjacent gravel benches. Here, one deposit located 1 kilometre below Eagle Creek and 13 kilometres upstream from Tulameen (Sotheran lease), contains measured geological reserves of 218,000 cubic metres grading 3.44 grams of gold equivalent per cubic metre for combined gold and platinum (Property File - N.C. Stines, 1929, page 7). A shaft sunk on a bench 11 kilometres above Tulameen, also in the canyon, intersected coarse gold and platinum grading 4.8 grams of gold equivalent per cubic metre for combined gold and platinum (Minister of Mines Annual Report 1925, page 214). Precious metal grades continue to decline downstream from the canyon. Just below the canyon, 4 kilometres upstream from Tulameen, a hole drilled to a depth of 4.9 metres yielded 1.0 gram of gold equivalent per cubic metre for combined gold and platinum (Minister of Mines Annual Report 1947, pages 198, 199). Farther below the canyon, across from the mouth of Otter Creek at Tulameen, river gravels are estimated to yield 0.45 gram of gold per cubic metre, with traces of platinum (Assessment Report 6508, page 16).

Production of placer gold was first reported in 1877, and may have commenced as early as 1860. By 1887, most of the shallower gravel deposits mined along the Tulameen River are reported to be exhausted (Minister of Mines Annual Report 1887, page 278). A few operators along the upper section persisted through the early 1900s. One operation on the Schubert lease, 10 kilometres above Tulameen, recovered 620 grams of gold and also some platinum from 1500 cubic metres of gravel (Minister of Mines Annual Report 1916, page 261). High platinum prices during the 1920s prompted a revival of placer mining along both the upper and lower sections of the river. Several deposits saw significant production during this time on the upper part of the river. The Sotheran lease, 1 kilometre below Britton (Eagle) Creek, was operated intermittently between 1925 and 1947, producing 3920 grams of platinum and 530 grams gold between 1926 and 1928 (N.C. Stines, 1929, page 26). Big Bend Platinum Gold Mining Company Ltd. produced 280 grams of gold and 930 grams of platinum from the J. Marks lease, 10 kilometres upstream from Tulameen (Minister of Mines Annual Report 1928, page 271). Sporadic exploration and production occurred during the 1950s, 1960s and 1970s, mostly below the canyon, between Olivine Creek and the town of Tulameen. Crude gold production for the entire river between 1885 and 1945 is estimated at 297,000 grams.

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(1990)

DATE CODED: 1992/02/28
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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 375
REPORT: RGEN0100

MINFILE NUMBER: **092HNE200**

NATIONAL MINERAL INVENTORY:

NAME(S): **FIVE MILE CREEK PLACER**, HAYES CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H09W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 34 53 N

NORTHING: 5495341

LONGITUDE: 120 23 54 W

EASTING: 688058

ELEVATION: 808 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an alluvium-covered section of Hayes Creek, 16 kilometres northeast of Princeton (Geological Survey of Canada Map 41-1989).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Hayes (Five-mile) Creek is a south-flowing tributary of the Similkameen River, some 33 kilometre long, situated northeast of Princeton.

Fine gold was found near surface in gravels over a 16 kilometre stretch along Hayes Creek in 1887. The deposits were mined with limited success in the following year.

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GSC P 85-1A, pp. 349-358

DATE CODED: 1992/02/28

DATE REVISED: 1992/11/25

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FIELD CHECK: N

FIELD CHECK: N

MINFILE NUMBER: **092HNE200**

MINFILE NUMBER: **092HNE201**

NATIONAL MINERAL INVENTORY: 092H10 Cu4

NAME(S): **ASP 14, MARY JENSEN, JENSON'S**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 12 N
LONGITUDE: 120 51 16 W
ELEVATION: 1372 Metres

NORTHING: 5485624
EASTING: 655338

LOCATION ACCURACY: Within 500M

COMMENTS: Area of copper mineralization in the northeast corner of the Asp 14 claim, 300 metres northwest of Olivine (Slate) Creek and 8 kilometres southwest of Tulameen (Assessment Report 2526, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 100 Metres
COMMENTS: Mineralized zone.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Olivine Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Copper

YEAR: 1919

GRADE: 2.0000 Per cent

COMMENTS: Typical grab sample.

REFERENCE: Minister of Mines Annual Report 1919, page 172.

CAPSULE GEOLOGY

The Asp 14 copper showing lies on the northwest bank of Olivine (Slate) Creek and 8 kilometres southwest of Tulameen.

Bornite and chalcopyrite occur as very fine disseminations in olivine gabbro within the eastern margin of the Early Jurassic Tulameen Ultramafic Complex. This mineralization appears to be associated with faults and forms lenticular and discontinuous zones with gradational margins. One prominent zone is exposed over a length of 100 metres. Malachite and azurite staining has been traced over a distance of at least 900 metres (Minister of Mines Annual Report 1918, page 214). Representative grab samples taken across opencuts excavated in 1919 assayed up to 2 per cent copper, and selected grab samples assayed up to 4 per cent copper (Minister of Mines Annual Report 1919, page 172).

The showing was initially trenched and stripped by its discoverer, A. Jensen, during 1917 and 1918. Further trenching and soil sampling were conducted by Sicintine Mines Ltd. in 1969 and 1970.

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 377
REPORT: RGEN0100

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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 378
REPORT: RGEN0100

MINFILE NUMBER: **092HNE202**

NATIONAL MINERAL INVENTORY: 092H10 Cu8

NAME(S): **COPPER QUEEN**, QUARTZ

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 40 N
LONGITUDE: 120 53 24 W
ELEVATION: 1524 Metres

NORTHING: 5486416
EASTING: 652740

LOCATION ACCURACY: Within 1 KM

COMMENTS: Showing on the Copper Queen claims on the northwest slope of Olivine Mountain, 10 kilometres west-southwest of Tulameen (Minister of Mines Annual Report 1918, page 214).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Unknown
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Tulameen Ultramafic Complex

LITHOLOGY: Pyroxenite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1918

COMMODITY GRADE
Copper 1.0000 Per cent

COMMENTS: Samples from opencut on Copper Queen No. 1 claim.
REFERENCE: Minister of Mines Annual Report 1918, page 214.

CAPSULE GEOLOGY

The Copper Queen copper showing outcrops on the northwest slope of Olivine Mountain, 10 kilometres west-southwest of Tulameen.

Pyrite and chalcopyrite occur in pyroxenite of the Early Jurassic Tulameen Ultramafic Complex. The minerals are disseminated through the pyroxenite in small, distinct zones. Typical trench samples assayed 1 per cent copper with a trace of gold and nil platinum or chromite, while selected samples assayed up to 3 per cent copper (Minister of Mines Annual Report 1918, page 214).

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DATE CODED: 1992/03/05
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CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE202**

MINFILE NUMBER: **092HNE203**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKI, SNOWFLAKE 7, QUIL,
GROVE, JUNE, SKI 91,92**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 58 10 N
LONGITUDE: 120 33 41 W
ELEVATION: 914 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5538084
EASTING: 674870

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of trenching on the east bank of Quilchena Creek,
2.5 kilometres north-northwest of the north end of Pothole Lake and 6
kilometres northeast of the community of Aspen Grove (Preliminary Map
15, Sheet 4).

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite
COMMENTS: Minor molybdenite, restricted to one showing.

ASSOCIATED: Quartz Hematite Magnetite

COMMENTS: Quartz-filled fractures.

ALTERATION: Clay Chlorite Sericite Epidote Limonite

Malachite Orthoclase Azurite

ALTERATION TYPE: Argillic Chloritic Sericitic Oxidation Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Porphyry Hydrothermal Epigenetic Skarn

TYPE: L03 Alkalic porphyry Cu-Au

SHAPE: Irregular

MODIFIER: Fractured Sheared

DIMENSION: 370 Metres

COMMENTS: Area of copper mineralization.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Altered Latite
Andesite Porphyry
Andesitic Tuff
Andesite
Diorite
Monzonite

HOSTROCK COMMENTS: Hosted in volcanics and comagmatic intrusions in the Central belt
of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

RELATIONSHIP: Pre-mineralization

GRADE:

COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

CAPSULE GEOLOGY

The Ski prospect is exposed along the east bank of Quilchena Creek, 2.4 to 2.7 kilometres north-northwest of Pothole Lake and 6 kilometres northeast of the community of Aspen Grove.

The occurrence is located in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The Ski occurrence is one of many in the Aspen Grove area. It lies in the Central belt or facies of the Nicola Group (after Preto, Bulletin 69). This belt of rocks mainly consists of subaerial and submarine, red or purple to green augite plagioclase porphyritic andesitic and basaltic flows, volcanic breccia and tuff, and minor argillites and limestone. The volcanics are intruded by bodies of

CAPSULE GEOLOGY

comagmatic diorite to monzonite of Late Triassic to Early Jurassic age. The area is characterized by long-lived, primarily north-striking faults and related fracturing, which originally controlled intrusion emplacement. East-striking faults are subordinate, and commonly offset intrusive contacts.

Mineralization is hosted in hydrothermally altered latite/andesite porphyry and adjacent weakly skarn altered, thinly bedded andesitic tuffs. The porphyry exhibits argillic, chlorite and sericitic alteration. The tuffs contain epidote, chlorite and minor orthoclase. All units are intensely faulted and fractured. The porphyry is traversed by closely-spaced fractures in several dominant sets, producing a sheeted appearance in outcrop. Narrow quartz veins occupy many of the fractures, which are likely related to the north-striking Kentucky-Alleyne fault, nearby to the west.

Mineralization consists of chalcopyrite, pyrite and minor molybdenite, primarily in quartz veins and along fractures. Minor disseminated chalcopyrite occurs through the latite. Limonite, malachite and azurite accompany the sulphides in intensely weathered surface exposures. Hematite and magnetite are also reported. Trenching has exposed this copper mineralization over a north-south distance of at least 370 metres. Three rock samples from the trenches analysed 0.4 to 2.5 grams per tonne silver and 0.015 to 0.140 gram per tonne gold (Assessment Report 13714, Drawing No. 2, samples 923, 924 and 925).

This prospect was first explored by Chataway Exploration Co. Ltd. The company conducted geological mapping, soil sampling geophysical surveying, trenching and 302 metres of diamond drilling in two holes in 1966 and 1968. An additional three holes totalling 90 metres were drilled by Ballinderry Explorations Ltd. in 1973. The occurrence was prospected and magnetically surveyed by Newconex Canadian Exploration Ltd. in 1974. Laramide Resources Ltd. sampled and mapped the deposit in 1985.

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DATE CODED: 1992/03/18
DATE REVISED: 1992/03/20

CODED BY: CJR
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE204**

NATIONAL MINERAL INVENTORY:

NAME(S): **POT 1**, POTHOLE COPPER ZONE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 16 N
LONGITUDE: 120 31 59 W
ELEVATION: 1082 Metres

NORTHING: 5536483
EASTING: 676956

LOCATION ACCURACY: Within 500M

COMMENTS: Located on sample 928 in Area 3, 1.1 kilometres northeast of Pothole Lake, 7 kilometres east-northeast of the community of Aspen Grove (Assessment Report 13714, Drawing 1).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Epidote Hematite Malachite Azurite
ALTERATION TYPE: Epidote Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
COMMENTS: Copper minerals occur in narrow, southwest-striking zones.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Augite Plagioclase Porphyritic Andesite
Augite Plagioclase Porphyritic Basalt
Augite Plagioclase Porphyritic Trachyandesite
Augite Plagioclase Porphyritic Trachybasalt
Volcanic Siltstone
Volcanic Wacke
Volcanic Tuff
Granodiorite Dike
Quartz Monzonite Dike

HOSTROCK COMMENTS: Hosted in the northern assemblage of the Eastern belt of the Nicola Group (after Preto, Bulletin 69).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: Alkalic and calcalkalic rocks of Quesnellia are of island arc origin.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 1.9000 Grams per tonne
Gold 2.5500 Grams per tonne
COMMENTS: Geochemical analysis; a composite chip sample across the showing, over 130 metres.
REFERENCE: Assessment Report 13714.

ORE ZONE: ROCK REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 4.8000 Grams per tonne
Gold 0.9500 Grams per tonne
COMMENTS: Geochemical analysis of rock sample.
REFERENCE: Assessment Report 13714.

CAPSULE GEOLOGY

The Pot 1 occurrence is a showing of gold-silver-copper mineralization, just east of the historical Aspen Grove copper camp, between Merritt and Princeton. The occurrence is located 1.1 kilometres northeast of Pothole Lake, between Quilchena and Pothole creeks, 7 kilometres east-northeast of the community of Aspen Grove.

The Pot 1 occurrence is hosted in the Upper Triassic Nicola Group, which regionally consists of alkalic and calcalkalic volcanics and intrusions of island arc origin, and which is the principal component of the Quesnel Terrane in southern British Columbia (Geological Survey of Canada Maps 41-1989, 1713A). This belt has been of major economic interest because of its potential for porphyry copper-gold mineralization.

The occurrence lies in the northern assemblage of the Eastern belt or facies of the Nicola Group (after Preto, Bulletin 69). This assemblage mainly consists of alkalic volcanic flows and well bedded submarine volcanoclastic rocks, ranging from tuffaceous volcanic siltstones characteristic of the lower part, to coarse volcanic conglomerate and laharic breccias in the upper part. The assemblage is characterized by a paucity of intrusive rocks in comparison to the main Aspen Grove copper camp in the Central belt a few kilometres to the west, separated by the Kentucky-Alleyne fault system (Bulletin 69).

The area of the Pot 1 occurrence is underlain by purple to grey-green augite plagioclase porphyritic andesite to basalt (or trachyandesite and trachybasalt) (Bulletin 69; Preliminary Map 15). Minor volcanic siltstone, wacke and tuff may be present (Assessment Report 13714). These rocks are intruded by northwest-striking dikes of granodiorite to quartz monzonite. The volcanic rocks at the showing are highly fractured and altered with epidote, quartz-carbonate veins, and minor hematite (Assessment Report 13714).

Mineralization comprises erratically disseminated chalcopyrite, malachite, azurite and pyrite (Preliminary Map 15; Assessment Report 13714). The copper minerals occur in narrow zones striking southwest, transverse to the regional strike but parallel to a fault 1 kilometre to the northwest (Bulletin 69).

Individual rock samples from the showing were analysed at up to 0.95 gram per tonne gold and 4.8 grams per tonne silver (Assessment Report 13714). A composite chip sample across the showing was analysed at 2.55 grams per tonne gold and 1.9 grams per tonne silver over 130 metres (Assessment Report 13714, Drawing No. 2, sample W301). Gold and silver values appear to be proportional to the degree of alteration and copper mineralization (Assessment Report 13714).

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DATE CODED: 1992/03/25
DATE REVISED: 1992/12/21

CODED BY: CJR
REVISED BY: CJR

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE205**

NATIONAL MINERAL INVENTORY:

NAME(S): **H & H**, OLIVINE MOUNTAIN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 49 N
LONGITUDE: 120 51 43 W
ELEVATION: 1097 Metres

NORTHING: 5488603
EASTING: 654710

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing 5 metres east of Hines Creek, 1.1 kilometres southeast of the creek's confluence with the Tulameen River and 7.5 kilometres west-southwest of the town of Tulameen (Assessment Report 17280, Figure 3).

COMMODITIES: Copper Silver Palladium Platinum Gold

MINERALS

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Syngenetic Pegmatite
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION:
COMMENTS: Pegmatite zone. STRIKE/DIP: 010/70E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 17.1000 Grams per tonne
Copper 3.6028 Per cent
Palladium 0.7300 Grams per tonne
COMMENTS: Sample of pyroxenite with 10 per cent interstitial pyrite and malachite.
REFERENCE: Assessment Report 17280, page 9 (sample W461).

CAPSULE GEOLOGY

The H & H copper showing occurs on Hines Creek, 1.1 kilometres southeast of the creek's confluence with the Tulameen River and 7.5 kilometres west-southwest of Tulameen.

The occurrence is hosted in hornblende clinopyroxenite of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The showing lies immediately west of the contact with metamorphosed volcanics and sediments of the Upper Triassic Nicola Group.

Medium to coarse-grained, black hornblende clinopyroxenite, comprised of augite and hornblende with minor biotite and magnetite, outcrops over a 5 by 4 metre area 5 metres east of the creek. The clinopyroxenite is cut by a pegmatite zone 0.9 metre wide containing hornblende crystals up to 5 centimetres and minor interstitial feldspar. The zone strikes 010 degrees and dips 70 degrees east.

Stronger mineralization is present in the pegmatite, which contains up to 20 per cent patchy disseminated pyrite and up to 2 per cent disseminated chalcopyrite. The surrounding clinopyroxenite

CAPSULE GEOLOGY

contains up to 20 per cent disseminated pyrite and trace chalcopyrite, in bands to 3 centimetres wide. A grab sample of pyroxenite, with 10 per cent interstitial pyrite and malachite staining, analysed 3.603 per cent copper, 0.066 gram per tonne gold, 17.1 grams per tonne silver, 0.247 grams per tonne platinum and 0.730 grams per tonne palladium (Assessment Report 17280, page 9, sample W461).

A quartz vein, up to 10 centimetres wide, outcrops 50 metres to the south. A grab sample of the vein assayed 0.810 gram per tonne gold and 0.025 grams per tonne platinum (Assessment Report 17280, page 9, sample W637).

The copper showing was discovered in 1987 by North American Platinum Corporation while exploring for platinum in the Tulameen Ultramafic Complex.

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EMPR PF (Gravel, J. (1987): 1986 Exploration Report, H & H Claim Group, Olivine Mountain, Tulameen Area, in North American Platinum Ltd. (1987): Prospectus, Vancouver Stock Exchange)
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GSC MEM 26, pp. 156-159; 243, pp. 33,34
GSC P 85-1A, pp. 349-358
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Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages.

DATE CODED: 1992/03/06
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE206**

NATIONAL MINERAL INVENTORY:

NAME(S): **WEST SIDE**, CROSS CREEK, TRIANGLE FRACTION,
LIQUIDATOR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 31 59 N
LONGITUDE: 120 53 14 W
ELEVATION: 930 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5488861
EASTING: 652873

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site W402 on the West Side claim, 80 metres southeast of the
Tulameen River and 9 kilometres west-southwest of the town of
Tulameen (Assessment Report 17280, Figure 3).

COMMODITIES: Copper Silver Gold Platinum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 300 x 1 Metres
COMMENTS: Mineralized shear zone trends north-northeast.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1929
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 0.5000 Per cent

COMMENTS: Chip sample across 6 metres of mineralization.
REFERENCE: Minister of Mines Annual Report 1929, page 279.

CAPSULE GEOLOGY

The West Side copper showing lies 80 metres southeast of the
Tulameen River and 9 kilometres west-southwest of Tulameen.

The occurrence is hosted in hornblende clinopyroxenite of the
Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type
intrusive complex. The showing is 500 metres north of the dunite
core of the complex.

The clinopyroxenite is mineralized with chalcopyrite and cut by
quartz veinlets. Pyrite and magnetite are also reported. A grab
sample of clinopyroxenite, with 1 per cent disseminated chalcopyrite
and quartz veinlets up to 3 millimetres in diameter, analysed 0.149
grams per tonne gold, 0.168 grams per tonne platinum and 11.1 grams
per tonne silver (Assessment Report 17280, page 9, sample W402). A
second sample yielded 1.349 per cent copper (Assessment Report 17280,
page 9). A chip sample taken across 6 metres of mineralized rock
assayed nil gold, nil silver and 0.5 per cent copper (Minister of
Mines Annual Report 1929, page 279).

Across the Tulameen River, three hundred metres southwest, a
shear zone in gabbro has been traced north-northeast from the north
bank of the river for 300 metres. The zone contains a quartz vein
stockwork mineralized with pyrite and chalcopyrite. A chip sample
across 1 metre analysed 0.182 per cent copper and 3.2 grams per tonne
silver (Assessment Report 12190, page 8, sample 87703). A second

CAPSULE GEOLOGY

sample from a nearby quartz vein with abundant pyrite yielded greater than 0.40 per cent copper (Assessment Report 7944, page 4). A sample of sorted ore assayed 10 grams per tonne gold, 34 grams per tonne silver and 0.6 per cent copper (Minister of Mines Annual Report 1932, page 139).

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GSC EC GEOL No. 13, pp. 89-94 (1934)
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26, pp. 156-159; 243, pp. 33,34
GSC P 85-1A, pp. 349-358
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DATE CODED: 1992/03/06
DATE REVISED: 1992/03/27

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE207**

NATIONAL MINERAL INVENTORY: 092H10 Cr1

NAME(S): **RIDGE ZONE**, D, GRASSHOPPER

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 59 N
LONGITUDE: 120 54 09 W
ELEVATION: 1222 Metres

NORTHING: 5488830
EASTING: 651767

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches on the northern edge of the D2 claim, 650 metres due north of the confluence of Britton (Eagle) Creek and the Tulameen River, 10.5 kilometres west-southwest of the town of Tulameen (Assessment Report 17170, Figure 3).

COMMODITIES: Chromium Platinum

MINERALS

SIGNIFICANT: Chromite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Massive
CLASSIFICATION: Magmatic Syngenetic Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 300 x 100 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Chromite zone trends northwest for 300 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Dunite
Peridotite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY: Platinum GRADE: 1.4450 Grams per tonne
REFERENCE: Assessment Report 17170, page 10.

CAPSULE GEOLOGY

The Ridge Zone platinum-chromite showing outcrops along a northwest-trending ridge on the southern slopes of Grasshopper Mountain, 10.5 kilometres west-southwest of the town of Tulameen. The ridge is underlain by dunite and peridotite of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The dunite contains relatively abundant chromite in a zone trending northwest for 300 metres and varying up to 100 metres in width. Chromite comprises up to 20 per cent of the dunite in this zone (Assessment Report 17170). The mineral forms irregular lenses up to 20 centimetres long and 10 centimetres wide, fracture fillings up to 2 centimetres wide and primary layers of magmatic origin up to 15 centimetres thick. Elevated platinum values are found in the southern half of this zone of chromite mineralization, with assays of up to 1.445 grams per tonne platinum (Assessment Report 17170, page 10). Analyses of eight samples taken in the southern half averaged 0.418 gram per tonne platinum (Assessment Reports 15516, 17170). Seven samples from the northern half assayed up to 20 percent chromium, yet yielded less than 0.050 gram per tonne platinum (Assessment Report 15516, page 28, Map 2). This occurrence was sampled and mapped by Newmont Exploration of Canada Ltd. in 1986 and Tiffany Resources Incorporated in 1987.

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EMPR P 1992-6
EMR MP COMM FILE (MR-CR-301.00)
EMR MP Metal Controller File 167-C 1-2-45
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GCNL Mar. 23, 1987
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DATE CODED: 1992/03/08
DATE REVISED: 1992/03/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE208**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE GOLD**, Z, MOUNT BRITTON

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 12 N
LONGITUDE: 120 55 41 W
ELEVATION: 1314 Metres

NORTHING: 5487327
EASTING: 649958

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site W707, 100 metres southwest of the peak of Mount Britton, 900 metres northwest of the Tulameen River and 12.5 kilometres west-southwest of the town of Tulameen (Assessment Report 17325, Figure 3).

COMMODITIES: Zinc Lead Copper Silver Cadmium

MINERALS

SIGNIFICANT: Pyrite Galena
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Meta Volcanic
Meta Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY

GRADE

Silver	49.1000	Grams per tonne
Cadmium	0.1107	Per cent
Copper	2.2550	Per cent
Lead	2.9474	Per cent
Zinc	5.7420	Per cent

COMMENTS: Sample with coarse-grained pyrite and galena.

REFERENCE: Assessment Report 17325, page 6.

CAPSULE GEOLOGY

This showing is located 100 metres southwest of the peak of Mount Britton, 900 metres northwest of the Tulameen River and 12.5 kilometres west-southwest of the town of Tulameen.

The Blue Gold occurrence is hosted in a northwest trending band of metavolcanics and metasediments of the Upper Triassic Nicola Group situated between the Early Jurassic Tulameen Ultramafic Complex to the east and the Late Jurassic to Early Cretaceous Eagle Plutonic Complex to the west.

Rubble from an old pit is mineralized with coarse-grained pyrite and galena. A grab sample analysed 0.085 gram per tonne gold, 49.1 grams per tonne silver, 2.255 per cent copper, 2.9474 per cent lead, 5.742 per cent zinc and 0.1107 per cent cadmium (Assessment Report 17325, page 6).

BIBLIOGRAPHY

EMPR ASS RPT 2345, *17325, 27009
EMPR EXPL 1988-C105
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
GSC MAP 46A; 888A; 1386A; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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BIBLIOGRAPHY

GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/08
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE209**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHITE GOLD**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 05 N
LONGITUDE: 120 55 59 W
ELEVATION: 1036 Metres

NORTHING: 5485248
EASTING: 649653

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site W284, 400 metres east-southeast of the confluence of McGee Creek and the Tulameen River, 13.5 kilometres west-southwest of the town of Tulameen (Assessment Report 17324, Figure 3).

COMMODITIES: Zinc Silver

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Jurassic-Cretaceous

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Eagle Plutonic Complex

LITHOLOGY: Granodiorite
Schist
Marble

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

27.3000

Grams per tonne

Zinc

0.4525

Per cent

COMMENTS: Sample of quartz-pyrite vein.

REFERENCE: Assessment Report 17324, page 5.

CAPSULE GEOLOGY

The White Gold showing is exposed along a roadcut on the south side of the Tulameen River, across from the mouth of McGee Creek and 13.5 kilometres west-southwest of the town of Tulameen.

Quartz-pyrite veins, up to 4 centimetres wide, occupy near-vertical shears in granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The showing lies about 500 metres southwest of the contact with schists and marbles of the Upper Triassic Nicola Group. A sample from one of the veins analysed 0.021 gram per tonne gold, 27.3 grams per tonne silver and 0.4525 per cent zinc (Assessment Report 17324, page 5).

The showing was sampled by Blast Resources Ltd. in 1987.

BIBLIOGRAPHY

EMPR ASS RPT 15928, *17324, 27009
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/09
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE210**

NATIONAL MINERAL INVENTORY:

NAME(S): **BADGER**, MUR

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 21 N
LONGITUDE: 120 55 14 W
ELEVATION: 1237 Metres

NORTHING: 5489473
EASTING: 650442

LOCATION ACCURACY: Within 500M

COMMENTS: Cut across a mineralized area (100 by 4 by 4 metres trench), 970 metres northeast of the confluence of Illal and Britton creeks, 1.6 kilometres west-southwest of the summit of Grasshopper Mountain and 11.5 kilometres due west of the town of Tulameen (Assessment Report 9381, Figure 3).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola
Lower Jurassic

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER
Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite
Meta Sediment/Sedimentary
Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE:

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY

GRADE
Gold 2.4000 Grams per tonne
Copper 1.5000 Per cent

REFERENCE: Assessment Report 9381, page 2.

CAPSULE GEOLOGY

This copper showing outcrops on the west side of Grasshopper Mountain, 970 metres northeast of the confluence of Illal and Britton creeks and 11.5 kilometres due west of the town of Tulameen.

The occurrence is hosted in hornblende clinopyroxenite of the Early Jurassic Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex. The showing is 100 metres east of the contact with metasediments and metavolcanics of the Upper Triassic Nicola Group.

A 210-metre wide band of coarse pyroxenite contains disseminated blebs of chalcopyrite and pyrite. Selected grab samples assayed between 1 and 1.5 per cent copper and trace to 2.4 grams per tonne gold (Assessment Report 9381, page 2).

BIBLIOGRAPHY

EMPR ASS RPT 128, *9381, 15803, 27009
EMPR EXPL 1988-B71-B81
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
EMPR P 1992-6
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26, pp. 156-159; 243, pp. 33,34

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 394
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,
Yale District, British Columbia, unpublished Ph.D. thesis, Queen's
University, 415 pages.

DATE CODED: 1992/03/10
DATE REVISED: 1992/03/10

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE211**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOGAN'S**, WELDEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 30 N
LONGITUDE: 120 48 25 W
ELEVATION: 823 Metres

NORTHING: 5489984
EASTING: 658653

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the north bank of the Tulameen River, 2.6 kilometres east-northeast of the mouth of Lawless Creek and 3.5 kilometres west-southwest of the town of Tulameen (Minister of Mines Annual Report 1960, page 43 (occurrence 13)).

COMMODITIES: Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Rhyolite Tuff
Rhyolite
Conglomerate
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

Logan's showing is on the north bank of the Tulameen River, 2.6 kilometres east-northeast of the mouth of Lawless Creek and 3.5 kilometres west of the town of Tulameen.

This showing is hosted in a section of granule conglomerate, rhyolite tuff and black argillite of the Upper Triassic Nicola Group. The sequence is folded into a broad arch plunging 35 degrees into the river.

The 1.5-metre thick bed of rhyolite tuff contains calcite stringers and stringers and ragged disseminations of sphalerite and minor chalcopyrite along the crest of the fold. No such mineralization is observed in the underlying sheared argillite. The zinc-copper mineralization appears to fade away along the flanks of the fold.

BIBLIOGRAPHY

EMPR AR 1960-43,53
EMPR ASS RPT 27009
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/12
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE212**

NATIONAL MINERAL INVENTORY:

NAME(S): **WELDEN 1**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 24 N
LONGITUDE: 120 49 56 W
ELEVATION: 847 Metres

NORTHING: 5489746
EASTING: 656830

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the north bank of the Tulameen River, 750 metres east of the mouth of Lawless Creek and 5 kilometres west-southwest of the town of Tulameen (Minister of Mines Annual Report 1960, Figure 5 (opposite page 49) (occurrence 12)).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Greenstone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Welden 1 showing outcrops in the canyon of the Tulameen River, on its north side, 750 metres east of the mouth of Lawless Creek and 5 kilometres west-southwest of the town of Tulameen.

A bedded quartz vein, 5 to 15 centimetres wide contains disseminated pyrite, chalcopyrite and sphalerite. The vein is in interbedded argillite and greenstone of the Upper Triassic Nicola Group, just south of a west-striking fault.

BIBLIOGRAPHY

EMPR AR 1960-43,53
EMPR ASS RPT 27009
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/12
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE213**

NATIONAL MINERAL INVENTORY:

NAME(S): **WELDEN 2**, LAWLESS CREEK

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 18 N
LONGITUDE: 120 50 29 W
ELEVATION: 1036 Metres

NORTHING: 5491394
EASTING: 656119

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 220 metres northeast of Lawless Creek, 1.65 kilometres north of the creek's confluence with the Tulameen River, and 6 kilometres west-northwest of the town of Tulameen (Minister of Mines Annual Report 1960, Figure 5 (opposite page 49) (occurrence 8)).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Malachite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Siliceous Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Welden 2 showing is exposed on the nose and north flank of a small ridge, 220 metres northeast of Lawless Creek and 6 kilometres west-northwest of the town of Tulameen.

Trenching in rubbly siliceous greenstone of the Upper Triassic Nicola Group has exposed disseminations and blebs of chalcopyrite, together with malachite, over a surface area of 74 square metres. The greenstone is cut by at least one flat-lying shear.

BIBLIOGRAPHY

EMPR AR 1960-43,52
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/12
DATE REVISED: 1992/03/12

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE214**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAWLESS CREEK (WEST BANK)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 59 N
LONGITUDE: 120 50 28 W
ELEVATION: 914 Metres

NORTHING: 5490808
EASTING: 656156

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 50 metres west of Lawless Creek, 1070 metres north of the creek's confluence with the Tulameen River, and 6 kilometres west of the town of Tulameen (Minister of Mines Annual Report 1960, Figure 5 (opposite page 49) (occurrence 9)).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION:

STRIKE/DIP: 100/43S

TREND/PLUNGE:

COMMENTS: Shear zone.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greenstone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1960

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

216.0000

Grams per tonne

Gold

0.6900

Grams per tonne

Copper

13.0300

Per cent

COMMENTS: Sample of massive pyrite-chalcopyrite vein.

REFERENCE: Minister of Mines Annual Report 1960, page 52.

CAPSULE GEOLOGY

The Lawless Creek (West Bank) copper showing is 50 metres west of Lawless Creek, 1070 metres north of the creek's confluence with the Tulameen River and 6 kilometres west of the town of Tulameen.

A shear zone, striking 100 degrees and dipping 43 degrees south, cuts greenstone and argillite of the Upper Triassic Nicola Group. The zone is 0.76 metre thick at its south end and contains clots and disseminations of pyrite and chalcopyrite, with minor quartz.

A vein of massive pyrite and chalcopyrite, 5 centimetres thick, occurs in a large slump block at the foot of a bluff, just below the shear zone. A sample of the vein assayed 0.69 gram per tonne gold, 216 grams per tonne silver and 13.03 per cent copper (Minister of Mines Annual Report 1960, page 52).

BIBLIOGRAPHY

EMPR AR 1960-52

EMPR FIELDWORK 1987, pp. 281-294

EMPR OF 1988-25

GSC MAP 46A; 888A; 1386A; 41-1989

GSC MEM 26; 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 399
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/13
DATE REVISED: 1992/11/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE215**

NATIONAL MINERAL INVENTORY:

NAME(S): **MINT**, LAWLESS CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 44 N
LONGITUDE: 120 50 31 W
ELEVATION: 863 Metres

NORTHING: 5490343
EASTING: 656109

LOCATION ACCURACY: Within 500M

COMMENTS: Southernmost outcrop of greenstone on Lawless Creek, 600 metres north of the creek's confluence with the Tulameen River, and 6 kilometres due west of the town of Tulameen (Minister of Mines Annual Report 1960, Figure 5 (opposite page 49)).

COMMODITIES: Copper Lead Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Galena Sphalerite
COMMENTS: Rare galena and sphalerite.
ASSOCIATED: Silica
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Greenstone
Sericitic Schist
Chloritic Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Mint showing is exposed in the canyon of Lawless Creek, approximately 600 metres north of the creek's confluence with the Tulameen River and 6 kilometres due west of the town of Tulameen.

The occurrence is hosted in a 60-metre thick section of sericitic and chloritic schists (greenstone) of the Upper Triassic Nicola Group, dipping 30 to 35 degrees south. The schists contain "siliceous ribs" (veins (?)), 0.03 to 0.9 metre wide, mineralized with sparse pyrite and chalcopyrite and rare galena and sphalerite.

BIBLIOGRAPHY

EMPR AR 1937-D29
EMPR ASS RPT 27009
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
EMPR PF (Hedley, M.S. (1937): Special Report on Britton Property (see 092HNE022))
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/13
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE216**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHELLEY**, MURPHY, RAMBLER

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 13 N
LONGITUDE: 120 53 39 W
ELEVATION: 1247 Metres

NORTHING: 5492984
EASTING: 652254

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 88-01, 770 metres southwest of the confluence of Skwum and Lawless (Bear) creeks, 10 kilometres west-northwest of Tulameen (Assessment Report 17926, Figure 5).

COMMODITIES: Copper Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Chalcopyrite Galena
ASSOCIATED: Calcite Chlorite Quartz Epidote
ALTERATION: Calcite Chlorite Quartz Epidote
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Intermediate Tuff
Felsic Crystal Tuff
Rhyolite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 100.5000 Grams per tonne
Gold 4.1400 Grams per tonne
Copper 1.9200 Per cent

COMMENTS: A 0.30-metre intersection of a shear zone with arsenopyrite, chalcopyrite and pyrite.
REFERENCE: Assessment Report 17926, Appendix 3, hole 88-01 (21.0 to 21.3 metres).

CAPSULE GEOLOGY

The Shelley showing is 0.8 kilometre southwest of the confluence of Skwum and Lawless (Bear) creeks and 10 kilometres west-northwest of Tulameen. The St. Lawrence prospect (092HNE065) lies 550 metres to the west.

The showing is hosted in a sequence of Upper Triassic Nicola Group volcanics comprised of finely bedded, intermediate tuffs, felsic crystal tuffs and minor rhyolite, dipping shallow to moderately southwest. These rocks are locally altered and fractured, and have been metamorphosed up to greenschist facies.

Drilling over a north-south distance of 260 metres intersected narrow zones of alteration and shearing containing calcite, chlorite, quartz and minor epidote, accompanied by pyrite, minor arsenopyrite and chalcopyrite, and rare galena. Alteration and mineralization commonly occur along fractures, but are also developed along bedding planes. One shear zone with some fine-grained pyrite, arsenopyrite and galena analysed 0.053 per cent copper, 0.530 per cent lead, 0.420 per cent zinc, 61.1 grams per tonne silver and 0.370 gram per tonne gold over a core length of 0.91 metre (Assessment Report 17926,

CAPSULE GEOLOGY

Appendix 4, hole 88-03, 26.2 to 27.1 metres). One alteration zone with large crystals of arsenopyrite, chalcopyrite and pyrite analysed 1.920 per cent copper, 0.002 per cent lead, 0.019 per cent zinc, 100.5 grams per tonne silver and 4.140 grams per tonne gold over a core length of 0.30 metre (Assessment Report 17926, Appendix 4, hole 88-01, 21.0 to 21.3 metres).

This showing was discovered by Bordeaux Resources Ltd. in 1988, while drilling coincident soil and geophysical anomalies. Goldwest Resources Ltd., Serem Ltd. and Bordeaux Resources completed geological, geophysical and geochemical surveys over the area between 1982 and 1987 while searching for stratabound massive sulphide mineralization, which outcrops in three occurrences to the west (St. George, 092HNE064; St. Lawrence, 092HNE065; Liverpool, 092HNE066).

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EMPR EXPL 1988-C106
EMPR PF (DiSpirito, F. (1986): Report on the Rambler Claim Group, Lawless Creek Area, Similkameen Mining District, in Bordeaux Resources Ltd. (1987): Prospectus, Vancouver Stock Exchange)
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #2 (Jan. 3), 1986

DATE CODED: 1992/03/15
DATE REVISED: 1992/12/11

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE217**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEN**, LAWLESS CREEK, SKWUM CREEK

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H10W
 BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 47 N
 LONGITUDE: 120 53 31 W
 ELEVATION: 1097 Metres

NORTHING: 5494039
 EASTING: 652386

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the west bank of Lawless (Bear) Creek , 300 metres north-northwest of the mouth of Skwum Creek and 10 kilometres west-northwest of the town of Tulameen (Minister of Mines Annual Report 1960, page 43 (occurrence 2)).

COMMODITIES: Copper Zinc Lead Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite Pyrite Galena Pyrrhotite
 ASSOCIATED: Quartz Carbonate
 ALTERATION: Carbonate Malachite
 ALTERATION TYPE: Carbonate Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: 10 x 1 Metres STRIKE/DIP: 360/ TREND/PLUNGE:
 COMMENTS: Quartz-carbonate vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	Tulameen Ultramafic Complex
Lower Jurassic			

LITHOLOGY: Chlorite Biotite Schist
 Mafic Volcanic
 Hornblende Clinopyroxenite
 Feldspar Porphyry
 Felsic Intrusive

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel Plutonic Rocks
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1960
 SAMPLE TYPE: Chip

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	38.0000	Grams per tonne
Gold	0.6900	Grams per tonne
Copper	0.4500	Per cent
Lead	0.3100	Per cent
Zinc	0.5000	Per cent

COMMENTS: Across 13 centimetres.
 REFERENCE: Minister of Mines Annual Report 1960, page 51.

CAPSULE GEOLOGY

The Den showing outcrops along Lawless (Bear) and Skwum creeks, in the vicinity of their confluence, 10 kilometres west-northwest of the town of Tulameen.

A body of hornblende clinopyroxenite, possibly related to the Early Jurassic Tulameen Ultramafic Complex, lies in fault contact with chlorite biotite schists and mafic volcanics of the Upper Triassic Nicola Group. The pyroxenite stock trends north for 760 metres and is up to 300 metres wide.

A feldspar porphyry inclusion occurs in the north end of the stock, on the west bank of Lawless Creek, 300 metres north of Skwum Creek. The inclusion is partly mineralized with disseminated galena

CAPSULE GEOLOGY

and lesser chalcopyrite. Directly across the creek, a roadcut on the east bank exposes carbonatized pyroxenite with malachite staining and a veinlet of sphalerite and chalcopyrite.

A north striking, gently west dipping quartz-carbonate vein is exposed just west of the stock, 250 metres west-southwest of the confluence between the two creeks. The vein is mineralized with pyrite, chalcopyrite, sphalerite and galena across 13 centimetres, over an exposed length of 10 metres. A sample taken across 13 centimetres assayed 0.69 gram per tonne gold, 38 grams per tonne silver, 0.45 per cent copper, 0.31 per cent lead and 0.5 per cent zinc (Minister of Mines Annual Report 1960, page 51).

A second intrusive body outcrops 650 metres north-northwest of the mouth of Skwum Creek. This fine grained, felsic stock contains abundant quartz phenocrysts, and is mineralized with disseminated sulphides, including pyrite, chalcopyrite and pyrrhotite.

BIBLIOGRAPHY

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EMPR ASS RPT *16015
EMPR EXPL 1988-B71-B81
EMPR P 1992-6
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/15
DATE REVISED: 1992/03/15

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE218**

NATIONAL MINERAL INVENTORY:

NAME(S): **HENNING CREEK**, LAWLESS CREEK

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 35 36 N
LONGITUDE: 120 53 01 W
ELEVATION: 1097 Metres

NORTHING: 5495569
EASTING: 652945

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the west bank of Lawless (Bear) Creek , 200 metres north-northeast of the mouth of Henning Creek and 10.5 kilometres northwest of the town of Tulameen (Minister of Mines Annual Report 1960, page 43 (occurrence 1)).

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Chalcopyrite Galena
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

The Henning Creek showing occurs on the west bank of Lawless (Bear) Creek , 200 metres north-northeast of the mouth of Henning Creek and 10.5 kilometres northwest of the town of Tulameen.

Two trenches in Upper Triassic Nicola Group volcanics expose two quartz-carbonate veins striking northwest and slightly east of north. The veins are mineralized with small amounts of chalcopyrite and galena.

BIBLIOGRAPHY

EMPR AR 1960-43,51
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/15
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE219**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRANDY**, MOUNT RABBITT

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 07 N
LONGITUDE: 120 50 14 W
ELEVATION: 1463 Metres

NORTHING: 5492916
EASTING: 656377

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site R-45, 600 metres due south of the summit of Mount Rabbitt and 6 kilometres northwest of Tulameen (Assessment Report 16014, Figure 20).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide Pyrite
ASSOCIATED: Quartz
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Grab
COMMODITY GRADE
Copper 0.2800 Per cent

COMMENTS: Sample of andesite with sulphides and malachite along fractures.
REFERENCE: Assessment Report 16014, Appendix 1 (sample GL-86-R-45).

CAPSULE GEOLOGY

The Brandy copper showing is 600 metres due south of the summit of Mount Rabbitt and 6 kilometres northwest of Tulameen.

A trench reveals sulphides and malachite occurring along fractures in andesite of the Upper Triassic Nicola Group. A sample from the trench analysed 0.280 per cent copper (Assessment Report 16014, Appendix 1, sample GL-86-R-45).

A second trench, 470 metres north-northwest, exposes fine-grained andesite with 0.5-centimetre wide quartz veins and a trace of pyrite. A sample analysed 0.230 per cent copper (Assessment Report 16014, Appendix 1, sample 1086-BR-10).

BIBLIOGRAPHY

EMPR ASS RPT *16014
EMPR PF (Fortress Resources Inc. (1988): Prospectus, Vancouver Stock Exchange)
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/15
DATE REVISED: 1992/03/15

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE220**

NATIONAL MINERAL INVENTORY:

NAME(S): **CO, MATHENY**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 42 N
LONGITUDE: 120 52 18 W
ELEVATION: 1554 Metres

NORTHING: 5497631
EASTING: 653751

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 1 kilometre west-southwest of the summit of Mount Spearing, 4.0 kilometres north-northeast of the confluence of Lawless and Skwum creeks and 11 kilometres northwest of Tulameen (Assessment Report 2763, plan of grid and claims).

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesite
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY:

YEAR: 1984

COMMODITY	GRADE	
Silver	13.7000	Grams per tonne
Copper	0.7240	Per cent

COMMENTS: Sample of altered andesite.
REFERENCE: Assessment Report 13208, page 7.

CAPSULE GEOLOGY

The CO copper-silver showing is 1 kilometre west-southwest of the summit of Mount Spearing and 11 kilometres northwest of Tulameen. Andesite (greenstone) of the Upper Triassic Nicola Group is cut by small quartz stringers containing chalcopyrite. The rock is also slightly carbonatized and silicified. A sample of altered andesite analysed 0.724 per cent copper, 13.7 grams per tonne silver and 0.075 grams per tonne gold (Assessment Report 13208, page 7).

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EMPR ASS RPT *2763, *13208, 18005
EMPR GEM 1970-382
EMPR PF (DiSpirito, F. (1986): Report on the Rambler Claim Group, Lawless Creek Area, Similkameen Mining District, in Bordeaux Resources Ltd. (1987): Prospectus, Vancouver Stock Exchange (see 092HNE216))
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 408
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/17
DATE REVISED: 1992/12/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE221**

NATIONAL MINERAL INVENTORY:

NAME(S): **ON 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 38 03 N
LONGITUDE: 120 32 58 W
ELEVATION: 1366 Metres

NORTHING: 5500841
EASTING: 676945

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite showing, 2.8 kilometres northeast of the confluence of Allison and MacKenzie creeks, 5.75 kilometres south-southwest of the summit of Missezula Mountain (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

Nicola

Undefined Formation

Allison Lake Pluton

Triassic-Jurassic

ISOTOPIC AGE: 200 +/- 5 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Crystal Tuff
Lithic Tuff
Hornblende Diorite
Gabbro
Quartz Diorite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the central part of the Nicola belt.

CAPSULE GEOLOGY

The On 2 showing is 2.8 kilometres northeast of the confluence of Allison and MacKenzie creeks, 5.75 kilometres south-southwest of the summit of Missezula Mountain.

Chalcopyrite occurs in massive to thinly bedded crystal and lithic tuff of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The showing is 400 metres east of the contact with hornblende diorite, gabbro and quartz diorite of the Late Triassic to Early Jurassic Allison Lake pluton.

Zone Explorations Ltd. completed a soil sampling survey over the showing in 1970.

BIBLIOGRAPHY

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EMPR FIELDWORK 1975, pp. 55-58
EMPR GEM 1970-389
EMPR MAP *21 (1976)
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/16
DATE REVISED: 1992/12/07

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE221**

MINFILE NUMBER: **092HNE222**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALLISON CREEK 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 39 N
LONGITUDE: 120 32 42 W
ELEVATION: 945 Metres

NORTHING: 5494552
EASTING: 677471

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite showing, 700 metres west of Allison Creek, 1.75 kilometres north-northwest of the creek's confluence with Oelrich Creek (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite
Basalt

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Allison Creek 2 showing is 700 metres west of Allison Creek, 1.75 kilometres north-northwest of the creek's confluence with Oelrich Creek.
Chalcopyrite occurs in andesite and basalt of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

BIBLIOGRAPHY

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EMPR FIELDWORK 1975, pp. 55-58
EMPR MAP *21 (1976)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/17
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE223**

NATIONAL MINERAL INVENTORY:

NAME(S): **CU**, RL, ALLISON CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 40 N
LONGITUDE: 120 33 34 W
ELEVATION: 811 Metres

NORTHING: 5494549
EASTING: 676426

LOCATION ACCURACY: Within 500M

COMMENTS: Pyrite-malachite showing, 300 metres southwest of Allison Creek, 2.15 kilometres northwest of the creek's confluence with Oelrich Creek (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Cretaceous

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Volcanic Siltstone
Volcanic Sandstone
Pebble Conglomerate
Biotite Hornblende Granite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

Plutonic Rocks

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

CAPSULE GEOLOGY

The CU showing is 300 metres southwest of Allison Creek, 2.15 kilometres northwest of the creek's confluence with Oelrich Creek.

Pyrite and malachite occur in a section of volcanic siltstone, sandstone and pebble conglomerate of the Upper Triassic Nicola Group (Central belt, Bulletin 69). This mineralization is about 50 metres northeast of the contact with biotite hornblende leucogranite of the middle and Late Cretaceous Allison Creek stocks.

Northair Mines Ltd. completed soil and magnetometer surveys just west of the showing in 1971 and 1972.

BIBLIOGRAPHY

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EMPR BULL 69
EMPR FIELDWORK 1975, pp. 55-58
EMPR GEM 1971-281,282; 1972-129
EMPR MAP *21 (1976)
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/17
DATE REVISED: 1992/05/17

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE224**

NATIONAL MINERAL INVENTORY:

NAME(S): **DRY LAKE**, ALLISON CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 38 50 N
LONGITUDE: 120 36 03 W
ELEVATION: 1137 Metres

NORTHING: 5502172
EASTING: 673188

LOCATION ACCURACY: Within 500M

COMMENTS: Malachite-azurite showing, 750 metres east-northeast of the southeast corner of Dry Lake (Preliminary Map 21).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
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			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Biotite Hornblende Granite
Quartz Monzonite

HOSTROCK COMMENTS: Date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Dry Lake showing is 750 metres east-northeast of the southeast corner of Dry Lake.
Malachite and azurite occur in biotite hornblende granite and quartz monzonite of the Late Triassic to Early Jurassic Allison Lake pluton.

BIBLIOGRAPHY

EMPR BULL 69
EMPR FIELDWORK 1975, pp. 55-58
EMPR MAP *21 (1976)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/17
DATE REVISED: 1992/12/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE225**

NATIONAL MINERAL INVENTORY:

NAME(S): **LISA**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 11 N
LONGITUDE: 120 39 09 W
ELEVATION: 1366 Metres

NORTHING: 5510114
EASTING: 669207

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of siliceous diorite with pyrite and chalcopyrite, 2.0 kilometres southwest of Kump Lake and 3.65 kilometres northwest of the north end of Allison Lake (Assessment Report 4340, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Silica Epidote K-Feldspar Malachite
ALTERATION TYPE: Silicific'n Epidote Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 550 Metres
COMMENTS: Area of sporadic mineralization.
STRIKE/DIP: L03 Alkalic porphyry Cu-Au
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Diorite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

CAPSULE GEOLOGY

The Lisa showing is 1.8 to 2.0 kilometres southwest of Kump Lake and 3.2 to 3.7 kilometres northwest of the north end of Allison Lake. Traces of chalcopyrite and malachite, sometimes with fine disseminated pyrite, occur sporadically over an east-west distance of about 550 metres, in fine to medium-grained diorite of the Late Triassic to Early Jurassic Allison Lake pluton. The diorite is slightly siliceous in places and contains minor epidote and potassium feldspar stringers. Montego Resources Ltd. conducted magnetometer, soil geochemical and geological surveys over the showing in 1972.

BIBLIOGRAPHY

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EMPR BULL 69
EMPR GEM 1972-130,131; 1973-147
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/19
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE226**

NATIONAL MINERAL INVENTORY:

NAME(S): **DRY, LAKE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 46 N
LONGITUDE: 120 37 54 W
ELEVATION: 914 Metres

NORTHING: 5503831
EASTING: 670908

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the north side of a southeastward flowing creek on the Dry claim, 800 metres west of the south end of Borgeson Lake (Assessment Report 20179, Figure 2).

COMMODITIES: Zinc Copper Lead Gold Silver

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite Galena
ALTERATION: Chlorite Calcite Epidote Sericite
ALTERATION TYPE: Chloritic Carbonate Epidote Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: L04 Porphyry Cu ± Mo ± Au
COMMENTS: Shear in adit. STRIKE/DIP: 165/65E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Biotite Hornblende Granite
Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

CAPSULE GEOLOGY

The Dry showing outcrops along a southeastward flowing creek, 800 metres west of the south end of Borgeson Lake.

Various shears cut biotite hornblende granite and quartz monzonite of the Late Triassic to Early Jurassic Allison Lake pluton. Some of the shears contain chlorite, calcite, epidote and sericite. One particular shear, developed by an adit on the north side of the creek, strikes 165 degrees and dips 65 degrees east. Mineralization (in the shears (?)) consists of pyrite, dark sphalerite, chalcopyrite and galena. Some samples are reported to have yielded anomalous gold and silver values (Assessment Report 20179, page 7).

The showing was initially soil sampled by Nufort Resources Inc. in 1980. Norsemont Mining Corporation completed geological, geochemical and geophysical surveys over the showing in 1988 and 1990.

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EMPR FIELDWORK 1975, pp. 55-58
EMPR MAP 21 (1976)
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 415
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/18
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE227**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOB 6, RED**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 13 N
LONGITUDE: 120 36 59 W
ELEVATION: 1094 Metres

NORTHING: 5513963
EASTING: 671690

LOCATION ACCURACY: Within 500M

COMMENTS: Trench along a road adjacent to the northwest corner of the southern Hornet Lake (Deadman Lake), 7.5 kilometres southwest of Missezula Lake (Assessment Report 4994, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Granite
Quartz Monzonite
Diorite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to Early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Mob 6 showing is exposed adjacent to a road on the northwest corner of the southern Hornet Lake (Deadman Lake), 7.5 kilometres southwest of Missezula Lake.

A trench in gossanous granite and quartz monzonite of the Late Triassic to Early Jurassic Allison Lake pluton reveals fine-grained disseminated pyrite and chalcopyrite.

Scattered outcrops of disseminated chalcopyrite in fine-grained diorite occur 280 to 400 metres west and southwest of the trench.

E. Sleeman and Bronson Mines Ltd. conducted soil, magnetometer and geological surveys over the showing in 1973 and 1974.

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EMPR GEM 1974-124
EMPR MAP 17 (1975)
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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/19
DATE REVISED: 1992/12/07

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE228**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOB 11, RED**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 41 N
LONGITUDE: 120 37 45 W
ELEVATION: 1097 Metres

NORTHING: 5514799
EASTING: 670742

LOCATION ACCURACY: Within 500M

COMMENTS: Granodiorite outcrop along a road just east of Green Lake, 7.9 kilometres southwest of Missezula Lake (Assessment Report 4994, page 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Allison Lake Pluton

ISOTOPIC AGE: 200 +/- 5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Late Triassic to early Jurassic Allison Lake pluton is from Bulletin 69, page 50.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Mob 11 showing outcrops along a road just east of Green Lake, 7.9 kilometres southwest of Missezula Lake. Pyrite and minor chalcopyrite occur in granodiorite of the Late Triassic to Early Jurassic Allison Lake pluton. E. Sleeman and Bronson Mines Ltd. conducted soil, magnetometer and geological surveys over the showing in 1973 and 1974.

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EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/19
DATE REVISED: 1992/12/07

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE229**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANITA 14**, SADIM

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 52 N
LONGITUDE: 120 33 24 W
ELEVATION: 1487 Metres

NORTHING: 5507895
EASTING: 676193

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the north side of the Anita 14 claim, on the east bank of Allison Creek and 1.7 kilometres northwest of the summit of Missezula Mountain (Assessment Report 4963, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Tuff
Lithic Tuff
Diorite Dike

HOSTROCK COMMENTS: This occurrence is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Anita 14 showing outcrops on the east bank of Allison Creek, 1.7 kilometres northwest of the summit of Missezula Mountain.

Pyrite and chalcopyrite occurs in bedded tuff and lithic tuff of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The showing lies along the west flank of a northwest-striking diorite dike. This dike contains chalcopyrite and pyrite 330 metres south-southeast of the previous showing.

This occurrence was mapped and prospected by Bronson Mines Ltd. in 1973 and 1974.

BIBLIOGRAPHY

EMPR ASS RPT 4348, *4963, 4964, 16889
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/24
DATE REVISED: 1992/06/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE230**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANITA 18**, SADIM

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 15 N
LONGITUDE: 120 33 16 W
ELEVATION: 1481 Metres

NORTHING: 5508610
EASTING: 676330

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the east side of the Anita 18 claim, 250 metres northeast of Allison Creek and 2.3 kilometres north-northwest of the summit of Missezula Mountain (Assessment Report 4963, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

The Anita 18 showing is 250 metres northeast of Allison Creek and 2.3 kilometres north-northwest of the summit of Missezula Mountain.
Sparse chalcopyrite occurs in an outcrop of volcanic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69).
This occurrence was mapped and prospected by Bronson Mines Ltd. in 1973 and 1974.

BIBLIOGRAPHY

EMPR ASS RPT 4348, *4963, 4964, 16889
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1973-144; 1974-120,121
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/24
DATE REVISED: 1992/06/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE231**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCKY**, PIONEER, IRLY BIRD,
F.H.

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 37 N
LONGITUDE: 120 25 59 W
ELEVATION: 847 Metres

NORTHING: 5491055
EASTING: 685691

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 87-8, 1.1 kilometres south-southwest of the confluence of Hayes and Christian creeks, 1.4 kilometres east-northeast of Jura Siding of the Kettle Valley Railway and 11.5 kilometres northeast of Princeton (Assessment Report 18863, Figure 3).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Chalcocite Covellite Bornite
ALTERATION: Sericite Epidote Chlorite Selenite Clay

ALTERATION TYPE: Sericitic Propylitic Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic redbed Cu
DIMENSION: 400 x 250 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Copper-bearing sulphide zone trends north for 400 metres, before being displaced for 400 metres by a strike-slip fault.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Altered Latite
Altered Quartz Latite
Andesitic Flow
Andesitic Breccia
Andesitic Tuff
Andesite
Microdiorite Dike
Microdiorite Sill
Felsite
Dacite

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1989

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper

0.4200

Per cent

COMMENTS: Average grade over 24.4 metres.

REFERENCE: Assessment Reports 18863, Figure 3; 20113, page 2 (hole RC87-8).

CAPSULE GEOLOGY

The Lucky prospect occurs along the west bank of Hayes Creek, 0.8 to 1.5 kilometres southwest of the creek's confluence with Christian Creek, and 11 to 12 kilometres northeast of Princeton.

This region, west of Hayes Creek, between Christian and Switchback creeks, is underlain by the Eastern volcanic facies of the

CAPSULE GEOLOGY

Upper Triassic Nicola Group, comprising mafic, augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded to the east, across Hayes Creek, by the Early Jurassic Bromley batholith. About 1 kilometre to the north, north of Christian Creek, they are intruded by the Middle Jurassic Osprey Lake batholith.

The deposit is hosted in andesitic flows, breccias and tuffs, and comagmatic (?) hypabyssal microdiorite dikes and sills, all of the Nicola Group. Some of the microdiorite may represent thick flows. Minor felsite/dacite is also present. Petrographic examinations suggest the andesites may be hydrothermally altered latites and quartz latites (Assessment Report 18863).

The volcanics and intrusives have undergone propylitic and sericitic alteration, within the upper levels of a porphyry hydrothermal system (Assessment Report 6292). Successive zones of propylitic alteration are developed peripheral to a north-trending zone of sulphide mineralization that is truncated to the north by a strike-slip fault. Chloritization of mafic phenocrysts occurs in a zone whose inner margin borders on an area of stronger copper sulphide mineralization. Pervasive epidote occurs in a partially overlapping outer zone, whose inner margin roughly coincides with the outer limit of 1 per cent total sulphide content. Sericite alteration of the volcanics and intrusives is strong but does not appear to be confined to a distinct zone. Minor argillic alteration is also evident. All strongly altered rocks are cut by a post-mineral stockwork of gypsum (selenite) veinlets, 1 to 5 millimetres in diameter.

Mineralization consists primarily of pyrite and chalcopyrite, with minor chalcocite and covellite, and a few grains of bornite. Minor malachite staining is also present. Pyrite/chalcopyrite ratios vary from 100 to 1 in the epidote alteration zone to 5 to 1 in the area of strongest copper mineralization (Assessment Report 6292). Pyrite content increases northward from 1 per cent in the south to 5 per cent at the strike-slip fault. Locally, it occurs in greater concentrations of up to 20 per cent in areas of more intense hydrothermal alteration. The sulphides are largely disseminated. Five to ten per cent of the sulphides occur along fractures near the limit of the pervasive epidote. This increases to 20 per cent in the area of strongest copper mineralization. Chalcopyrite tends to be more strongly controlled by fractures than pyrite.

Copper content varies directly with alteration intensity. Stronger mineralization, containing 0.2 to 0.5 per cent copper, occurs in a zone widening northerly from 75 metres to 250 metres, over a strike length of 400 metres. At this point the zone and peripheral zones of propylitic alteration are inferred to be displaced for at least 400 metres by a right-lateral strike-slip fault striking west-southwest (Assessment Report 6292). One percussion hole, located 70 metres south of the inferred strike-slip fault, analysed 0.42 per cent copper and 0.205 gram per tonne gold over 24.4 metres (Assessment Reports 18863, Figure 3; 20113, page 2, hole RC87-8). A second hole drilled 190 metres north-northwest of hole RC87-8, analysed 0.21 per cent copper and 0.262 gram per tonne gold over 32.0 metres (hole RC87-1). Surface sampling yielded copper values of up to 0.822 per cent and gold values of up to 0.470 gram per tonne (Assessment Report 16265, page 4). Gold values were almost invariably associated with high copper values but many high copper values had low accessory gold. The amount of pyrite in the rock appears to have no bearing on the gold content.

This prospect was initially explored by Kennco Explorations (Western) Ltd. in 1959. The company conducted geological, geophysical and soil geochemical surveys and drilled four holes totalling 227 metres. Quintana Minerals Corporation completed geological and rock geochemical surveys in 1977. Superior Oil Company conducted 233 metres of percussion drilling in 9 holes and 734 metres of diamond drilling in two holes in 1979. The deposit was reassessed for precious metals by Mingold Resources in 1987. The company conducted soil and rock geochemical surveys and drilled 8 holes totalling 717 metres. Total drilling between 1959 and 1987 amounts to 1911 metres in 23 holes.

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EMPR EXPL 1977-129,130; 1979-148,149
EMPR PF (*Wolfhard, M. (1977): Geological and Rock Geochemical Report on Pioneer #1 and #2, Jura area, Similkameen M.D., and accompanying 1 to 2400 scale map of geology and rock geochemistry)
GSC MAP 888A; 1386A; 41-1989
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 422
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
Placer Dome File

DATE CODED: 1992/05/25
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE232**

NATIONAL MINERAL INVENTORY:

NAME(S): **BONACCI**, SLEEPER, LUCKY 2

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 05 N
LONGITUDE: 120 26 09 W
ELEVATION: 878 Metres

NORTHING: 5491913
EASTING: 685461

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the west end of the pyritic zone along the northwest bank of Christian Creek, below the Kettle Valley Railway, 800 metres west-southwest of the confluence between Hayes and Christian creeks (Property File - G.E.A. von Rosen, 1971, geology map).

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz Carbonate
ALTERATION: Clay Epidote Chlorite
ALTERATION TYPE: Argillic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic redbed Cu
DIMENSION: 350 x 180 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Pyritic zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Mesozoic-Cenozoic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzodiorite
Monzonite
Diorite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bonacci showing outcrops along the northwest bank of Christian Creek, below the Kettle Valley Railway, 12 kilometres north-northeast of Princeton.

A pyritic zone, 350 metres long and up to 180 metres wide is developed in quartz monzodiorite, monzonite and diorite in the outer part of a zoned intrusion, 1.2 kilometres wide. This stock intrudes andesitic to basaltic volcanics of the Upper Triassic Nicola Group.

The monzodiorite exhibits clay, epidote and chlorite alteration. Mineralization consists of pink quartz-carbonate veinlets carrying chalcopyrite and minor pyrite and galena.

The west end of the pyritic zone was tested by two adits excavated in 1942. Kennco Explorations (Western) Ltd. and Amax Exploration completed geological, geophysical and soil geochemical surveys over the showing in 1959 and 1969. Additional geological mapping and petrographic studies were conducted by Quintana Minerals Corporation in 1977 and by P. Peto in 1989.

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EMPR PF (von Rosen, G.E.A. (1971): Report on the Jura Copper Property, 7 miles north of Princeton, B.C., for Cop-Ex Mining Corporation Ltd., in Cop-Ex Mining Corporation Ltd. (1971): Statement of Material Facts (Prospectus), Vancouver Stock Exchange (see 092HSE057))

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 424
REPORT: RGEN0100

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GSC P 85-1A, pp. 349-358
CIM Special Volume 15, Map B (Occurrence 314) (1976)
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/26
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE233**

NATIONAL MINERAL INVENTORY:

NAME(S): **ER, RITA 1**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 37 54 N
LONGITUDE: 120 26 50 W
ELEVATION: 1588 Metres

NORTHING: 5500809
EASTING: 684334

LOCATION ACCURACY: Within 500M

COMMENTS: Molybdenite-bearing granodiorite outcrop atop Trehearne Mountain, 3.1 kilometres east-northeast of the confluence of Rampart and Swanson creeks, 20 kilometres north-northeast of Princeton (Assessment Report 10503, Sheet 1, Figure 4).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry Hydrothermal
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>
Cretaceous			Summers Creek Pluton

ISOTOPIC AGE: 96.7 +/- 2.1 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Porphyritic Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Summers Creek pluton is from Bulletin 69, page 51.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The ER showing outcrops on Trehearne Mountain, 3.1 kilometres east-northeast of the confluence of Rampart and Swanson creeks and 20 kilometres north-northeast of Princeton.

Traces of disseminated molybdenite occur in porphyritic granodiorite of the Middle to Late Cretaceous Summers Creek pluton. Small amounts of chalcopyrite are also reported.

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GSC MAP 888A; 1386A; 41-1989
GSC MEM *243, p. 114
GSC P 85-1A, pp. 349-358

DATE CODED: 1992/05/29
DATE REVISED: 1992/12/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE234**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUK**, RITA, SWAN,
RAM

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:
LATITUDE: 49 39 26 N
LONGITUDE: 120 27 25 W
ELEVATION: 1253 Metres

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5503626
EASTING: 683536

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site RX 33027, on the northwest bank of Swanson Creek, 3.8 kilometres northeast of the creek's confluence with Rampart Creek, 23 kilometres north-northeast of Princeton (Assessment Report 10503, Sheet 1, Figure 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Summers Creek Pluton

ISOTOPIC AGE: 96.7 +/- 2.1 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Quartz Diorite

HOSTROCK COMMENTS: Isotopic age date for the Summers Creek pluton is from Bulletin 69, page 51.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tuk showing is on the northwest bank of Swanson Creek, 3.8 kilometres northeast of the creek's confluence with Rampart Creek and 23 kilometres north-northeast of Princeton.

Chalcopyrite occurs along fractures in quartz diorite of the Middle to Late Cretaceous Summers Creek pluton. A sample analysed 0.005 per cent copper, 0.005 gram per tonne gold and 0.04 grams per tonne silver (Assessment Report 10503, Sheet 1, Figure 2, sample RX 33027).

BIBLIOGRAPHY

EMPR ASS RPT 5970, *10503, 19468, 20816
EMPR BULL 69
EMPR EXPL 1976-E83,E84
EMPR GEM 1972-126
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1992/05/29
DATE REVISED: 1992/06/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE235**

NATIONAL MINERAL INVENTORY:

NAME(S): **RITA, SWAN, SNOW, PINE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:
LATITUDE: 49 37 50 N
LONGITUDE: 120 28 41 W
ELEVATION: 1237 Metres

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5500610
EASTING: 682112

LOCATION ACCURACY: Within 500M
COMMENTS: Sample site RX 42194, 840 metres east of the confluence of Swanson and Rampart creeks, 19.5 kilometres north-northeast of Princeton (Assessment Report 10503, Figure 4).

COMMODITIES: Copper Silver Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Epidote Chlorite Albite Biotite Carbonate
Actinolite Malachite Azurite
ALTERATION TYPE: Propylitic Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1000 x 700 Metres STRIKE/DIP:
COMMENTS: Scattered exposures of copper mineralization occurs along fractures. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Cretaceous	Nicola	Undefined Formation	Summers Creek Pluton

ISOTOPIC AGE: 96.7 +/- 2.1 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Basaltic Andesitic Flow
Augite Plagioclase Porphyritic Flow
Andesite
Basalt
Quartz Diorite

HOSTROCK COMMENTS: Isotopic age date for the Summers Creek pluton is from Bulletin 69, page 51.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels
COMMENTS: This occurrence is at the eastern margin of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 4.7000 Grams per tonne
Copper 0.2092 Per cent
COMMENTS: Sample of fracture zone with malachite-azurite staining and traces of chalcopyrite.
REFERENCE: Assessment Report 10703, page 5 (sample RX 42194).

CAPSULE GEOLOGY

The Rita prospect outcrops 800 to 1800 metres east of the confluence of Swanson and Rampart creeks, 19.5 to 20 kilometres north-northeast of Princeton.
Scattered exposures of copper mineralization occur in an area roughly 1000 metres long and 700 metres wide, in massive basaltic to andesitic flows and augite plagioclase porphyritic flows of the Upper

CAPSULE GEOLOGY

Triassic Nicola Group (Eastern belt, Bulletin 69), along the western margin of the middle to Late Cretaceous Summers Creek pluton. The volcanics are mildly hornfelsed and propylitic altered in the vicinity of the quartz diorite intrusion. Secondary minerals include epidote, hornblende, actinolite, chlorite, albite, biotite and carbonate.

Mineralization consists of abundant disseminated and fracture controlled pyrite and minor fracture-controlled chalcopyrite. Malachite and azurite commonly accompany this mineralization. A sample of a malachite-azurite stained fracture zone, with traces of chalcopyrite, analysed 0.209 per cent copper, 0.05 gram per tonne gold and 4.7 grams per tonne silver (Assessment Report 10703, page 5, sample RX 42194). A sample from a quartz vein assayed 0.008 gram per tonne gold, 5.0 grams per tonne silver, 0.048 per cent copper and 0.441 per cent zinc (Assessment Report 19468, page 11, sample H4-R3).

This prospect was initially explored by Canadian Nickel Company Ltd. in 1982, while searching for porphyry copper deposits. The company completed geological, geophysical and geochemical surveys. Fairfield Minerals Ltd. restaked the showing in 1987 after finding anomalous gold in stream silts at the mouth of Swanson Creek. The company prospected and soil sampled the showing in 1989 and 1990 for vein-hosted gold deposits similar to the Elk (092HNE096).

BIBLIOGRAPHY

EMPR AR 1966-176
EMPR ASS RPT 10503, *10703, *19468, 20816
EMPR BULL 69
EMPR GEM 1972-126
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1992/05/29
DATE REVISED: 1992/06/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE236**

NATIONAL MINERAL INVENTORY:

NAME(S): **APRIL**, CORE, RON

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 57 N
LONGITUDE: 120 29 46 W
ELEVATION: 1375 Metres

NORTHING: 5504488
EASTING: 680678

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite showing on the April 78 claim, 100 metres west of Rampart Lake and 7.0 kilometres due north of the confluence of Summers and Rampart creeks (Assessment Report 4225, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

The April showing is 100 metres west of Rampart Lake and 7.0 kilometres due north of the confluence of Summers and Rampart creeks. Fine-grained andesite of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69) outcrops over a 35 by 20 metres area. The andesite is mineralized with 0.25 to 0.5 per cent disseminated chalcopyrite (Assessment Report 4225, page 7).

BIBLIOGRAPHY

EMPR AR 1966-175
EMPR ASS RPT 2987, 3605, *4225, 4226, 10618
EMPR BULL 69
EMPR GEM 1971-280
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1992/05/30
DATE REVISED: 1992/06/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE237**

NATIONAL MINERAL INVENTORY:

NAME(S): **COYNE, SNOW**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 39 N
LONGITUDE: 120 29 43 W
ELEVATION: 1040 Metres

NORTHING: 5498376
EASTING: 680942

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site A142, 550 metres northeast of Summers Creek, 900 metres north-northeast of the creek's confluence with Rampart Creek and 17 kilometres north-northeast of Princeton (Assessment Report 10886, Plate 2-111).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Limonite Calcite Orthoclase
ALTERATION: Limonite Calcite Orthoclase Pyrite
ALTERATION TYPE: Oxidation Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite Tuff
Siltstone
Andesite
Dacite
Dacite Tuff

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 3.4000 Grams per tonne
Copper 0.1141 Per cent

COMMENTS: Sample taken over a length of 8 metres.
REFERENCE: Assessment Report 10886, Plate 8 (Sample R82 06940).

CAPSULE GEOLOGY

The Coyne showing is exposed in a series of trenches, 550 metres northeast of Summers Creek, 900 metres north-northeast of the creek's confluence with Rampart Creek and 17 kilometres north-northeast of Princeton.

The occurrence is hosted in bedded andesite tuffs, with minor interbedded siltstones and dacite tuffs of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). The rocks exhibit limonite, calcite, secondary orthoclase and pyrite in the area of mineralization. One trench sample yielded 0.114 per cent copper, 3.4 grams per tonne silver and less than 0.01 gram per tonne gold over 8 metres (Assessment Report 10886, Plate 8, sample R82 06940). A second sample analysed greater than 0.825 per cent copper, 9.2 grams per tonne silver and 0.088 gram per tonne gold over 1 metre (Sample R82 6934).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 431
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CAPSULE GEOLOGY

The showing was initially geologically mapped and soil sampled by Texas Gulf Sulfur Company Ltd. in 1971 and Iso Explorations Ltd. in 1972. Cominco Ltd. remapped and sampled the showing in 1981 and 1982.

BIBLIOGRAPHY

EMPR ASS RPT 3396, 9896, *10886
EMPR GEM 1971-279; 1972-126,127
GSC MAP 888A; 1386A; 41-1989
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/30
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE238**

NATIONAL MINERAL INVENTORY:

NAME(S): **BSM**, AXE

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 38 03 N
LONGITUDE: 120 29 53 W
ELEVATION: 1200 Metres

NORTHING: 5500963
EASTING: 680655

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite-bearing roadcut of andesite tuff, 800 metres east of Summers Creek, 3.5 kilometres due north of the creek's confluence with Rampart Creek and 19.5 kilometres north-northeast of Princeton (Assessment Report 10886, Plate 2-11).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Epidote Orthoclase Magnetite Malachite
ALTERATION TYPE: Epidote Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite Tuff
Porphyritic Rhyolite Dike

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

CAPSULE GEOLOGY

The BSM showing is 800 metres east of Summers Creek, 3.5 kilometres due north of the creek's confluence with Rampart Creek and 19.5 kilometres north-northeast of Princeton.

A 55-metre long roadcut of andesite tuff of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69) is mineralized with pyrite and chalcopyrite. Epidote, secondary orthoclase, magnetite and malachite accompany this mineralization. The tuff is intruded by a narrow, west-trending dike of quartz-plagioclase-orthoclase porphyritic rhyolite.

The showing was mapped and soil sampled by Cominco Ltd. in 1981 and 1982. The company also completed geophysical surveys over the showing in 1982.

BIBLIOGRAPHY

EMPR ASS RPT 9896, 10886
EMPR BULL 69
GSC MAP 888A; 1386A; 41-1989
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/05/31
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE239**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOUTH MDA**, MDA, COKE

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 42 N
LONGITUDE: 120 31 42 W
ELEVATION: 1437 Metres

NORTHING: 5511359
EASTING: 678124

LOCATION ACCURACY: Within 500M

COMMENTS: Area of copper mineralization immediately west of the MDA 209 claim, 1 kilometre west of Summers Creek and 4.9 kilometres north-northeast of the summit of Missezula Mountain (Assessment Report 4227, Map 6).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic rebed Cu
DIMENSION: 900 x 250 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of scattered occurrences of copper mineralization.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Andesitic Flow
Andesitic Pyroclastic
Andesite
Diorite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

CAPSULE GEOLOGY

This occurrence outcrops 1 kilometre west of Summers Creek and 4.9 kilometres north-northeast of the summit of Missezula Mountain. The South MDA showing is hosted in andesitic flows and pyroclastics of the Upper Triassic Nicola Group (Central belt, Bulletin 69). These volcanics are cut by several small dike-like bodies of fine-grained diorite in the vicinity of mineralization. The showing is comprised of scattered copper occurrences lying in a 900 by 250 metre area. Mineralization consists of disseminated and fracture controlled chalcopyrite in the intrusives and volcanics, often accompanied by magnetite and epidote. Chalcocite and malachite are also reported. This mineralization tends to be associated with the diorite. The showing was mapped by Sheba Copper Mines Ltd. in 1972.

BIBLIOGRAPHY

EMPR ASS RPT *4227, 14304
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR GEM 1972-131
EMPR MAP 17 (1975)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 434
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/03
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE240**

NATIONAL MINERAL INVENTORY:

NAME(S): **COKE**, RUM, KR,
ANOMALY C, KETCHAN CREEK COPPER

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 44 44 N
LONGITUDE: 120 31 57 W
ELEVATION: 1436 Metres

NORTHING: 5513263
EASTING: 677761

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole K-4, 1200 metres northeast of the B.C. Telephone microwave tower, 6.75 kilometres north-northeast of the summit of Missezula Mountain and 31.5 kilometres north of Princeton (Assessment Report 6036, Map 1).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Chalcocite
ASSOCIATED: Quartz Carbonate Calcite Epidote
ALTERATION: Epidote Limonite Malachite Azurite
ALTERATION TYPE: Epidote Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 450 x 150 Metres STRIKE/DIP:
COMMENTS: Mineralized zone trends north along the west flank of the Missezula Mountain fault for 450 metres. TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Hornblende Augite Microdiorite
Lapilli Tuff
Crystal Tuff
Andesitic Basaltic Flow
Andesite
Basalt
Sediment/Sedimentary

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola belt (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Drill Core
COMMODITY: Copper GRADE: 0.2300 Per cent
COMMENTS: Average grade over 83.2 metres.
REFERENCE: Property File - L. Sookchoff, 1975, page 11 (hole K-4, 29.6-112.8 m).

CAPSULE GEOLOGY

The Coke copper prospect is situated atop the plateau overlooking the steep east-facing slope of the Summers Creek valley, 31.5 kilometres north of Princeton. The Rum occurrence (092HNE099) is 950 metres to the south.
This region along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions range from

CAPSULE GEOLOGY

diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

Locally, the area is underlain by andesitic to basaltic flows, with lesser lapilli and crystal tuffs and minor sediments of the Nicola Group (Central belt, Bulletin 69). This sequence is intruded by a north trending, sill-like body of hornblende augite microdiorite, 3000 metres long and 600 metres wide. The stock is truncated to the east by the north-northeast striking Missezula Mountain fault, a branch of the Summers Creek fault to the east, which juxtaposes steeply dipping lapilli and crystal tuffs with minor limestone lenses, against the diorite. Rocks along the fault are strongly fractured and gossanous.

Mineralization occurs near the fault in the microdiorite, and consists of pyrite, as disseminations and fracture coatings, and lesser chalcopyrite, bornite and chalcocite in fracture fillings and quartz-carbonate veins. Chalcopyrite also occurs as disseminations and in calcite and epidote veinlets. Similar mineralization is found at the Rum prospect to the south. Malachite and azurite accompany limonite in surface exposures. Trenching and drilling has intersected significant copper mineralization in a zone up to 150 metres wide, trending north for 450 metres, along the west flank of the Missezula Mountain fault. Chip sampling of a trench analysed 0.20 per cent copper over 51.8 metres (Property File - L. Sookochoff, 1975, page 9, trench 1). Analyses from a second trench averaged 0.28 per cent copper and 9.9 grams per tonne silver over 24.4 metres (trench 4). One diamond-drill hole graded 0.23 per cent copper over 83.2 metres (L. Sookochoff, 1975, page 11, hole K-4, 29.6 to 112.8 metres). Rock sampling yielded low gold values, generally not exceeding 0.032 gram per tonne. A sample of microdiorite, with pyrite, chalcopyrite and malachite however, assayed 0.35 gram per tonne gold (Assessment Report 14304, sample R8).

This prospect was discovered by Plateau Metals Ltd. in 1962. Since then, the deposit has been explored by a number of companies. Numerous geological, geophysical and soil surveys were completed between 1963 and 1976 by Plateau Metals, Adera Mining Ltd., Amax Exploration Inc., Kalco Valley Mines Ltd. and Ruskin Developments Ltd. Three percussion holes totalling 235 metres and 2 diamond-drill holes totalling 229 metres were drilled by these companies between 1966 and 1972. Since then, several geophysical and soil and rock geochemical surveys were conducted by Cominco Ltd. in 1980 and 1981, P. Peto in 1985, and Mingold Resources Inc. in 1987.

BIBLIOGRAPHY

- EMPR AR 1966-175; 1967-279
- EMPR ASS RPT 517, *985, *3365, *6036, 8352, 9407, 14044, 14141, *14304, 16206, 16889
- EMPR BULL 69, p. 88
- EMPR EXPL 1976-E84,E85; 1977-E130,E131; 1980-201; 1981-31; 1985-C182; 1987-C180
- EMPR FIELDWORK 1974, pp. 9-13
- EMPR GEM 1971-281
- EMPR MAP 17 (1975)
- EMPR P 1981-2
- EMPR PF (*Sookochoff, L. (1975): Geological Report on the Rum claims of Ruskin Development Ltd., in Ruskin Developments Ltd. (1975): Prospectus, Vancouver Stock Exchange (see 092HNE099); *Sookochoff, L. (1974): Geological Report on the Rum claims of Ruskin Development Ltd. (see 092HNE099); old National Mineral Inventory card (see 092HNE099))
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC OF 2167, pp. 93-98
- GSC P 85-1A, pp. 349-358
- CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
- GCNL *#4 (Jan. 8), #115 (June 16), July 22, 1976

DATE CODED: 1992/06/03
DATE REVISED: 1992/06/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE241**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN 3**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 54 N
LONGITUDE: 120 28 45 W
ELEVATION: 1481 Metres

NORTHING: 5508142
EASTING: 681779

LOCATION ACCURACY: Within 500M

COMMENTS: Bornite-chalcopyrite-malachite showing 2.7 kilometres east of Summers Creek and 3.1 kilometres north-northeast of the north end of Rampart Lake (Assessment Report 9821, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ASSOCIATED: Magnetite Pyrite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Porphyritic Andesite
Agglomerate

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

The Golden 3 showing is 2.7 kilometres east of Summers Creek and 3.1 kilometres north-northeast of the north end of Rampart Lake.

A small fracture controlled occurrence of malachite, chalcopyrite and bornite is hosted in augite porphyritic andesite and agglomerate of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). Magnetite and traces of pyrite occur in the vicinity of the showing.

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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/08
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE242**

NATIONAL MINERAL INVENTORY:

NAME(S): **MS 4, EJ, ROADBLOCK**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 20 N
LONGITUDE: 120 30 23 W
ELEVATION: 1097 Metres

NORTHING: 5510732
EASTING: 679728

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the MS 4 claim, 450 metres east of Summers Creek and 4.85 kilometres northeast of the summit of Missezula Mountain (claim map 092H/10E (August 1982)).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcocite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 80 x 47 Metres
COMMENTS: Showing outcrops over an 80 by 47 metres area.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 24.7000 Grams per tonne
Copper 0.7200 Per cent
COMMENTS: Chip sample taken across 5.5 metres.
REFERENCE: Assessment Report 7584, page 6 (sample 6797).

CAPSULE GEOLOGY

The MS 4 copper showing outcrops along the steep east side of the Summers Creek valley, about 5 kilometres northeast of the summit of Missezula Mountain.

Clasts and stringers of chalcocite occur in the matrix of a thick sequence of lahar deposits with abundant syenitic clasts of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). In one instance, a concentration of chalcocite is developed along a northeast-striking bedding plane shear. The various occurrences outcrop over an 80 by 47 metres area. A chip sample assayed 0.720 per cent copper and 24.7 grams per tonne silver over 5.5 metres (Assessment Report 7584, page 6, sample 6797). Three other chip samples assayed 0.192 to 0.653 per cent copper over 2.3 to 4.0 metres (samples 6796, 7416, 7417).

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EMPR EXPL 1979-150; 1985-C181,C182
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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 439
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR MAP 17 (1975)
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/09
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE243**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAN, HG, PRIME,
NELLIE**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 02 N
LONGITUDE: 120 28 57 W
ELEVATION: 1335 Metres

NORTHING: 5513939
EASTING: 681344

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of area of trenching, 1200 metres east of Summers Creek and 2.3 kilometres southeast of the south end of Missezula Lake (Assessment Report 8256, Figure 2).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Chalcocite
ASSOCIATED: Gypsum Quartz Calcite
ALTERATION: Clay Sericite Chlorite Orthoclase Malachite
Neotocite Azurite Albite

COMMENTS: Also silica and biotite.

ALTERATION TYPE: Argillic Sericitic Potassic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 230 x 225 x 30 Metres STRIKE/DIP: 360/75E TREND/PLUNGE:

COMMENTS: Main zone of copper mineralization trends north for 225 metres, varying from 10 to 30 metres wide, and dips 75 degrees to near vertically east for up to 230 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Plagioclase Hornblende Porphyritic Andesite
Hornblende Porphyritic Syenite
Lahar
Monzonite
Syeno Diorite
Hornblende Porphyritic Diorite
Syenite

HOSTROCK COMMENTS: This prospect is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1989

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Gold

0.2700

Grams per tonne

Copper

0.2900

Per cent

COMMENTS: Average grade over 193.85 metres.

REFERENCE: Assessment Report 18776, page 6 (hole 321-1, 15.54 to 209.39 metres).

INVENTORY

ORE ZONE: MAIN	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Drill Core	
COMMODITY	<u>GRADE</u>
Gold	0.3100 Grams per tonne
Copper	0.4000 Per cent

COMMENTS: Average grade over 225 metres length and 10 to 30 metres width, to a depth of 230 metres.

REFERENCE: Property File - D.C. Miller, 1988, page 6.

CAPSULE GEOLOGY

The Man copper prospect is 1200 metres east of Summers Creek, 2.3 kilometres southeast of the south end of Missezula Lake and 32.5 kilometres north of Princeton.

This region along Summers Creek is underlain by the Eastern volcanic facies of the Upper Triassic Nicola Group, comprising mafic to intermediate, augite and hornblende porphyritic pyroclastics and flows, and associated alkaline intrusions. The intrusions vary from diorite to monzonite in composition and are thought to be comagmatic with the Nicola Group, ranging in age from Late Triassic to Early Jurassic. Much of the copper mineralization and associated alteration frequenting this portion of the Nicola belt can be attributed to the emplacement of such intrusions.

Locally, the area is underlain by Nicola Group plagioclase hornblende porphyritic andesite flows and massive to crudely bedded lahar deposits containing pink syenitic clasts (Eastern belt, Bulletin 69). This sequence is intruded by a complexly faulted assemblage of hornblende porphyritic syenite, locally grading to monzonite or syenodiorite, and hornblende porphyritic diorite. Various fault blocks of barren, unaltered syenite occur north of similarly faulted, altered and mineralized syenite. The hornblende diorite flanks the syenite to the southwest.

The mineralized syenite exhibits strong argillic and sericitic alteration and weak to moderate chlorite and albite alteration. The surrounding mineralized andesites contain weak to moderate, patchy orthoclase, lesser chlorite, silica, sericite and clay and traces of secondary biotite. The intrusive and volcanics are commonly veined with gypsum and calcite, lesser quartz and minor zeolite. Some orthoclase flooding is developed along the quartz and gypsum veins.

The intrusion contains up to 3 per cent pyrite and up to 2 per cent chalcopryrite, as disseminations, blebs and fracture fillings. Traces of bornite and chalcocite are also evident. Surface exposures contain abundant malachite along fractures in the syenite, and some azurite confined to narrow fault-bounded zones 1 to 3 metres wide. Neotocite occurs as small black masses through the altered syenite. Chalcopryrite is occasionally found in siliceous zones and quartz veins in the andesite, and along gypsum veins and chloritic fractures.

Diamond drilling and trenching to 1981 had intersected significant copper and gold mineralization over an area of 260 by 300 metres. The bulk of the copper mineralization occurs in one prominent north-trending zone, 225 metres long and 10 to 30 metres wide, averaging 0.4 per cent copper and 0.31 gram per tonne gold (Property File - D.C. Miller, 1988, page 6). The zone dips 75 degrees to near vertically east and has been tested to a depth of 230 metres. Additional drilling in 1988 and 1989 intersected mineralization over a 200 by 200 metres area to depths of up to 158 metres. One angled drillhole yielded 0.29 per cent copper and 0.27 gram per tonne gold over 193.85 metres, including 1.52 per cent copper and 10.1 grams per tonne gold over 1 metre (Assessment Report 18776, page 6, hole 321-1, 15.54 to 209.39 metres). A second vertical hole drilled 140 metres southwest of hole 321-8 graded 0.18 per cent copper and 0.10 gram per tonne gold over 68.58 metres (hole 321-8, 89.00 to 157.58 metres).

Sampling of trenches yielded significant gold values, including 8.6 grams per tonne over 5 metres and 3.57 grams per tonne over 14 metres (Assessment Report 17077, pages 1, 4). Drilling suggests that gold mineralization occurs in fault zones separating mineralized rock from fresh unaltered rock, and in narrow steeply dipping zones paralleling the main zone of copper mineralization.

This prospect was extensively explored by Newmont Exploration of Canada Ltd. after being initially staked and trenched by E. Mullin and W. Stevens in 1979. The company conducted geological, soil geochemical and geophysical surveys, 3250 square metres of trenching and 2551 metres of diamond drilling in 12 holes, between 1979 and 1981. Giant Piper Exploration Inc. completed geological and geophysical surveys over the northern part of the occurrence in 1984.

CAPSULE GEOLOGY

The deposit was restaked by D.T. Mehner in 1987. Brican Resources Ltd. drilled 8 holes totalling 1509 metres in 1988 and 1989, after completing an induced polarization survey in 1988.

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GCNL #140 (July 21), *#194 (Oct. 7), 1988
N MINER Aug. 1, 1988

DATE CODED: 1992/06/11
DATE REVISED: 1992/06/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE244**

NATIONAL MINERAL INVENTORY:

NAME(S): **DILLARD LAKE**, DILL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 07 N
LONGITUDE: 120 25 59 W
ELEVATION: 1539 Metres

NORTHING: 5514214
EASTING: 684900

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite-bearing andesite outcrop, 570 metres west-northwest of the south end of Dillard Lake, 5 kilometres east-southeast of the south end of Missezula Lake (Assessment Report 2356, Map 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Calcite
ALTERATION: Epidote
ALTERATION TYPE: Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Dillard Lake showing is 570 to 680 metres west of the south end of Dillard Lake, 5 kilometres southeast of the south end of Missezula Lake.

Some disseminated pyrite and minor chalcopyrite occur over a 200 metre distance in andesite of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). The andesite is mildly epidote altered and veined with calcite.

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CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/16
DATE REVISED: 1992/06/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE245**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD CORE**, DILL

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 23 N
LONGITUDE: 120 24 03 W
ELEVATION: 1494 Metres

NORTHING: 5514788
EASTING: 687204

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site D-R32, 1.85 kilometres east-northeast of the south end of Dillard Lake and 7.2 kilometres east-southeast of the south end of Missezula Lake (Assessment Report 18410, Figure 4).

COMMODITIES: Zinc Lead Silver

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesitic Basaltic Flow
Basalt
Andesite
Diorite Syenite Dike
Pyroclastic

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.	

INVENTORY

ORE ZONE: SHOWING	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1989
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	8.8000 Grams per tonne
Lead	0.1621 Per cent
Zinc	1.9118 Per cent

REFERENCE: Assessment Report 18410, pages 12, 13 (sample D-R32).

CAPSULE GEOLOGY

The Gold Core showing is 1.8 to 1.9 kilometres east-northeast of the south end of Dillard Lake and about 7 kilometres east-southeast of the south end of Missezula Lake.

The area east of Dillard Lake is largely underlain by andesitic to basaltic flows and pyroclastics of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). These volcanics are intruded by small bodies and dikes of diorite and syenite that may be comagmatic with the volcanics.

Minor lead and zinc mineralization occurs in quartz-carbonate altered zones exposed in various roadcuts over a north-south distance of 430 metres. A selected sample of carbonate and silica altered volcanic with disseminated sphalerite, galena and pyrite analysed 1.912 per cent zinc, 0.162 per cent lead, 8.8 grams per tonne silver and 0.0101 per cent copper (Assessment Report 18410, pages 12, 13, sample D-R32).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 445
REPORT: RGEN0100

BIBLIOGRAPHY

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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/22
DATE REVISED: 1992/06/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE246**

NATIONAL MINERAL INVENTORY:

NAME(S): **DILL 29**, LORRY, SP

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 04 N
LONGITUDE: 120 24 54 W
ELEVATION: 1512 Metres

NORTHING: 5510460
EASTING: 686331

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site D90-R3, 3.9 kilometres southeast of the south end of Dillard Lake and 7.6 kilometres northeast of the north end of Rampart Lake (Assessment Report 21198, Figure 5).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION TYPE: Silicific'n Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma

DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Altered Granite

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1992

COMMODITY: Silver GRADE: 6.1000 Grams per tonne

REFERENCE: Assessment Report 22220, page 25 (sample D91-R3).

CAPSULE GEOLOGY

The Dill 29 showing is 3.9 kilometres southeast of the south end of Dillard Lake and 7.6 kilometres northeast of the north end of Rampart Lake.

Silicified and weakly propylitized granite of the Middle Jurassic Osprey Lake batholith is cut by quartz veinlets and mineralized with 1 to 3 per cent disseminated pyrite and chalcopyrite. The showing is 250 metres southeast of the contact with Upper Triassic Nicola Group volcanic rocks. A sample analysed 0.168 gram per tonne gold and 6.1 grams per tonne silver (Assessment Report 22220, page 25, sample D91-R3).

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98; 91-2, pp. 87-107
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/22
DATE REVISED: 1992/06/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE247**

NATIONAL MINERAL INVENTORY:

NAME(S): **DILL 9**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 18 N
LONGITUDE: 120 21 49 W
ELEVATION: 1509 Metres

NORTHING: 5514727
EASTING: 689890

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site D90-R17, 4.45 kilometres east-northeast of the south end of Dillard Lake and 9.9 kilometres east-southeast of the south end of Missezula Lake (Assessment Report 21198, Figure 5).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Quartz
ASSOCIATED: Quartz
ALTERATION: Silica Clay
ALTERATION TYPE: Silicific'n Propylitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Altered Granite

HOSTROCK COMMENTS: Date from Geological Survey in Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the western margin of the Osprey Lake batholith.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1990
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	3.6000	Grams per tonne	
Gold	1.6200	Grams per tonne	

REFERENCE: Assessment Report 21198, Section 11 (sample D90-R17).

CAPSULE GEOLOGY

The Dill 9 showing outcrops along a logging road 4.45 kilometres east-northeast of the south end of Dillard Lake and 9.9 kilometres east-southeast of the south end of Missezula Lake.

Silicified, strongly propylitized and locally clay-altered granite of the Middle Jurassic Osprey Lake batholith is cut by quartz veins and quartz-healed breccias. The quartz veins are fine grained and banded while the quartz breccia matrix is white and drusy. A grab sample assayed 1.62 grams per tonne gold and 3.6 grams per tonne silver (Assessment Report 21198, section 11.0 - analytical results, sample D90-R17).

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GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 449
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/22
DATE REVISED: 1992/06/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE248**

NATIONAL MINERAL INVENTORY:

NAME(S): **DILL 8**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 52 N
LONGITUDE: 120 22 21 W

NORTHING: 5515754
EASTING: 689213

ELEVATION: 1518 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site D90-R18, 3.6 kilometres southwest of the confluence of Siwash and Galena creeks and 9 kilometres east of the south end of Missezula Lake (Assessment Report 21198, Figure 5).

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Clay
ASSOCIATED: Clay
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Middle Jurassic

Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma

DATING METHOD: Lead/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Granite
Andesitic Dike

HOSTROCK COMMENTS: This occurrence is in the western margin of the Osprey Lake batholith. Date from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1990

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

12.5000

Grams per tonne

REFERENCE: Assessment Report 21198, section 11.0 (sample D90-R18).

CAPSULE GEOLOGY

The Dill 8 occurrence is 3.6 kilometres southwest of the confluence of Siwash and Galena creeks and 9 kilometres east of the south end of Missezula Lake.

A shear zone, 0.5 metre wide, cuts granite of the Middle Jurassic Osprey Lake batholith, near an andesitic dike. The shear is comprised of rusty orange to yellow-white clay gouge (decomposed granite). A sample analysed 0.039 gram per tonne gold, 12.5 grams per tonne silver and 0.0016 per cent copper (Assessment Report 21198, section 11.0 - analytical results, sample D90-R18).

BIBLIOGRAPHY

EMPR ASS RPT *21198
EMPR BULL 69
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 451
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/22
DATE REVISED: 1993/02/15

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE249**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOSEE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 50 03 N
LONGITUDE: 120 32 16 W
ELEVATION: 1280 Metres

NORTHING: 5523101
EASTING: 677057

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcocite showing, 2.4 kilometres north-northeast of the north end of Missezula Lake (Preliminary Map 15, Sheet 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar
Volcanic Conglomerate

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Insular	PHYSIOGRAPHIC AREA: Thompson Plateau	
TERRANE: Quesnel		
METAMORPHIC TYPE: Regional	RELATIONSHIP:	GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.		

CAPSULE GEOLOGY

The Josee showing is 2.4 kilometres north-northeast of the north end of Missezula Lake.
Chalcocite occurs in a sequence of massive to crudely layered lahar deposits and volcanic conglomerate of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69).

BIBLIOGRAPHY

EMPR ASS RPT 11373, 12351
EMPR BULL 69
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/23
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE250**

NATIONAL MINERAL INVENTORY:

NAME(S): **THOR 5, BOSS, THALIA, ADONIS, ZIG, AMALG**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 49 46 N
LONGITUDE: 120 35 13 W
ELEVATION: 1161 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5522461
EASTING: 673539

COMMENTS: Sample site A-30, 3.75 kilometres south-southwest of the south end of Bluey Lake, 3.4 kilometres northwest of the north end of Missezula Lake (Assessment Report 7724, Plate 1).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Malachite Chalcopyrite Chalcocite Copper
COMMENTS: Rare chalcopyrite and chalcocite.
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 540 x 140 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization occurs in an area trending north-northeast for 540 metres and about 140 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Volcanic Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1978
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.2860 Per cent
REFERENCE: Assessment Report 7724, Plate 1 (sample A-30).

CAPSULE GEOLOGY

This occurrence is 2.0 to 2.5 kilometres southwest of the south end of Bluey Lake and 3.3 to 3.6 kilometres northwest of the north end of Missezula Lake.

The Thor 5 showing is hosted in a sequence of green volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Mineralization consists of malachite and rare chalcopyrite and chalcocite, occurring sporadically in an area trending north-northeast for 540 metres and about 140 metres wide. Two samples taken near the centre of the area of mineralization analysed 0.286 per cent copper and 0.0103 per cent zinc, and 0.242 per cent copper and 1.5 grams per tonne silver, respectively (Assessment Reports 7724, Plate 1, sample A-30; 14141, Figure 8a, sample 2006). A second sample, 220 metres south-southwest of sample A-30, analysed 0.100 per cent copper and 0.010 per cent zinc (sample A-413).

An outcrop of breccia with native copper occurs about 500 metres

CAPSULE GEOLOGY

west of the south end of the previous zone of copper mineralization.

BIBLIOGRAPHY

EMPR ASS RPT 2028, 4495, *7165, *7724, *14141, 17118, 20257
EMPR BULL 69
EMPR EXPL 1978-E151
EMPR GEM 1969-277; 1972-135; 1973-156,157
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/24
DATE REVISED: 1992/06/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE251**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZIG 4, THOR 3**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 50 50 N
LONGITUDE: 120 36 18 W
ELEVATION: 1152 Metres

NORTHING: 5524396
EASTING: 672178

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcocite-malachite showing, 2.9 kilometres southwest of the south end of Bluey Lake and 5.6 kilometres northwest of the north end of Missezula Lake (Preliminary Map 15, Sheet 5).

COMMODITIES: Copper Gold

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Plagioclase Porphyritic Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1985
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Gold	0.7000 Grams per tonne
Copper	0.2080 Per cent
REFERENCE: Assessment Report 14141, Figure 7a, sample 4007.	

CAPSULE GEOLOGY

The Zig 4 showing is 2.9 kilometres southwest of the south end of Bluey Lake and 5.6 kilometres northwest of the north end of Missezula Lake.
Chalcocite, native copper and malachite occur in augite plagioclase porphyritic andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A sample analysed 0.208 per cent copper and 0.7 gram per tonne silver (Assessment Report 14141, Figure 7a, sample 4007).

BIBLIOGRAPHY

EMPR ASS RPT 4495, *14141, 20257
EMPR BULL 69
EMPR MAP *15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
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BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/25
DATE REVISED: 1992/06/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE252**

NATIONAL MINERAL INVENTORY:

NAME(S): **LM**, WD

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 35 N
LONGITUDE: 120 37 26 W
ELEVATION: 1000 Metres

NORTHING: 5525742
EASTING: 670776

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the west bank of Otter Creek, 3.75 kilometres west-southwest of the south end of Bluey Lake and 7.55 kilometres northwest of the north end of Missezula Lake (Assessment Report 11197, pages 2, 4).

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: 12 Metres STRIKE/DIP: 175/53W
COMMENTS: Fracture zone, 4 to 5 centimetres wide, strikes 175 degrees for 12 metres.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the central part of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 22.5000 Grams per tonne
Copper 8.3000 Per cent
COMMENTS: Chip sample taken across 5 centimetres.
REFERENCE: Assessment Report 11197, page 4.

CAPSULE GEOLOGY

The LM showing is on the west bank of Otter Creek, 3.75 kilometres west-southwest of the south end of Bluey Lake and 7.55 kilometres northwest of the north end of Missezula Lake. A 4 to 5-centimetre thick fracture zone in andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69) is filled with brecciated andesite containing abundant malachite staining. The fracture zone strikes 175 degrees and dips 53 degrees west. It has been traced on surface for 12 metres. A chip sample analysed 8.3 per cent copper, 0.0002 per cent molybdenum and 22.5 grams per tonne silver over 5 centimetres (Assessment Report 11197, page 4). The showing was initially explored by a 3-metre long adit and several trenches excavated some time in the distant past. Lornex Mining Corporation conducted geological, geophysical and soil geochemical surveys in 1982.

BIBLIOGRAPHY

EMPR ASS RPT 4475, *11197

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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BIBLIOGRAPHY

EMPR BULL 69
EMPR EXPL 1982-193,194
EMPR GEM 1973-157
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/25
DATE REVISED: 1992/06/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE253**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZIG 1**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 28 N
LONGITUDE: 120 34 15 W
ELEVATION: 1125 Metres

NORTHING: 5521943
EASTING: 674716

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole 91-08, 4.15 kilometres due south of the south end of Bluey Lake, 2.1 kilometres northwest of the north end of Missezula Lake (Assessment Report 21406, Figure 4).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Quaternary

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	Nicola	Undefined Formation	

LITHOLOGY: Gravel
Vesicular Basalt
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
COMMODITY: Gold
GRADE: 1.2900 Grams per tonne

YEAR: 1991

COMMENTS: Percussion-drill hole cuttings over a 3.0-metre interval.
REFERENCE: Assessment Report 21406, Fig. 10 (hole 91-08, 42.7 to 45.7 metres).

CAPSULE GEOLOGY

The Zig 1 showing is 4.15 kilometres due south of the south end of Bluey Lake and 2.1 kilometres northwest of the north end of Missezula Lake.

A 17-metre thick section of consolidated gravel is overlain by 26 metres of fine grained vesicular basalt and underlain by fine-grained tuff of the Upper Triassic Nicola Group. A sample of cuttings from the gravel analysed 1.29 grams per tonne gold and 0.042 per cent copper over 3.0 metres (Assessment Report 21406, Figure 10, hole 91-08, 42.7 to 45.7 metres).

Three closely-spaced percussion holes were drilled by Rayrock Yellowknife Resources in 1991 to test an induced polarization conductor for copper mineralization.

BIBLIOGRAPHY

EMPR ASS RPT 20257, *21406
EMPR BULL 69
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98

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REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358

DATE CODED: 1992/06/25
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE254**

NATIONAL MINERAL INVENTORY:

NAME(S): **MISSEZULA LAKE**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 58 N
LONGITUDE: 120 30 28 W
ELEVATION: 1219 Metres

NORTHING: 5515607
EASTING: 679466

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site R1900, 400 metres southwest of Missezula Lake, 4.0 kilometres east-southeast of the south end of Ketchan Lake (Assessment Report 14141, Drawing 13a).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Augite Plagioclase Porphyritic Basalt
Augite Plagioclase Porphyritic Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

INVENTORY

ORE ZONE: ROADCUT
REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1985
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		2.0000	Grams per tonne
Copper		0.8870	Per cent

REFERENCE: Assessment Report 14141, Drawing 13a (sample R1900).

CAPSULE GEOLOGY

The Missezula Lake showing is 400 metres southwest of Missezula Lake, and 3.8 to 4.0 kilometres east-southeast of the south end of Ketchan Lake.

Malachite and hematite occur in several roadcuts, 300 metres apart, in red volcanic breccia and augite plagioclase porphyritic andesite and basalt of the Upper Triassic Nicola Group (Eastern belt, Bulletin 69). A sample of andesite with malachite and hematite analysed 0.887 per cent copper and 2.0 grams per tonne silver (Assessment Report 14141, Drawing 13a, sample R1900). A second sample of breccia with malachite, 285 metres northwest of sample R1900, analysed 0.436 per cent copper and 1.2 grams per tonne silver (sample R1600).

BIBLIOGRAPHY

EMPR ASS RPT *14141
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 9-13
EMPR MAP 17 (1975)
EMPR P 1981-2

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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BIBLIOGRAPHY

GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/26
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE255**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZIG**, THOR 5

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 11 N
LONGITUDE: 120 35 16 W
ELEVATION: 1122 Metres

NORTHING: 5521378
EASTING: 673514

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 3780, 4.8 kilometres south-southwest of the south end of Bluey Lake, 3.0 kilometres west-northwest of the north end of Missezula Lake (Assessment Report 17118, Figure 6a).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Copper mineralization.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This showing is in the east-central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock

YEAR: 1987

COMMODITY

Silver 3.4000 Grams per tonne
Copper 0.9750 Per cent

REFERENCE: Assessment Report 17118, Figures 6a, 6b (sample 3780).

CAPSULE GEOLOGY

The Zig showing is 4.8 kilometres south-southwest of the south end of Bluey Lake and 3.0 kilometres west-northwest of the north end of Missezula Lake.

Copper mineralization occurs in volcanic breccia and lahar deposits of the Upper Triassic Nicola Group. A sample analysed 0.975 per cent copper and 3.4 grams per tonne silver (Assessment Report 17118, Figures 6a, 6b, sample 3780).

BIBLIOGRAPHY

EMPR ASS RPT 4495, 7165, 7724, 14141, *17118, 20257
EMPR BULL 69
EMPR EXPL 1978-E151; 1985-C187
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/26
DATE REVISED: 1992/11/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE256**

NATIONAL MINERAL INVENTORY:

NAME(S): **DALRYMPLE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 54 N
LONGITUDE: 120 38 10 W
ELEVATION: 1134 Metres

NORTHING: 5530006
EASTING: 669762

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site PR-4, 2.5 kilometres south-southwest of the south end of Kidd Lake, 2.3 kilometres northeast of the north end of Dodds Lake (Assessment Report 10497, Figure 3).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite
Dacite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This occurrence is in the east-central part of the Nicola belt. GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Rock
COMMODITY: Copper 0.1800 Per cent
REFERENCE: Assessment Report 10497, page 6 (sample PR-4).

CAPSULE GEOLOGY

The Dalrymple showing is 2.5 kilometres south-southwest of the south end of Kidd Lake and 2.3 kilometres northeast of the north end of Dodds Lake.

Quartz-epidote-carbonate veinlets mineralized with chalcopyrite and malachite occur in andesite and dacite of the Upper Triassic Nicola Group (Western belt, Bulletin 69). A rock sample analysed 0.18 per cent copper and 0.9 gram per tonne silver (Assessment Report 10497, page 6, sample PR-4).

BIBLIOGRAPHY

EMPR ASS RPT *10497
EMPR BULL 69
EMPR EXPL 1981-309
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

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BIBLIOGRAPHY

CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/26
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE257**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLOO, KEN, AR,
KENTUCKY, ALSCOPE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 53 14 N
LONGITUDE: 120 35 08 W
ELEVATION: 1280 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5528887
EASTING: 673432

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 2574, 1.8 kilometres north-northwest of the north end of Bluey Lake and 1.4 kilometres west-southwest of the south end of Kentucky Lake (Assessment Report 14141, Drawing 5b).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite Hematite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkaic porphyry Cu-Au D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Diorite
Dioritic Volcanic

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the central part of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1985
SAMPLE TYPE:	Rock		
COMMODITY	GRADE		
Silver	1.7000	Grams per tonne	
Copper	0.4828	Per cent	

REFERENCE: Assessment Report 14141, Drawing 5b (sample 2574).

CAPSULE GEOLOGY

The Bloo showing is 1.8 kilometres north-northwest of the north end of Bluey Lake and 1.4 kilometres west-southwest of the south end of Kentucky Lake.

Chalcopyrite, malachite and hematite occur in fine-grained diorite or dioritized volcanics of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A rock sample analysed 0.483 per cent copper and 1.7 grams per tonne silver (Assessment Report 14141, Drawing 5b, sample 2574).

Three rock samples taken in the vicinity of an old shaft in diorite, 250 metres east-northeast, yielded 0.428 to 0.795 per cent copper (Assessment Report 20551, Figure 3).

BIBLIOGRAPHY

EMPR AR 1958-28; 1964-96; 1967-175
EMPR ASS RPT 6761, 11468, *14141, *20551
EMPR BULL 69
EMPR EXPL 1978-E151; 1983-264; 1985-C187
EMPR MAP 15 (1974)

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EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/28
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CODED BY: PSF
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FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
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MINFILE NUMBER: **092HNE258**

NATIONAL MINERAL INVENTORY:

NAME(S): **AR 2, KENTUCKY, ALSCOPE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 41 N
LONGITUDE: 120 34 51 W
ELEVATION: 1189 Metres

NORTHING: 5529732
EASTING: 673744

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 2.4 kilometres north-northwest of the north end of Bluey Lake and 1.25 kilometres northwest of the south end of Kentucky Lake (Assessment Report 6761, Sheet 2).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This showing is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

The AR 2 showing is 2.4 kilometres north-northwest of the north end of Bluey Lake and 1.25 kilometres northwest of the south end of Kentucky Lake.

An old shaft exposes malachite and chalcocite in volcanic breccia and lahar deposits of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

BIBLIOGRAPHY

EMPR AR 1958-28; 1964-96; 1967-175
EMPR ASS RPT *6761, 11468
EMPR BULL 69
EMPR EXPL 1978-E151; 1983-264
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/06/29
DATE REVISED: 1992/07/13

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE258**

MINFILE NUMBER: **092HNE259**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL 2**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 55 N
LONGITUDE: 120 36 12 W
ELEVATION: 1082 Metres

NORTHING: 5530112
EASTING: 672115

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site AI 90001, 1.4 kilometres south-southwest of the south end of Miner Lake and 2.9 kilometres southeast of the south end of Kidd Lake (Assessment Report 20551, Figure 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Copper mineralization.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Limy Siltstone
Limestone
Volcanic Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.	

INVENTORY

ORE ZONE: SHOWING	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1990
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Copper	1.4304 Per cent
REFERENCE: Assessment Report 20551, Figure 3 (sample AI 90001).	

CAPSULE GEOLOGY

The AL 2 showing is 1.4 kilometres south-southwest of the south end of Miner Lake and 2.9 kilometres southeast of the south end of Kidd Lake.

Copper mineralization occurs in limy siltstone and impure limestone near the contact with green volcanic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A sample analysed 1.43 per cent copper and 0.001 gram per tonne gold (Assessment Report 20551, Figure 3, Sample AI 90001).

BIBLIOGRAPHY

EMPR ASS RPT *20551
EMPR BULL 69
EMPR MAP 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

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DATE CODED: 1992/07/03
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE260**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL 1**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 54 21 N
LONGITUDE: 120 35 03 W
ELEVATION: 1158 Metres

NORTHING: 5530959
EASTING: 673465

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site KN 90002, 1.1 kilometres southeast of the south end of Miner Lake and 2.3 kilometres north-northwest of the south end of Kentucky Lake (Assessment Report 20551, Figure 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Copper mineralization.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Lahar Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.	

INVENTORY

ORE ZONE: SHAFT	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1990
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Copper	0.1885 Per cent
REFERENCE: Assessment Report 20551, Figure 3 (sample KN 90002).	

CAPSULE GEOLOGY

The AL 1 showing is 1.1 kilometres southeast of the south end of Miner Lake and 2.3 kilometres north-northwest of the south end of Kentucky Lake.

A shaft and several pits expose copper mineralization in red volcanic and laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A sample taken adjacent to the shaft analysed 0.189 per cent copper and 0.001 gram per tonne gold (Assessment Report 20551, Figure 3, sample KN 90002).

BIBLIOGRAPHY

EMPR ASS RPT *20551, 21678
EMPR BULL 69
EMPR FIELDWORK 1974, pp. 14-16
EMPR MAP 10 (1973); 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
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RUN TIME: 10:48:34

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Ontario

DATE CODED: 1992/07/03
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE261**

NATIONAL MINERAL INVENTORY: 092H16 Au

NAME(S): **ELK (SOUTH SHOWING)**, ELK

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 26 N
LONGITUDE: 120 19 05 W
ELEVATION: 1609 Metres

NORTHING: 5522501
EASTING: 692897

LOCATION ACCURACY: Within 500M

COMMENTS: Trench SS87-2 in the South showing, 1.6 kilometres south-southwest of the south end of Siwash Lake and 2.1 kilometres northeast of Elusive Creek (Assessment Report 16644, Plate 1).

COMMODITIES: Gold Silver Copper Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Galena Arsenopyrite
ASSOCIATED: Quartz
ALTERATION: Clay
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Stockwork Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I01 Au-quartz veins
I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 34 x 12 Metres STRIKE/DIP: 060/ TREND/PLUNGE:
COMMENTS: Gold-bearing zone of quartz veining is hosted along the northern margin of a breccia zone striking 060 degrees for at least 34 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granite
Breccia
Andesite Dike
Andesitic Volcanic
Andesite

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: The occurrence is in the northern margin of the Osprey Lake batholith.

INVENTORY

ORE ZONE: BRECCIA REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Chip
COMMODITY: Gold GRADE: 3.3600 Grams per tonne
COMMENTS: Average grade over 34 by 12 metres, as indicated by panel sampling.
REFERENCE: Assessment Report 19835, page 41.

CAPSULE GEOLOGY

This occurrence is centred 1.6 kilometres south-southwest of the south end of Siwash Lake and 2.1 kilometres northeast of Elusive Creek. The Elk (North Showing) (092HNE281) is 1 kilometre north-northwest.

The Elk (South Showing) is hosted in the northwestern margin of the Middle Jurassic Osprey Lake batholith, about 250 metres east of andesitic volcanics of the Upper Triassic Nicola Group. The intrusion is cut by andesitic dikes of Tertiary age (?) in the vicinity of the showing.

CAPSULE GEOLOGY

Trenching over an 800 by 300 metres area has intersected a zone of erratic quartz veining in altered granite, in association with breccia or intensely argillic-altered andesite dikes.

One prominent zone of mineralization consists of a breccia zone containing rounded fragments of granite and andesitic volcanics in a clay-altered matrix. The zone trends 060 degrees, similar to the andesite dikes. A series of quartz veins, 0.5 to 3 centimetres wide and striking 060 to 065 degrees, follows the northern contact of the breccia. The veins contain up to 10 per cent pyrite and variable (usually less than 1 per cent), chalcopyrite, sphalerite and galena. Panel sampling analyses indicates the breccia-hosted zone of veining averages 3.36 grams per tonne gold over a width of 12.0 metres for a strike length of 34 metres (Assessment Report 19835, page 41).

Additional quartz veining is evident in the area of trenching. The veins are typically accompanied by halos of weak to strong argillic alteration and yellow-orange iron sulphate (?) staining. One chip sample taken across a stockwork of quartz veins with 1 to 10 per cent disseminated pyrite and minor arsenopyrite and galena assayed 36.3 grams per tonne gold and 18.5 grams per tonne silver across 2.8 metres (Property File - Fairfield Minerals Ltd., 1987).

The granite itself hosts zones of strong, blue, clay alteration containing fine disseminated pyrite. A chip sample taken across one such zone assayed 5.93 grams per tonne gold and 12.8 grams per tonne silver over 1.7 metres (Assessment Report 16644, page 13).

The showing was initially uncovered in a series of hand trenches excavated by Fairfield Minerals Ltd. in 1986. The company conducted various geophysical, geological and soil geochemical surveys in 1987, in addition to 975 metres of trenching. Placer Dome Inc. completed additional geophysical surveys and excavated eight trenches totalling 481 metres in 1989.

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- EMPR ASS RPT *16644, *19835
- EMPR EXPL 1988-C108
- EMPR PF (*Fairfield Minerals Ltd. (1987): Elk Gold-Silver Property (see 092HNE281); Fairfield Minerals Ltd. (1990): Annual Report (see 092HNE096))
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/04
DATE REVISED: 1992/08/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE262**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER BELL**, COPPER BELLE, DAWN 100

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 56 12 N
LONGITUDE: 120 36 15 W
ELEVATION: 1250 Metres

NORTHING: 5534341
EASTING: 671919

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, immediately west of Lot 1554, 1.85 kilometres east-southeast of Aspen Grove and 2.8 kilometres northwest of the north end of Alleyne Lake (Preliminary Map 15, Sheet 4) (Note: location given in Bulletin 69 is incorrect).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Copper Chalcopyrite Bornite
ASSOCIATED: Calcite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Stockwork Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu
DIMENSION: STRIKE/DIP: 360/ TREND/PLUNGE:
COMMENTS: Mineralization is in part hosted in a north striking, steep dipping shear zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Andesite Porphyry
Andesite
Lahar Breccia

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 5.6000 Grams per tonne
Copper 1.3600 Per cent
COMMENTS: Over 1.5 metres.
REFERENCE: Assessment Report 18018, page 7 (hole 88-1, 18.9 to 20.4 metres).

CAPSULE GEOLOGY

The Copper Bell showing is 1.85 kilometres east-southeast of Aspen Grove and 2.8 kilometres northwest of the north end of Alleyne Lake.

An old shaft exposes a poorly defined shear developed in augite andesite porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The shear strikes north, dips steeply and exhibits abundant malachite staining. Three short holes collared 15 metres west of the shaft intersected minor copper mineralization in augite andesite porphyry and interbedded green and red laharc breccia. All holes commenced in andesite and intersected increasing amounts of breccia with depth.

Mineralization consists of native copper, chalcopyrite and bornite. Native copper forms tiny threads along fractures in

CAPSULE GEOLOGY

andesite, and usually occurs in quantities of less than 0.05 per cent. Sparse chalcopyrite and bornite are irregularly distributed in thin calcite-filled conjugate fractures and small calcite-flooded breccia zones in both the andesite and the breccia. One section of core assayed 1.36 per cent copper, less than 0.005 gram per tonne gold and 5.6 grams per tonne silver over 1.5 metres (Assessment Report 18018, page 7, hole 88-1, 18.9 to 20.4 metres).

This showing was initially prospected by Messrs. Low and Brown between 1900 and 1904. Three holes totalling 160 metres were drilled by C.F. Graham in 1988.

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- EMPR ASS RPT *18018
- EMPR BULL 69
- EMPR EXPL 1988-C107
- EMPR FIELDWORK 1974, pp. 14-16
- EMPR MAP 10 (1973); 15 (1974)
- EMPR P 1981-2
- EMPR PF (Anonymous (undated - early 1900s): 1 to 12000 scale plan showing mineral claims, Aspen Grove camp (see 092HNE Regional File))
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC OF 2167, pp. 93-98
- GSC P 85-1A, pp. 349-358
- GSC SUM RPT 1904, p. 77A
- CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
- Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove Area, B.C., unpublished B.Sc. thesis, University of Western Ontario

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DATE REVISED: 1992/07/04

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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE263**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOTE 4**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 56 40 N
LONGITUDE: 120 36 53 W
ELEVATION: 1097 Metres

NORTHING: 5535181
EASTING: 671134

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole PD H2, 1.2 kilometres east-northeast of Aspen Grove and 2.1 kilometres north-northeast of the north end of Kidd Lake (Assessment Report 3051, Map 2).

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite Tuff
Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1972
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 8.0000 Grams per tonne
Copper 1.1000 Per cent
REFERENCE: Assessment Report 3687, Map 4.

CAPSULE GEOLOGY

The Note 4 showing is 1.2 kilometres east-northeast of Aspen Grove and 2.1 kilometres north-northeast of the north end of Kidd Lake.

Pyrite and chalcopyrite occur in several exposures of andesite tuff of the Upper Triassic Nicola Group (Central belt, Bulletin 69). The sulphides are mostly disseminated, but also form fracture fillings. A considerable amount of epidote is associated with this mineralization. A selected sample assayed 1.10 per cent copper and 8.0 grams per tonne silver (Assessment Report 3687, Map 4).

Minor bornite and malachite occur in andesite in a trench 280 metres east-southeast of the previous showing. Chalcopyrite-bearing quartz veins are exposed in an adjacent trench, 10 metres northwest.

Dawood Mines Ltd. and Amax Exploration Inc. conducted geological, geophysical and soil geochemical surveys between 1969 and 1972. One percussion hole, 30 metres long, was also drilled in the pyrite-chalcopyrite showing during this time by Kennco Exploration (Western) Ltd.

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EMPR GEM 1969-276,354; 1970-379; 1971-287; 1972-137,138
EMPR MAP 10 (1973); 15 (1974)
EMPR P 1981-2
EMPR PF (Asano, E. (1968): Dawood Mines Ltd. - Report on the Aspen
Grove Property, with accompanying 1 to 6000 scale claim sheet map
and 1 to 4800 scale geology map (see 092HNE004))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove
Area, B.C., unpublished B.Sc. thesis, University of Western
Ontario

DATE CODED: 1992/07/05
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE264**

NATIONAL MINERAL INVENTORY:

NAME(S): **BORNITE** DAWN 100

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 56 53 N
LONGITUDE: 120 36 19 W
ELEVATION: 1128 Metres

NORTHING: 5535604
EASTING: 671799

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of area of sampling, 2.0 kilometres northeast of Aspen Grove and 250 metres southeast of the Coquihalla Highway (Phase 3) (Assessment Report 21824, Figure 6).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite
ALTERATION: Carbonate Limonite Malachite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesitic Tuff
Andesitic Breccia
Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Regional
GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Chip
COMMODITY

Gold	0.4250	Grams per tonne
Copper	0.2589	Per cent

COMMENTS: Chip sample taken across 5.0 metres.
REFERENCE: Assessment Report 21824, page 22 (sample 91425).

CAPSULE GEOLOGY

The Bornite showing is centred 2.0 kilometres northeast of Aspen Grove and 250 metres southeast of the Coquihalla Highway (Phase 3 section).
The showing is hosted in gossanous and carbonate-altered Upper Triassic Nicola Group andesitic tuff and breccia, containing a few syenitic clasts (Central belt, Bulletin 69).
Mineralization consists of chalcopyrite, pyrite and trace bornite. Malachite accompanies limonite in surface exposures. A chip sample analysed 0.259 per cent copper and 0.425 gram per tonne gold over 5 metres (Assessment Report 21824, page 22, sample 91425). A second chip sample yielded 0.564 per cent copper and 0.515 gram per tonne gold over 2.0 metres (sample 91424).

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EMPR BULL 69
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EMPR MAP 10 (1973); 15 (1974)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 481
REPORT: RGEN0100

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GSC P 85-1A, pp. 349-358
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Ontario

DATE CODED: 1992/07/07
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CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE265**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWFLAKE 2**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 40 N
LONGITUDE: 120 36 13 W
ELEVATION: 1122 Metres

NORTHING: 5537059
EASTING: 671872

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 1.1 kilometres west of the south end of Tule Lake and 3.0 kilometres northeast of Aspen Grove (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper Silver Lead

MINERALS

SIGNIFICANT: Chalcocite Copper Galena
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Augite Basalt Porphyry
Basalt

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: OUTCROP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY: Silver GRADE: 12.2000 Grams per tonne
REFERENCE: Assessment Report 13714, Drawing 2 (sample R014A).

CAPSULE GEOLOGY

The Snowflake 2 showing is 1.1 kilometres west of the south end of Tule Lake and 3.0 kilometres northeast of Aspen Grove. Three closely-spaced shafts expose native copper, chalcocite, malachite and azurite in augite basalt porphyry of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Three rock samples analysed 1.2 to 5.7 grams per tonne silver and 0.005 to 0.010 gram per tonne gold (Assessment Report 13714, Drawing 2, samples R011, R012, R013). An outcrop of basalt porphyry, 250 metres west-northwest of the shafts is mineralized with malachite, chalcocite and galena. A sample analysed 12.2 grams per tonne silver and 0.010 gram per tonne gold (sample R014A).

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 483
REPORT: RGEN0100

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Ontario

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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE266**

NATIONAL MINERAL INVENTORY:

NAME(S): **CYCLE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 05 N
LONGITUDE: 120 43 31 W
ELEVATION: 1372 Metres

NORTHING: 5539412
EASTING: 663067

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching, 2.35 kilometres northwest of the south end of Harmon Lake, and 8.5 kilometres northwest of Aspen Grove (Assessment Report 7457, page 6, Figures 2, 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite
COMMENTS: Chalcocite coats amygdule infillings.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Porphyritic Amygdaloidal Andesite Flow
Andesitic Flow
Andesitic Tuff
Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.	GRADE: Greenschist

CAPSULE GEOLOGY

The Cycle showing is 2.35 kilometres northwest of the south end of Harmon Lake and 8.5 kilometres northwest of Aspen Grove. The showing is hosted in a sequence of andesitic flows and tuffs of the Upper Triassic Nicola Group. The sequence strikes northwest and dips northeast. Mineralization occurs in a porphyritic amygdaloidal lava with prominent feldspar phenocrysts. The amygdaloidal infillings are coated with chalcocite. The showing was trenched and drilled some time before 1979. Redlands Resources Ltd. soil sampled the occurrence in 1979.

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DATE CODED: 1992/07/09
DATE REVISED: 1992/07/09

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE267**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWFLAKE 10**, CM 3, QUIL,
SKI

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 58 57 N
LONGITUDE: 120 34 22 W
ELEVATION: 1006 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5539508
EASTING: 674006

COMMENTS: Chalcopyrite-pyrite showing, 550 metres west of Quilchena Creek and 6.3 kilometres northeast of Aspen Grove (Preliminary Map 15).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

COMMENTS: This occurrence is in the centre of the Nicola belt.

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

This showing is 550 metres west of Quilchena Creek and 6.3 kilometres northeast of Aspen Grove.

Chalcopyrite and pyrite are hosted in massive grey to green andesite of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A rock sample analysed 0.005 gram per tonne gold and 0.2 gram per tonne silver (Assessment Report 13714, Drawing No. 2, sample 669). A chip sample taken 160 metres east, yielded 0.225 gram per tonne gold and 1.5 grams per tonne silver over 50 metres (sample 670).

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EMPR BULL 69
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EMPR GEM 1974-125,126
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EMPR P 1981-2
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GSC MEM 243, p. 94
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
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Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove Area, B.C., unpublished B.Sc. thesis, University of Western Ontario
Placer Dome File

DATE CODED: 1992/07/11
DATE REVISED: 1992/07/11

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE268**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWFLAKE 7, QUIL**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 58 04 N
LONGITUDE: 120 34 08 W
ELEVATION: 1030 Metres

NORTHING: 5537881
EASTING: 674338

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 922, 400 metres southwest of Quilchena Creek and 5.5 kilometres northeast of Aspen Grove (Assessment Report 13714, Drawing No. 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Magnetite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Lahar Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.	

CAPSULE GEOLOGY

The Snowflake 7 showing is 400 metres southwest of Quilchena Creek and 5.5 kilometres northeast of Aspen Grove. Chalcopyrite, pyrite and magnetite, with associated malachite, occur in massive green laharic breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). A rock sample analysed 0.020 gram per tonne gold and 0.3 gram per tonne silver (Assessment Report 13714, Drawing No. 2, sample 922).

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EMPR EXPL 1979-157,158; 1981-28; 1985-C188; 1986-C223
EMPR GEM 1974-125,126
EMPR MAP *15 (1974)
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GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
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Placer Dome File

DATE CODED: 1992/07/12
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE269**

NATIONAL MINERAL INVENTORY:

NAME(S): **MALACHITE 7**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 20 N
LONGITUDE: 120 29 11 W
ELEVATION: 1119 Metres

NORTHING: 5536718
EASTING: 680299

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite-bearing skarn zone on the Malachite 7 claim, 1.0 kilometre southeast of Quilchena Creek and 10.5 kilometres west-northwest of the south end of Boot Lake (Assessment Report 1586, Figure 3-R).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn

D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Pennask Batholith

LITHOLOGY: Dioritic Volcanic
Skarn

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional RELATIONSHIP:
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE:

CAPSULE GEOLOGY

The Malachite 7 showing is 1.0 kilometre southeast of Quilchena Creek and 10.5 kilometres west-northwest of the south end of Boot Lake.

Chalcopyrite occurs in a small zone of skarn alteration in dioritized volcanics of the Upper Triassic Nicola Group, near the contact with the Early Jurassic Pennask batholith to the northeast.

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DATE CODED: 1992/07/12
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE270**

NATIONAL MINERAL INVENTORY:

NAME(S): **KIT**, ONE HUNDRED AND ONE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 57 39 N
LONGITUDE: 120 31 35 W
ELEVATION: 1049 Metres

NORTHING: 5537209
EASTING: 677411

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on the north bank of Quilchena Creek, 2.0 kilometres east-northeast of the creek's confluence with Pothole Creek and 7.8 kilometres northeast of Aspen Grove (Minister of Mines Annual Report 1967, page 173).

COMMODITIES: Molybdenum Copper

MINERALS

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

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Greenstone
Granodiorite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

CAPSULE GEOLOGY

The Kit showing is exposed on the north bank of Quilchena Creek, 2.0 kilometres east-northeast of the creek's confluence with Pothole Creek and 7.8 kilometres northeast of Aspen Grove.

A small body of granodiorite of Late Triassic to Early Jurassic age intrudes volcanics of the Upper Triassic Nicola Group. The granodiorite is cut by narrow, steeply-dipping shears striking north and northeast, near the faulted contact with slightly pyritic Nicola Group greenstone to the northwest. Some of the shears are graphitic and they locally contain quartz lenses 2.5 to 5 centimetres wide with minor disseminated molybdenite. The intrusive is also fractured to some extent, with one prominent set striking 055 to 070 degrees and dipping steeply southeast. Some of the fractures contain quartz with minor chalcopyrite, malachite and molybdenite.

The intrusive was first prospected for molybdenum by J.E. Bate in 1915. Marengo Mines Ltd. excavated one trench, 60 metres long, and drilled two holes in 1967.

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EMPR BULL 69
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GEOLOGICAL SURVEY BRANCH
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DATE CODED: 1992/07/13
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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE271**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIT OR MISS (L.1664)**, LOU, HALO,
HAVEROEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 56 58 N
LONGITUDE: 120 35 01 W
ELEVATION: 1067 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5535809
EASTING: 673348

COMMENTS: Centre of the Hit or Miss claim (Lot 1664), 3.5 kilometres
east-northeast of Aspen Grove and 2.85 kilometres northwest of the
north end of Alleyne Lake (Preliminary Map 15, Sheet 4).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

DIMENSION: STRIKE/DIP: TREND/PLUNGE: 066/

COMMENTS: Mineralization occurs in two zones trending 066 degrees.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Crystal Tuff
Lapilli Tuff

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the centre of the Nicola belt.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1913
SAMPLE TYPE: Chip
COMMODITY: Copper GRADE: 0.6000 Per cent

COMMENTS: Chip sample taken across 1.8 metres.
REFERENCE: Minister of Mines Annual Report 1913, page 223.

CAPSULE GEOLOGY

The Hit or Miss showing is 3.5 kilometres east-northeast of Aspen Grove and about 3 kilometres northwest of the north end of Alleyne Lake.

This occurrence is hosted in well bedded, red crystal and lapilli tuff of the Upper Triassic Nicola Group (Central belt, Bulletin 69).

Malachite, azurite and flakes of chalcocite occur in vertically dipping bands (fractures (?)) within a zone trending 066 degrees. A similar, possibly parallel zone of copper mineralization occurs 60 metres farther south. A chip sample from this zone assayed 0.6 per cent copper over 1.8 metres (Minister of Mines Annual Report 1913, page 223).

Two shallow shafts were excavated in the mineralized zones between 1901 and 1915.

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 491
REPORT: RGEN0100

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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
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Area, B.C., unpublished B.Sc. thesis, University of Western
Ontario

DATE CODED: 1992/07/13
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE272**

NATIONAL MINERAL INVENTORY:

NAME(S): **NICOLA (L.1407)**, AG, AL 2

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H15E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 54 50 N
LONGITUDE: 120 36 12 W
ELEVATION: 1158 Metres

NORTHING: 5531811
EASTING: 672060

LOCATION ACCURACY: Within 500M

COMMENTS: Southernmost of two shafts on the Nicola claim (Lot 1407), 450 metres west of the north end of Miner Lake and 3.5 kilometres southeast of Aspen Grove (Preliminary Map 15, Sheet 4; Assessment Report 7029, Sheet 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Lahar Breccia
Lahar

HOSTROCK COMMENTS: This showing is in the Central volcanic facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Regional
COMMENTS: This occurrence is in the centre of the Nicola belt.	GRADE: Greenschist

CAPSULE GEOLOGY

The Nicola showing is about 0.5 kilometre west of the north end of Miner Lake and 3.5 kilometres southeast of Aspen Grove.

The occurrence is hosted in calcite-veined, red volcanic and laharc breccia of the Upper Triassic Nicola Group (Central belt, Bulletin 69). Occasional small grains of native copper occur along the walls of cavities in the breccia.

The showing was explored by two shafts, each 3.7 metres deep, and one trench, excavated in 1901.

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EMPR BULL 69
EMPR EXPL 1978-E152; 1980-208
EMPR FIELDWORK 1974, pp. 14-16
EMPR MAP 10 (1973); 15 (1974)
EMPR P 1981-2
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 93-98
GSC P 85-1A, pp. 349-358
GSC SUM RPT *1904-77A
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)
Olien, K.O. (1957): Geology and Mineral Deposits of the Aspen Grove Area, B.C., unpublished B.Sc. thesis, University of Western Ontario

DATE CODED: 1992/07/15
DATE REVISED: 1992/11/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE272**

MINFILE NUMBER: **092HNE273**

NATIONAL MINERAL INVENTORY:

NAME(S): **CR**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 49 N
LONGITUDE: 120 23 57 W
ELEVATION: 1021 Metres

NORTHING: 5493363
EASTING: 688066

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of trenching on the CR 3 claim, 2.25 kilometres northeast of the confluence of Hayes and Christian creeks (Assessment Report 14804, Figure 2).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Pyrite Molybdenite
ASSOCIATED: Quartz
ALTERATION: Sericite Kaolinite
ALTERATION TYPE: Sericitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Molybdenum
GRADE: 0.0330 Per cent

COMMENTS: Best sample.
REFERENCE: Assessment Report 14804, page 8.

CAPSULE GEOLOGY

The CR occurrence is centred 2.25 kilometres northeast of the confluence of Hayes and Christian creeks, 14.5 kilometres northeast of Princeton.

The showing occurs in the southwestern margin of the Middle Jurassic Osprey Lake batholith, some 2.5 kilometres northeast of the contact with volcanics and sediments of the Upper Triassic Nicola Group.

Trenching and diamond drilling over an area 250 metres long and 50 metres wide has intersected gossanous, altered, fractured and locally brecciated granite, occasionally cut by quartz veinlets and shears containing pods of sericite up to 0.5 metre wide. Several holes intersected sections of well-altered granite 18 to 28 metres long exhibiting strong sericite and lesser kaolinite alteration. These sections contain 3 to 5 per cent pyrite, as disseminations and along fractures, and rare molybdenite, as films along shears and fractures. Sulphide mineralization diminishes with less intense alteration. The best grab sample from well-altered granite exposed in trenches assayed 0.033 per cent molybdenum (Assessment Report 14804).

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CAPSULE GEOLOGY

The discovery of gossanous exposures along a newly built logging road prompted the staking of the showing in 1983. Suburban Resources Ltd. conducted soil and electromagnetic surveys, trenching and 350 metres of diamond drilling in three holes in 1983 and 1984.

BIBLIOGRAPHY

EMPR ASS RPT *14804
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/15
DATE REVISED: 1992/12/04

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE274**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAT**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 05 N
LONGITUDE: 120 22 50 W
ELEVATION: 884 Metres

NORTHING: 5497609
EASTING: 689265

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite showing on the Pat 33 claim, 370 metres southeast of Hayes Creek, 1.25 kilometres south-southwest of the creek's confluence with Finnegan Creek and 18.5 kilometres northeast of Princeton (Assessment Report 4833, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma

DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: The isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the Osprey Lake batholith, near its western margin.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Pat showing is 370 metres southeast of Hayes Creek, 1.25 kilometres south-southwest of the creek's confluence with Finnegan Creek and 18.5 kilometres northeast of Princeton.

Minor disseminated chalcopyrite occurs in granodiorite of the Middle Jurassic Osprey Lake batholith. A similar occurrence of disseminated chalcopyrite occurs 460 metres north-northeast.

BIBLIOGRAPHY

EMPR ASS RPT *4833
EMPR GEM 1973-138
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/16
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE275**

NATIONAL MINERAL INVENTORY:

NAME(S): **BREW**, WART, MUGWUMP

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 14 N
LONGITUDE: 120 19 28 W
ELEVATION: 1600 Metres

NORTHING: 5529525
EASTING: 692186

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Brew fault (easternmost fault zone on the Okedoke grid), 1.1 kilometres west-southwest of the south end of Elkhart Lake and 49.5 kilometres north-northeast of Princeton (Assessment Report 18041, Figure 3).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Marcasite Pyrrhotite
ASSOCIATED: Quartz Calcite
ALTERATION: Clay Silica Carbonate
ALTERATION TYPE: Argillic Silicific'n Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 600 x 40 Metres STRIKE/DIP: 140/
COMMENTS: Main fault (Brew fault zone) strikes 140 degrees for 600 metres and dips steeply southwest. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesite
Diorite
Tuff
Lapilli Tuff
Agglomerate
Mudstone
Siltstone
Shale
Carbonate
Feldspar Porphyritic Andesite

HOSTROCK COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group, 2.6 kilometres northwest of the Osprey Lake batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is in the Nicola belt, near its eastern margin.

INVENTORY

ORE ZONE: FAULT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Rock
COMMODITY: Gold GRADE: 0.6000 Grams per tonne
COMMENTS: Sample of quartz stringers in the Brew fault.
REFERENCE: Assessment Report 18041, page 8 (sample 239716).

CAPSULE GEOLOGY

The Brew occurrence outcrops along the Coquihalla Highway (Okanagan Connector), 1.0 to 2.2 kilometres west of the south end of Elkhart Lake and 49 to 50 kilometres north-northeast of Princeton. This occurrence is hosted in volcanics and minor sediments of the Upper Triassic Nicola Group, 2.6 kilometres northwest of the Middle Jurassic Osprey Lake batholith. The volcanics consist primarily of andesite and fine-grained diorite. The contact between

CAPSULE GEOLOGY

the two units is gradational, suggesting the diorite may be a subvolcanic equivalent of the andesite. Minor tuffs, lapilli tuffs, agglomerates, and feldspar porphyritic andesite are also present. The sediments consist of mudstone, siltstone, shale, and rare carbonate, intercalated with the pyroclastic units.

A major fault zone, the Brew fault, striking 140 degrees and dipping steeply southwest, is exposed along the Coquihalla Highway for 600 metres. The zone is approximately 40 metres wide. It is somewhat gossanous and exhibits carbonate and clay alteration and sporadic silicification. Some quartz +/- calcite stringers and blebs are present but not common. Pyrite is ubiquitous along the entire fault. Sections of the zone are strongly mineralized with massive veins, narrow stringers and occasional disseminations of marcasite, pyrite and pyrrhotite. Samples of pyritic clay-altered sections have yielded up to 0.280 gram per tonne gold and 0.445 per cent arsenic (Assessment Report, 18041, page 8, samples 128665, 44719). A sample from a zone of quartz stringers analysed 0.600 gram per tonne gold (sample 239716).

This fault is traversed by several significant fault/shear zones striking 100 to 120 degrees. One major crossfault, the Mugwump fault, is exposed west of the Brew fault, striking 100 degrees and dipping 60 degrees south. The zone has been traced on surface for 400 metres and is 30 to 40 centimetres wide. It is comprised of strongly gossanous clay and fault gouge containing 1 to 2 per cent pyrite. Quartz and quartz-calcite stringers and quartz blebs occur sporadically throughout the zone. A sample of quartz vein material yielded 0.14 gram per tonne gold and 14.4 grams per tonne silver (Assessment Report, 18041, page 8, sample 239774).

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EMPR ASS RPT *18041, 20994
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GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 16, pp. 1658-1672 (1979); Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/07/27
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE276**

NATIONAL MINERAL INVENTORY:

NAME(S): **HED NORTHWEST, HED**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 09 N
LONGITUDE: 120 01 57 W
ELEVATION: 1920 Metres

NORTHING: 5491256
EASTING: 714697

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of percussion hole 21 on the Hed 91 claim, 5.8 kilometres east of McNulty Creek and 20.5 kilometres north-northeast of the town of Hedley (Assessment Report 9929, Figure 2).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Bornite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende Biotite Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This occurrence is at the northern margin of the Bromley batholith.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:
SAMPLE TYPE:	Drill Core	1981
COMMODITY	GRADE	
Copper	0.0910	Per cent
Molybdenum	0.0023	Per cent

COMMENTS: Average grade of percussion drill hole cuttings over 15.25 metres.
REFERENCE: Assessment Report 9929, page 32 (hole 21, 61.0 to 76.25 metres).

CAPSULE GEOLOGY

The Hed Northwest showing is about 6 kilometres east of McNulty Creek and 19.5 to 20.5 kilometres north-northeast of the town of Hedley.

The occurrence is hosted in hornblende biotite granodiorite of the Early Jurassic Bromley batholith, at or near the contact with the Middle Jurassic Osprey Lake batholith to the north.

Mineralization consists mostly of veinlets of chalcopyrite, chalcopyrite-bornite, chalcopyrite-bornite-molybdenite and molybdenite, and rare pyrite-chalcopyrite veinlets. Chalcopyrite and molybdenite are also disseminated in the granodiorite. Drilling and mapping has revealed sporadic zones of copper mineralization over an area trending north-northwest for 1000 to 1500 metres. A hole yielded 0.091 per cent copper, 0.0023 per cent molybdenum and 0.92 gram per tonne silver over 15.25 metres (Assessment Report 9929, page 32, hole 21, 61.0 to 76.25 metres). A second hole, 750 metres south-southeast of hole 21, graded 0.075 per cent copper, 0.0031 per cent molybdenum and 0.8 gram per tonne silver over 18.3 metres (Assessment Report 9929, page 27, hole 18, 45.75 to 64.05 metres).

The showing was discovered and staked by Anaconda American Brass Ltd. in 1969 after anomalous molybdenum and copper values were

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CAPSULE GEOLOGY

obtained in a stream silt survey. The company and Canex Aerial Exploration Ltd. conducted various geological, soil geochemical and geophysical surveys between 1970 and 1972. Anaconda Canada Exploration Ltd. drilled 10 percussion holes totalling 946 metres in 1981.

BIBLIOGRAPHY

EMPR ASS RPT 2709, 3399, 3914, *9929
EMPR GEM 1970-392,393; 1971-276; 1972-125
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CIM Special Volume 15, Map B (Occurrence 312) (1976)

DATE CODED: 1992/07/27
DATE REVISED: 1992/12/08

CODED BY: PSF
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE277**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUBEL**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 46 N
LONGITUDE: 120 08 58 W
ELEVATION: 1603 Metres

NORTHING: 5508745
EASTING: 705562

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Blubel 1 to 35 claim group, 1.5 kilometres east of Empress Creek and 4.5 kilometres north of Shinish Creek (claim map 092H/09E (1967)).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite
Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Blubel showing is centred 1.5 kilometres east of Empress Creek and 4.5 kilometres north of Shinish Creek.
The occurrence is hosted in granodiorite and quartz monzonite of the Middle Jurassic Osprey Lake batholith, containing large phenocrysts of pink orthoclase.
Molybdenite and pyrite occur in quartz veins and fracture zones within altered sections of the intrusion. Much of the fracture-controlled mineralization appears to be associated with a regional fault striking 015 degrees.

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EMPR ASS RPT 2625
EMPR GEM 1970-390
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/28
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FIELD CHECK: N

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MINFILE NUMBER: **092HNE278**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAST**, GOLDEN LODE

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 28 N
LONGITUDE: 120 03 11 W
ELEVATION: 1369 Metres

NORTHING: 5512163
EASTING: 712388

LOCATION ACCURACY: Within 500M

COMMENTS: East showing along roadcut, 1.3 kilometres north of Trout Creek and 2.75 kilometres west of Camp Creek (Assessment Report 17791, Figure 8).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The East showing is exposed along a logging roadcut, 1.3 kilometres north of Trout Creek and 2.75 kilometres west of Camp Creek.

Minor amounts of malachite occur in granodiorite of the Middle Jurassic Osprey Lake batholith, near the batholith's northern margin.

BIBLIOGRAPHY

EMPR ASS RPT 17791
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/29
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE278**

MINFILE NUMBER: **092HNE279**

NATIONAL MINERAL INVENTORY:

NAME(S): **R.T.**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 44 37 N
LONGITUDE: 120 03 17 W
ELEVATION: 1497 Metres

NORTHING: 5514289
EASTING: 712185

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of trenching and stripping on the R.T. 19, 20, 21 and 28 claims, 3.5 kilometres north of Trout Creek and 2.8 kilometres northwest of Camp Creek (Assessment Report 1040, compilation map).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite
ASSOCIATED: Magnetite
ALTERATION: Talc Carbonate Biotite Malachite
ALTERATION TYPE: Talc Carbonate Biotite Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 900 x 300 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization occurs along veins and fractures striking east to northeast over an east-west distance of 900 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith
Lower Jurassic			Pennask Batholith

ISOTOPIIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

Pennask Batholith

LITHOLOGY: Granite
Biotite Hornblende Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: Situated near the contact between the Osprey Lake and Pennask plutons.

CAPSULE GEOLOGY

This occurrence is centred 3.5 kilometres north of Trout Creek and 2.8 kilometres northwest of Camp Creek.

The R.T. showing is hosted in a mass of siliceous granite that intrudes biotite hornblende granodiorite of the Early Jurassic Pennask batholith. The granite likely originates from the Middle Jurassic Osprey Lake batholith, which is located about 500 metres south of the showing.

Trenching and stripping over an area 900 metres (east-west) by up to 300 metres (north-south) intersected erratic mineralization in fractured and altered granite. Minor malachite, chalcopyrite and sphalerite, together with magnetite and/or pyrite, occur as veins and fracture fillings in talc-carbonate altered or biotite-altered granite. This mineralization tends to favour a set of near vertical veins, shears and fractures striking east to northeast.

The occurrence was trenched, stripped and soil sampled by Kathleen Mountain Mines Ltd. in 1967.

BIBLIOGRAPHY

EMPR ASS RPT *1040
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

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RUN TIME: 10:48:34

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BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/29
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE280**

NATIONAL MINERAL INVENTORY:

NAME(S): **R.T. 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 49 N
LONGITUDE: 120 03 11 W
ELEVATION: 1420 Metres

NORTHING: 5512811
EASTING: 712363

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of trenching and stripping on the R.T. 11, 13 and 55 claims, 1.9 kilometres north of Trout Creek and 2.7 kilometres west of Camp Creek (Assessment Report 1040, compilation map).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the northern margin of the Osprey Lake batholith.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The R.T. 2 occurrence is centred 1.9 kilometres north of Trout Creek and 2.7 kilometres west of Camp Creek.

Trenching and stripping intersected minor amounts of malachite in veins and fractures in a biotite-rich siliceous granite of the Middle Jurassic Osprey Lake batholith.

The occurrence was trenched, stripped and soil sampled by Kathleen Mountain Mines Ltd. in 1967.

BIBLIOGRAPHY

EMPR ASS RPT *1040
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/30
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE281**

NATIONAL MINERAL INVENTORY: 092H16 Au

NAME(S): **ELK (NORTH SHOWING)**, ELK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 58 N
LONGITUDE: 120 19 23 W
ELEVATION: 1631 Metres

NORTHING: 5523476
EASTING: 692502

LOCATION ACCURACY: Within 500M

COMMENTS: Trench NS87-1 in the North showing, 1.1 kilometres west-southwest of the south end of Siwash Lake and 5.6 kilometres north-northeast of the confluence of Siwash and Galena creeks (Assessment Report 16644, Plate 1).

COMMODITIES: Gold Silver Copper Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I01 Au-quartz veins
I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 78 x 1 Metres STRIKE/DIP: 055/ TREND/PLUNGE:
COMMENTS: Quartz vein varies from 15 to 80 centimetres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granite
Andesitic Dike

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This showing is in the northern margin of the Osprey Lake batholith.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 43.9000 Grams per tonne
Gold 8.7100 Grams per tonne
COMMENTS: Chip sample taken across 1.1 metres.
REFERENCE: Assessment Report 16644, page 14.

CAPSULE GEOLOGY

This occurrence is about 1 kilometre west-southwest of the south end of Siwash Lake and 5.6 kilometres north of the confluence of Siwash and Galena creeks. The Elk (South showing) (092HNE261) is 1 kilometre south-southeast.

The Elk (North Showing) is hosted in the northwestern margin of the Middle Jurassic Osprey Lake batholith, about 200 metres southeast of andesitic volcanics of the Upper Triassic Nicola Group. The intrusion is cut by andesitic dikes of Tertiary age (?) in the vicinity of the showing.

Trenching has uncovered a quartz vein cutting granite and andesitic dikes. It strikes 055 degrees for 78 metres and averages 25 centimetres wide. Vein widths vary from 15 to 80 centimetres due to structural deformation.

The vein is comprised of medium to light grey quartz containing

CAPSULE GEOLOGY

up to 20 per cent disseminated pyrite, and minor chalcopyrite and galena. A grab sample of quartz float with extensive pyrite boxworks assayed 297 grams per tonne gold and 489 grams per tonne silver (Assessment Report 16644, page 14). A chip sample assayed 8.71 grams per tonne gold and 43.9 grams per tonne silver across 1.10 metres (Assessment Report 16644, page 14). A few gold-bearing quartz stringers occur in the vicinity of the vein.

The showing was discovered by Fairfield Minerals Ltd. in 1986 after hand trenching in an area of abundant quartz float. The company conducted various geophysical, geological and soil geochemical surveys in 1987, in addition to 553 metres of trenching. Additional geophysical surveys were completed over the showing by Placer Dome Inc. in 1989.

BIBLIOGRAPHY

EMPR ASS RPT *16644, 19835
EMPR EXPL 1988-C108
EMPR PF (*Fairfield Minerals Ltd. (1987): Elk Gold-Silver Property;
Fairfield Minerals Ltd. (1990): Annual Report (see 092HNE096))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/07/30
DATE REVISED: 1992/08/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE282**

NATIONAL MINERAL INVENTORY:

NAME(S): **WH 1**, TC

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 46 41 N
LONGITUDE: 120 11 39 W
ELEVATION: 1475 Metres

NORTHING: 5517732
EASTING: 701997

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site L160-R4, 1.3 kilometres south-southwest of Whitehead Lake and 4.2 kilometres northwest of Trout Creek (Assessment Report 19383, Figure 4).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
ALTERATION: Clay
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins
DIMENSION:
COMMENTS: Quartz vein.

105 Polymetallic veins Ag-Pb-Zn±Au
STRIKE/DIP: 088/60N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Tertiary _____ Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Granite

HOSTROCK COMMENTS: Age date is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 402.0000 Grams per tonne
Gold 4.6800 Grams per tonne
COMMENTS: Chip sample taken across quartz veinlet and altered granite over 0.5 metre.
REFERENCE: Assessment Report 19383, page 18.

CAPSULE GEOLOGY

The WH 1 showing is 1.3 kilometres south-southwest of Whitehead Lake and 4.2 kilometres northwest of Trout Creek.
The area south of Whitehead Lake is underlain by a granite stock of the early Tertiary Otter intrusions. The stock trends west-northwest for 3.5 kilometres and is up to 2.5 kilometres wide. It is situated between the Middle Jurassic Osprey Lake batholith to the south and west, and the Early Jurassic Pennask batholith to the east and north.
A quartz veinlet, less than 1 centimetre wide, cuts weakly clay altered, coarse-grained granite. The vein strikes 088 degrees and dips 60 degrees north. A chip sample, taken across the quartz vein and altered granite, analysed 4.68 grams per tonne gold and 402 grams per tonne silver over 0.5 metre (Assessment Report 19383, page 18). A similar sample yielded 15.9 grams per tonne gold and 1100 grams per tonne silver over 0.10 metre (Assessment Report 18408, page 8, sample L160-R4).
The showing was discovered by Fairfield Minerals Ltd. in 1988,

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 508
REPORT: RGEN0100

CAPSULE GEOLOGY

while prospecting in the Whitehead Lake area. Placer Dome Inc. conducted geological, soil geochemical and geophysical surveys over the showing in 1989.

BIBLIOGRAPHY

EMPR ASS RPT 3463, 4335, *18408, *19383, 20883
EMPR GEM 1971-289; 1972-141,142
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1992/07/30
DATE REVISED: 1992/07/31

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE283**

NATIONAL MINERAL INVENTORY:

NAME(S): **WH 2**, TC

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 46 01 N
LONGITUDE: 120 11 27 W
ELEVATION: 1411 Metres

NORTHING: 5516506
EASTING: 702283

LOCATION ACCURACY: Within 500M

COMMENTS: Trench TR4005E in the headwaters of Spring Creek, 2.4 kilometres south of Whitehead Lake and 3.5 kilometres northwest of Trout Creek (Assessment Report 19383, Figure 4).

COMMODITIES: Silver Zinc Lead Copper

MINERALS

SIGNIFICANT: Pyrite	Galena	Chalcopyrite		
ASSOCIATED: Hematite	Pyrolusite	Siderite	Quartz	
ALTERATION: Silica	Sericite	Chlorite		
ALTERATION TYPE: Silicific'n		Sericitic	Chloritic	Oxidation
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 14 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralization is hosted in an altered quartz diorite dike, 14 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Tertiary			Otter Intrusions

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Quartz Diorite Dike
Quartz Diorite
Quartz Feldspar Porphyritic Monzonite
Granite

HOSTROCK COMMENTS: Isotopic age date for the Otter intrusions is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1989
SAMPLE TYPE: Chip	
COMMODITY	<u>GRADE</u>
Silver	33.5000 Grams per tonne
Copper	0.0230 Per cent

COMMENTS: Chip sample taken across 1.5 metres of silicified quartz diorite.
REFERENCE: Assessment Report 19383, page 20.

CAPSULE GEOLOGY

The WH 2 showing is in the headwaters of Spring Creek, 2.4 kilometres south of Whitehead Lake and 3.5 kilometres northwest of Trout Creek.

The area south of Whitehead Lake is underlain by a granitic stock of the early Tertiary Otter intrusions. The stock trends west-northwest for 3.5 kilometres and is up to 2.5 kilometres wide. It is situated between the Middle Jurassic Osprey Lake batholith to the south and west, and the Early Jurassic Pennask batholith to the east and north.

A 14-metre wide dike of biotite-hornblende quartz diorite intrudes quartz feldspar porphyritic monzonite of the Otter intrusions. The quartz diorite exhibits some fracturing, moderate silica and sericite alteration and weak chloritization. The dike is

CAPSULE GEOLOGY

mineralized with minor disseminated pyrite. A chip sample of moderately silicified quartz diorite analysed 0.03 gram per tonne gold, 33.5 grams per tonne silver and 0.023 per cent copper over 1.5 metres (Assessment Report 19383, page 20). A second chip sample of the quartz diorite, 9 metres from the previous sample, analysed 0.25 per cent zinc over 1.5 metres (Assessment Report 19383, page 20).

Disseminations and small masses of galena, chalcopyrite and zinc oxide occur in chloritized granite, near the contact with the quartz feldspar porphyritic monzonite, about 100 metres north-northeast of the previous occurrence. The granite is cut by fine veinlets of hematite, pyrolusite, siderite and quartz. A sample analysed 0.012 gram per tonne gold and 13.3 grams per tonne silver (Assessment Report 18408, page 13, sample L160-R1).

The area along Spring Creek was prospected and soil sampled by Fairfield Minerals in 1988. The showing in quartz diorite was discovered by Placer Dome Inc. in 1989, while trenching a soil geochemical anomaly with elevated gold values. The company also conducted geological and geophysical surveys over the occurrence in 1989.

BIBLIOGRAPHY

EMPR ASS RPT 3463, 4335, *18408, *19383, 20883
EMPR GEM 1971-289; 1972-141,142
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1992/07/30
DATE REVISED: 1992/07/31

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE284**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPRING, ZONE C, TC,
FORK, SPRING 3, PO**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:
LATITUDE: 49 47 14 N
LONGITUDE: 120 08 36 W
ELEVATION: 1265 Metres

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5518889
EASTING: 705617

LOCATION ACCURACY: Within 500M

COMMENTS: Zone C, on the east bank of North Trout Creek, 1.4 kilometres northwest of the creek's confluence with Trout Creek and 2.3 kilometres east of Whitehead Lake (Assessment Report 19420, Figure 6).

COMMODITIES: Lead Zinc Copper Silver

MINERALS

SIGNIFICANT: Pyrite Galena Chalcopyrite
ALTERATION: Silica Chlorite Carbonate Sericite Clay
ALTERATION TYPE: Silicific'n Chloritic Carbonate Sericitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Epithermal Hydrothermal Epigenetic
TYPE: H05 Epithermal Au-Ag: low sulphidation I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 50 Metres STRIKE/DIP: 180/38E TREND/PLUNGE:
COMMENTS: Sheared contact between a dike and breccia strikes 180 degrees and dips 30 to 45 degrees east.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Tertiary

ISOTOPIC AGE: 52 Ma
DATING METHOD: Potassium/Argon

Otter Intrusions

LITHOLOGY: Altered Andesitic Dike
Altered Tectonic Breccia
Granite

HOSTROCK COMMENTS: Isotopic age date for the Otter intrusions is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1989

COMMODITY	GRADE	
Silver	7.6000	Grams per tonne
Lead	0.2868	Per cent
Zinc	0.1614	Per cent

COMMENTS: Chip sample taken across 7.7 metres.
REFERENCE: Assessment Report 19420, page 21.

CAPSULE GEOLOGY

The Spring showing occurs on the east bank of North Trout Creek, 1.4 kilometres northwest of the creek's confluence with Trout Creek and 2.3 kilometres east of Whitehead Lake.

The area south and east of Whitehead Lake is underlain by a granitic stock of the early Tertiary Otter intrusions. The stock trends west-northwest for 3.5 kilometres and is up to 2.5 kilometres wide. It is situated between the Middle Jurassic Osprey Lake batholith to the south, west and north, and the Early Jurassic Pennask batholith to the east.

A dike of altered andesite is in contact with an altered tectonic breccia containing fragments of quartz feldspar porphyritic monzonite and quartz diorite. The showing is exposed in outcrop over

CAPSULE GEOLOGY

a length of 50 metres. The dike is partially silicified, chloritized and carbonatized and contains minor disseminated pyrite and galena. The tectonic breccia is sericite altered and mineralized with minor disseminated pyrite and chalcopyrite. The contact between the two units is sheared and intensely clay altered. It strikes 180 degrees and dips 30 to 45 degrees east. The shearing, silica flooding and vuggy texture of the showing suggests a possible epithermal origin for this mineralization (Assessment Report 19420).

Anomalous metal values occur in or near the contact. One chip sample analysed 0.088 gram per tonne gold, 7.6 grams per tonne silver, 0.287 per cent lead and 0.161 per cent zinc over 7.7 metres (Assessment Report 19420, page 21).

The showing was sampled by Placer Dome Inc. in 1989 during a program of geological, soil geochemical and geophysical surveying conducted in 1988 and 1989. Similar surveys were completed by Pan Ocean Oil Ltd. in 1971 and 1972.

BIBLIOGRAPHY

EMPR ASS RPT 3643, 4335, 10108, 18401, *19420
EMPR EXPL 1979-160; 1980-215; 1981-205
EMPR GEM 1971-289; 1972-141,142
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1992/07/31
DATE REVISED: 1992/07/31

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE285**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOOMER**, SPRING, TC

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 47 10 N
LONGITUDE: 120 07 49 W
ELEVATION: 1300 Metres

NORTHING: 5518802
EASTING: 706561

LOCATION ACCURACY: Within 500M

COMMENTS: Pyrite-lead-zinc showing on a southeast-flowing tributary of Trout Creek, 600 metres northwest of the tributary's confluence with Trout Creek and 3.2 kilometres east of Whitehead Lake (Assessment Report 4335, Map 2).

COMMODITIES: Zinc Lead Silver

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena
ASSOCIATED: Quartz
ALTERATION: Silica Sericite Clay Chlorite
ALTERATION TYPE: Silicific'n Sericitic Argillic Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Tertiary _____ Otter Intrusions

ISOTOPIC AGE: 52
DATING METHOD: Potassium/Argon

LITHOLOGY: Quartz Feldspar Porphyritic Monzonite
Altered Granodiorite
Granite

HOSTROCK COMMENTS: Isotopic age date for the Otter intrusions is from Assessment Report 9308, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Chip
COMMODITY GRADE
Zinc 0.1252 Per cent

COMMENTS: Chip sample across 12 metres of quartz feldspar porphyritic monzonite.
REFERENCE: Assessment Report 19420, page 27.

CAPSULE GEOLOGY

The Boomer showing outcrops along a southeast-flowing tributary of Trout Creek, 600 metres northwest of the tributary's confluence with Trout Creek and 3.2 kilometres east of Whitehead Lake.

The area south and east of Whitehead Lake is underlain by a granitic stock of the early Tertiary Otter intrusions. The stock trends west-northwest for 3.5 kilometres and is up to 2.5 kilometres wide. It is situated between the Middle Jurassic Osprey Lake batholith to the south, west and north, and the Early Jurassic Pennask batholith to the east.

Minor amounts of pyrite, sphalerite and galena occur in quartz veins and along fractures in very altered granodiorite, surrounded by quartz feldspar porphyritic monzonite of the Otter intrusions. Trenching on both banks of the creek intersected quartz feldspar porphyritic monzonite exhibiting moderate to strong silica and sericite alteration, moderate clay alteration and minor to moderate chloritization. The monzonite is occasionally cut by narrow shear zones and is mineralized with up to 8 per cent pyrite, as

CAPSULE GEOLOGY

disseminations and fracture fillings. A sample taken across a clay-altered shear zone, west of the creek, analysed 8.2 grams per tonne silver over 1.5 metres (Assessment Report 19420, page 26). A sample of quartz feldspar porphyry, taken east of the creek, analysed 0.125 per cent zinc over 12 metres (Assessment Report 19420, page 27).

The showing was initially explored by Pan Ocean Oil Ltd. in 1972. Placer Dome Inc. excavated an number of trenches in 1989 after completing geological, geophysical and soil geochemical surveys in 1988 and 1989.

BIBLIOGRAPHY

EMPR ASS RPT 4335, 18401, *19420
EMPR GEM 1972-141,142
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1992/07/31
DATE REVISED: 1992/12/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE286**

NATIONAL MINERAL INVENTORY:

NAME(S): **TROUT 1**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 11 N
LONGITUDE: 120 16 16 W
ELEVATION: 1704 Metres

NORTHING: 5525865
EASTING: 696154

LOCATION ACCURACY: Within 500M

COMMENTS: Molybdenite showing at the northwest corner of the Trout 1 claim, 2.5 kilometres south-southeast of Boulder Lake and 2.0 kilometres northeast of Siwash Lake (Assessment Report 8671, Plate 2).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Pyrite Molybdenite
ALTERATION: Pyrolusite Limonite Sericite Chlorite
ALTERATION TYPE: Oxidation Sericitic Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE:	166 +/- 1 Ma		
DATING METHOD:	Lead/Lead		
MATERIAL DATED:	Zircon		

LITHOLOGY: Porphyritic Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
COMMENTS: The showing is in the northwest margin of the Osprey Lake batholith.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Trout 1 occurrence is 2.5 kilometres south-southeast of Boulder Lake and 2.0 kilometres northeast of Siwash Lake. Minor amounts of pyrite and molybdenite occur in strongly fractured porphyritic quartz monzonite of the Middle Jurassic Osprey Lake batholith. Moderate sericite and chlorite alteration, and abundant pyrolusite and limonite accompany this mineralization.

BIBLIOGRAPHY

EMPR ASS RPT *8671, 9976
EMPR EXPL 1980-209; 1981-170
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1992/07/31
DATE REVISED: 1992/08/13

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 516
REPORT: RGEN0100

MINFILE NUMBER: **092HNE287**

NATIONAL MINERAL INVENTORY:

NAME(S): **TROUT 3**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 13 N
LONGITUDE: 120 16 15 W
ELEVATION: 1426 Metres

NORTHING: 5522222
EASTING: 696307

LOCATION ACCURACY: Within 500M

COMMENTS: Molybdenite showing immediately west of the Trout 3 claim, 1.3 kilometres west of Galena Creek and 1.3 kilometres north-northeast of Galena Lake (Assessment Report 8671, Plate 2).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Pyrite Molybdenite
ALTERATION: Limonite Pyrolusite Chlorite Sericite
ALTERATION TYPE: Oxidation Chloritic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE:	166 +/- 1 Ma		
DATING METHOD:	Lead/Lead		
MATERIAL DATED:	Zircon		

LITHOLOGY: Porphyritic Quartz Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Trout 3 occurrence is 1.3 kilometres west of Galena Creek and 1.3 kilometres north-northeast of Galena Lake. Minor amounts of pyrite and molybdenite occur in strongly fractured porphyritic quartz monzonite of the Middle Jurassic Osprey Lake batholith. Moderate sericite and chlorite alteration, and abundant pyrolusite and limonite accompany this mineralization.

BIBLIOGRAPHY

EMPR ASS RPT *8671, 9976
EMPR EXPL 1980-209; 1981-170
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
Placer Dome File

DATE CODED: 1992/07/31
DATE REVISED: 1992/08/13

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE287**

MINFILE NUMBER: **092HNE288**

NATIONAL MINERAL INVENTORY:

NAME(S): **CREST**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 50 53 N
LONGITUDE: 120 02 36 W
ELEVATION: 1646 Metres

NORTHING: 5525930
EASTING: 712547

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site L44-R4 on the Crest 10 claim in the headwaters of Trout Creek, 220 metres south of the creek and 4.8 kilometres southeast of Hidden Lake (Assessment Report 19899, Figure 4).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite
ASSOCIATED: Quartz
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact
TYPE: I02 Intrusion-related Au pyrrhotite veins I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic	Nicola	Peachland Creek	
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Greenstone
Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: PHYSIOGRAPHIC AREA: Thompson Plateau
COMMENTS: This showing is at the southeast margin of a pendant of Nicola Group. GRADE:

INVENTORY

ORE ZONE: ROADCUT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 15.7000 Grams per tonne
Gold 8.5600 Grams per tonne
REFERENCE: Assessment Report 19899, page 14 (sample L44-R4).

CAPSULE GEOLOGY

This showing is exposed along a logging road in the headwaters of Trout Creek, 4.8 kilometres southeast of Hidden Lake and 4.0 kilometres due south of the south end of Brenda Lake. The Crest occurrence is situated at the contact between the Triassic Peachland Creek Formation (Nicola Group) to the northwest and the Early Jurassic Pennask batholith to the southeast. Silicified greenstone of the Peachland Creek Formation is cut by quartz veinlets and mineralized with disseminated pyrite and pyrrhotite adjacent to granodiorite of the Pennask batholith. A grab sample analysed 8.56 grams per tonne gold, 15.7 grams per tonne silver and 0.0409 per cent copper (Assessment Report 19899, pages 8, 14, sample L44-R4). The showing was prospected and soil sampled by Fairfield Minerals Ltd. in 1986, 1989 and 1990.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 518
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 9261, *19899, 21058
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/08/02
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE289**

NATIONAL MINERAL INVENTORY:

NAME(S): **CREST 10**, PEN

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 18 N
LONGITUDE: 120 03 16 W
ELEVATION: 1798 Metres

NORTHING: 5526671
EASTING: 711718

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site C90-R22 on the Crest 10 claim in the headwaters of Trout Creek, 3.7 kilometres southeast of Hidden Lake and 3.4 kilometres south-southwest of Brenda Lake (Assessment Report 21058, Figure 2).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins 101 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	
Triassic	Nicola	Peachland Creek	
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Siliceous Volcanic
Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:
COMMENTS: This showing is in a pendant of Nicola Group in the Pennask batholith.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 30.8000 Grams per tonne
Gold 3.5200 Grams per tonne

REFERENCE: Assessment Report 21058, page 9 (sample C90-R22).

CAPSULE GEOLOGY

The Crest 10 showing outcrops in the headwaters of Trout Creek, 3.7 to 4.4 kilometres southeast of Hidden Lake and 2.6 to 3.4 kilometres south to south-southwest of Brenda Lake.

The occurrence is situated in a large pendant of Nicola Group volcanics and sediments of Upper Triassic age, near its southeastern margin. The pendant is surrounded by granodiorite and quartz diorite of the Early Jurassic Pennask batholith.

A number of quartz veins cut argillite of the Stemwinder Mountain Formation (Nicola Group) and siliceous volcanics of the Peachland Creek Formation (Nicola Group), about 1 kilometre northwest of the contact with granodiorite of the Pennask batholith. The veins are irregular, discontinuous and vary up to 30 centimetres wide.

CAPSULE GEOLOGY

They are glassy grey to white and contain scattered grains of pyrite and a fine-grained black metallic mineral (tetrahedrite (?)). A grab sample of a narrow pyritic quartz vein in argillite, analysed 3.52 grams per tonne gold and 30.8 grams per tonne silver (Assessment Report 21058, page 9, sample C90-R22). A grab sample of an 8-centimetre wide quartz vein with minor pyrite and limonite in siliceous volcanics, taken 1.0 kilometre northeast of sample C90-R22, yielded 4.28 grams per tonne gold and 38.1 grams per tonne silver (Assessment Report 22304, page 18, Table 2, sample PEN91-R32). Two other samples taken 400 and 800 metres northeast of sample C90-R22 analysed 2.74 and 1.06 grams per tonne gold and 6.2 and 3.0 grams per tonne silver, respectively (Assessment Report 22304, page 18, Table 2, samples PEN91-R22, PEN91-R33).

This showing was prospected and soil sampled by Fairfield Minerals Ltd. in 1990 and 1991.

BIBLIOGRAPHY

EMPR ASS RPT 19899, *21058, *22304
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
WWW <http://www.infomine.com/>

DATE CODED: 1992/08/02
DATE REVISED: 1992/12/10

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE290**

NATIONAL MINERAL INVENTORY:

NAME(S): **SIWASH CREEK PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H16W 092H09W
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 09 N
LONGITUDE: 120 19 23 W
ELEVATION: 1177 Metres

NORTHING: 5514552
EASTING: 692820

LOCATION ACCURACY: Within 500M

COMMENTS: Holden placer lease on Siwash Creek, 11 kilometres north of the confluence of Siwash and Hayes creeks (Minister of Mines Annual Report 1933, page 175) (Note: this creek is not to be confused with a second gold-bearing creek also named Siwash Creek, located near Yale, east of the Fraser River).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Quaternary

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Glacial Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Siwash Creek initially flows southwest from Elkhart Lake for 12 kilometres before abruptly turning southeast, continuing for 6.5 kilometres to the mouth of Galena Creek. The creek then flows south for 15 kilometres before entering Hayes Creek, 25.5 kilometres northeast of Princeton.

Most of the creek runs through a steep, narrow, occasionally flat-bottomed valley. The uppermost 5 kilometres of the creek flows through a wide, gently-sloped valley, immediately south of Elkhart Lake.

The gold-bearing placer deposits of Siwash Creek tend to occur in the creek bed and in benches and terraces adjacent to the creek that may represent old-channel remnants. The gravels comprising these deposits appear to be of glacial origin. The coarse gold found in these gravels is rough-edged and erratic in distribution.

Production of placer gold has occurred intermittently along the creek since the early 1900s. Most of this production has been confined to benches above the creek bed. One operation worked by L.J. Cole and T.C. McAlpine in 1933, was located about 11 kilometres above the creek's mouth. This hydraulic operation was situated atop a bench 3 metres above the creek, on its west side, and is reported to have recovered 3.5 grams of gold per cubic metre (Minister of Mines Annual Report 1933, page 175). Colours of gold are reported to have been observed in numerous cuts and pits excavated farther north, between Tepee and Galena creeks.

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EMPR AR 1927-246,247; *1933-174,175; 1934-D23
EMPR ASS RPT 10441
EMPR BULL 1933-1, p. 41; 1934-1, p. 25; 28, p. 54
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, pp. 57,64

DATE CODED: 1992/08/14
DATE REVISED: 1992/08/14

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE291**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH TROUT CREEK PLACER**, SPRING 3

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 47 06 N
LONGITUDE: 120 08 26 W
ELEVATION: 1241 Metres

NORTHING: 5518650
EASTING: 705826

LOCATION ACCURACY: Within 500M

COMMENTS: Placer gold workings on the east bank of North Trout Creek, 1.1 kilometres north-northwest of the creek's confluence with Trout Creek (Assessment Report 17560, Map 3).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Quaternary

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	

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

North Trout Creek is a southeastward-flowing tributary of Trout Creek. It initially flows south-southeast for 4.8 kilometres before turning east and continuing for an additional 4.5 kilometres to the mouth of Pintin Creek, north of Whitehead Lake. The creek then flows south-southeast for 3.5 kilometres before entering Trout Creek, 44 kilometres northeast of Princeton.

The uppermost 9 kilometres of the creek runs through a broad, shallow valley. The valley steepens and narrows somewhat in the last 3 to 4 kilometres as the creek descends into Trout Creek.

Placer gold has been recovered from several locations along North Trout Creek, 100 to 1300 metres above the creek's confluence with Trout Creek. Three of the occurrences coincide with structural lineaments (Assessment Report 14989). Gold particles recovered from the stream's gravels have an angular shape, indicating a source nearby (Assessment Report 17560).

The placer deposits of this creek were mined by Don Agur up to the 1980s.

BIBLIOGRAPHY

EMPR ASS RPT *14989, *17560, 18401
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
Placer Dome File

DATE CODED: 1992/08/15
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE292**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOW, PINE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 06 N
LONGITUDE: 120 19 33 W
ELEVATION: 1228 Metres

NORTHING: 5540390
EASTING: 691697

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole DDH 1, on the west bank of a north-flowing tributary of Quilchena Creek, 500 metres south of Quilchena Creek and 4.8 kilometres north-northeast of the north end of Boot Lake (Assessment Report 3415, Map 4).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcocite Bornite
ASSOCIATED: Magnetite Zeolite
ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granite

HOSTROCK COMMENTS: Date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1971
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 3.1000 Grams per tonne
Gold 0.4500 Grams per tonne
Copper 0.5400 Per cent

REFERENCE: Assessment Report 3415, assay certificate (sample Line 1-74-98).

CAPSULE GEOLOGY

The Pine showing is 500 metres south of Quilchena Creek and 4.8 kilometres north-northeast of the north end of Boot Lake.

A drillhole intersected minor copper mineralization in weakly to moderately chloritized granite of the Early Jurassic Pennask batholith. A sample of drill core from 28.0 metres depth contained fine-grained magnetite accompanied by fine-grained chalcocite or bornite along the margins of a zeolite vein.

Copper mineralization also occurs along fractures and as disseminations in the granite. Two assays of a grab sample taken in the vicinity of the drillhole yielded less than 0.3 gram per tonne gold, 3.1 grams per tonne silver and 0.54 per cent copper, and 0.45 gram per tonne gold, 3.1 grams per tonne silver and 0.30 per cent copper, respectively (Assessment Report 3415, assay certificates).

BIBLIOGRAPHY

EMPR ASS RPT 2441, 2984, *3415
EMPR GEM 1970-380; 1971-289

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 524
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/08/15
DATE REVISED: 1992/12/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE293**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELUSIVE CREEK**, ELK, ELUSIVE CREEK NORTH

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 29 N
LONGITUDE: 120 21 34 W
ELEVATION: 1615 Metres

NORTHING: 5522488
EASTING: 689917

LOCATION ACCURACY: Within 500M

COMMENTS: Trench EC88-1, 350 metres southwest of Elusive Creek and 4.25 kilometres northwest of the creek's confluence with Siwash Creek (Assessment Report 18511, Plate 1).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Hematite Chalcopyrite
ASSOCIATED: Quartz Hematite Magnetite
ALTERATION: Silica Epidote Clay Chlorite
ALTERATION TYPE: Silicific'n Propylitic Potassic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma

DATING METHOD: Lead/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Granite Dike
Granite
Porphyritic Andesite
Quartz Monzonite Dike
Andesitic Dike

HOSTROCK COMMENTS: Date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

COMMENTS: This showing is in the Eastern volcanic facies of the Nicola Group.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

2.8300

Grams per tonne

COMMENTS: Sample taken across 1 metre of fractured and clay-altered granite.

REFERENCE: Assessment Report 18511, page 24.

CAPSULE GEOLOGY

This showing is on the west side of the Elusive Creek valley, about 4 kilometres northwest of the creek's confluence with Siwash Creek.

The Elusive Creek occurrence is hosted andesitic volcanics of the Upper Triassic Nicola Group (Eastern volcanic facies), about 250 metres west of the Middle Jurassic Osprey Lake batholith.

Trenching immediately west of Elusive Creek, over an east-west distance of 230 metres, has uncovered a zone of granite and quartz monzonite dikes striking east-northeast, cutting porphyritic andesite. The dikes are silicified and show moderate epidote and potassic alteration. Andesitic dikes are also present.

Anomalous precious metal values have been detected in the

CAPSULE GEOLOGY

granitic dikes. Best results have come from quartz veined or hematite-stained granite. Quartz veins are infrequent. Most strike southeast and average 2 centimetres thick. A chip sample taken across 0.8 metre of granite with a 1-centimetre wide quartz vein assayed 1.29 grams per tonne gold (Assessment Report 18511, page 25). A second sample taken across a small quartz mass in granite assayed 5.90 grams per tonne gold over 0.5 metre (Assessment Report 18511, page 17).

Elevated gold values are also present where the granite is strongly fractured and locally argillic altered. A sample of such granite assayed 2.83 grams per tonne gold over 1.0 metre (Assessment Report 18511, page 24).

Generally low gold values are present in the surrounding andesite. A sample of chlorite-altered andesite with trace chalcopyrite and magnetite assayed 0.93 gram per tonne gold over 0.5 metre (Assessment Report 18511, page 25).

The showing was initially trenched by Fairfield Minerals Ltd. in 1988 after detecting a gold soil anomaly over the occurrence in 1987. The trenches were resampled by Placer Dome Inc. in 1989.

BIBLIOGRAPHY

EMPR ASS RPT 16644, *18511, 19489
EMPR EXPL 1988-C108
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/08/22
DATE REVISED: 1992/08/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE294**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOB**, NORTH BRENDA, PEN 4

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 54 36 N
LONGITUDE: 120 00 25 W
ELEVATION: 1707 Metres

NORTHING: 5532920
EASTING: 714887

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole PH 11, 1.85 kilometres north-northwest of the west end of Long Lake and 3.6 kilometres northeast of the north end of Brenda Lake (Property File - Noranda Exploration Company Ltd., 1966).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Chlorite
ALTERATION: Carbonate
ALTERATION TYPE: Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Fine Grained Quartz Diorite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1971

SAMPLE TYPE: Drill Core

COMMODITY GRADE

Copper 0.1600 Per cent

COMMENTS: Average grade of cuttings from a percussion-drill hole over 6.1 metres.

REFERENCE: Property File - Noranda Exploration Company, 1971 (hole PH 11).

CAPSULE GEOLOGY

This showing is 1.85 kilometres north-northwest of the west end of Long Lake and 3.6 kilometres northeast of the north end of Brenda Lake.

The Mob occurrence is hosted in fine-grained quartz diorite of the Early Jurassic Brenda stock, which is part of the Pennask batholith. The quartz diorite is sheared, carbonate altered and cut by pyritic quartz stringers. A sample of chips from outcrop and talus of glassy, drusy quartz veinlets, 0.5 to 3.0 centimetres wide, with intergrown chlorite and scattered grains of pyrite and chalcopyrite, yielded 0.045 gram per tonne gold and 4.6 grams per tonne silver (Assessment Report 22304, page 17, Table 2, sample PEN91-R14). A percussion hole drilled about 250 metres south of sample PEN91-R14 yielded 0.16 per cent copper over 6.1 metres (Property File - Noranda Exploration Company Ltd., 1966, hole PH 11, 42.7-48.8 metres).

The showing was first explored by Noranda Exploration Company Ltd., with the drilling of one percussion hole in 1971. The

CAPSULE GEOLOGY

occurrence was restaked by Fairfield Minerals Ltd. in 1990, and subsequently soil sampled and prospected by the company in 1991.

BIBLIOGRAPHY

EMPR AR 1967-183-210
EMPR ASS RPT 9261, *10131, *22304
EMPR GEM 1970-391
EMPR OF 1988-7
EMPR PF (Noranda Exploration Company Ltd. (1966): 1 to 4800 scale maps of claims and drillholes; Noranda Exploration Company Ltd. (1971): Sample Report for Holes PH 11, PH 12)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/09/23
DATE REVISED: 1992/12/10

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE295**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELK (LAKE ZONE)**, SIWASH LAKE (NORTH), SIWASH LAKE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H16W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 50 36 N
LONGITUDE: 120 18 32 W
ELEVATION: 1631 Metres

NORTHING: 5524686
EASTING: 693478

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drillhole D-58, 430 metres northwest of Siwash Lake and 6.8 kilometres north-northeast of the confluence of Siwash and Galena creeks (Assessment Report 21443, Plate 10).

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Tetrahedrite

ASSOCIATED: Maldonite

ALTERATION: Quartz

ALTERATION TYPE: Argillic Sericite

Sericitic

Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Bladed

DIMENSION: 150 x 78 x 4 Metres

STRIKE/DIP: 090/55S

TREND/PLUNGE:

COMMENTS: Zone of quartz veining and alteration strikes west for 150 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma

DATING METHOD: Lead/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Quartz Monzonite
Andesitic Dike

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This prospect is in the northwest margin of the Osprey Lake batholith.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1990

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Gold

2.4300

Grams per tonne

COMMENTS: Average grade over a true width of 2.0 metres.

REFERENCE: Assessment Report 21443, page 46.

CAPSULE GEOLOGY

This occurrence is 400 metres northwest of Siwash Lake and 6.8 kilometres north-northeast of the confluence of Siwash and Galena creeks. The Elk deposit (092HNE096) is 700 to 800 metres to the north.

The Elk (Lake Zone) prospect is hosted in the northwestern margin of the Middle Jurassic Osprey Lake batholith, about 1000 metres southeast of andesitic volcanics of the Upper Triassic Nicola Group. The intrusion is cut by andesitic dikes of Tertiary age (?) in the vicinity of the deposit.

A zone of quartz veining and associated alteration, up to 4 metres wide, is hosted in moderately to strongly propylitic and argillic altered and sheared quartz monzonite, near and paralleling a west-striking andesitic dike. The zone is centred about the 1-metre

CAPSULE GEOLOGY

wide dike in surface exposures. Trenching and drilling have traced the zone over a strike length of 150 metres and 78 metres downdip. It strikes west and dips about 55 degrees south.

The deposit consists of a zone of intense argillic and sporadic sericitic alteration occasionally cut by quartz veins of similar orientation as the enclosing zone. The veins vary from 5 to 34 centimetres wide and locally contain up to 75 per cent pyrite, 10 per cent chalcopyrite, 40 per cent galena and 10 per cent sphalerite. The surrounding altered intrusive is occasionally mineralized with pyrite and up to 15 per cent chalcopyrite. Higher gold values are accompanied by intense argillic alteration containing pyrite and maldonite (?). A sample of an argillic-altered pyritic dike assayed 12.69 grams per tonne gold over a true width of 0.86 metre (Assessment Report 19835, page 42, trench SL89-1). Gold is also associated with pyrite, chalcopyrite and locally high concentrations of galena and sphalerite. Tetrahedrite is also locally present. A sample of a 15-centimetre wide quartz vein with 15 per cent combined pyrite, chalcopyrite and galena assayed 59.93 grams per tonne gold (Assessment Report 21443, page 43, trench SL90-2).

Drilling yielded gold values of up to 2.43 grams per tonne over a true width of 2.0 metres (Assessment Report 21443, page 46). Silver values are higher here than in the Elk (Siwash North) deposit (092HNE096), possibly due to the higher galena content of the quartz veins. Silver values in drill core range up to 141.9 grams per tonne over 0.5 metre (Assessment Report 21443, core logs, hole 90-56, 37.3 to 37.8 metres).

This prospect was discovered by Fairfield Minerals Ltd. in 1989 after trenching soil and electromagnetic anomalies outlined in 1987 and 1989. Placer Dome Inc. drilled 4 holes totalling 259 metres in 1990.

BIBLIOGRAPHY

- EMPR ASS RPT 16644, *19835, *21443
- EMPR EXPL 1988-C108
- EMPR PF (Fairfield Minerals Ltd. (1990): Annual Report (see 092HNE096))
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/09/29
DATE REVISED: 1992/09/30

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE296**

NATIONAL MINERAL INVENTORY:

NAME(S): **VALE**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 09 N
LONGITUDE: 120 22 14 W
ELEVATION: 1222 Metres

NORTHING: 5507021
EASTING: 689659

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site V91-R3, 300 metres west of Spukunne Creek and 4.5 kilometres north-northwest of the creek's confluence with Hayes Creek (Assessment Report 21920, Figure 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Silica Sericite Limonite Malachite
ALTERATION TYPE: Silicific'n Potassic Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au 105 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith
ISOTOPIC AGE: 166 +/- 1 Ma			
DATING METHOD: Lead/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Granite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: Showing is in the Osprey Lake batholith, near its northwest margin.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.0930 Per cent
REFERENCE: Assessment Report 21920, page 9, Table 2 (sample V91-R3).

CAPSULE GEOLOGY

The Vale showing is 300 metres west of Spukunne Creek and 4.5 kilometres north-northwest of the creek's confluence with Hayes Creek.
Silicic, potassic and sericite-altered, coarse-grained red granite of the Middle Jurassic Osprey Lake batholith is cut by masses of glassy quartz containing scattered grains of pyrite and chalcopyrite. Limonite and malachite also accompany this mineralization. A sample analysed 0.001 gram per tonne gold, 0.4 gram per tonne silver, 0.093 per cent copper, 0.0288 per cent lead and 0.016 per cent zinc (Assessment Report 21920, page 9, Table 2, sample V91-R3).

BIBLIOGRAPHY

EMPR ASS RPT *21920
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 532
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/09
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE297**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING 6**, KING

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 04 N
LONGITUDE: 120 13 23 W
ELEVATION: 1631 Metres

NORTHING: 5529481
EASTING: 699479

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample site Q1b-R3, along the north side of the Coquihalla Highway (Okanagan Connector), 2.6 kilometres north-northwest of Culmination Point and 7.4 kilometres west of the summit of Pennask Mountain (Assessment Report 21922, Figure 2).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Coarse Grained Granite

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
COMMENTS: The occurrence is in the northern margin of the Osprey Lake batholith.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 7.8000 Grams per tonne
Gold 0.4100 Grams per tonne
REFERENCE: Assessment Report 21922, page 9, Table 2 (sample Q1b-R3).

CAPSULE GEOLOGY

The King 6 showing occurs along the north side of the Coquihalla Highway (Okanagan Connector), 2.6 kilometres north-northwest of Culmination Point and 7.4 kilometres west of the summit of Pennask Mountain.

A drusy quartz vein, 10 centimetres wide, cuts coarse-grained, feldspar megacrystic granite of the Middle Jurassic Osprey Lake batholith. The vein is mineralized with scattered blebs of chalcopyrite. A selected sample analysed 0.41 gram per tonne gold and 7.8 grams per tonne silver (Assessment Report 21922, page 9, Table 2, sample Q1b-R3).

The showing was sampled by Kingsvale Resources Inc. in 1991.

BIBLIOGRAPHY

EMPR ASS RPT *21922
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 534
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/16
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE298**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING 8**, KING

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 07 N
LONGITUDE: 120 12 12 W
ELEVATION: 1591 Metres

NORTHING: 5529626
EASTING: 700892

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample site Q17-R2A, along the north side of the Coquihalla Highway (Okanagan Connector), 2.7 kilometres north-northeast of Culmination Point and 6.0 kilometres west of the summit of Pennask Mountain (Assessment Report 21922, Figure 2).

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Sericite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Middle Jurassic			Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Coarse Grained Granite
Andesitic Ash Lapilli Tuff
Andesitic Dike

HOSTROCK COMMENTS: Isotopic age date for the Osprey Lake batholith is from Geological Survey of Canada Paper 91-2, page 95.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This showing is at the northern margin of the Osprey Lake batholith.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 10.6000 Grams per tonne
Gold 0.4400 Grams per tonne
REFERENCE: Assessment Report 21922, page 9, Table 2 (sample Q17-R2A).

CAPSULE GEOLOGY

The King 8 showing is on the north side of the Coquihalla Highway (Okanagan Connector), 2.7 kilometres north-northeast of Culmination Point and 6.0 kilometres west of the summit of Pennask Mountain.

A shear zone, 70 centimetres wide, cuts coarse-grained, phyllic (sericitic (?))-altered granite of the Middle Jurassic Osprey Lake batholith, near an andesitic dike. The showing is approximately 100 metres south of the contact with andesitic ash and lapilli tuff of the Upper Triassic Whistle Creek Formation (Nicola Group). A pyritic quartz-calcite vein/breccia is associated with the shear zone. A series of selected chips from the vein yielded 0.44 gram per tonne gold and 10.6 grams per tonne silver (Assessment Report 21922, page 9, Table 2, sample Q17-R2A).

The showing was sampled by Kingsvale Resources Inc. in 1991.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 536
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BIBLIOGRAPHY

EMPR ASS RPT *21922
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/16
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE299**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING, KING 8**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 57 N
LONGITUDE: 120 10 05 W
ELEVATION: 1700 Metres

NORTHING: 5529413
EASTING: 703437

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample site L89-R1D, along a logging roadcut, 1.5 kilometres southeast of the Coquihalla Highway (Okanagan Connector), 4.0 kilometres northeast of Culmination Point and 3.5 kilometres west-southwest of the summit of Pennask Mountain (Assessment Report 21922, Figure 2).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins

I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Andesitic Ash Tuff

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks
COMMENTS: This showing is in a roof pendant in the Pennask batholith.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Gold
GRADE: 0.6800 Grams per tonne

COMMENTS: Sample of selected chips from vein.
REFERENCE: Assessment Report 21922, page 9, Table 2 (sample L89-R1D).

CAPSULE GEOLOGY

The King showing occurs along a logging roadcut, 1.5 kilometres southeast of the Coquihalla Highway (Okanagan Connector), 4.0 kilometres northeast of Culmination Point and 3.5 kilometres west-southwest of the summit of Pennask Mountain.

A quartz vein, 1 centimetre wide, cuts bleached, pyritic andesitic ash tuff of the Upper Triassic Whistle Creek Formation (Nicola Group). A sample of selected chips analysed 0.68 gram per tonne gold (Assessment Report 21922, page 9, Table 2, sample L89-R1D).

The showing was sampled by Kingsvale Resources Inc. in 1991.

BIBLIOGRAPHY

EMPR ASS RPT *21922
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 538
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/16
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE300**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEN 5, PEN**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 16 N
LONGITUDE: 120 06 09 W
ELEVATION: 1676 Metres

NORTHING: 5530180
EASTING: 708123

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample site PEN91-R8, 1.3 kilometres east-northeast of the summit of Pennask Mountain and 1.1 kilometres north-northwest of Hidden Lake (Assessment Report 22304, Figure 4).

COMMODITIES: Gold Zinc Silver

MINERALS

SIGNIFICANT: Arsenopyrite Sphalerite Pyrite
ASSOCIATED: Quartz
ALTERATION: Sericite Chlorite
ALTERATION TYPE: Sericitic Chloritic Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Massive
CLASSIFICATION: Hydrothermal Skarn Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite
Andesitic Ash Lapilli Tuff
Skarn

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is in a roof pendant within the Pennask batholith.

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1991

SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	5.0000	Grams per tonne
Gold	1.6000	Grams per tonne

REFERENCE: Assessment Report 22304, page 17, Table 2 (sample PEN91-R8).

CAPSULE GEOLOGY

The Pen 5 showing is 1.3 kilometres east-northeast of the summit of Pennask Mountain and 1.1 kilometres north-northwest of Hidden Lake.

The occurrence is hosted in a small elongate stock of granodiorite, near its eastern margin. This north-trending stock is 1.8 kilometres long and intrudes andesitic ash and lapilli tuff of the Upper Triassic Whistle Creek Formation (Nicola Group). The stock may be related to the Early Jurassic Pennask batholith, which surrounds the Nicola Group volcanics and sediments comprising this roof pendant. Selected grab samples of sericite and chlorite-altered granodiorite, with clots and stringers of arsenopyrite, sphalerite and pyrite, analysed 1.6 grams per tonne gold and 5.0 grams per tonne silver (Assessment Report 22304, page 17, Table 2, sample PEN91-R8).

The volcanics near the granodiorite contact contain small

CAPSULE GEOLOGY

massive sulphide pods in skarn and quartz-arsenopyrite veins. Selected grab samples of angular quartz vein float fragments up to 4 centimetres wide, with sparse to abundant arsenopyrite, yielded 3.77 grams per tonne gold and 3.2 grams per tonne silver (Assessment Report 22304, page 17, Table 2, sample PEN91-R9).

The showing was prospected and sampled by Fairfield Minerals Ltd. in 1991.

BIBLIOGRAPHY

EMPR ASS RPT *22304
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/16
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE301**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEN 8, PEN**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 46 N
LONGITUDE: 120 06 21 W
ELEVATION: 1792 Metres

NORTHING: 5529244
EASTING: 707920

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample site PEN91-R19, 1.2 kilometres southeast of the summit of Pennask Mountain and 500 metres west-northwest of Hidden Lake (Assessment Report 22304, Figure 4).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Chalcopyrite Sphalerite
ALTERATION: Quartz Garnet
COMMENTS: Also calcsilicate.
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn Epigenetic
TYPE: K01 Cu skarn K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Pennask Batholith

ISOTOPIC AGE: 194 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Tuffaceous Siltstone
Tuffaceous Argillite
Skarn
Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Pennask batholith is from Geological Survey of Canada Paper 91-2, page 94.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
COMMENTS: This occurrence is in a roof pendant within the Pennask batholith.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Plutonic Rocks
GRADE: Hornfels

CAPSULE GEOLOGY

The Pen 8 occurrence is 1.2 kilometres southeast of the summit of Pennask Mountain and 500 metres west-northwest of Hidden Lake.

The showing occurs in tuffaceous siltstone and argillite of the Upper Triassic Whistle Creek Formation (Nicola Group), at the south end of a small north-trending stock of granodiorite, 1.8 kilometres long. This stock may be related to the Early Jurassic Pennask batholith, which surrounds the Nicola Group volcanics and sediments comprising this roof pendant. The siltstone and argillite are hornfelsed and intercalated with calcsilicate and quartz-garnet bands. The bands are mineralized with disseminated pyrrhotite, arsenopyrite, chalcopyrite and sphalerite (?). Selected grab samples of outcrop and talus analysed 0.0075 gram per tonne gold and 1.0 gram per tonne silver (Assessment Report 22304, page 18, Table 2, sample PEN91-R19).

The showing was prospected and sampled by Fairfield Minerals Ltd. in 1991.

BIBLIOGRAPHY

EMPR ASS RPT *22304
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 542
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/18
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE302**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEN 9**, PEN 10, PEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

MINING DIVISION: Osoyoos
Nicola
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 15 N
LONGITUDE: 120 03 20 W
ELEVATION: 1631 Metres

NORTHING: 5528428
EASTING: 711569

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of an area of argillite and limestone outcrops in the headwaters of Peachland Creek (unit 4a,b), 4.8 kilometres east-southeast of the summit of Pennask Mountain and 1.75 kilometres southwest of the south end of Brenda Lake (Open File 1988-7; Assessment Report 22304, page 11).

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite Galena
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
Upper Triassic	Nicola	Stemwinder Mountain	

LITHOLOGY: Argillite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1991

COMMODITY	GRADE	
Silver	31.2000	Grams per tonne
Gold	4.9200	Grams per tonne

REFERENCE: Assessment Report 22304, page 11.

CAPSULE GEOLOGY

The Pen 9 showing is centred 4.8 kilometres east-southeast of the summit of Pennask Mountain and 1.75 kilometres southwest of the south end of Brenda Lake.

Narrow quartz veins cut black argillite of the Upper Triassic Stemwinder Mountain Formation (Nicola Group), in the headwaters of Peachland Creek. Dark grey to black limestone is locally interbedded with the argillite. Grab samples of quartz veins containing scattered grains of pyrite and galena have assayed up to 4.92 grams per tonne gold and 31.2 grams per tonne silver (Assessment Report 22304, page 11).

The showing was sampled and prospected by Fairfield Minerals Ltd. in 1991.

BIBLIOGRAPHY

EMPR ASS RPT *22304
EMPR OF 1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/18
DATE REVISED: 1992/12/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE303**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEACHLAND CREEK, PEN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H16E
BC MAP:

MINING DIVISION: Osoyoos
Nicola
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 35 N
LONGITUDE: 120 02 36 W
ELEVATION: 1814 Metres

NORTHING: 5529080
EASTING: 712423

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop mineralized with sphalerite, galena and pyrite, 900 metres north of Peachland Creek and 5.6 kilometres east-southeast of the summit of Pennask Mountain (Open File 1988-7).

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: 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>
Upper Triassic	Nicola	Peachland Creek	

LITHOLOGY: Mafic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Peachland Creek showing is 900 metres north of Peachland Creek and 5.6 kilometres east-southeast of the summit of Pennask Mountain.

An outcrop of mafic tuff of the Upper Triassic Peachland Creek Formation (Nicola Group) is mineralized with sphalerite, galena and pyrite.

BIBLIOGRAPHY

EMPR ASS RPT 22304
EMPR OF *1988-7
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/12/18
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNE304**

NATIONAL MINERAL INVENTORY:

NAME(S): **PARADISE ROSE**, MCNULTY CREEK, MCNULTY CREEK-WEST

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H09E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 34 00 N
LONGITUDE: 120 09 04 W
ELEVATION: Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5494352
EASTING: 705987

LOCATION ACCURACY: Within 1 KM

COMMENTS: About 36 kilometres west of Summerland (Fieldwork 1994, pp.365-369).

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Orthoclase Plagioclase Quartz
ASSOCIATED: Biotite Zoisite Sphene Chlorite Hornblende
 Magnetite Pyrite
ALTERATION: Sericite Chlorite
ALTERATION TYPE: Sericitic Chloritic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Pennask Batholith

LITHOLOGY: Quartz Syenite

GEOLOGICAL SETTING

TECTONIC BELT:
TERRANE:

CAPSULE GEOLOGY

The Paradise Rose prospect is located about 36 kilometres west of Summerland.

Paradise Rose is a stone similar to Pacific Rose. It is a lighter colour, medium to coarse-grained pink and white quartz syenite of the Middle Jurassic Pennask batholith. Large boulders and massive outcrops form a northeast elongate hill. No dark inclusions were observed on scattered boulders or rock outcrops. There is no production record from this locality.

Paradise Rose stone is a bright pink and white quartz syenite. The rock is medium to coarse grained, both uniform in colour and texture. Major mineral constituents are pink orthoclase, white plagioclase and grey quartz. Small biotite crystals pepper the surface but only make up 5 per cent of the rock. Minor minerals are (clino?) zoisite, sphene, chlorite after biotite, hornblende, magnetite and pyrite.

The rock appears to be fairly fresh but, in thin section, plagioclase is moderately sericitized. Orthoclase has some micropertitic texture and some grains are glomeroporphyritic, trapping biotite and plagioclase. There are abundant cracks in crystals which can be seen on the polished face. The rock takes a high polish (8/10) but cracks are up to 0.5 millimetre deep and a few through-going fractures are present. There is some pitting at biotite grains and scattered flaking out of orthoclase fragments along cleavages intersecting with intracrystal cracks. There is no staining by pyrite or magnetite (less than 1 per cent combined) (Fieldwork 1994, pp.365-369).

BIBLIOGRAPHY

EMPR FIELWORK *1994, pp.365-369
GSC MAP 1836A

DATE CODED: 1994/12/23
DATE REVISED: 1997/02/10

CODED BY: DH
REVISED BY: ZDH

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: 092HNE305 NATIONAL MINERAL INVENTORY:

NAME(S): PACIFIC ROSE, MCNULTY CREEK, MCNULTY CREEK-EAST

STATUS:	Past Producer	Open Pit	MINING DIVISION:	Osoyoos
REGIONS:	British Columbia		UTM ZONE:	10 (NAD 83)
NTS MAP:	092H09E		NORTHING:	5494584
BC MAP:			EASTING:	712012
LATITUDE:	49 34 00 N			
LONGITUDE:	120 04 04 W			
ELEVATION:	Metres			
LOCATION ACCURACY:	Within 1 KM			
COMMENTS:	Located about 31 kilometres west of Summerland (Fieldwork 1994, pp.365-369).			

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT:	Orthoclase	Plagioclase	Quartz	Microcline
ASSOCIATED:	Sphene	Apatite	Rutile	Biotite Magnetite
ALTERATION:	Sericite			
ALTERATION TYPE:	Sericitic			
MINERALIZATION AGE:				

DEPOSIT

CHARACTER: Massive
 CLASSIFICATION: Magmatic Industrial Min.
 TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Pennask Batholith

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT:
 TERRANE:

CAPSULE GEOLOGY

The Pacific Rose prospect is located about 31 kilometres west of Summerland.

This site is located in medium to coarse-grained pink and white granite of the Middle Jurassic Pennask batholith. Granite outcrops form an elongate, east-west oriented ridge with bare rock ledges, faces and a granite boulder field on the lower part of the slope. The great size of the boulders and massive outcrops indicates low fracture density. The rock is homogeneous with only occasional dark inclusions.

In 1992 and 1993, Pacific Granistone Ltd. optioned this site and produced a number of blocks which were processed into facing-stone sheets. Under the trade name Pacific Rose granite, this stone was used as floor tile and outside facing in the Jack Davis Building in Victoria. This structure houses the former B.C. Ministry of Energy, Mines and Petroleum Resources, recently amalgamated into the B.C. Ministry of Employment and Investment.

Pacific Rose stone is an attractive medium to coarse grained, pink two-feldspar granite. Major constituents are pink orthoclase, white plagioclase, glassy grey quartz and greenish white microcline. Minor minerals are sphene, apatite, rutile, biotite and magnetite (1-2 per cent). Microcline imparts a faint greenish cast to the otherwise white matrix. The texture and colour are uniform with no fabric present.

The rock is quite fresh with minor sericitization of plagioclase and no alteration of biotite. The rock takes a very good polish (8-9/10) with no iron staining. Grains are well interlocked but there is a lot of intergranular cracking. Some minor pitting occurs on biotite grains or on feldspars where cleavage intersects intragranular cracks.

BIBLIOGRAPHY

EMPR FIELDWORK *1994, pp.365-369
 GSC MAP 1836A

DATE CODED: 1994/12/23
 DATE REVISED: 1995/12/20

CODED BY: DH
 REVISED BY: ZDH

FIELD CHECK: N
 FIELD CHECK: Y

MINFILE NUMBER: **092HNE306**

NATIONAL MINERAL INVENTORY:

NAME(S): **OLIVINE MOUNTAIN DIAMOND**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 01 N
LONGITUDE: 120 53 00 W
ELEVATION: 1700 Metres

NORTHING: 5487065
EASTING: 653205

LOCATION ACCURACY: Within 5 KM
COMMENTS:

COMMODITIES: Diamond

MINERALS

SIGNIFICANT: Diamond
ASSOCIATED: Chromite Magnetite
ALTERATION: Serpentine Hornblende

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Podiform
CLASSIFICATION: Magmatic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Triassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Tulameen Ultramafic Complex

LITHOLOGY: Peridotite
Dunite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The general area of the occurrence is given as the exact locality of Olivine Mountain (Camsell, 1911).

The dunite-rich core of the Tulameen Ultramafic Complex, a zoned Alaskan-type intrusive complex contains outcrops over an elongate area extending from Grasshopper Mountain up the northwest slope of Olivine Mountain to its summit. Chromite frequently occurs as clusters of disseminated coarse crystals, particularly in areas of intense serpentinization within the dunite. The mineral also forms small blebs, minute veinlets, massive pods and lenses up to 100 by 6 centimetres in size within the dunite and is associated with lesser magnetite. These are scattered randomly throughout the dunite, not occurring in any significant concentrations.

Four thin sections made from chromite-rich serpentines carried diamonds in veinlets of serpentine and hornblende, visible under a microscope (Camsell, 1911). The general appearance of the diamonds is given as brownish to yellowish in colour, partly or wholly opaque and having a spherical or quite irregular outline. Their size is described as being about the size of an ordinary pin's head.

BIBLIOGRAPHY

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- EMPR FIELDWORK 1981, pp. 218-222; 1987, pp. 281-294
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- EMPR P 1992-6
- GSC EC GEOL No. 13, pp. 89-94 (1934)
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- GSC P 85-1A, pp. 349-358
- GSC SUM RPT 1911, pp. 123-124; 1923, pp. 84A-101A
- CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
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- Camsell C. (1911): A new diamond discovery in the Tulameen District, British Columbia; Journal of Economic Geology, pages 604-611
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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 548
REPORT: RGEN0100

BIBLIOGRAPHY

University, 415 pages

DATE CODED: 2003/05/01
DATE REVISED: 2003/05/01

CODED BY: ICLW
REVISED BY: ICLW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW001**

NATIONAL MINERAL INVENTORY: 092H12 Mo1

NAME(S): **GEM, MEG, HLM,
SASH, BAILEY GROUP**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 41 N
LONGITUDE: 121 43 16 W
ELEVATION: 854 Metres

NORTHING: 5507327
EASTING: 592200

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Gem adit portal (Assessment Report 9470, Figure 3). This occurrence encompasses the original H.L.M. showings No. 1-5 (Hendry, N.W., 1938 - Property File).

COMMODITIES: Molybdenum Copper Zinc Tungsten Bismuth

MINERALS

SIGNIFICANT: Molybdenite Pyrite Pyrrhotite Chalcopyrite Sphalerite
Scheelite Bismuthinite

COMMENTS: Only minor chalcopyrite, sphalerite, scheelite and bismuthinite reported.

ASSOCIATED: Quartz

ALTERATION: Sericite Chlorite Saussurite

ALTERATION TYPE: Sericitic Chloritic Argillic Deuteric

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated Vein Breccia
CLASSIFICATION: Porphyry
TYPE: L05 Porphyry Mo (Low F- type)
SHAPE: Irregular

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
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Cretaceous

ISOTOPIC AGE: 120.9 +/- 2.7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

Spuzzum Intrusions

Tertiary

ISOTOPIC AGE: 35 +/- 0.7 Ma
DATING METHOD: Rubidium/Strontium
MATERIAL DATED: Unknown

Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite
Quartz Latite Breccia
Quartz Monzonite Breccia
Quartz Diorite
Biotite Schist
Biotite Gneiss
Rhyolite Porphyry Dike
Porphyritic Biotite Granodiorite
Feldspar Quartz Dike
Andesite Dike

HOSTROCK COMMENTS: Isotopic ages from Geological Survey of Canada Map 41-1989, Sheet 3 (Monger and Woodsworth). Mesozoic Settler Schist also occurs locally.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: GEM REPORT ON: Y

CATEGORY: Inferred YEAR: 1968

QUANTITY: 15874250 Tonnes

COMMODITY: Molybdenum GRADE Per cent

Molybdenum 0.0700 Per cent

COMMENTS: Stated grade was 0.125 per cent MoS2 at a 0.10 per cent cutoff grade. Conversion used is 1.6681 to obtain Mo.

REFERENCE: Assessment Report 18358, page 4.

CAPSULE GEOLOGY

The geology of the upper Clear Creek area is characterized by metasedimentary rocks assigned to the Cretaceous Settler Schist which have been intruded, from the east, by granitic rocks of the Early to Middle Cretaceous Spuzzum pluton.

In the immediate area of the occurrence, a 1200 by 550 metre Miocene-Oligocene aged quartz monzonite stock (Gem stock) intrudes foliated quartz diorite hosting bands of coarse-grained biotite schist and gneiss. An approximately circular breccia pipe (Gem breccia), 400 metres in diameter, occurs along the northeastern contact of this stock. The pipe's matrix consists of finely comminuted rock with conspicuous quartz phenocrysts supporting subangular to subrounded clasts of quartz latite, quartz monzonite, schist and aplite. Mixed breccia, comprising large clasts of coarse-grained schist and foliated quartz diorite, was also noted adjacent to the stock's contact. Narrow rhyolite porphyry, feldspar-quartz porphyry, black andesite and lamprophyre dykes emplaced within and around the stock represent the youngest igneous stage.

Mineralization consists predominantly of molybdenite occurring in all of the units except the feldspar-quartz and andesite dykes. The highest concentrations of molybdenite appear to have been emplaced adjacent to the quartz monzonite/schist-gneiss contact, occurring in a 490 by 60-metre crescent-shaped zone straddling the eastern edge of the breccia pipe. Molybdenite occurs as follows: 1) medium-grained crystals scattered along the edges and within a few centimetres of coarse quartz(-calcite) veins; 2) 0.5 to 1.5-centimetre isolated rosettes and blebs in 2 to 50-centimetre wide quartz veins; 3) 1 to 2-millimetre wide; blue coloured, fine-grained quartz-molybdenite veins; and 4) 'paint' along fractures. Two stages of molybdenite veining have been cut by barren quartz veining. Local minor pyrite and pyrrhotite have been observed in association with the quartz-molybdenite veins, which themselves occur as random, coarse stockworks. Minor disseminated chalcopryrite, sphalerite, scheelite and bismuthinite have also been observed locally (Canadian Mining and Metallurgical Bulletin, Volume 62, Number 681).

Alteration outside areas of intense quartz veining is generally absent. Silicification of stockwork host rocks is, however, moderate and saussuritization and chloritization of the quartz monzonite away from the breccia pipe has been observed. Sericitization is also reported adjacent to the quartz-molybdenite veins where they are hosted by rhyolite porphyry dykes and Gem breccia. White feldspar phenocrysts, present in many of the quartz veins, are probably a result of deuteric alteration.

Rough estimates by Utah Construction and Mining Co. in 1968, incorporating information from 20 diamond-drill holes totalling 4402 metres, put the deposit's reserves at 15,874,250 tonnes grading 0.125 per cent MoS₂, using a 0.10 per cent MoS₂ cutoff grade (Assessment Report 18358, page 4). Early estimates had been as high as 30,000,000 tonnes grading 0.205 per cent MoS₂ (National Mineral Inventory 092H12 M01).

Pyrite, pyrrhotite and chalcopryrite occurrences hosted by schist have been reported south of Power Lake (Rugg, 1968 - Property File).

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EMPR PF (Hendry, N.W. (1938): Preliminary Report on the Geology and Ore Deposits of the H.L.M. Property, Report for Canadian Exploration Ltd.; Young, M.J. and Aird, C.A. (1963): Geology of the Gem Molybdenum Deposit; Rugg, E.S. (1968): Report on the 1967 Drilling Program, Gem Exploration Property)
EMPR BULL 9, p. 89
EMPR AR 1939-100; 1963-91; 1964-143; 1965-219; 1966-61; 1967-67; 1968-82
EMR MP CORPFILE (Gem Expl. Ltd.)
EMR MIN BULL MR 223 B.C. 123
GSC P 69-47
GSC MAP 737A; 12-1969; 41-1989
CIM BULL *62/681

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/02

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW002**

NATIONAL MINERAL INVENTORY:

NAME(S): **GISBY (L.1078)**, LAURA (L.1080), SALMON RIVER (L.1077),
MARY ANN, MADGE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H13E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 58 40 N
LONGITUDE: 121 30 47 W
ELEVATION: 120 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5537219
EASTING: 606612

LOCATION ACCURACY: Within 500M

COMMENTS: Location is for main showing at the south abutment of the railway
bridge across the Nahatlatch River within the Salmon River claim (Lot
1077) (Open File 1988-19).

COMMODITIES: Talc Silica

MINERALS

SIGNIFICANT: Talc Silica
ASSOCIATED: Quartz Calcite Sulphide
COMMENTS: Green chrome mica described at the "uppermost" showing is likely
fuchsite.
ALTERATION: Magnesite Fuchsite
ALTERATION TYPE: Talc Serpentin'zn Quartz-Carb.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Metamorphic Hydrothermal Replacement Industrial Min.
TYPE: M07 Ultramafic-hosted talc-magnesite E08 Carbonate-hosted talc
M02 Tholeiitic intrusion-hosted Ni-Cu
SHAPE: Regular
MODIFIER: Sheared
DIMENSION: 150 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Aggregate length of talc showings along Nahatlatch River.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Bridge River	Undefined Formation	Ultramafic Intrusions
Unknown			

LITHOLOGY: Talc Carbonate Schist
Slaty Argillite
Quartzite
Greywacke
Chlorite Carbonate Schist
Serpentinite
Talc Slate
Diorite
Listwanite

HOSTROCK COMMENTS: The Bridge River Complex (Group) ranges from Mississippian to Middle
Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

The Gisby group of claims is located south of the confluence of the Nahatlatch and Fraser rivers, approximately 14 kilometres north-northwest of Boston Bar. The main showings are at the south abutment of the railway bridge across the Nahatlatch River, on both sides of the railway, 180 metres upstream from the railway and another 45 metres upstream where the talc is exposed in a 4.5-metre bank and is highly sheared.

Before 1920, the property was worked for silica and shipments were made to Vancouver. An adit was driven on the Gisby claim (Lot 1078), apparently in search of gold, which intersected a talc body. About 91 tonnes of talc were extracted from the workings up to 1923, at an average rate of slightly greater than 20 dollars per tonne. Other adits reportedly occur on the Salmon River claim (Lot 1077), but recent visits to the area found no such workings. They were probably covered during road construction (which has resulted in some new exposures).

CAPSULE GEOLOGY

The best, and most abundant, talc is found on the Laura and Salmon River claims (Lots 1080 and 1077) immediately south of the Nahatlatch River.

The host rocks are mixed metasediments of the Permian to Middle Jurassic Bridge River Complex (Group). Here, lithologies include thinly bedded slaty argillite with minor quartzite interlayers, greywacke, calcareous bands and chlorite-carbonate schists. The sediments are highly sheared, contorted and quartz veined. Pods of ultramafic rock, mainly serpentinite, are common in the area.

The Gisby adit was driven perpendicular to the enclosing slates, which dip nearly vertically. At 45 metres, a 1.5 to 2.4-metre wide talc bed was exposed, bordered by 15 metres of talcose slate. More magnesia-rich talcose rock with much quartz and calcite veining occurs on either side of the talc bed.

A talc bed is exposed southeast of the tunnel, adjacent to the largest of two northwest trending diorite bodies. The talc in this area contains a large percentage of carbonate. The host is sheared talc-carbonate schist mixed with pods of quartzite and argillite. In the tunnel however, the talc is reportedly much purer. It is light to dark olive green and translucent. Occasional quartz impurities are present as thin layers, but the talc grinds to a soft powder with no discernable grit. The talc breaks into irregular pieces with slickensided surfaces. An analysis of this material was made by the Mines Branch in 1926 with the following results (in per cent) (Geological Survey of Canada, Economic Geology Series 2):

Silica 59.88
Ferrous oxide 4.54
Ferric oxide nil
Alumina 1.18
Lime 0.10
Magnesia 29.51
CO2 0.02
H2O > 105 C 4.73

The talc showings along the Nahatlatch River have an aggregate length of approximately 150 metres. The talc is light green to pearly grey, massive to lightly laminated, with granular quartz and minor sulphide impurities. All the showings contain abundant carbonate, most of which is iron-rich magnesite. One bed, described as the "uppermost" showing, is distinctive in that it contains bright green chrome mica (fuchsite) and may be part of a listwanite assemblage (Geological Survey of Canada, Economic Geology Series 2).

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EMPR AR 1921-197; 1965-276-278
EMPR OF *1988-19
GSC EC GEOL *2, pp. 41-49
GSC P 69-47; 90-1E, pp. 183-195
GSC MAP 737A; 12-1969; 41-1989; 1386A

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/07

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW003**

NATIONAL MINERAL INVENTORY: 092H11 Au8

NAME(S): **AURUM MINE**, AURUM 1-6 (L.1236-1241), IDAHO (L.1234),
MONITOR (L.1242), TRAMWAY (L.1235), ANNEX,
SYLVIA B, I.X.L., PITTSBURG,
SNOWSTORM, O'CONNELL, CAROLIN,
LADNER CREEK, QUEEN, MCCONNEL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 30 19 N
LONGITUDE: 121 17 19 W
ELEVATION: 890 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5485035
EASTING: 623901

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Aurum No. 1 adit (Bulletin 79, Figure 32). See also Ladner Creek (092HNW007).

COMMODITIES: Gold Silver Copper Soapstone Talc

MINERALS

SIGNIFICANT: Gold Pyrrhotite Pyrite Arsenopyrite Chalcopyrite

COMMENTS: Millerite
Millerite was observed in specimens purported to have come from the Aurum mine.

ALTERATION: Talc Quartz Carbonate Albite Hematite

ALTERATION TYPE: Limonite
MINERALIZATION AGE: Talc Albitic Silicific'n Oxidation

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic Metamorphic Industrial Min.
TYPE: I01 Au-quartz veins M07 Ultramafic-hosted talc-magnesite

SHAPE: Tabular
MODIFIER: Sheared Faulted
DIMENSION: 20 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Length of ore shoot in No. 2 adit. Ore occurs within northwest trending East Hozameen fault.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Lower Triassic	Undefined Group	Spider Peak	
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Wacke
Siltstone
Conglomerate
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 17.9700 Grams per tonne
COMMENTS: Assay across a 1.5-metre interval from diamond-drill hole F-2.
REFERENCE: Assessment Report 17982.

CAPSULE GEOLOGY

The Aurum mine is located on the west fork of Ladner Creek, about 18 kilometres northeast of Hope. The No. 1 adit portal is situated approximately 300 metres south of the Idaho decline, from which Carolin Mines Ltd. developed the Idaho zone (092HNW007) in the early 1980's. The Aurum mine operated intermittently between 1928 and 1942 and is currently in the process of being reevaluated. Geology in the mine area is characterized by wacke with local

CAPSULE GEOLOGY

siltstone and conglomerate assigned to the Lower and Middle Jurassic Ladner Group, and greenstone of the Lower Triassic Spider Peak Formation. These rocks are in contact with ultramafic rocks of the Coquihalla serpentine belt, which here occupy a variably dipping, northwest trending segment of the East Hozameen fault. Gold mineralization is principally hosted along the fault which, in the area of the mine, is actually a talcose shear up to one metre wide. While dipping moderately to the east in the No. 1 and 2 adits, the shear is thought to have rolled to the southwest before returning to a steep east dip where encountered in the No. 3 adit. This would account for its apparent displacement to the southwest at depth.

Gold at the Aurum mine is predominantly free, but is locally associated with pyrrhotite, pyrite and arsenopyrite with lesser chalcopyrite and possibly millerite which have been variably oxidized to hematite and limonite. It is not evenly distributed throughout the shear, but rather is concentrated in pockets and veinlets, especially where arsenopyrite and conspicuous amounts of quartz, carbonate and albite are present. Both gold and associated sulphides commonly occur as polished films on slickensided surfaces of serpentinite and talc, indicating post-mineral movement. Gold also forms plates, thin wedges, irregular prongs and corrugated beads, distributed sporadically in massive bodies of mottled, mostly impure, foliated, light grey to dark green talcose rock. Native gold also appears to favour thin, arsenopyrite-rich bands interlayered with partings of calcite, quartz and foliated talc. This gold is either disseminated or occurs as thin vein-like segregations, wires and leaves.

Lithochemical sampling has revealed that zones of pronounced potassium depletion and sodium enrichment, like those found over the Idaho zone, are present at the Aurum mine. Cairns (1929) also suggested that the gold-sulphide-bearing quartz veins comprising the Idaho zone are related to the shear-hosted mineralization at the Aurum mine.

The Aurum mine comprises at least five north-northwest trending adits between the elevations of 793 and 890 metres above sea level which, by 1935, totalled over 762 metres in aggregate length. The No. 1 adit, driven in 1927, followed a high grade surface showing and encountered two small shoots of spectacular ore, one near the portal and the other 37 metres to the north. The No. 2 adit, driven in 1928, 27 metres below the No. 1, intersected a 20-metre long shoot at a position corresponding to the southern ore zone above, but did not encounter dip extensions of the northern shoot. Both shoots were hosted within the talcose shear.

By 1929, the No. 3 and 4 adits had been driven at elevations of 825 and 793 metres, respectively. The former adit, a crosscut, exposed a 37-metre long siliceous zone, approximately one metre in width, hosting quartz vein with some values in gold. It also encountered the same talcose shear nearly vertically below the portal of the No. 1 adit. The No. 4 adit, advanced simultaneously, encountered the shear in a crosscut 30 metres from the portal, but only after considerable effort had been spent following another shear of limited potential. A winze sunk on a similar talcose shear six metres back from the face also reportedly exposed a showing of quartz mixed with calcite 15 to 23 centimetres wide and hosting visible gold. A fifth adit, the No. 2A, was started at an elevation of 850 metres to investigate the shear where it was thought to roll to the southwest.

Total recorded production from the Aurum mine was 494 tonnes from which 3017 grams of silver and 16,578 grams of gold were recovered between 1930 and 1942. Apparently, soapstone production from this location was also attempted in 1932.

The best assay from a recent diamond drilling programme came from a horizontal hole drilled to the east off the 900 level, where a 1.5-metre sample across a 14-centimetre wide quartz vein in andesite graded 17.97 grams per tonne gold (Assessment Report 17982).

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EMPR BC METAL MM00213
EMPR BR RPT 803-57
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EMPR GEM 1973-152; 1974-123; 1977-E133
EMPR INDEX 3-188
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GSC MEM 139
GSC P 69-47; 88-1E; 90-1E, pp. 183-195
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GCNL #87,#109, 1977; #22,#75, 1978; Feb.8,May 31,#28,#45,#105, 1979;
#16,#60,#143,#204, 1981
N MINER Jun.9, 1977; Feb.15, 1979; Mar.5,26, 1981
W MINER Mar., 1977; Jun.,Dec., 1979; Dec., 1980
WWW <http://www.infomine.com/>
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/06

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW004**

NATIONAL MINERAL INVENTORY: 092H11 Au3

NAME(S): **RODDICK (L.78)**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 35 N
LONGITUDE: 121 20 56 W
ELEVATION: 685 Metres

NORTHING: 5492843
EASTING: 619364

LOCATION ACCURACY: Within 500M

COMMENTS: Location is centre of Lot 78 (National Topographic System 1:50,000 map 92H11).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: STRIKE/DIP: 130/25S
COMMENTS: One vein, striking 130 degrees and dipping 25 degrees to the southwest varied from 5-25 centimetres wide.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic
Unknown

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Feldspar Porphyry Sill
Porphyry Dike
Slate
Slaty Argillite
Greywacke
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Siwash Creek area is underlain by Early and Middle Jurassic Ladner Group argillite, siltstone and greywacke and Permian to Jurassic Hozameen Complex chert in contact along the Hozameen fault, a major, steeply dipping, north-northwest trending fracture system extending from northern Washington State to the Fraser River. Most of the mineral occurrences in the area lie east of, but generally close to, this fault which encloses metaplutonic rocks of the Coquihalla serpentine belt between Mount Dewdney and Siwash Creek. The Ladner Group and, to a lesser extent, Hozameen Complex rocks are cut by a variety of small intrusive bodies ranging in composition from gabbro through granodiorite to syenite.

Geology near the confluence of the north, middle and south forks of Siwash Creek is characterized by poorly to moderately-bedded, dark coloured, pyritic slaty argillite locally intercalated with thin beds of greywacke and siltstone, all assigned to the Ladner Group. These rocks have been intruded by locally altered, light coloured, felsic sills and dykes.

Gold is spatially associated with feldspar porphyry sills in the area of the Roddick occurrence. Many of these sills have irregular chilled margins; narrow aureoles of weak thermal alteration are developed in the host argillite. Locally, the sills are fault-bound and their contacts marked by rust-stained quartz veins up to 60 centimetres wide. Many sills are also cut by irregular quartz stringers, quartz-filled tension gashes or intersecting sets of quartz veins up to five centimetres wide. These veins contain small vugs lined with quartz crystals and sparse disseminated pyrite. Fine gold reportedly occurs both in the quartz and the intrusions and is

CAPSULE GEOLOGY

generally coated with a film of iron oxide (Bulletin 79, page 62).
The Roddick occurrence was discovered in 1890, the first of many occurrences eventually located in the Siwash Creek area. Underground exploration was carried out in several adits and by 1895, the property received Crown-grant status. Narrow lenses and stringers of quartz cutting a 7.5-metre wide "porphyry dyke" and the surrounding slates reportedly carried iron oxides and free gold. In 1934, a 10-metre crosscut was driven to intersect a 5 to 25-centimetre wide, heavily oxidized quartz vein striking 130 degrees and dipping 25 degrees to the southwest. This vein is described as being hosted by slates just east of the porphyry dyke.

No recent information concerning this occurrence is available.

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1900-905; 1901-1086; 1911-184; 1915-262; 1917-226; *1934-F19
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EMPR BULL 20, Pt. IV, p. 21; *79, p. 127
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1911, p. 129

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/26

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW005**

NATIONAL MINERAL INVENTORY: 092H11 Au4

NAME(S): **EMIGRANT**, GOLD ROAD, LITTLE EMIGRANT,
EMIGRANT EXTENSION, AMERICAN CLUB, HARVARD,
SYNDICATE FRACTION, BRITISH GOLD

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:
LATITUDE: 49 34 16 N
LONGITUDE: 121 20 23 W
ELEVATION: 610 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Approximate location of portal of No. 2 and 3 adits (Minister of
Mines Annual Report 1917, page F227).

MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5492271
EASTING: 620040

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
COMMENTS: One account has the vein dipping shallowly to the northwest, but
another, more likely account has it conforming to the attitude of the
enclosing slate which strikes northwest and dips to the southwest.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Slate
Felsic Sill
Felsic Dike
Argillite
Greywacke

HOSTROCK COMMENTS: The felsic dykes and sills are not dated.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1917
SAMPLE TYPE: Chip
COMMODITY: Gold GRADE: 16.4600 Grams per tonne
COMMENTS: Sample from No. 2 adit crosscut across 3.65 metres.
REFERENCE: Minister of Mines Annual Report 1917, page F227.

CAPSULE GEOLOGY

The area near the confluence of the north, middle and south forks of Siwash Creek is characterized by poorly to moderately-bedded, dark coloured, pyritic slaty argillite locally intercalated with thin beds of greywacke and siltstone, all assigned to the Ladner Group. These rocks have been intruded by locally altered, light coloured, felsic sills and dykes. Quartz veining with associated gold values occurs within these intrusions and the surrounding sediments. Refer to the Roddick occurrence (092HNW004) for further regional details.

Development within the Emigrant group of claims reportedly consisted of three tunnels driven on the west side of the south fork of Siwash Creek. The No. 1 adit was driven in a northwest direction and intersected a 35-centimetre wide quartz vein, 21 metres from the portal. The No. 2 adit, driven parallel to and 27 metres below the No. 1, intersected the footwall of the same vein at a distance of 125 metres from the portal, but encountered problems due to flooding.

CAPSULE GEOLOGY

The No. 3 adit, established to drain the No. 2 adit, was driven west from the portal of the latter and intersected the vein at a distance of 131 metres. A crosscut driven from a 4.26-metre raise, just back from the face of the No. 2 adit, subsequently exposed a 6-metre section of northwest dipping veining intercalated with slate. A later account describes this vein as conforming with the attitude of the enclosing slate, which here strikes northwest and dips moderately to the southwest (O'Grady, 1937 - Property File).

Assays from five samples taken across various intervals of the veining/slate exposed in the crosscut ranged from 2.7 to 16.4 grams per tonne gold (Minister of Mines Annual Report 1917, page F227).

A fourth adit, located approximately 125 metres north of the No. 2/3 portal, reportedly encountered dykes and irregular stringers of quartz at several points. Although pyrite was noted in association with inclusions of argillite in the stringers, assays from samples were generally low.

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GSC SUM RPT 1911, p. 129

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/26

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW006**

NATIONAL MINERAL INVENTORY:

NAME(S): **WREN**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 44 02 N
LONGITUDE: 121 43 29 W
ELEVATION: 1478 Metres

NORTHING: 5509824
EASTING: 591898

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of Wren claim group (Assessment Report 9701).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

SHAPE: Tabular

DIMENSION: 160 x 2 Metres STRIKE/DIP: 260/85N

TREND/PLUNGE:

COMMENTS: The vein is up to 2 metres in width but averages 1.35 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Cretaceous

ISOTOPIC AGE: 79.79 +/- 1.3 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Spuzzum Intrusions

LITHOLOGY: Granite
Pegmatite
Fine Grained Dike

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

COMMENTS: Located within the Spuzzum pluton.

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold 0.9257 Grams per tonne

COMMENTS: Eight samples across vein averaged 0.446 grams per tonne gold and 3.05 grams per tonne silver.

REFERENCE: Assessment Report 9701.

CAPSULE GEOLOGY

The area of the Wren occurrence is underlain by intrusive rocks assigned to the Cretaceous Spuzzum pluton which has intruded Cretaceous to Tertiary metasedimentary rocks of the Settler Schist to the west. The intrusive rocks host numerous coarse-grained pegmatite veins with prominent biotite books and local quartz stringers and have been cut by late dykes and plugs.

The Wren showing comprises a quartz vein, up to 2 metres wide (average 1.35 metres), striking 260 degrees and dipping from 80 to 85 degrees north within granite. The vein, which is paralleled to the south by a fine-grained dyke, is exposed for approximately 160 metres near a steep headwall and hosts local pyrite and arsenopyrite, with associated low grade gold values. The best assay from eight samples across the vein graded 0.9257 gram per tonne gold and 2.74 grams per tonne silver across 65 centimetres (Assessment Report 9701).

BIBLIOGRAPHY

EMPR ASS RPT *9701

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 561
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1992/03/02
DATE REVISED: / /

CODED BY: DMN
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW007**

NATIONAL MINERAL INVENTORY: 092H11 Au8

NAME(S): **LADNER CREEK, CAROLIN, CAROLIN MINE, IDAHO, COQUIHALLA GOLD, ATHABASKA, MCMASTER, LADNER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:
LATITUDE: 49 30 31 N
LONGITUDE: 121 17 20 W
ELEVATION: 1006 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Portal of the Idaho decline, 4 kilometres south-southeast from the summit of Spider Peak near the west fork of Ladner Creek, 17.5 kilometres north-northeast of Hope (Assessment Report 7608). See also McMaster (092HNW018) and Aurum Mine (092HNW003).

Underground
MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5485405
EASTING: 623873

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Pyrite Chalcopyrite Bornite
Gold Sphalerite
COMMENTS: Visible gold is rare.
ASSOCIATED: Albite Quartz Calcite Magnetite Pyrobitumen
COMMENTS: Rare flakes of pyrobitumen have been observed.
ALTERATION: Albite Quartz Carbonate Chlorite Sericite
Kaolinite Calcite Ankerite
ALTERATION TYPE: Albitic Silicific'n Carbonate Chloritic Sericitic
Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Mesothermal Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
SHAPE: Cylindrical
MODIFIER: Folded Faulted
COMMENTS: Idaho zone orebodies.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Lower Triassic	Undefined Group	Spider Peak	
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Wacke
Greywacke
Lithic Wacke
Andesite
Breccia
Conglomerate
Siltstone
Argillite
Gabbro
Brecciated Massive Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Cascade Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: TAILINGS
CATEGORY: Measured
QUANTITY: 598620 Tonnes
COMMODITY: Gold
GRADE: 1.7500 Grams per tonne
REPORT ON: Y
YEAR: 1996
COMMENTS: Proven reserves.
REFERENCE: Information Circular 1997-1, page 22.

INVENTORY

ORE ZONE: UNDERGROUND WORKINGS REPORT ON: Y

CATEGORY:	Indicated	YEAR:	1996
QUANTITY:	1621715 Tonnes		
COMMODITY:	<u>Gold</u>	GRADE	
		4.4200	Grams per tonne

COMMENTS: Current underground resource estimate.
REFERENCE: Information Circular 1997-1, page 22.

CAPSULE GEOLOGY

The Carolin mine is located on the west fork of Ladner Creek, approximately 18 kilometres northeast of Hope. The portal of the Idaho decline is situated approximately 300 metres north of the No. 1 adit of the Aurum mine (092HNW003), which operated intermittently between 1928 and 1942. At least three saddle-shaped ore bodies have been outlined to date at the Idaho zone and deep drilling has shown that several additional auriferous zones are present below the No. 3 orebody.

Geology in the mine area is characterized by sediments assigned to the Lower and Middle Jurassic Ladner Group and greenstone of the Lower Triassic Spider Peak Formation in contact with ultramafic rocks of the Coquihalla serpentine belt along a variably dipping, northwest trending segment of the East Hozameen fault. Rocks of the Permian to Jurassic Hozameen Group lie west of the West Hozameen fault, which also bounds the serpentine belt to the west.

The Ladner Group succession at the mine has been divided into three units. The heterogeneous and coarsely clastic lower unit comprises wacke, siltstone and minor conglomerate and is approximately 200 metres thick. These rocks are overlain by a 200-metre thick succession of dark coloured, well-bedded siltstone with minor wacke and an upper, organic-rich, slaty argillite unit more than 1000 metres thick. These rocks have a weak to intense slaty cleavage and were subjected to at least three periods of regional folding. Despite this, Ladner Group sediments give an overall impression of being less deformed than the Hozameen Complex rocks to the west, and a wide variety of sedimentary structures are commonly preserved. Regional folding has resulted in widespread structural repetition; graded bedding suggests that the Ladner Group succession adjacent to the Coquihalla serpentine belt is structurally overturned.

Ladner Group sediments stratigraphically overlie massive to pillowed, spilitized greenstone of the Lower Triassic Spider Peak Formation. The Spider Peak/Ladner contact is commonly marked by faulting and shearing, but in places the sedimentary members rest directly on the volcanic rocks with either an unconformable or a disconformable relationship. Two elongate, fault-bound masses of gabbro and massive to brecciated greenstone outcrop north and south of the surface exposure of the Idaho zone. These rocks are enriched in sodium and are believed to be thrust slices of Spider Peak Formation.

The Hozameen Complex consists largely of cherts, pelites and altered spilitic basalts which, west of the Carolin mine area, have been subjected to lower greenschist facies metamorphism and strong deformation. Some parts are also overprinted by either a schistosity or an intense, subhorizontal mullion structure. Close to the serpentine belt, Hozameen Complex rocks commonly show signs of increased deformation and crushing, minor silicification, late brittle faulting and pronounced slickensiding.

The Coquihalla serpentine belt forms an elongate, north-northwest trending, steeply dipping ultramafic unit separating supracrustal Ladner Group sediments to the east from rocks of the Hozameen Complex to the west. The belt lies within a major crustal fracture, the Hozameen fault and exceeds 50 kilometres in discontinuous strike length. The serpentine belt reaches its maximum development in the Carolin mine-Coquihalla River area, where it is greater than 2 kilometres in width. It gradually narrows to the south and north until in the Boston Bar and Manning Park areas, the Hozameen and Ladner rocks are in direct fault contact. Dark, highly sheared to massive serpentinite of probable peridotite and dunite parentage characterizes the belt, but it also contains substantial amounts of highly altered gabbro-diabase rocks as well as minor listwanite. The eastern margin of the serpentine belt is sharply delineated by the East Hozameen fault, which comprises several generations of oblique, intersecting fractures. The fault generally dips to the east, but locally exhibits an undulating character and may dip westward. The subvertical West Hozameen fault marks the western margin of the belt and, like its eastern counterpart, has had a long and complex history of both vertical and horizontal movements.

CAPSULE GEOLOGY

With the gradual disappearance of the belt both to the north and south, these boundary fractures merge into a single tectonic feature.

The Carolin orebodies are turbidite-hosted, mesothermal, epigenetic deposits characterized by the introduction of sulphides, albite, quartz and precious metals. This mineralization is hosted in the lower clastic unit of the Ladner Group succession, approximately 150 to 200 metres above the unconformable contact with the Spider Peak Formation. Here, this unit includes discontinuous wedges of interbedded greywacke, lithic wacke, sedimentary breccia and conglomerate, together with intercalated sequences of siltstone and minor argillite. The basal portion also includes rare, thin horizons of clastic, impure limestone. Surface mapping in the mine area indicates that both the Ladner Group and the stratigraphically underlying Spider Peak Formation were tectonically inverted, and subsequently deformed into large scale, upright to asymmetric folds.

Underground mapping has demonstrated that the gold mineralization is both lithologically and structurally controlled. It is preferentially concentrated in the more competent and permeable coarser-grained wacke, lithic wacke and conglomerate layers in the tectonically thickened hinge regions of a disrupted, asymmetric antiform. As a result, the orebodies exhibit a saddle reef-like morphology and the deposit plunges gently northwest, subparallel to the antiformal axis. Polished section studies indicate that pyrite predominates in the upper parts of the deposit while pyrrhotite predominates at depth. Similar zoning has been noted in other gold deposits, such as the Mount Charlotte in Western Australia (Phillips et al., 1983). The pyrite-pyrrhotite zoning suggests that the deposit is upright and younger than the tectonic overturning that affected the host rocks. However, the presence of folded, post-ore quartz veins suggest that mineralization either predated or accompanied the episode of upright to asymmetric folding (Fieldwork 1985).

The surface expression of the deposit is a strongly faulted and altered zone up to 40 metres in exposed width. It is characterized by secondary manganese and iron oxides, intense albitic alteration, disseminated sulphides and a dense network of irregular, variably deformed, multiphase quartz-carbonate veins. Not all areas containing these features are, however, enriched in gold. The ore largely consists of quartz and albite with variable amounts of carbonate, chlorite, very fine sericite and opaque minerals. Opaque minerals make up between 1 and 15 per cent of the ore and comprise, in decreasing order of abundance, pyrrhotite, arsenopyrite, pyrite, magnetite, chalcopyrite, bornite and gold. Minor sphalerite and, in rare instances, small flakes of pyrobitumen have also been observed.

Gold generally forms small grains up to 0.02 millimetre in size that generally occur as inclusions in pyrite and arsenopyrite, or as rims around pyrite, pyrrhotite and chalcopyrite crystals. Gold is also found independent of the sulphides as minute grains within or along the grain boundaries of some quartz, carbonate or albite crystals. Visible gold, although uncommon, is present as thin plates and smears on fault surfaces and as rare leaf-like masses, small scales and rods.

Several theories of paragenesis of the opaque minerals have been put forward. Earlier reports suggest the following: (1) magnetite, (2) arsenopyrite, (3) pyrite, (4) gold, (5) pyrrhotite, (6) sphalerite and (7) chalcopyrite, with a partial overlap in the deposition of arsenopyrite, pyrite and pyrrhotite (Kayira, 1975). Shearer (1982), however, determined the order as follows: (1) magnetite, (2) arsenopyrite and some gold, (3) contemporaneous deposition of pyrite, pyrrhotite and some gold, (4) minor magnetite and finally (5) traces of chalcopyrite and gold. In any case, magnetite appears to be the oldest opaque ore mineral and is probably unrelated to the mineralization since it shows no spatial relationship to either gold or sulphides.

Weak silicification and intense, pervasive albitic and carbonate alteration are evident throughout the Idaho zone and adjacent wallrocks. Exceedingly fine-grained chloritic and sericitic alteration related to the mineralizing event are also well developed in the surrounding wallrocks, but is not so abundant in the ore. This alteration is believed to have occurred according to the following sequence of events: (1) chloritization together with some sericitization and weak kaolinization; (2) the introduction of quartz, albite, sulphides and gold; (3) continuing introduction of quartz and albite; (4) emplacement of multiple phases of quartz with or without carbonate veins with local envelopes of disseminated carbonate followed by (5) the late emplacement of veins and disseminations of calcite and ankerite. Weak sericitization and chloritization probably took place throughout the entire sequence.

There are at least three generations of albitization, the

CAPSULE GEOLOGY

earliest and finest grained being coeval with the sulphide-gold mineralization. The subsequent two generations produced veins and masses containing coarse-grained, well-twinned albite crystals. Locally, angular fragments of sulphide-rich ore are engulfed by the youngest albitic phase. The deposit is surrounded by an albitic envelope which extends at least 60 metres beyond the mineralization. The gold mineralization is marked by distinct zones of barium and potassium depletion that are generally twice as thick as their associated gold-bearing horizons.

The deposit is cut by numerous northerly trending faults, some of which contain carbonaceous material. It is also truncated to the north by the younger, east striking, north dipping "hangingwall shear", which may be the downward continuation of the Richardson fault, a normal fault mapped on the surface.

When the milling of ore began in late 1981 at the Carolin mine, measured geological reserves were 1.5 million tonnes grading 4.83 grams per tonne gold using a cutoff grade of 2.74 grams per tonne gold and a 20 per cent dilution factor (Fieldwork 1985). The mine closed at the end of 1984 due to poor gold recoveries, environmental concerns and low gold prices. During the 3 years, 1,018,425 tonnes of ore were mined (901,567 tonnes milled), from which approximately 1450 kilograms of gold and 109 kilograms of silver were recovered. An additional 12 kilograms of gold and 3 kilograms of silver were recovered from custom ore milled in 1988. In 1990, indicated (probable) reserves were stated as 898,000 tonnes grading 4.3 grams per tonne gold (George Cross News Letter No.25, February 5, 1990).

In 1974, the McMaster zone (092HNW018) was discovered approximately 1.5 kilometres northwest of the Carolin orebodies. Mineralization similar to that developed at the mine was encountered in trenches and preliminary drill holes. In 1981, work began on a northerly extension of the main haulage level (800 metre level) at the Carolin mine towards the McMaster zone. The status of this extension is not known. Diamond drilling undertaken in 1989, however, outlined five separate mineralized zones with similar grade and tonnage potential to the Idaho zone orebodies. Additional work is pending.

Athabaska Gold Resources Ltd. continues underground exploration drilling and development. Preliminary resource estimates from the underground workings are 900,000 tonnes grading 4.4 grams per tonne gold. A further resource of about 800,000 tonnes of tailings grading 1.7 grams per tonne gold is also viewed as potential millfeed. The current program (1995) includes 110 metres of new drifting to extend the workings on the 875 level, 1630 metres of underground drilling in 19 holes and 564 metres of surface drilling in 6 holes. The company is in the midst of a large-scale metallurgical testing program using freshly mined bulk samples (T. Schroeter, personal communication, 1995).

Drill testing and assaying of the tailings pond reserve has been completed, validating proven reserves of 799,155 tonnes grading 1.74 grams per tonne gold (George Cross News Letter No.37 (February 21), 1996).

In 1995, with partial Explore B.C. Program support, Athabaska Gold Resources Ltd. undertook an aggressive exploration program consisting of 7010 metres of underground diamond drilling in 92 holes, 50 metres of trenching and 280 metres of tunneling. This work demonstrated that mineralization continues at least to 11,100N on 875 level. It also discovered a new type of higher grade mineralization hosted by altered Spider Peak Formation volcanics west of old workings and alongside the Hozameen fault (Explore B.C. Program 95/96 - M130).

Drilling in 1996 increased the underground resource by 272,100 tonnes. The current underground resource is estimated at 1,621,715 tonnes grading 4.42 grams per tonne gold plus an additional tailings resource of 598,620 tonnes grading 1.75 grams per tonne gold (Information Circular 1997-1, page 22).

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MIN REV July/August 1981
N MINER Sept.28, 1978; Feb.15, June 7, 1979; Mar.5, Dec.3,31, 1981; Feb.25, Mar.4, Apr.15, June 24, Dec.30, 1982; Apr.7,28, May 12, June 23, Nov.24, 1983; Sept.13, Nov.22, 1984; Feb.3, 1986; Feb.16, 1987; Nov.13, Nov.27, 1995; Jan.29, Feb.19, 1996
PR REL Tamerlane Ventures Inc., Feb.20, 2003
V STOCKWATCH Oct.28, 1987
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DATE CODED: 1985/07/24
DATE REVISED: 1996/11/27

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HNW008**

NATIONAL MINERAL INVENTORY:

NAME(S): **MONTANA**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 40 N
LONGITUDE: 121 17 41 W
ELEVATION: 1250 Metres

NORTHING: 5485673
EASTING: 623444

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of Montana occurrence (Geological Survey of Canada Map 1988).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold Pyrite Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

STRATIGRAPHIC AGE	GROUP
Jurassic	Ladner
Lower Triassic	Undefined Group
Unknown	

FORMATION

FORMATION
Undefined Formation
Spider Peak

IGNEOUS/METAMORPHIC/OTHER

Coquihalla Serpentine Belt

LITHOLOGY: Greenstone
Slate
Serpentinite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Montana prospect is situated approximately two kilometres southeast of Little Spider Peak and adjoins the old Idaho Crown-grant (Lot 1234) to the northwest. It is within this lot that the Carolin mine (092HNW007) was eventually developed.

The area is underlain by greenstone assigned to the Lower Triassic Spider Peak Formation in contact with serpentinite of the Coquihalla serpentine belt along a section of the East Hozameen fault. To the east, the greenstone is unconformably overlain by slaty sediments assigned to the Lower and Middle Jurassic Ladner Group.

The Montana occurrence comprises a number of 5-centimetre wide quartz veins exposed in an opencut. These veins are hosted by pyritic greenstone approximately 20 metres west of the Spider Peak Formation/Ladner Group contact. The vein is reported to have contained rich specimens of free gold. A "calcareous lead", approximately one metre wide and mineralized with pyrrhotite and pyrite, was also noted in slates to the northeast.

Approximately two tonnes of high-grade material containing 1151 grams of gold were mined at this location in 1925.

Recent information concerning this occurrence is not available.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/04/02

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW008**

MINFILE NUMBER: **092HWN009**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUSH OF THE BULL**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 05 N
LONGITUDE: 121 17 34 W
ELEVATION: 1345 Metres

NORTHING: 5486449
EASTING: 623567

LOCATION ACCURACY: Within 500M

COMMENTS: Location is Rush of the Bull trench (Assessment Report 19877, Figure 7).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic
Unknown

Ladner

Undefined Formation

Unnamed/Unknown Informal

LITHOLOGY:

Slate
Slaty Argillite
Siltstone
Wacke
Feldspar Porphyry Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Rush of the Bull occurrence is situated approximately three kilometres southeast of Spider Peak and one kilometre north of the Carolin mine (092HWN007). The area is underlain by sediments of the Lower to Middle Jurassic Ladner Group, which here include grey to black, locally organic-rich, pyritic, slaty argillite in contact with well-bedded siltstone along a splay of the East Hozameen fault. Minor northwest striking bands of medium to very coarse-grained, tuffaceous, fossiliferous wacke also occur within the sequence. Locally, the sedimentary rocks have been intruded by narrow felsic sills and dykes up to four metres thick, similar to those associated with gold occurrences in the Siwash Creek area (092HWN004, 005, 015-017) to the north.

Two 10-centimetre wide quartz veins cutting slate are reported to have been exposed at the Rush of the Bull occurrence. The veins and the adjacent slate are described as hosting abundant coarse-grained arsenopyrite and some free gold and were thought to be genetically associated with "acid, feldspar porphyry dykes and sills" occurring locally. Other, less mineralized veins were also noted in the area. Recent maps prepared by Carolin Mines Ltd. (Assessment Report 19877, Figure 7) suggest the Rush of the Bull occurrence comprises four or five small trenches southeast of the McMaster zone (092HWN018). Descriptions of the mineralization they expose, however, are not available.

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MINFILE NUMBER: **092HWN009**

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
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PAGE: 569
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DATE CODED: 1985/07/24
DATE REVISED: 1992/04/03

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW010**

NATIONAL MINERAL INVENTORY:

NAME(S): **GEM**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 45 N
LONGITUDE: 121 17 21 W
ELEVATION: 1005 Metres

NORTHING: 5487690
EASTING: 623801

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of Gem opencuts (Geological Survey of Canada Map 1988)

COMMODITIES: Gold Arsenic

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite
ASSOCIATED: Quartz
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION:

STRIKE/DIP: 110/70N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic
Unknown

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Slate
Slaty Argillite
Siltstone
Wacke
Felsic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Gem occurrence is situated east of Little Spider Peak near the headwaters of Ladner Creek, approximately one kilometre southeast of the Pipestem mine (092HNW011). It represents the northernmost showing in the original Gem Group of claims, which also encompassed the Golden Cache occurrence (92HNW048).

The area is underlain by grey to black, locally organic-rich, pyritic, slaty argillite intercalated with well-bedded siltstone, all assigned to the Early and Middle Jurassic Ladner Group. A number of northwest striking bands of medium to very coarse-grained, tuffaceous, fossiliferous wacke also occur within the sequence. The bands vary from 5 to 45 metres thick and are the principal host to gold mineralization at the Pipestem mine.

In the area of the mine, these sedimentary rocks have been intruded by narrow sills and dykes up to four metres thick. Several porphyritic felsic sills, similar to those associated with gold occurrences in the Siwash Creek area (092HNW004, 005, 015-017), host thin quartz veins with pyrite.

Development at the Gem occurrence reportedly consisted of three opencuts which exposed several parallel quartz veins striking 110 degrees and dipping steeply to the north and south. The veins were hosted by slate and were sparingly mineralized with pyrite and arsenopyrite. The principal vein, about 1.8 metres wide and dipping 70 degrees to the north, comprised decomposed quartz containing fragments of slate. The fragments had undergone silicification and were described as similarly mineralized with pyrite and arsenopyrite. Mineralization, where heavy, favoured the host slate, particularly along the hangingwall contact. Early reports also describe an altered "acid" sill as occurring along the hangingwall contact. Gold values in the veins were reported to be generally low, although systematic testing had not been carried out.

Red, "decomposed" earth overlying the northern cut reportedly

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contains pannable gold. Similar soil is present at the Murphy occurrence (092HNW037), one kilometre to the west. Several old pits and trenches in the immediate area of the Lorraine occurrence (092HNW079) may represent the Gem opencuts.
No recent information concerning this occurrence is available.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/04/01

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW011**

NATIONAL MINERAL INVENTORY: 092H11 Au9

NAME(S): **PIPESTEM**, HOME GOLD

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 32 02 N
LONGITUDE: 121 18 09 W
ELEVATION: 1304 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5488193
EASTING: 622824

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of the Level 2 portal (Bulletin 79, Figure 40, Sheet A and Figure 43).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Gold Pyrite Arsenopyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Sericite Chlorite
ALTERATION TYPE: Sericitic Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Shear
CLASSIFICATION: Mesothermal Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic
Unknown

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Tuffaceous Wacke
Slaty Argillite
Siltstone
Porphyritic Felsic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
COMMODITY

YEAR: 1982

Gold

GRADE

4.4600

Grams per tonne

COMMENTS: From a 5-metre drill interval.

REFERENCE: Assessment Report 11158.

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY

YEAR: 1982

Gold

GRADE

40.4600

Grams per tonne

COMMENTS: Grab sample from the No. 4 level stope.

REFERENCE: Assessment Report 11158, page 37.

CAPSULE GEOLOGY

The Pipestem mine is situated approximately two kilometres east of Spider Peak near the headwaters of Siwash Creek and was located in 1920. The mine area is underlain by grey to black, locally organic-rich, pyritic, slaty argillite intercalated with well-bedded siltstone, all assigned to the Lower and Middle Jurassic Ladner Group. A number of northwest striking bands of medium to very coarse-grained, tuffaceous, fossiliferous wacke also occur within the sequence. The bands vary from 5 to 45 metres thick and are the principal host to gold mineralization.

The sedimentary rocks have been intruded by narrow sills and dykes up to four metres thick. Several porphyritic felsic sills, similar to those associated with gold occurrences in the Siwash Creek

CAPSULE GEOLOGY

area (092HWN004, 005, 015-017), host thin quartz veins with pyrite. The Ladner Group sediments have all undergone a complex history of structural deformation characterized by folding and several north to northwest striking faults. The wacke bands are also cut locally by a pronounced fracture cleavage.

Precious metals at the Pipestem mine occur in sulphide-bearing quartz veins and stringers in wacke exposed in surface trenches and with quartz-sulphide mineralization preferentially concentrated along either fault contacts between wacke and argillite beds or along fracture-related shatter zones cutting wacke. The veins have hydrothermally altered the host rocks at the surface and have chloritized the sediments where exposed underground. Pyrite, in cubes up to 1.25 centimetres a side, arsenopyrite and sericite occur in association with this alteration. Rare visible gold has also been reported.

Discrete but fragmented quartz veins up to 0.4 metres wide, quartz stringer swarms and quartz breccia zones up to 1.5 metres in width were also encountered in underground workings. The quartz is white and massive to vuggy in character. The breccia zones comprise sharply angular, silicified, sulphide-bearing fragments of chloritized Ladner Group sediments supported by quartz.

The highest gold values were reported to have been concentrated in narrow, sulphide-rich wallrock alteration envelopes that surrounded poorly mineralized to barren, vuggy quartz veins, stringers and breccia zones within the wacke bands. The sulphides include coarse-grained pyrite with variable arsenopyrite, minor pyrrhotite and trace amounts of chalcopyrite.

Development at the Pipestem mine included a 10-metre deep shaft, opencuts and four adits totalling over 300 metres. Production is recorded for the years 1935, 1936 and 1937 when a total of 8460 grams of gold, 1151 grams of silver and 55 kilograms of copper were recovered from 1498 tonnes of ore.

Surface diamond drilling carried out at the mine in 1982 defined a narrow gold-bearing zone plunging to the south from the surface showing. The best intersection was encountered in hole LCN 82-39, where a five-metre interval graded 4.46 grams per tonne gold (Assessment Report 11158). The best intersection from 10 underground holes graded 3.05 grams per tonne gold across five metres. One grab sample from the old stope on the No. 4 level graded 40.46 grams per tonne gold (Assessment Report 11158).

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GSC SUM RPT 1919, Pt. B, pp. 30B-35B; *1920, Pt. A, pp. 34A-35A;
*1929, Pt. A, pp. 162A-165A

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/31

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW012**

NATIONAL MINERAL INVENTORY:

NAME(S): **DOMINION**, IAGO, MILE HIGH

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 43 N
LONGITUDE: 121 10 23 W
ELEVATION: 1675 Metres

NORTHING: 5487825
EASTING: 632204

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of No. 3 showing adit (Stevenson, 1940 - Property File).

COMMODITIES: Molybdenum Copper Bismuth

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Bismuthinite Pyrite Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type) O04 Feldspar-quartz pegmatite
COMMENTS: Quartz veins strike northwest and dip steeply to the northeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene			Needle Peak Pluton

ISOTOPIC AGE: 47.85 +/- 0.71 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Quartz Diorite
Granite Dike
Aplite Dike
Rhyolite Dike

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1967
SAMPLE TYPE: Grab

COMMODITY	GRADE
Molybdenum	1.0900 Per cent

COMMENTS: Commodity is MoS2. Sample across 40 centimetre wide quartz vein with molybdenite rosettes.

REFERENCE: Assessment Report 7391.

CAPSULE GEOLOGY

The Iago Mountain area is underlain by granitic rocks assigned to the Eocene Needle Peak pluton. In the immediate area of the Dominion occurrence, coarse-grained quartz diorite predominates. These rocks have been intruded by numerous, variably mineralized dykes and stocks ranging in composition from rhyolite to granite. Narrow, mineralized quartz veins which strike northwest and dip steeply to the northeast also cut the diorite.

Mineralization observed near the summit of Iago Mountain consists of molybdenite, chalcopyrite, bismuthinite, pyrite and pyrrhotite occurring as disseminations in the intrusives and as cavity-fillings and on slip planes in the quartz veins. Early reports describe a quartz lens 46 centimetres wide carrying "flakes or lumps" of molybdenite as cavity-fillings. The quartz lens, being so intimately and irregularly intergrown with the diorite, is thought to represent a pegmatitic phase of the intrusive, introduced during the latter stages of consolidation of the pluton.

Assays up to 1.59 per cent MoS2 have been obtained from chip

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samples of mineralized veining, and a 40-centimetre wide vein with molybdenite rosettes assayed 1.09 per cent MoS₂ (Assessment Report 7391).

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EMPR EXPL 1979-152
EMPR PF (*Stevenson, J.S. (1940): Dominion Molybdenite Property, Iago for the British Columbia Department of Mines)
GSC MAP 1988; 737A; 12-1969; 41-1989
GSC MEM 139, pp. 163-164

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/17

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW013**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOME X**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 15 N
LONGITUDE: 121 18 25 W
ELEVATION: 1180 Metres

NORTHING: 5488587
EASTING: 622494

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Home X portal (Assessment Report 11158, Figure 8).

COMMODITIES: Gold Arsenic

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP
Jurassic	Ladner
Unknown	

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER
Unnamed/Unknown Informal

LITHOLOGY: Slaty Argillite
Siltstone
Tuffaceous Wacke
Porphyritic Felsic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

1.9000

Grams per tonne

COMMENTS: Surface sample taken adjacent to the Home X adit.

Arsenic assayed 0.118 per cent.

REFERENCE: Assessment Report 11158, Figure 9.

CAPSULE GEOLOGY

The Home X occurrence is situated east of Spider Peak near the headwaters of Siwash Creek, approximately 500 metres northwest of the Pipestem mine (092HNW011). The area is underlain by grey to black, locally organic-rich, pyritic, slaty argillite intercalated with well-bedded siltstone, all assigned to the Early and Middle Jurassic Ladner Group. A number of northwest striking bands of medium to very coarse-grained, tuffaceous, fossiliferous wacke also occur within the sequence. The bands vary from 5 to 45 metres thick and are the principal host to gold mineralization at the Pipestem mine.

To the south, these sedimentary rocks have been intruded by narrow sills and dykes up to 4 metres thick. Several porphyritic felsic sills, similar to those associated with gold occurrences in the Siwash Creek area (092HNW004, 005, 015-017), host thin quartz veins with pyrite.

Approximately 600 metres northwest of the Pipestem mine, the collapsed portals of one, or possibly two adits and a small dump are the only evidence of previous development in the area. Here, black, poorly to moderately bedded slaty argillite is cut by irregular quartz veins up to 10 centimetres wide. The veins contain sparse pyrite and trace amounts of arsenopyrite concentrated in fractures that both cross the veins and parallel the vein/sediment contact. The dump also contains large fragments of quartz-veined argillite.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

PAGE: 577
REPORT: RGEN0100

CAPSULE GEOLOGY

A rock sample taken in 1982 near the the Home X adit assayed 1.9 grams per tonne gold and 0.118 per cent arsenic (Assessment Report 11158, Figure 9).

BIBLIOGRAPHY

EMPR AR 1933-A176
EMPR ASS RPT 5907, 6813, 8371, *11158, 13221
EMPR BULL 20, Pt. IV, pp. 20-23; *79, p. 66
EMPR EXPL 1976-E86; 1977-E133, 1980-205; 1982-188; 1984-195
GSC MAP 737A; 1988; 12-1969; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1919, Pt. B; 1920, Pt. A, pp. 23A-41A; 1929, Pt. A,
pp. 144A-197A

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/31

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW014**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 10 N
LONGITUDE: 121 18 05 W
ELEVATION: 1220 Metres

NORTHING: 5488442
EASTING: 622899

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of four trenches (Minister of Mines Annual Report 1933, page A177).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

DIMENSION: 213 x 2 Metres STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: The shear is described as striking northwest and the contained sediments as dipping 50 degrees to the southwest.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Jurassic Ladner

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Slate
Slaty Argillite
Siltstone
Wacke
Porphyritic Felsic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY

YEAR: 1933

Gold 1.7100 Grams per tonne

COMMENTS: Gold value likely represents an average across the shear zone.

REFERENCE: Minister of Mines Annual Report 1933, page A177.

CAPSULE GEOLOGY

The Star occurrence is situated west of Spider Peak, immediately north of the Pipestem mine (092HNW011). The area is underlain by grey to black, locally organic-rich, pyritic, slaty argillite intercalated with well-bedded siltstone, all assigned to the Early and Middle Jurassic Ladner Group. A number of northwest striking bands of medium to very coarse-grained, tuffaceous, fossiliferous wacke also occur within the sequence. The bands vary from 5 to 45 metres thick and are the principal host to gold mineralization at the Pipestem mine.

To the south, these sedimentary rocks have been intruded by narrow sills and dykes up to 4 metres thick. Several porphyritic felsic sills, similar to those associated with gold occurrences in the Siwash Creek area (092HNW004, 005, 015-017), host thin quartz veins with pyrite.

Development at the Star occurrence reportedly consisted of four opencuts which exposed a 2.13-metre wide, northwest striking, oxidized shear zone over a distance of approximately 213 metres. The shear contained 1.22 metres of quartz and 91 centimetres of pyritized Ladner Group slate dipping 50 degrees to the southwest. Assay values of approximately 1.71 grams per tonne gold were obtained from surface

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RUN TIME: 10:48:34

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PAGE: 579
REPORT: RGEN0100

CAPSULE GEOLOGY

samples and free gold could be panned in certain places (Minister of Mines Annual Report 1933, page A177).
No recent information concerning this occurrence is available.

BIBLIOGRAPHY

EMPR AR *1933-A 177
EMPR ASS RPT 5907, 6813, 8371, 11158, 13221
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EMPR EXPL 1976-E 86; 1977-E 133; 1980-205; 1982-188; 1984-195
GSC MAP 737A; 1988; 12-1969; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1919, pt. B; 1920, pt. A, pp. 23A-41A; 1929, pt. A,
pp. 144A-197A

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/01

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW015**

NATIONAL MINERAL INVENTORY: 092H11 Au2

NAME(S): **WARD**, MARVEL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 34 50 N
LONGITUDE: 121 20 36 W
ELEVATION: 550 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5493315
EASTING: 619756

LOCATION ACCURACY: Within 500M

COMMENTS: Location for centre of the Ward claim (Minister of Mines Annual Report 1917, page F227).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Limonite Gold
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic
Unknown

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Feldspar Porphyry Sill
Slaty Argillite
Greywacke
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Siwash Creek area is underlain by Early and Middle Jurassic Ladner Group argillite, siltstone and greywacke and Permian to Jurassic Hozameen Complex chert in contact along the Hozameen fault, a major, steeply dipping, north-northwest trending fracture system extending from northern Washington State to the Fraser River. Most of the mineral occurrences in the area lie east of but generally close to this fault, which encloses metaplutonic rocks of the Coquihalla serpentine belt between Mount Dewdney and Siwash Creek. The Ladner Group and, to a lesser extent, Hozameen Complex rocks are cut by a variety of small intrusive bodies ranging in composition from gabbro through granodiorite to syenite.

Geology in the area of the Ward occurrence is characterized by poorly to moderately bedded, dark coloured, pyritic, slaty argillite locally intercalated with thin beds of greywacke and siltstone, all assigned to the Ladner Group. These rocks have been intruded by locally altered, light coloured, felsic sills and dykes.

Gold is spatially associated with feldspar porphyry sills, also described as "quartz-syenite porphyries". Many of these sills have irregular chilled margins, and narrow aureoles of weak thermal alteration are developed in the host argillite. Elsewhere, the sills are fault bound and their contacts marked by rust-stained quartz veins up to 60 centimetres wide. Many sills are also cut by irregular quartz stringers, quartz-filled tension gashes or intersecting sets of quartz veins up to five centimetres wide. These veins contain small vugs lined with quartz crystals and sparse disseminated pyrite. Fine gold reportedly occurs both in the quartz and the intrusions and is generally coated with a film of iron oxide.

Production from the Ward mine totalled 4.2 kilograms of gold from an unknown quantity of ore (Bulletin 79, page 41). Development is said to have consisted of an open cut and three adits, one of which was driven for approximately 90 metres.

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RUN TIME: 10:48:34

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PAGE: 581
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1893-1072; 1901-1086; 1903-185; 1904-235-237; 1905-206;
1906-178; 1911-184; 1915-262; 1917-227
EMPR ASS RPT 8708
EMPR BULL 20, Pt. IV, pp. 20-23; *79, p. 62
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1911, p. 128

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/24

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW016**

NATIONAL MINERAL INVENTORY: 092H11 Au1

NAME(S): **GOLD QUEEN**, LOU ISABELLA (L.433), BRITISH QUEEN (L.431),
OLD PUSS (L.429), CAPTAIN JACK (L.432), ORA (L.436),
LITTLE GOLD BUG (L.430), GRIMMER (L.434), HUNTER FRACTION (L.435)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:
LATITUDE: 49 34 51 N
LONGITUDE: 121 20 48 W
ELEVATION: 457 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location is centre of Old Puss Crown grant, Lot 429.

MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5493340
EASTING: 619514

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Gold
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Feldspar Porphyry Sill
Slaty Argillite
Greywacke
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow
Plutonic Rocks
PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The area near the confluence of the north, middle and south forks of Siwash Creek is characterized by poorly to moderately bedded, dark coloured, pyritic, slaty argillite locally intercalated with thin beds of greywacke and siltstone, all assigned to the Ladner Group. These rocks have been intruded by locally altered, light coloured, felsic sills and dykes.

Gold is spatially associated with feldspar porphyry dykes and sills in the area of the Gold Queen occurrence. Fine gold, occurring both in pyritic quartz veins and their intrusive host, is generally coated with a film of iron oxide (Bulletin 79, page 62). Refer to the Roddick occurrence (092HNW004) for details of regional and typical deposit geology.

Development on the Gold Queen group of claims began in 1891 and by 1901, a stamp mill had been installed and approximately 150 metres of drifting and crosscutting completed. Sulphide mineralization carrying up to 8 dollars per ton (13.27 grams per tonne gold equivalent) was reported to have been encountered in these workings. The claims were worked intermittently over the next few years and received Crown-grant status in 1912. A further 30 metres of adit were driven in 1913, but the grade of the ore was found to be too low to support the operation.

BIBLIOGRAPHY

EMPR AR 1892-542; 1893-1072; 1901-1086; 1902-190,196; 1903-179,185;
*1904-235-236; 1907-143; 1912-188,327; 1913-219; 1914-364;
1915-261
EMPR ASS RPT 8708
EMPR BULL 20, Pt. IV, p. 21; *79, p. 67
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 583
REPORT: RGEN0100

BIBLIOGRAPHY

GSC SUM RPT *1911, p. 129
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/26

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW017**

NATIONAL MINERAL INVENTORY: 092H11 Au3

NAME(S): **MONTROSE** MONTROSE EXTENSION, DANDY,
CORONATION

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 43 N
LONGITUDE: 121 21 03 W
ELEVATION: 700 Metres

NORTHING: 5493087
EASTING: 619218

LOCATION ACCURACY: Within 500M

COMMENTS: Location is approximate centre of Montrose claim (Minister of Mines
Annual Report 1893, page 1072).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Feldspar Porphyry
Slaty Argillite
Greywacke
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The area near the confluence of the north, middle and south forks of Siwash Creek is characterized by poorly to moderately bedded, dark coloured, pyritic, slaty argillite locally intercalated with thin beds of greywacke and siltstone, all assigned to the Ladner Group. These rocks have been intruded by locally altered, light coloured, felsic sills and dykes.

Gold is spatially associated with feldspar porphyry dykes and sills in the area of the Montrose occurrence. Fine gold, occurring both in pyritic quartz veins and their intrusive host, is generally coated with a film of iron oxide (Bulletin 79, page 62). Refer to the Roddick occurrence (092HNW004) for details of regional and typical deposit geology in the Siwash Creek area.

The Montrose occurrence was discovered in the early 1890's, around the same time as the Roddick (092HNW004), and may represent the northward strike extension of the mineralization explored there. By 1901, underground development totalling 107 metres had been completed, exposing a 2.44-metre wide "ledge" at the face of a drift. Assays ranging from \$15 to \$25 per ton (24.88 to 41.47 grams per tonne gold equivalent) were reported.

BIBLIOGRAPHY

EMPR AR 1890-378; 1891-575; 1892-542; 1893-1072; 1896-563; 1899-744;
1900-905; 1901-1086; *1902-1086
EMPR ASS RPT 8708
EMPR BULL 20, Pt. IV, pp. 20-23; 79
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT 1911, p. 129

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/26

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW017**

MINFILE NUMBER: **092HNW018**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCMMASTER**, BASKA, IDAHO (L.1234),
TRAMWAY (L.1235), AURUM NO. 1 (L.1236), AURUM NO. 2 (L.1237),
AURUM NO. 3 (L.1238), AURUM NO. 4 (L.1239), AURUM NO. 5 (L.1240),
AURUM NO. 6 (L.1241), MONITOR, LADNER CREEK

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:
LATITUDE: 49 31 10 N
LONGITUDE: 121 18 00 W
ELEVATION: 1494 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location is approximate centre of McMaster zone trenches (Assessment Report 19877, Figure 7). See also Ladner Creek (092HNW007).

MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5486591
EASTING: 623041

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Arsenopyrite
ALTERATION: Quartz Albite Carbonate Chlorite
ALTERATION TYPE: Albitic Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: 195 x 40 Metres STRIKE/DIP: 320/60E TREND/PLUNGE:
COMMENTS: Attitude is an average for the five mineralized zones.
Dimensions are maximums defined by drilling in 1989.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Ladner	Undefined Formation	
Lower Triassic	Undefined Group	Spider Peak	
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Volcanic Lithic Wacke
Quartz Albite Greywacke
Siltstone
Conglomerate Argillite
Volcanic Sandstone
Pebble Conglomerate
Greenstone
Gabbro
Serpentinite
Greywacke

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: MCMMASTER REPORT ON: Y
CATEGORY: Indicated YEAR: 1997
QUANTITY: 186000 Tonnes
COMMODITY: Gold GRADE: 1.8800 Grams per tonne
COMMENTS: Pitable reserves.

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 5.2100 Grams per tonne
COMMENTS: Assay across the 6.50-metre interval between 8.50 and 15.00 metres in drillhole M-12, from the D zone.
REFERENCE: Assessment Report 19877, page 14.

CAPSULE GEOLOGY

metres and is open to the south. A 4.3-metre chip sample from the North trench yielded 5.07 grams per tonne gold (Assessment Report 24035). A 2.09 metre interval between 0.91 and 3.00 metres from drillhole M-13 yielded 4.25 grams per tonne gold.

Zone B is exposed in Middle trench, from which a 2.53-metre chip sample yielded 4.66 grams per tonne gold (Assessment Report 24035). The zone has also been intersected in drillhole M-1. The zone has a known strike length of 40 metres and is also open to the south. The best drillhole intersection yielded 2.40 grams per tonne gold over 4.15 metres between 12.65 and 16.80 metres.

Zone C has yielded the highest grade and is exposed in the Middle and South trenches. Chip samples have yielded 12.00 grams per tonne over 6.59 metres and 9.15 grams per tonne over 2.93 metres from the Middle and South trenches, respectively. The zone was also intersected in drillholes M-2, M-3, M-10, M-11 and has a strike length of about 120 metres. Drillhole M-10 yielded 4.53 grams per tonne gold over the 3.77 metres interval between 7.48 and 19.85 metres.

Zone D, exposed in the South trench, has yielded 1.61 grams per tonne gold over 3.60 metres. The zone has also been intersected in drillhole M-6 and M-12 and has a strike length of about 100 metres. Drillhole M-12 yielded 5.21 grams per tonne gold over the 6.50 metre interval between 8.50 and 15.00 metres.

Zone E is exposed in the South trench and intersected in drillhole M-12. A trench sample over 6.10 metres yielded 4.73 grams per tonne gold and a 6.29-metre drill core interval yielded 5.21 grams per tonne gold, including 2.5 metres yielding 6.51 grams per tonne gold (Assessment Report 19877, page 14).

Four rock chip samples were taken from outcrops at the Lorraine showing of the south Pipestem area in 1986. These four samples yielded gold values ranging from 1.00 to 7.05 grams per tonne gold over 0.30 to 2.5 metres.

Pitable reserves at McMaster total 186,000 tonnes of 1.88 grams per tonne gold (CIM '97 Vancouver Program, April 27-30, 1997, page 81).

BIBLIOGRAPHY

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- EMPR BULL 20, Pt. IV, pp. 20-23; *79, p. 64
- EMPR EXPL 1975-E72; 1990-72
- EMPR INF CIRC 1997-1, p. 22
- GSC MAP 737A; 1988; 12-1969; 41-1989
- GSC MEM 139
- GSC P 69-47
- GSC SUM RPT 1919, Pt. B, 30B-35B; 1920, Pt. A, pp. 23A-41A; 1929, Pt. A, pp. 144A-197A
- CIM '97 Vancouver Program, April 27-30, 1997, p. 81

DATE CODED: 1992/04/02
DATE REVISED: 1997/07/30

CODED BY: DMN
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW019**

NATIONAL MINERAL INVENTORY: 092H11 Au5

NAME(S): **DOLLY VARDEN**, RECIPROCITY, JUBILEE

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 35 01 N
LONGITUDE: 121 19 23 W
ELEVATION: 1152 Metres

NORTHING: 5493687
EASTING: 621214

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of adit (O'Grady, 1937 - Property File).

COMMODITIES: Gold Copper Lead

MINERALS

SIGNIFICANT: Gold Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
SHAPE: Tabular
COMMENTS: The vein varies from 30 to 60 centimetres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Slate
Aplite Dike
Feldspar Porphyry Dike
Argillite
Siltstone
Greywacke

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The area of the Dolly Varden occurrence, in the vicinity of Siwash Creek, is characterized by poorly to moderately bedded, dark coloured, pyritic, slaty argillite locally intercalated with thin beds of greywacke and siltstone, all assigned to the Ladner Group. These rocks have been intruded by locally altered, light coloured, felsic sills and dykes.

Gold is spatially associated with feldspar porphyry dykes and sills in the area of the three forks of Siwash Creek. Fine gold, occurring both in pyritic quartz veins and their intrusive host, is generally coated with a film of iron oxide (Bulletin 79, page 62). Refer to the Roddick occurrence (092HNW004) for details of regional geology and typical mineralization style in the Siwash Creek area.

Development work within the Dolly Varden/Jubilee claims consisted of a number of opencuts spread along one such dyke, striking northwest and dipping to the northeast. At one point, a quartz vein varying from 30 to 60 centimetres wide occurs along one wall of the dyke with Ladner Group slate along the other. Rocks on either side of the quartz vein are cut by a network of quartz stringers. Pyrite, chalcopyrite and galena occur in the quartz and the porphyry. Gold was reported to have been panned from surface samples.

An adit, started at an elevation of 1152 metres, was apparently driven to intersect the dyke, which is described as a highly altered (silicified) pyritic aplite. Samples across the dyke contained only trace amounts of gold and silver.

BIBLIOGRAPHY

EMPR AR 1915-262
EMPR ASS RPT 8708

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 589
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 20, Pt. IV, pp. 20-23; *79, p. 67
EMPR PF (*O'Grady, B.T. (1937): Siwash Creek Area Lode-Gold
Deposits (refer to Emigrant - 092HNW017))
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1911, p. 129

DATE CODED: 1992/03/26
DATE REVISED: 1992/03/26

CODED BY: DMN
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW020**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUEEN MINE**, QUEEN (L.63)

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 33 N
LONGITUDE: 121 26 53 W
ELEVATION: 300 Metres

NORTHING: 5492629
EASTING: 612197

LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 63 G1.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Mesozoic			Settler Schist
Cretaceous			Spuzzum Intrusions

LITHOLOGY: Quartz Mica Slate
Schist
Amphibolite
Quartz Diorite
Diorite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Shuksan

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The Yale Creek area is underlain by schist, amphibolite and minor ultramafic rocks assigned to the Mesozoic Settler Schist. These rocks have been intruded both from the north and south by quartz diorite, diorite and granodiorite of the Early and Middle Cretaceous Spuzzum Intrusions and are bound, to the east, by the Hope fault.

The Queen mine was developed between 1879 and 1898. During this time, over 760 metres of tunnel are reported to have been driven on at least five, one to two-metre wide "quartz fissure lodes" hosted by quartz mica slate. These lodes were said be rich in both silver and gold. One assay from 1885 was recorded as approximately 480 grams per tonne silver (Minster of Mines Annual Report 1885, page 497). A high assay result for gold and silver reported in 1890 seems spuriously high when considering other reports from that era.

Even though a substantial amount of underground development was reported, it is not clear whether or not any commodities were ever recovered from the ore.

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EMPR AR 1879-245; 1880-430; 1883-412; *1885-497; *1890-378; 1891-575;
*1893-1071; 1897-576,617; 1898-1109
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/18

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW021**

NATIONAL MINERAL INVENTORY:

NAME(S): **D.C. NICKEL**, GORDON, AUDREY

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 24 N
LONGITUDE: 121 29 44 W
ELEVATION: 990 Metres

NORTHING: 5488575
EASTING: 608842

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Audrey adit (Tough, 1972 - Property File).

COMMODITIES: Nickel Chromium Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Pentlandite Chalcopyrite

ASSOCIATED: Garnet

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Magmatic Industrial Min.

TYPE: M03 Podiform chromite M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Spuzzum Intrusions

ISOTOPIC AGE: 96.4 +/- 4 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

Unknown

Ultramafic Intrusions

LITHOLOGY: Hornblende Pyroxenite
Hornblendite
Peridotite
Garnetite
Quartz Diorite
Pelitic Schist

HOSTROCK COMMENTS: Isotopic age by McLeod (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks Shuksan

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1939

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Chromium 0.3500 Per cent

Copper 0.1000 Per cent

Nickel 0.7300 Per cent

COMMENTS: Commodity is Cr2O3. Sample across a 1.83-metre interval of core from hole #4.

REFERENCE: Tough, T.R. (1972): Geological Report on the Gordon-D.C. Nickel Prop.

CAPSULE GEOLOGY

The Gordon Creek area is underlain by schist, amphibolite and minor ultramafic rocks assigned to the Cretaceous Settler Schist. These rocks have been intruded from the south by quartz diorite, diorite and granodiorite of the Early and Middle Cretaceous Spuzzum Intrusions and are bound, to the east, by the Hope fault.

South of Gordon Creek, medium-grained quartz diorite has intruded pelitic schist, garnetite and hornblende pyroxenite. The latter unit, comprising bronzite, augite, hornblende, olivine and minor biotite, grades into hornblendite and peridotite. Disseminated grains and blebs of pyrrhotite, which contain inclusions of pentlandite, and lesser chalcopyrite and pyrite occur throughout the ultramafic rocks in the area.

Trenching undertaken by Western Nickel Corporation Ltd in 1935 outlined massive sulphide mineralization hosted by hornblende

CAPSULE GEOLOGY

pyroxenite on a small tributary to Gordon Creek. A 20.4-metre adit and five x-ray diamond-drill holes totalling 296.5 metres were subsequently completed to test the diorite/pyroxenite contact zone. The best results came from hole #4, where a 1.83-metre interval heavily mineralized with pyrrhotite, pyrite and altered garnetite assayed 0.73 per cent nickel, 0.10 percent copper and 0.35 per cent Cr₂O₃ (Tough, 1972 - Property File). A grab sample from a trench approximately 45 metres to the northwest (downstream) also returned 0.37 per cent nickel.

BIBLIOGRAPHY

EM EXPL 2001-23-31; 2002-65-80
EMPR ASS RPT 3756
EMPR GEM 1972-132
EMPR PF (*Tough, T.R. (1972): Geological Report on the Gordon-D.C. Nickel Property for Dalton Resources)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1992/03/23
DATE REVISED: 1992/03/23

CODED BY: DMN
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HWN022**

NATIONAL MINERAL INVENTORY: 092H11 Zn3

NAME(S): **MAG**, BONANZA LODE, NORANDA TRENCHES

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 40 30 N
LONGITUDE: 121 01 14 W
ELEVATION: 1175 Metres

NORTHING: 5504378
EASTING: 642810

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Noranda's 1969 trenches (Assessment Report 7135, Figure 9).

COMMODITIES: Zinc Copper Lead Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Galena Hematite

Molybdenite

ASSOCIATED: Quartz

ALTERATION: Sericite Quartz Pyrite

ALTERATION TYPE: Sericitic Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated

CLASSIFICATION: Porphyry Hydrothermal Vein

TYPE: L04 Porphyry Cu ± Mo ± Au I05 Polymetallic veins Ag-Pb-Zn±Au

J03 Mn veins and replacements

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic-Cretaceous
Tertiary

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Eagle Plutonic Complex
Unnamed/Unknown Informal

ISOTOPIC AGE: 53.5 +/- 1.9 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Pebble Breccia
Quartz Diorite
Granodiorite
Porphyritic Rhyolite

HOSTROCK COMMENTS: The Tertiary quartz diorite stock is known locally as the Keystone stock.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Mag occurrence is located on the west side of the Coldwater River, approximately four kilometres north of the Coquihalla Lakes. Early exploration in the area focused on base and precious metal mineralization at the Keystone mine (092HWN024), located approximately two kilometres north of the Mag occurrence.

The geology of the upper Coldwater River area is characterized by Late Triassic Nicola Group metavolcanic and metasedimentary rocks resulting from the emplacement of granitic rocks, assigned to the Late Jurassic and Early Cretaceous Eagle Plutonic Complex, to the west. Along the Coldwater River, the Nicola Group comprises amphibolite, foliated diorite, mylonite and chlorite schist with minor marble in contact with gneissic granodiorite. A quartz diorite stock of Early Tertiary age has intruded the plutonic rocks west of this contact.

The Mag occurrence is situated near the south end of the quartz diorite (Keystone) stock. The southern half of the stock is brecciated, as is the Eagle Plutonic Complex granodiorite adjacent to it. The brecciation has been attributed to the emplacement of relatively small stocks and dykes of porphyritic rhyolite. This event was apparently accompanied by pervasive alteration (sericitic to silicification) and the introduction of metallic mineralization. Sericite, quartz and pyrite are the most common alteration minerals within the brecciated zones.

In the area of the occurrence, granodiorite, diorite and a pebble breccia comprising fragments of both units are in contact.

CAPSULE GEOLOGY

The breccia has been sericitized and hosts disseminated pyrite, chalcopyrite and sphalerite, making up a combined total of from one to three per cent of the rock. A significant percentage of the fragments also host quartz-pyrite veining. Sericite is widely distributed throughout the breccia and galena, hematite and molybdenite mineralization occurs locally. The showing is weathered and black manganese oxides have been noted in some fractures.

On the west, or footwall side of the showing, there is a shear approximately 1.52 metres wide which strikes 130 degrees and dips 85 degrees to the northeast. This shear is cut nearly perpendicularly by a narrow vein of comb-quartz hosting manganese oxides. A similar vein, 7.6 centimetres wide, also cuts the breccia in another location. Both veins are apparently barren of sulphide mineralization.

BIBLIOGRAPHY

EMPR AR 1936-D31; 1954-113; 1955-A48; 1965-160; 1966-171;
EMPR ASS RPT 696, 3123, 3595, 4173, 4174, 4371, 4516, *6758, *7135
7771, 8863, 9648, *18485, *19139
EMPR EXPL 1978-E147; 1979-153
EMPR GEM 1969-277; 1971-284; 1972-132; 1973-152; 1978-147; 1979-153
EMPR PF (Livgard, E. (1971): Report on Corval Resources Ltd.
property in the Coquihalla Valley (refer to Keystone - 092HNW024))
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/13

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW023**

NATIONAL MINERAL INVENTORY: 092H11 Zn1

NAME(S): **JULIE, LUCKY, HOPE,
RIP, DRY CREEK, COMSTOCK,
KEYSTONE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:
LATITUDE: 49 40 54 N
LONGITUDE: 121 01 51 W
ELEVATION: 1160 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of Julie Zone (Assessment Report 3595, Geology Map)

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5505099
EASTING: 642050

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Specularite Sphalerite Galena Chalcopyrite
Magnetite Tetrahedrite
ASSOCIATED: Quartz Rhodochrosite Carbonate
ALTERATION: Kaolin Sericite
COMMENTS: Rocks have been hydrothermally altered, but no alteration minerals are described.

ALTERATION TYPE: Argillic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein Shear Podiform
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au
SHAPE: Cylindrical
MODIFIER: Fractured
COMMENTS: Mineralization occurs within and adjacent to a 150 by 80 metre brecciated rhyolite porphyry stock.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

ISOTOPIC AGE: 53.5 +/- 1.9 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite
Jurassic-Cretaceous
ISOTOPIC AGE: 102.4 +/- 2.1 Ma
DATING METHOD: Rubidium/Strontium
MATERIAL DATED: Unknown

Eagle Plutonic Complex

LITHOLOGY: Brecciated Rhyolite Porphyry
Brecciated Granodiorite

HOSTROCK COMMENTS: Isotopic ages by McMillan and Greig (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 8.5700 Grams per tonne
COMMENTS: Sample from drill hole 81-J1 across 6.1 metres.
REFERENCE: Assessment Report 19139.

CAPSULE GEOLOGY

The Julie occurrence is located on the west side of the Coldwater River, approximately five kilometres north of the Coquihalla Lakes. Base and precious metal mineralization were originally discovered at the Keystone mine (092HNW024), located about one kilometre to the north, in the early 1900's with underground development having taken place by 1936.

The geology of the upper Coldwater River area is characterized

CAPSULE GEOLOGY

by Late Triassic Nicola Group metavolcanic and metasedimentary rocks derived through the emplacement of plutonic rocks assigned to the Late Jurassic and Early Cretaceous Eagle Plutonic Complex to the west. Along the Coldwater River, the Nicola Group comprises amphibolite, foliated diorite, mylonite and chlorite schist with minor marble in contact with gneissic granodiorite. A dioritic stock of Early Tertiary age has intruded these plutonic rocks west of this contact.

The Julie zone is situated adjacent to the southwestern contact of the quartz diorite (Keystone) stock. The southern half of the stock is brecciated, as is the Eagle Plutonic Complex granodiorite adjacent to it. The brecciation has been attributed to the emplacement of relatively small stocks and dykes of porphyritic rhyolite. This event was apparently accompanied by pervasive alteration and the introduction of metallic mineralization. It is within one of these brecciated rhyolite porphyry stocks that the Julie zone is located.

The stock is elliptically shaped, with long and short axes measuring 150 and 80 metres, respectively. The pipe-like structure and the surrounding granodiorite are brecciated and hydrothermally altered.

Mineralization occurs along fine fractures, in quartz-carbonate stockwork veins and as lenses within both the rhyolite and the granodiorite. Pyrite and specular hematite with lesser sphalerite are the most common metallic minerals present, frequently occurring with rhodochrosite and thin quartz veinlets. Galena, magnetite and chalcopyrite have been observed, but are rare.

To the north, on the banks of Dry Creek, fine-grained, crystalline pyrite with minor sphalerite, chalcopyrite, specularite, tetrahedrite and galena is disseminated in altered intrusive breccia.

The best core sample from several holes drilled in 1981 to test the Julie zone assayed 8.57 grams per tonne gold across 6.1 metres (Assessment Report 19139). With the exception of one intersection grading 313.4 grams per ton silver, the other holes did not intersect significant mineralization.

BIBLIOGRAPHY

EMPR AR 1936-D31; 1954-113; 1955-A48; 1965-160; 1966-171
EMPR ASS RPT 696, 3123, 3595, 4173, 4174, 4371, 4516, *6758, *7135
7771, 8863, 9648, *18485, *19139
EMPR EXPL 1978-E147; 1979-153
EMPR GEM 1971-284; 1972-132; 1973-152; 1978-147; 1979-153
EMPR PF (Livgard, E. (1971): Report on Corval Resources Ltd.
property in the Coquihalla Valley (refer to Keystone - 092HWN024))
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47; 88-E1, pp. 177-183
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/13

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE MASTER REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092HNW024**

NATIONAL MINERAL INVENTORY: 092H11 Zn2

NAME(S): **KEYSTONE**, GOLDEN LEDGE, HOPE,
 RIP, DRY CREEK, COLDWATER

STATUS: Past Producer	Underground	MINING DIVISION: Nicola
REGIONS: British Columbia		
NTS MAP: 092H11E		UTM ZONE: 10 (NAD 83)
BC MAP:		
LATITUDE: 49 41 35 N		NORTHING: 5506377
LONGITUDE: 121 01 30 W		EASTING: 642437
ELEVATION: 1300 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Location of Keystone Mine (Assessment Report 6758, Map 3).		

COMMODITIES: Silver Gold Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Hematite Tetrahedrite
 Chalcopyrite Magnetite
 ASSOCIATED: Quartz Carbonate Rhodochrosite Calcite
 COMMENTS: Widespread manganese staining is reported within the shear zone.
 COMMENTS: Alteration type within the shear zone is not specified.
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Breccia Stockwork
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 SHAPE: Tabular
 DIMENSION: STRIKE/DIP: 030/W TREND/PLUNGE:
 COMMENTS: Vein described as dipping steeply west, except at the south end of the mine, on the lower level, where it dips 60 degrees to the east.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal
Tertiary			
ISOTOPIC AGE: 53.5 +/- 1.9 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			
Jurassic-Cretaceous			Eagle Plutonic Complex
ISOTOPIC AGE: 102.4 +/- 2.1 Ma			
DATING METHOD: Rubidium/Strontium			
MATERIAL DATED: Unknown			

LITHOLOGY: Quartz Diorite
 Gneissic Granodiorite
 Rhyolite Porphyry
 Amphibolite
 Foliated Diorite
 Mylonite
 Schist
 Marble

HOSTROCK COMMENTS: Isotopic ages by McMillan and Greig (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: VEIN	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1981
SAMPLE TYPE: Channel	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	576.0000 Grams per tonne
Gold	29.5000 Grams per tonne
COMMENTS: From sample across one very narrow hangingwall vein in upper level.	
REFERENCE: Assessment Report 19139.	

CAPSULE GEOLOGY

The Keystone mine is located on the west side of the Coldwater River, approximately 6 kilometres north of the Coquihalla Lakes.

CAPSULE GEOLOGY

Base and precious metal mineralization were originally discovered at this locality in the early 1900's and underground development had taken place by 1936. The only production from the mine occurred in 1955, when 81 tonnes of ore were shipped for processing (Minister of Mines Annual Report 1955, page A48).

The geology of the upper Coldwater River area is characterized by Late Triassic Nicola Group metavolcanic and metasedimentary rocks derived from the emplacement of plutonic rocks assigned to the Late Jurassic and Early Cretaceous Eagle Plutonic Complex to the west. Along the Coldwater River, the Nicola Group comprises amphibolite, foliated diorite, mylonite and chlorite schist with minor marble in contact with gneissic granodiorite. A dioritic stock of Early Tertiary age has intruded these plutonic rocks west of this contact.

The Keystone mine is situated near the centre of the Early Tertiary quartz diorite (Keystone) stock, which has been estimated to be approximately 1300 by 2200 metres. The southern half of the stock is brecciated, as is the older granodiorite adjacent to it. The brecciation has been attributed to the subsequent emplacement of small stocks and dykes of porphyritic rhyolite. This event was apparently accompanied by pervasive alteration and the introduction of metallic mineralization.

In the area of the mine, rhodochrosite, sphalerite and hematite with galena and minor chalcopyrite and magnetite occur with or without quartz(-carbonate) as veins, veinlets and stringers in shears and brecciated zones. Erratically distributed gold and silver values reportedly occur with the quartz.

The dominant structure hosting this mineralization is a steeply dipping, north-northeast striking shear zone expressed, on the surface, by conspicuous rock alteration and manganese staining. This shear extends from the Stonewall adit (092HNNW034)/Julie zone (092HNNW023) on Mine Creek northeast past the Keystone mine, and attains widths in excess of 150 metres (diamond-drill hole 80-W2).

Three "vein zones" are known to be hosted along the structure. The No. 1 Vein zone, developed from two levels at the Keystone Mine, comprises quartz, calcite and rhodochrosite with pyrite, sphalerite, galena and rare tetrahedrite. It averages from 5 to 10 centimetres wide, but pinches and swells from a one-centimetre wide pyrite-gouge clay zone to a 30-centimetre wide massive pyrite-quartz vein with minor base metals. It also splits and branches where exposed on the lower level of the mine. A total strike length of approximately 275 metres has been explored, both in underground workings and drill holes.

Detailed sampling of the vein has produced erratic precious metal values. Silver values have ranged from better than 35 to over 754 grams per tonne. Gold values have been generally low. The best assay from the upper level has been one of 29.5 grams per tonne gold and 576.0 grams per tonne silver across a "very narrow" hangingwall vein (Assessment Report 19139). Values up to 5.07 grams per tonne gold and 275.7 grams per tonne silver have been obtained from samples from the upper level.

Two mineralized intersections averaging one metre in width were encountered in drill holes northeast of and below the mine workings, but precious metal values were very low. A second vein, which assayed 23.25 grams per tonne gold and 41.14 grams per ton silver across a 3.05-metre intercept, was discovered at depth further to the northeast (Assessment Report 19139). Veining intersected in a follow-up hole, however, did not contain significant precious metal values.

BIBLIOGRAPHY

- EMPR AR 1936-D31; 1954-113; 1955-A48; 1965-160; 1966-171
EMPR ASS RPT 696, 3123, 3595, 4173, 4174, 4371, 4516, *6758, *7135
7771, 8863, 9648, *18485, *19139
EMPR EXPL 1978-E147; 1979-153
EMPR GEM 1971-284; 1972-132; 1973-152; 1978-147; 1979-153
EMPR PF (Livgard, E. (1971): Report on Corval Resources Ltd. property
in the Coquihalla Valley; K-Ar age dates, 1979; Geology maps of
property, 1977-78; Geological notes, 1978)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47; 88-E1, pp. 177-183
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/12

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW025**

NATIONAL MINERAL INVENTORY: 092H11 Mo1

NAME(S): **JM, SEC, ROVER,
JULIET**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 56 N
LONGITUDE: 121 03 31 W
ELEVATION: 1240 Metres

NORTHING: 5510667
EASTING: 639901

LOCATION ACCURACY: Within 500M
COMMENTS: Location of Sample R-87-013 from Lower Cut zone (Assessment Report 17306, Figure 3).

COMMODITIES: Molybdenum Copper Silver Gold Lead

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Pyrite Galena
ASSOCIATED: Quartz Sericite
ALTERATION: Silica Sericite Carbonate Magnetite
ALTERATION TYPE: Propylitic Silicific'n Sericitic Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Breccia Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 900 x 100 Metres STRIKE/DIP: TREND/PLUNGE: 145/
COMMENTS: Dimensions are for quartz stockwork breccia body.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown			Unnamed/Unknown Informal
Jurassic-Cretaceous			Eagle Plutonic Complex

ISOTOPIC AGE: 102.4 +/- 2.1 Ma
DATING METHOD: Rubidium/Strontium
MATERIAL DATED: Unknown

LITHOLOGY: Quartz Breccia
Granodiorite Breccia
Granodiorite
Quartz Diorite
Andesite Dike

HOSTROCK COMMENTS: Isotopic age by Greig (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1994
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 0.0700 Grams per tonne
Copper 0.0280 Per cent
COMMENTS: The best average gold intersection from drillhole 94-3 between 38 and 88 metres. The best copper intersection between 34 and 85 metres.
REFERENCE: Assessment Report 23480.

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 100.0000 Grams per tonne
Gold 1.7500 Grams per tonne
COMMENTS: Grab sample from Lower Cut zone.
REFERENCE: Assessment Report 16436.

CAPSULE GEOLOGY

The JM occurrence is located on the south side of Juliet Creek, approximately eight kilometres up from its confluence with the Coldwater River.

The Coquihalla area has been actively explored since the early 1900s. The first mining exploration activity in the Juliet and Mine creeks area was in 1936 at the Keystone claims (092HWN024). In 1969, J. Christie staked the JM claims over anomalous copper-molybdenum soil values. During the late 1970s geological mapping, geochemical sampling, geophysical surveys, trenching and drilling were carried out. During 1978 and 1979, Western Mines carried out exploration work. The property was restaked in 1986 by G.F. Crooker as the Juliet claims. Reconnaissance soil and rock sampling were conducted. Quartz veins and quartz breccias were sampled and one grab sample yielded 1.75 grams per tonne gold and 100 grams per tonne silver (Assessment Report 23480). Encouraging results prompted Leigh Resource Corp. to option the property in 1987. A comprehensive work program was carried out on the property. Another exploration program was carried out in 1992. These two latter programs outlined a quartz stockwork breccia, approximately 900 metres long and 100 metres wide. Soil samples outlined anomalous gold, silver and copper. Rock samples also yielded anomalous values. In 1994, in addition to geological mapping and geophysical surveys, 457.32 metres of diamond drilling was completed in six holes.

Geological mapping in the immediate area of the Juliet claim in 1994 outlined six major lithological units. These include Late Triassic Nicola Group volcanics, granodiorite and breccia of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex, Early Tertiary Rover (Keystone) quartz diorite, quartz stockwork breccia, quartz-eye porphyry, and dacite and feldspar porphyry dikes. The dominant rock type in the Juliet Creek area is foliated, biotite-rich, leucocratic granodiorite of the Eagle Plutonic Complex which has been brecciated, the resulting rock comprising angular to subrounded fragments of granodiorite cemented by a fine grained, dark green matrix.

A second breccia, referred to as the quartz stockwork breccia, occurs as a southeast trending, finger-like body, approximately 100 metres wide and 900 metres long. This unit, which is characterized by semi to non-rotated fragments supported by reticulate, massive, vuggy quartz stockwork veins, has undergone weak but pervasive propylitic alteration. Sulphide mineralization occurs in the quartz

The following three types of economic mineralization have been identified: 1) individual quartz-sericite veins with pyrite, chalcopyrite and molybdenite; 2) quartz stockwork breccia with pyrite; chalcopyrite and minor galena and molybdenite; and 3) weakly silicified, sericite and carbonate altered zones with molybdenite. Precious metal values are associated with the first two types of mineralization. Quartz-sericite veins range from 5 to 140 centimetres wide, generally striking north to northeast and dipping east and west. Narrow, randomly distributed quartz veinlets, 1 to 5 millimetres wide carry pyrite, chalcopyrite, magnetite and molybdenite and are hosted in Eagle Plutonic Complex breccia and quartz stockwork. Type II quartz stockwork breccia mineralization consists of up to 90 per cent quartz but locally up to 50 per cent carbonate. Pyrite, chalcopyrite, magnetite and molybdenite occur as disseminations in this zone. Type III mineralization contains weak silicification along with sericite and carbonate alteration. The zone occurs intermittently over 30 metres and is adjacent to the quartz stockwork breccia.

The best assay to date from surface samples has come from quartz stockwork breccia sampled at the Lower Cut zone where a rock sample assayed 1.75 grams per tonne gold and 100 grams per tonne silver (Assessment Report 16436).

The best intersections from diamond drilling in 1994 were from drillhole 94-3, which intersected three intervals of quartz stockwork breccia totalling 33 metres thickness. The remainder of the drillhole intersected Eagle Plutonic Complex breccia. The quartz stockwork breccia hosts 15 to 20 per cent quartz veinlets with 1 to 2 per cent pyrite and traces of chalcopyrite, magnetite and molybdenite. The interval between 38 and 88 metres averaged 0.07 gram per tonne gold (Assessment Report 23480). Copper values averaged 0.022 per cent from 3.35 to 14 metres and 0.028 per cent between 34 and 85 metres. This interval included 0.09 per cent copper between 42 and 45 metres, and 0.12 per cent between 65 and 70 metres (Assessment Report 23480).

Refer to the Keystone mine (092HWN024), located approximately five kilometres to the southeast of the JM, for further details.

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EMPR AR 1936-D31; 1954-113; 1955-A48; 1965-160; 1966-171

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 601
REPORT: RGEN0100

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EMPR ASS RPT *2610, 6758, *7135, 7771, 8863, 9648, *16436, *17306,
*23480
EMPR EXPL 1978-E147; 1979-153
EMPR GEM 1970-373; 1971-284; 1972-132; 1973-152; 1978-147; 1979-153
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property in the Coquihalla Valley (refer to Keystone - 092HNW024))
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47; 88-E1, pp. 177-183
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW026**

NATIONAL MINERAL INVENTORY:

NAME(S): **STOYOMA MOUNTAIN**, LUCKY, HIGH GRADE,
TRAIL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H14W
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 59 16 N
LONGITUDE: 121 19 09 W
ELEVATION: 1728 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5538626
EASTING: 620488

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of common corner of Lucky 5-8 claims near the headwaters of Ainslie Creek (Claim map for 1967 - Property File).

COMMODITIES: Iron Magnetite Copper Silver

MINERALS

SIGNIFICANT: Magnetite Pyrite Pyrrhotite Chalcopyrite Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Skarn Industrial Min.
TYPE: K03 Fe skarn K01 Cu skarn
DIMENSION: 183 x 4 Metres STRIKE/DIP: TREND/PLUNGE: 045/
COMMENTS: Dimensions are maximums for largest magnetite skarn.
Trend is for magnetite skarn at Trail showing.
Trend described as being 010 degrees for showings on the mountain.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal
Mount Lytton Complex

LITHOLOGY: Limestone
Granodiorite
Quartz Diorite
Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1959
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 2.0000 Per cent
Iron 61.0000 Per cent
COMMENTS: Chip across 12.19-metre wide magnetite skarn at Trail showing.
REFERENCE: Property File - Map of Trail Showing.

CAPSULE GEOLOGY

The Stoyoma (Eke-Waki) Mountain area is underlain by Late Triassic and/or Early Jurassic granitic rocks assigned to the Mount Lytton Complex. This complex comprises mainly diorite and granodiorite which host local pendants of carbonate rocks of Paleozoic and Mesozoic age.

Several magnetite(-copper) skarns and "hematite showings" appear to have been located adjacent to intrusive/limestone contacts. Base metal assay values as high as 2 per cent copper and 61 per cent iron across 12.19 metres, local silver values up to 68.57 grams per tonne and very low gold values were reported from showings consisting of massive magnetite, pyrite, pyrrhotite, chalcopyrite and hematite (White, 1958-1960 - Property File). The largest magnetite skarn is described as being 3.66 metres wide by 182.88 metres long.

Silver and copper values as high as 24 grams per tonne and 1.44 per cent respectively were also obtained from a zone of pyrrhotite mineralization located over three kilometres away from the skarn showings (White, 1958-1960 - Property File).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 603
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BIBLIOGRAPHY

EMPR PF (Miscellaneous reports and maps by Jack White, 1958-1960)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/10

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW027**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOSSAN, PAT, RA**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H14W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 55 17 N
LONGITUDE: 121 16 05 W
ELEVATION: 1610 Metres

NORTHING: 5531328
EASTING: 624322

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Pat #1 legal corner post (Assessment Report 6145, Figure 3).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Pyrrhotite Bornite

ASSOCIATED: Azurite Chalcocite

ALTERATION: Quartz Carbonate Chlorite

ALTERATION TYPE: Kaolinite Sericite Sericitic Chloritic

MINERALIZATION AGE: Argillic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated

CLASSIFICATION: Porphyry Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Eagle Plutonic Complex

ISOTOPIC AGE: 107.8 +/- 1.4 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Biotite Hornblende Granodiorite
Feldspar Porphyry
Quartz Feldspar Porphyry
Felsic Dike
Lamprophyre Dike
Pegmatite

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1968

SAMPLE TYPE: Drill Core

COMMODITY	GRADE
Copper	0.2260 Per cent

COMMENTS: From 1968 diamond-drill hole #2 between 42.98 and 60.66 metres.

REFERENCE: Property File - Allen, A.R. (1969): The Gossan Property.

CAPSULE GEOLOGY

The upper Spius Creek area is underlain by Late Jurassic and Early Cretaceous aged muscovite-biotite granite, granodiorite and pegmatite of the Eagle Plutonic Complex near their contact with rocks of the Mount Lytton Complex.

The geology in the area of the Gossan occurrence is characterized by biotite-hornblende granodiorite, feldspar porphyry and quartz-feldspar porphyry which have been intruded by felsic and lamprophyre dykes. Pegmatite and quartz veins are common in all these rocks except the quartz-feldspar porphyry. Locally, the granodiorite displays a strong north foliation, with steep west dip. Fracture density in the intrusives varies greatly from one in two metres to six per metre.

Locally, intrusive rocks have been kaolinized, although it is not known whether this is a result of hydrothermal activity or

CAPSULE GEOLOGY

extreme surface weathering. Sericite has been noted as another common alteration mineral, both within the granodiorite and in quartz veining. Chloritic alteration and silicification also occur locally.

Pyrite, as disseminations and on fractures, was noted in concentrations up to one per cent in the granodiorite and on fractures and in quartz veins within the feldspar porphyry. Pyrite also occurs as perfect, up to two-centimetre cubes making up greater than two percent of the quartz-feldspar porphyry. Most of the quartz veins host pyrite with local malachite staining and rare molybdenite. Late quartz-carbonate-pyrite stockwork veins also host pyrite disseminations with rare malachite adjacent to the feldspar porphyry and granodiorite units. Minor occurrences of chalcopyrite, pyrrhotite, bornite, azurite and chalcocite have also been observed locally.

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EMPR GEM 1970-373; 1975-E75; 1976-E86
EMPR PF (Allen, A.R. (1969): The Gossan Property, Spius Creek
for Murray Mining Ltd. N.P.L.)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47; 88-E1, pp. 177-183

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/10

CODED BY: GSB
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FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 606
REPORT: RGEN0100

MINFILE NUMBER: **092HNW028**

NATIONAL MINERAL INVENTORY:

NAME(S): **YALE CREEK**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 59 N
LONGITUDE: 121 30 05 W
ELEVATION: 800 Metres

NORTHING: 5491500
EASTING: 608362

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location for one of two occurrences within an area north of Yale Creek where sillimanite is known to occur in abundance (Open File 1988-26).

COMMODITIES: Sillimanite

MINERALS

SIGNIFICANT: Sillimanite
ASSOCIATED: Garnet Kyanite
MINERALIZATION AGE: Mesozoic

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists
SHAPE: Tabular
MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Mesozoic			Settler Schist

LITHOLOGY: Pelitic Schist

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Shuksan
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
RELATIONSHIP: Syn-mineralization
GRADE: Amphibolite

CAPSULE GEOLOGY

North of Yale Creek, pelitic units within the Mesozoic Settler Schist contain up to 15 per cent sillimanite, up to 11 per cent garnet and a few per cent of kyanite (Bartholomew, 1979).

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EMPR OF *1988-26
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
*Bartholomew, P.R. (1979): Geology and Metamorphism of the Yale Creek Area, British Columbia, unpublished M.Sc. thesis, University of British Columbia, Vancouver, British Columbia, p. 105
Pigage, L.C. (1973): Metamorphism southwest of Yale, British Columbia, unpublished M.Sc. thesis, University of British Columbia, Vancouver, British Columbia, p. 95

DATE CODED: 1988/03/30
DATE REVISED: 1992/03/19

CODED BY: JP
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW028**

MINFILE NUMBER: **092HNW029**

NATIONAL MINERAL INVENTORY:

NAME(S): **OLE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H14W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 51 42 N
LONGITUDE: 121 25 55 W
ELEVATION: 455 Metres

NORTHING: 5524429
EASTING: 612698

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of copper-nickel occurrence on slopes above Boston Bar (Assessment Report 11183, Figure 2).

COMMODITIES: Nickel Copper Silver

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pentlandite

ASSOCIATED: Pyrite

COMMENTS: Pyrite occurs in felsic aplite dykes adjacent to ultramafic intrusion.

ALTERATION: Malachite

COMMENTS: Malachite in the slates was probably leached from the massive sulphide pods above.

ALTERATION TYPE: Oxidation Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Massive

CLASSIFICATION: Magmatic

TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

COMMENTS: The ultramafic intrusive hosting the sulphide mineralization has been exposed over an area of approximately 1.5 square metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic
Unknown
Unknown

GROUP

Ladner

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal
Ultramafic Intrusions

LITHOLOGY: Hornblende Pyroxenite
Peridotite
Argillaceous Slate
Felsic Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

10.9700

Grams per tonne

Copper

2.3400

Per cent

Nickel

2.3600

Per cent

COMMENTS: Sample was a "bulk" grab from massive sulphide pods within the ultramafic intrusion.

REFERENCE: Assessment Report 11183.

CAPSULE GEOLOGY

The Boston Bar area is underlain by a north-northwest trending, fault-bound belt of sediments belonging to the Early and Middle Jurassic Ladner Group. This group comprises variously deformed argillite, slate, siltstone, greywacke and tuff, bound to the west (along the Fraser River) by the Hozameen fault and to the east by the Chuwanten fault.

At the Ole occurrence, highly sheared, foliated argillaceous slate has been intruded by felsic aplite dykes and a small mass of altered hornblende pyroxenite(-peridotite). The slate appears silicified adjacent to the intrusive contacts. Although not seen in outcrop, greywacke was also reported in shallow diamond-drill holes in this area.

CAPSULE GEOLOGY

The aplite dykes are feldspathic and carry disseminated pyrrhotite and pyrite. The altered peridotite-pyroxenite intrusive, exposed at the foot of a cut, beneath and south of the felsic dykes, is approximately 1.5 square metres in area and hosts pods of massive pyrrhotite with associated chalcopyrite and pentlandite. Chalcopyrite and malachite were also noted on fractures surfaces within slate intersected in the drill holes.

One "bulk" grab sample taken of the mineralized ultramafics assayed 10.97 grams per ton silver, 2.34 per cent copper and 2.36 per cent nickel (Assessment Report 11183). Values up to 0.44 per cent copper and 0.21 per cent nickel were obtained from samples of the felsic dykes.

The four short (less than 16-metre) diamond-drill holes collared around the showing failed to encounter extensions of the surface mineralization at depth.

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EMPR GEM 1971-284; 1973-154; 1982-190
EMPR PF (Cardinal, D. (1982): Geological Investigation and Evaluation
on the Ole Claims for Brookmer Ventures Inc.)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/11

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW030**

NATIONAL MINERAL INVENTORY: 092H12 Au1

NAME(S): **PROVIDENCE (L.1737)**, SILVER BELL (L.1738), ELIZABETH #1

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H12W
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 37 18 N
LONGITUDE: 121 57 01 W
ELEVATION: 25 Metres

NORTHING: 5497096
EASTING: 575819

LOCATION ACCURACY: Within 500M

COMMENTS: Location for outlet of Davidson Creek into Harrison Lake in northeast corner of Lot 1737.

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins H05 Epithermal Au-Ag: low sulphidation
COMMENTS: The dominant attitude of veins in the area appears to be north-south with nearly vertical dips.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cretaceous	Fire Lake	Brokenback Hill	

LITHOLOGY: Basaltic Flow
Basaltic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Gambier

Overlap Assemblage

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The west side of Harrison Lake is underlain by rocks assigned to the Lower Cretaceous Brokenback Hill Formation, correlative with part of the Fire Lake Group (Journeay and Csontos, 1989; Lynch, 1990). Between Doctors Point and the Providence mine, the Brokenback Hill Formation includes mafic volcanic flows and tuffs, black argillite, volcanic sandstone, siltstone and rare, thin polymictic conglomerate. In this area, these rocks dip northeast and are believed to represent the northeast limb of major north trending anticline. Around Doctors Point, these rocks have been intruded by several high-level, dioritic plutons of Tertiary age.

In the vicinity of Davidson Creek, basaltic flows and tuffs host steeply dipping, gold-bearing quartz veins and silver-rich quartz-carbonate veins up to 91 centimetres wide. The latter veining is reported to have contained minor pyrite with associated low-grade gold values.

Four tunnels totalling over 210 metres were driven and two shafts with approximately 100 metres of development were sunk in an effort to follow this veining. The mine's only recorded production occurred in 1896 when 4665 grams of gold was recovered from 91 tonnes of ore. Reports of a 318 tonne shipment of ore assaying \$37.49 per tonne (56.40 grams per tonne gold equivalent) to Tacoma from the period 1898-1899 have not been authenticated (Minister of Mines Annual Report 1929, page C399).

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1922-252; 1926-450; 1929-C399
EMPR BULL *1 (1932), p. 145
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47, p. 65

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/09

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW031**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD CORD**, GILT, PRIDE OF B.C.,
GOLD CREEK, ADMIRAL GROUP

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 42 07 N
LONGITUDE: 121 22 18 W
ELEVATION: 800 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5506765
EASTING: 617415

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of adit No. 1 (Assessment Report 10889, Figure 4).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Jurassic GROUP: Ladner

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Slate
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The upper Gilt Creek area is underlain by Early and Middle Jurassic Ladner Group sediments east of the Hozameen fault, a major, steeply dipping, north-northwest trending fracture system which separates rocks of the Methow-Pasayten trough from members of the Permian to Jurassic Hozameen Complex to the west. Most of the mineral occurrences in the area lie east of but generally close to this fault, which encloses metaplutonic rocks of the Coquihalla serpentine belt between Mount Dewdney and Siwash Creek. The Ladner Group and, to a lesser extent, Hozameen Complex rocks are cut by a variety of small intrusive bodies ranging in composition from gabbro through granodiorite to syenite. A thin, fault-bound belt of serpentinite, representing the lowest division of the Hozameen Complex, parallels the fault to the west.

In the area of the Gold Cord occurrence, dark grey to black slate and argillite of Ladner Group predominate. These variably folded sediments strike north-northwest and dip steeply to both the east and west. Slaty cleavage, parallel to bedding, is well developed. Topography and shearing of the sediments observed west of the occurrence indicate the presence of a north-northeast trending fault.

Two tunnels were apparently driven on "barren looking" quartz veining occupying narrow fissures in the slate. The longest tunnel, a crosscut 146.3 metres long, is described as having encountered and followed small veins for a distance of 10.7 metres. Reports of "good milling ore" have not been confirmed and a sample taken from the dump in 1982 returned only low precious metal values (Bulletin 79, page 70).

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EMPR ASS RPT 6928, 7495, 8535, 9767, *10889, 11487, 13499
EMPR BULL 20, Pt. IV, pp. 20-23; *79, p. 70
EMPR EXPL 1982-188
EMPR PF (*Crossland, F.J. (1935): Report on Hidden Creek Mines, pp. 7-8 (refer to Majestic - (092HNW033))

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 611
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/19

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW032**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD COIN**, HIDDEN CREEK, MAJ A,
MAJ B

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 36 N
LONGITUDE: 121 22 21 W
ELEVATION: 615 Metres

NORTHING: 5502101
EASTING: 617456

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of Gold Coin tunnel (Crossland, 1935 - Property File).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite
ASSOCIATED: Quartz
ALTERATION: Talc Limonite
ALTERATION TYPE: Talc Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Ladner	Undefined Formation	
Paleozoic-Mesozoic	Hozameen	Undefined Formation	
Unknown			Unnamed/Unknown Informal
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Argillite
Slate
Felsic Dike
Felsic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1935

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

82.9700

Grams per tonne

COMMENTS: Sample across 1.52 metres near the portal of the Gold Coin tunnel.

REFERENCE: Crossland, F.J. (1935): Report on Hidden Creek Mines - Property File.

CAPSULE GEOLOGY

The Hidden Creek area is underlain by Early and Middle Jurassic Ladner Group sediments east of the Hozameen fault, a major, steeply dipping, north-northwesterly trending fracture system which separates rocks of the Methow-Pasayten trough from members of the Permian to Jurassic Hozameen Complex to the west. Most of the mineral occurrences in the area lie east of but generally close to this fault, which encloses metaplutonic rocks of the Coquihalla serpentine belt between Mount Dewdney and Siwash Creek. The Ladner Group and, to a lesser extent, Hozameen Complex rocks are cut by a variety of small intrusive bodies ranging in composition from gabbro through granodiorite to syenite.

The Gold Coin occurrence is described as being situated near the western contact of a belt of rocks characterized by serpentinite. These rocks are in contact with black, carbonaceous slate and argillite. The sediments host quartz, occurring as irregularly distributed bunches and stringers, adjacent to the contact as well as oxidized pyrite and pyrrhotite.

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RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

CAPSULE GEOLOGY

The Gold Coin tunnel exposes iron-stained, altered argillite and serpentine which, near the portal, is particularly schistose and hosts "rotten" quartz, talc and platy slate fragments. A 1.52-metre wide sample taken from this area assayed 82.97 grams per tonne gold (Crossland, 1935 - Property File).

BIBLIOGRAPHY

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11487, 13499
EMPR BULL 20, Pt. IV, pp. 20-23; *79, p. 70
EMPR EXPL 1979-154; 1980-207; 1982-188; 1983-257
EMPR PF (*Crossland, F.J. (1935): Report on Hidden Creek
Mines, pp. 6-7 (refer to Majestic - (092HNW033))
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/19

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HWN033**

NATIONAL MINERAL INVENTORY: 092H11 Au6

NAME(S): **MAJESTIC**, HIDDEN CREEK, SPUZ D,
LAKE VIEW, GOLD COIN, OPHIR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 39 49 N
LONGITUDE: 121 20 37 W
ELEVATION: 690 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5502548
EASTING: 619532

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Upper (No. 1) tunnel (Crossland, 1935 - Property File).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Tetradyomite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Stratabound
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic
Unknown

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Porphyry Dike
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1935

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

216.0000

Grams per tonne

COMMENTS: Grab of selected material from a quartz vein exposed in Upper (No. 1) tunnel.

REFERENCE: Crossland, F.J. (1935): Report on Hidden Creek Mines - Property File.

CAPSULE GEOLOGY

In the area of the Majestic showing, north-northwest striking, variably dipping Lower and Middle Jurassic Ladner Group siltstone predominates. At an elevation of 686 metres on the west bank of Hidden Creek, a 3.66-metre wide porphyry dyke intruding the siltstone has been traced for approximately 100 metres on the surface. The dyke strikes 75 degrees, dips "slightly" to the southeast and varies from 2.13 to 2.44 metres wide.

Anastomosing quartz veinlets and stringers were observed to cut the dyke and a 1.27 to 2-centimetre wide quartz vein hosting finely disseminated pyrite and tetradyomite is reported to have carried visible gold, locally encrusted by iron oxides. A grab sample of selected material from this vein assayed 216.0 grams per ton gold (Property File - Crossland, F.J. (1935)). Development is reported to have consisted of two tunnels, 70 and 9 metres long, respectively.

Refer to the Gold Coin showing (092HWN032) for details of the regional geology.

BIBLIOGRAPHY

EMPR AR 1911-184; 1912-188; 1913-219; 1915-263
EMPR ASS RPT 6046, 6928, 7168, 7495, 7578, 7675, 8394, 8535, 9767,
11487, 13499
EMPR BULL 20, Pt. IV, pp. 20-23; *79, p. 69
EMPR EXPL 1976-E86; 1977-E133; 1978-E150; 1979-154; 1980-207;

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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REPORT: RGEN0100

BIBLIOGRAPHY

1982-188; 1983-257
EMPR PF (*Crossland, F.J. (1935): Report on Hidden Creek Mines, pp.
5-6)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/23

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW034**

NATIONAL MINERAL INVENTORY:

NAME(S): **STONEWALL, KEYSTONE, JULIE,
HOPE, RIP, DRY CREEK**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 40 56 N
LONGITUDE: 121 01 55 W
ELEVATION: 1150 Metres

NORTHING: 5505159
EASTING: 641968

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Stonewall Adit (Assessment Report 7135, Figure 7).

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Pyrite
COMMENTS: Mineralization likely similar to that at the Keystone occurrence (092HNW024).

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au
SHAPE: Tabular
COMMENTS: The vein(s) is reported to strike north-northeast and dip steeply.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

ISOTOPIC AGE: 53.5 +/- 1.9 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Jurassic-Cretaceous

ISOTOPIC AGE: 102.4 +/- 2.1 Ma

DATING METHOD: Rubidium/Strontium

MATERIAL DATED: Unknown

Eagle Plutonic Complex

LITHOLOGY: Quartz Diorite
Gneissic Granodiorite
Rhyolite Porphyry

HOSTROCK COMMENTS: Isotopic ages by McMillam and Greig (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Stonewall adit is located on Mine Creek, an east flowing tributary of the Coldwater River, approximately 5 kilometres north of the Coquihalla Lakes and about 1 kilometre south of the the old Keystone mine (092HNW024).

The Stonewall adit is situated near the western margin of an Early Tertiary quartz diorite (Keystone) stock which has intruded the Late Jurassic and Early Cretaceous Eagle Plutonic Complex west of its contact with Late Triassic Nicola Group rocks. The stock has an estimated area of approximately 1300 by 2200 metres. The southern half of the stock is brecciated, as is the older granodiorite adjacent to it. The brecciation has been attributed to the emplacement of small stocks and dykes of porphyritic rhyolite. This event was apparently accompanied by pervasive alteration and the introduction of metallic mineralization.

Little is known about the vein(s) developed in the Stonewall adit. It is reported to be narrow (5 to 10 centimetres wide), strike north-northeast and dip steeply. Sampled numerous times between 1939 and 1954, precious metal values were found to be generally low. The only assays of significance included several silver values "in excess of an ounce" (Assessment Report 18485, page 8).

Refer to the Keystone mine for further details of area geology and typical mineralization style.

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BIBLIOGRAPHY

EMPR AR 1936-D31; 1954-113; 1955-A48; 1965-160; 1966-171
EMPR ASS RPT 696, 3123, 3595, 4173, 4174, 4371, 4516, 6758, 7135
7771, 8863, 9648, *18485, 19139
EMPR EXPL 1978-E147; 1979-153
EMPR GEM 1971-284; 1972-132; 1973-152; 1978-147; 1979-153
EMPR PF (Livgard, E., 1971: Report on Corval Resources Ltd.
property in the Coquihalla Valley (refer to Keystone - 092HNW024))
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47; 88-E1, pp. 177-183
Falconbridge File

DATE CODED: 1992/03/13
DATE REVISED: / /

CODED BY: DMN
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW035**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIDDEN CREEK, FALLS**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 38 N
LONGITUDE: 121 05 28 W
ELEVATION: 935 Metres

NORTHING: 5491524
EASTING: 638043

LOCATION ACCURACY: Within 500M

COMMENTS: Location of quartz vein on northwest side of Hidden Creek (Assessment Report 12411, Figure 2).

COMMODITIES: Silver Gold Zinc Lead Copper

MINERALS

SIGNIFICANT: Galena Chalcopyrite Sphalerite
ASSOCIATED: Quartz
ALTERATION: Sericite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
DIMENSION: 100 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The vein varies to 40 centimetres wide, strikes northwest and dips gently to the northeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Eagle Plutonic Complex

ISOTOPIC AGE: 102.8 +/- 1.5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Muscovite

LITHOLOGY: Muscovite Granite

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 54.8600 Grams per tonne
Gold 1.3700 Grams per tonne
Copper 0.0700 Per cent
Lead 0.1000 Per cent
Zinc 0.2400 Per cent

COMMENTS: Sample across 20 to 40-centimetre wide quartz vein with local galena, chalcopyrite and sphalerite.

REFERENCE: Assessment Report 12411.

CAPSULE GEOLOGY

The lower Hidden Creek area is underlain by granitic rocks assigned to the Late Jurassic and Early Cretaceous Eagle Plutonic Complex. In the area of the occurrence, the complex comprises muscovite granite.

A northwest striking, gently northeast dipping quartz vein containing galena, chalcopyrite and sphalerite outcrops on the northwest side of the creek. It ranges in width from 10 to 40 centimetres and has been traced for a distance of 100 metres on the surface. Feldspars in the host granite adjacent to the vein have been sericitized.

The best of five chip samples of the vein assayed 54.86 grams

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CAPSULE GEOLOGY

per tonne silver, 1.37 grams per tonne gold, 0.24 per cent zinc, 0.1 per cent lead and 0.07 per cent copper across 40 centimetres (Assessment Report 12411).

BIBLIOGRAPHY

EMPR ASS RPT *12411
EMPR EXPL 1983-256
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47; 88-E1, pp. 177-183

DATE CODED: 1992/03/17
DATE REVISED: 1992/05/04

CODED BY: DMN
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW036**

NATIONAL MINERAL INVENTORY:

NAME(S): **GEORGIA NO. 2**, GOLD NUGGET, 3X,
SPIDER PEAK GROUP

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

LATITUDE: 49 31 42 N
LONGITUDE: 121 19 37 W
ELEVATION: 1310 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5487536
EASTING: 621069

LOCATION ACCURACY: Within 5 KM

COMMENTS: Approximate location of opencut within the Georgia No. 2 claim
(Geological Survey of Summary Report 1929, Part A, page 169A).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated
CLASSIFICATION: Unknown
TYPE: I01 Au-quartz veins
DIMENSION:

STRIKE/DIP: 080/40N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Undefined Group

FORMATION

Spider Peak

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Spider Peak area is underlain by a pyritic sequence of volcanic greenstone assigned to the Early Triassic Spider Peak Formation, which separates Early and Middle Jurassic Ladner Group sediments to the east from ultramafic rocks of the Coquihalla serpentine belt and the Hozameen fault to the west.

An opencut situated at an elevation of 1310 metres on the ridge separating Qualark (Hillsbar) Creek and the north fork of Siwash Creek reportedly exposed an east striking, north dipping fault cutting massive Spider Peak greenstone. This fault hosts disseminated arsenopyrite and pyrite.

A small quantity of ore (less than 2.27 tonnes) is reported to have been shipped to the Tacoma smelter from this location. One account suggests that this ore assayed \$9 (14.93 grams per tonne) in gold (Geological Survey of Canada Summary Report 1929, Part A, page 169A), while another reports that 1151 grams of gold were recovered from 1 ton (0.9 tonnes) of ore (Ministry of Mines Annual Report 1925, page A167).

BIBLIOGRAPHY

EMPR AR 1925-A167
EMPR ASS RPT 11158
EMPR BULL *79, p. 66
EMPR EXPL 1982-188
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1929, Pt. A, p. 169A

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/30

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW037**

NATIONAL MINERAL INVENTORY:

NAME(S): **MURPHY**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 36 N
LONGITUDE: 121 18 26 W
ELEVATION: 1430 Metres

NORTHING: 5487382
EASTING: 622501

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Murphy occurrence (Bulletin 79, Figure 40, Sheet A).

COMMODITIES: Gold Arsenic

MINERALS

SIGNIFICANT: Gold Pyrite Arsenopyrite
ASSOCIATED: Quartz
ALTERATION: Goethite Hematite Lepidocrocite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
SHAPE: Tabular
DIMENSION:
COMMENTS: The vein varies from 5 to 25 centimetres wide and has been exposed discontinuously, for 20 metres.
STRIKE/DIP: 135/10N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Lower Triassic
Unknown

GROUP

Undefined Group

FORMATION

Spider Peak

IGNEOUS/METAMORPHIC/OTHER

Coquihalla Serpentine Belt

LITHOLOGY: Greenstone
Serpentinite
Listwanite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Grab
COMMODITY GRADE
Arsenic 0.1400 Per cent

COMMENTS: Sample is grab of sulphide-bearing quartz vein.
REFERENCE: Bulletin 79, Appendix 17.

CAPSULE GEOLOGY

Discovered in 1982, the Murphy occurrence is situated east of Little Spider Peak near the headwaters of Siwash Creek, approximately 750 metres south-southwest of the Pipestem mine (092HNW011).

The area is underlain by greenstone assigned to the Lower Triassic Spider Peak Formation in contact with strongly sheared, talcose serpentinite of the Coquihalla serpentine belt along a section of the East Hozameen fault.

The Murphy occurrence comprises a single quartz vein exposed in a road cut approximately 400 metres north-northwest of the McMaster Pond. The vein varies from 5 to 25 centimetres in width and is hosted by altered greenstone, occurring no more than two metres east of the steeply dipping, northwest trending fault. The vein has been traced, discontinuously, for 20 metres parallel to the fault and dips very gently northeastward into the hillside. It pinches and swells along strike and comprises white quartz containing small, quartz crystal-lined vugs.

Gold is most commonly seen as a fine coating on oxidized sulphides (goethite, hematite and lepidocrocite) and as fine particles associated with both pyrite and arsenopyrite, which

CAPSULE GEOLOGY

together account for less than two per cent of the total vein. It has also been observed free in the quartz. No wallrock alteration has been noted adjacent to the vein.

One recent sample of mineralized quartz assayed 0.14 per cent arsenic, but did not carry significant precious metal values (Bulletin 79, page 66). Gold has, however, been panned from the brick-red soils overlying the occurrence. Similar soil occurs at the Gem occurrence (092HWN010), one kilometre to the east.

Approximately 100 metres to the southeast, a short section of the East Hozameen fault contains a 5 to 15-metre wide slice of listwanite.

BIBLIOGRAPHY

EMPR ASS RPT 11158
EMPR BULL *79, p. 66
EMPR EXPL 1982-188
GSC MAP 737A; 1988, 12-1969; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1919, Pt. B, pp. 30B-35B; 1920, Pt. A, pp. 23A-41A;
1929, Pt. A, pp. 144A-197A

DATE CODED: 1992/04/02
DATE REVISED: / /

CODED BY: DMN
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW038**

NATIONAL MINERAL INVENTORY: 092H11 Au10

NAME(S): **HILLSBAR**, GOLD, MIDAS

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 05 N
LONGITUDE: 121 22 07 W
ELEVATION: 745 Metres

NORTHING: 5488180
EASTING: 618039

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Hillsbar adit (Assessment Report 7643).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Gold Arsenopyrite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stratabound
CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Tabular

COMMENTS: The veins conform with the enclosing sediments which strike approximately 135 degrees and dip 60 to 90 degrees to the northeast in this area.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Needle Peak Pluton
Eocene			

ISOTOPIC AGE: 47.85 +/- 0.71 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite
Cretaceous-Tertiary

Custer Gneiss

LITHOLOGY: Slate
Gneiss
Granodiorite

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Bridge River

Shuksan

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

1.3700

Grams per tonne

Gold

2.4000

Grams per tonne

COMMENTS: Grab sample from No. 3 vein exposed in Crosscut (Hillsbar) tunnel.

REFERENCE: Assessment Report 7643.

CAPSULE GEOLOGY

The Qualark (Hillsbar) Creek area is underlain by metamorphic rocks assigned to the Cretaceous and/or Tertiary Custer Gneiss in fault contact with Permian to Jurassic Hozameen Complex sediments to the east. North of the creek, an irregular mass of granodiorite related to the Eocene Needle Peak Pluton has intruded the gneiss.

The Hillsbar adit is situated near the contact between Hozameen Complex slate and Custer gneiss, just south of the intrusive mass. Seven northwest striking, steeply dipping, conformable quartz veins were originally discovered in slates exposed over a distance of approximately 34 metres in the creek bed. These veins pinched and swelled from a few to nearly 90 centimetres in width along strike and reportedly contained arsenopyrite with minor pyrite and erratically distributed visible gold.

Three tunnels were driven in an effort to develop the veins.

CAPSULE GEOLOGY

The Crosscut (Hillsbar) tunnel exposed six well defined veins starting at a point 23 metres from the portal to the face, a further 37 metres. A sample across the No. 3 vein, the most significant encountered, reportedly assayed 28.11 grams per tonne gold and 3.29 grams per tonne silver (Minister of Mines Annual Report 1927, page 210), although a recent sample of the same vein assayed only 2.40 grams per tonne gold and 1.37 grams per tonne silver (Assessment Report 7643). The No. 3 vein, which averaged 91 centimetres in width, was also drifted on for 27 metres in the Upper tunnel. Here, it was said to average \$20 to the ton (33.17 grams per tonne gold equivalent).

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EMPR AR 1922-143; 1923-163; 1924-137; 1925-182; 1926-198; *1927-209
EMPR ASS RPT *7643, 11198, 20584
EMPR EXPL 1975-E73; 1979-153; 1982-189
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1923, Pt. A, pp. 81-83
GCNL Sept.22, Oct. 3, Nov. 6, Dec.29, 1975
N MINER Sept.25, 1975

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/30

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW039**

NATIONAL MINERAL INVENTORY:

NAME(S): **VICTOR NICKEL**, VICTOR, VICTORY,
GORDON CREEK, DIG HERE 2, YALE

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:
LATITUDE: 49 33 25 N
LONGITUDE: 121 28 30 W
ELEVATION: 975 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Approximate location of copper-nickel sulphide occurrence (Assessment Report 3492, Map No. 1).

MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5490489
EASTING: 610291

COMMODITIES: Nickel Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu
SHAPE: Tabular
DIMENSION: 110 x 10 Metres STRIKE/DIP: 015/20W TREND/PLUNGE:
COMMENTS: Dimension are maximums.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic			Settler Schist
Cretaceous			Spuzzum Intrusions

ISOTOPIC AGE: 96.4 +/- 4 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

LITHOLOGY: Gabbro
Peridotite
Amphibolite
Norite
Garnet Biotite Schist
Pegmatite Dike
Quartz Diorite

HOSTROCK COMMENTS: Isotopic age by McLeod (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Shuksan

INVENTORY

ORE ZONE: VICTOR REPORT ON: Y
CATEGORY: Indicated YEAR: 1973
QUANTITY: 145120 Tonnes
COMMODITY GRADE
Copper 0.1200 Per cent
Nickel 0.3800 Per cent

COMMENTS: Based on nine holes drilled in 1973.
REFERENCE: Sookochoff, L. (1979): Geological Report on the Victory Claim.

CAPSULE GEOLOGY

The Gordon Creek area is underlain by schist, amphibolite and minor ultramafic rocks assigned to the Mesozoic Settler Schist. These rocks have been intruded both from the north and south by quartz diorite, diorite and granodiorite of the Early and Middle Cretaceous Spuzzum Intrusions and are bound, to the east, by the Hope fault.

At the Victor showing, garnet-biotite schist hosts a small, concordant mass of ultramafic rock containing disseminated nickeliferous pyrrhotite, pyrite and chalcopyrite. The mass strikes northeast, dips shallowly to the northwest and varies from 4 to 10 metres in width. Compositionally, it varies from gabbro-pyroxenite

CAPSULE GEOLOGY

through amphibolite, norite and peridotite and has been traced on surface for approximately 110 metres. A narrow pegmatite dyke parallels the hanging wall contact and oxidized sericitic schist occurs along the footwall. A small exposure of quartz diorite has been mapped to the north and is believed to be related to the emplacement of the ultramafic mass.

Copper and nickel, as well as low precious and platinum group metal values are associated with the sulphide mineralization. Indicated reserves based on nine holes drilled in 1973 were estimated at 145,120 tonnes grading 0.38 per cent nickel and 0.12 per cent copper (Sookochoff, 1979).

Mineralization exposed at the Victor occurrence is reported to be similar to that developed at the Pride of Emory mine (092HSW004) to the south, which produced over 4.3 million tonnes of ore averaging 0.77 per cent nickel and 0.34 per cent copper.

Doublestar Resources Ltd. acquired an interest in the property in 1998.

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EMPR EXPL 1983-258; 1987-C187; 2001-23-31; 2002-65-80
EMPR GEM 1972-133; 1973-153
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GCNL #105(June 2), 1998
Sookochoff, L. (1979): Geological Report on the Victory Claim for Bighorn Development Corporation

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/18

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW040**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 21 N
LONGITUDE: 121 43 10 W
ELEVATION: 266 Metres

NORTHING: 5490036
EASTING: 592615

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of samples 24303 and 24304 (Assessment Report 4370, Drawing No. C-1).

COMMODITIES: Copper Nickel

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Pentlandite

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Unknown

TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Paleozoic-Mesozoic

Cogburn Schist

LITHOLOGY: Gneissic Diorite
Foliated Quartz Diorite
Quartz Feldspar Hornblende Gneiss
Schist
Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP: Post-mineralization

GRADE: Greenschist
Amphibolite

INVENTORY

ORE ZONE: ROADCUT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1971

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

1.1000

Per cent

Nickel

0.0100

Per cent

COMMENTS: Sample length unknown.

REFERENCE: Assessment Report 3580.

CAPSULE GEOLOGY

The lower Cogburn Creek area is underlain by metasedimentary and metavolcanic members of the Paleozoic and/or Mesozoic Cogburn Schist, which is possibly correlative with the Permian to Jurassic Hozameen/Bridge River Complexes. Granitic rocks of the Early and Middle Cretaceous Spuzzum pluton and lenticular gabbroic-ultramafic masses of Cretaceous to Tertiary age intrude these rocks. Regional nickel-copper mineralization is related to the younger intrusions.

In the area of the Al occurrence, massive to gneissic diorite and quartz diorite intrude a north-northwest striking, steeply east dipping sequence of quartz-feldspar-hornblende gneiss, mixed schist, phyllite and chloritic to micaceous to talcose schist (altered pyroxenite/amphibolite) containing local argillaceous, sandy and tuffaceous interbeds.

Iron-copper-nickel mineralization, comprising relatively massive pyrite-pyrrhotite hosting disseminated grains and blebs of chalcopyrite and sparse pentlandite, is hosted by foliated quartz diorite exposed along the main logging access road north of Cogburn Creek. This mineralization occurs adjacent to mafic-rich bands or lenses in the diorite which have been fractured and silicified. Two chip samples of this mineralization returned the following values

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RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
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PAGE: 628
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CAPSULE GEOLOGY

(Assessment Report 4370):

Sample 24303 - 0.28% copper; 0.01% nickel
Sample 24304 - 1.10% copper; 0.01% nickel

BIBLIOGRAPHY

EM EXPL 2001-23-31; 2002-29-40,65-80
EMPR ASS RPT 3580, *4370
EMPR GEM 1971-284; 1972-134
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/05

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW041**

NATIONAL MINERAL INVENTORY:

NAME(S): **OX, SCUZZY, SCRUNGY**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 38 N
LONGITUDE: 121 38 49 W
ELEVATION: 1783 Metres

NORTHING: 5485094
EASTING: 597949

LOCATION ACCURACY: Within 500M

COMMENTS: Location of skarn zone (Assessment Report 15271, Map 3).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Magnetite Pyrrhotite Chalcopyrite Pyrite

ASSOCIATED: Unknown

COMMENTS: Reports refer to typical skarn silicate minerals, but do not identify them.

ALTERATION: Malachite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Vein Disseminated

CLASSIFICATION: Skarn

TYPE: K03 Fe skarn K01 Cu skarn

 K04 Au skarn

DIMENSION: 100 Metres

STRIKE/DIP: TREND/PLUNGE: 120/

COMMENTS: Trend inferred from float and subcrop.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic			Cogburn Schist
Oligocene			Chilliwack Batholith

ISOTOPIC AGE: 24 +/- 0.7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Limestone
 Quartz Diorite
 Marble

HOSTROCK COMMENTS: Isotopic age by Richards and White (1970) (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: PIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	15.1000	Grams per tonne
Gold	0.4400	Grams per tonne
Copper	0.7928	Per cent

COMMENTS: Grab sample of massive magnetite from main blast pit.

REFERENCE: Assessment Report 13868.

CAPSULE GEOLOGY

The Ox Lake area is underlain by a northwest trending, steeply northeast dipping belt of Paleozoic and Mesozoic metasediments assigned to the Cogburn Schist. This unit comprises schistose quartzite, mica schist, argillite and limestone and was metamorphosed in the Cretaceous. These rocks have been subsequently intruded by quartz diorite belonging to the Oligocene Chilliwack batholith. Adjacent to the diorite contact, the pelitic metasediments have been hornfelsed and the limestone has been recrystallized. Massive, medium-grained amphibolite was also observed hosting altered diorite fragments in this area.

Approximately 850 metres northwest of the outlet of Ox Lake,

CAPSULE GEOLOGY

skarn mineralization has developed within a bed of limestone adjacent to the intrusive contact. Massive magnetite, the dominant skarn mineral, occurs in up to two-metre wide lenses(?) with accessory pyrrhotite, chalcopyrite, pyrite, malachite and "typical skarn silicate minerals". Gold reportedly occurs within the magnetite skarn zones and with veins and disseminations of pyrrhotite. Sporadic outcrops indicate a strike length of at least 100 metres (Assessment Report 15271).

A grab sample of massive magnetite from the main blast pit assayed 0.44 gram per tonne gold, 15.1 grams per tonne silver and 0.7928 per cent copper (Assessment Report 13868).

BIBLIOGRAPHY

EMPR ASS RPT 3615, *13868, *15271
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/06

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW042**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHRISTA**, COQUIHALLA, AURA

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 59 N
LONGITUDE: 121 01 08 W

NORTHING: 5486749
EASTING: 643395

ELEVATION: 1740 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of mineralized quartz breccia outcrop (Assessment Report 19446, Drawing 4a).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Limonite Electrum
COMMENTS: Electrum was tentitively identified in thin section.

ASSOCIATED: Quartz

ALTERATION: Quartz Sericite Limonite

ALTERATION TYPE: Silicific'n Sericitic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Stockwork

CLASSIFICATION: Porphyry Hydrothermal Epigenetic

TYPE: I02 Intrusion-related Au pyrrhotite veins

SHAPE: Irregular

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Tertiary Undefined Group Coquihalla

ISOTOPIC AGE: 22.7 +/- 0.8 Ma

DATING METHOD: Whole Rock

Jurassic-Cretaceous

ISOTOPIC AGE: 122.8 +/- 4.0 Ma

DATING METHOD: Rubidium/Strontium

MATERIAL DATED: Unknown

Eagle Plutonic Complex

LITHOLOGY: Brecciated Gneissic Granodiorite
Brecciated Muscovite Granite
Volcanic Tuff
Felsic Flow
Pyroclastic

HOSTROCK COMMENTS: Isotopic ages by Berman and Greig (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Overlap Assemblage

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1989

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver 9.6000 Grams per tonne

Gold 1.0340 Grams per tonne

COMMENTS: Grade is average from nine samples across a 13.5-metre interval from the largest quartz breccia outcrop.

REFERENCE: Assessment Report 19446.

CAPSULE GEOLOGY

The Christa occurrence, discovered in 1988, is located three kilometres east of the summit of Coquihalla Mountain near the headwaters of Jim Kelly Creek.

The Coquihalla Mountain area is underlain by intermediate to felsic flows and pyroclastic rocks assigned to the Late Oligocene to Early Miocene Coquihalla Formation, which unconformably overlie intrusive rocks of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex.

The Christa occurrence consists of several small outcrops of

CAPSULE GEOLOGY

quartz breccia hosting quartz veins and veinlets within a brecciated phase of the Eagle Plutonic Complex, which is here characterized by either muscovite granite or gneissic granodiorite. These rocks are overlain by younger tuff of the Coquihalla Formation less than 50 metres to the north.

The poorly sorted breccia comprises angular to subrounded, clear to milky quartz fragments, up to 30 centimetres in diameter, in a siliceous matrix. It hosts no visible sulphides, but limonite alteration, varying from one to five per cent of the total rock, has resulted in widespread pervasive orange staining. Local, less than five-millimetre wide grey quartz veins, cut both the fragments and the matrix, and are themselves cut by late milky quartz veins. Traces of electrum were tentatively identified in thin section.

There is very little difference mineralogically between the fragments and the matrix, both of which are made up of 70 to 80 percent quartz and 15 to 25 per cent sericite. This suggests that both were derived from the same material. Late quartz veins, and most probably pyrite, appear to have been introduced after brecciation occurred.

The breccia is believed to have been the product of various stages of a multi-phase process of diffuse silicification and sericitization, stockwork quartz veining, fragmentation, late quartz veining and further brecciation. The original protolith has not been determined.

Sixty three, 1.5-metre wide continuous chip samples across the largest quartz breccia outcrop averaged 0.514 grams per tonne gold and 5.4 grams per tonne silver, including a 13.5-metre interval which graded 1.034 grams per tonne gold and 9.6 grams per tonne silver (Assessment Report 20488).

BIBLIOGRAPHY

EMPR ASS RPT 10868, 14362, *19446, *20488
EMPR EXPL 1982-170; 1986-C219
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47; 88-E1, pp. 177-183

DATE CODED: 1992/04/08
DATE REVISED: 1992/05/05

CODED BY: DMN
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 092HNW043

NATIONAL MINERAL INVENTORY: 092H11 Au7

NAME(S): SIWASH CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 44 N
LONGITUDE: 121 23 19 W
ELEVATION: 305 Metres

NORTHING: 5493059
EASTING: 616487

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location for the western end of 1.22 kilometre section of Siwash
Creek, 750 metres upstream from its confluence with the Fraser River,
where placer production is thought to have been attempted.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Paleozoic-Mesozoic	Hozameen	Undefined Formation	
Unknown			Unnamed/Unknown Informal
Recent			Glacial/Fluvial Gravels

LITHOLOGY: Gravel
Clay
Argillite
Chert
Siltstone
Greywacke
Gneiss
Intrusive

HOSTROCK COMMENTS: Members of the Cretaceous and/or Tertiary Custer Gneiss underlie the lower stretches of Siwash Creek.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Siwash Creek flows north and west from Spider Peak into the Fraser River at a point three kilometres northeast of Yale. Numerous gold occurrences are located within its drainage basin.

The lower stretches of the creek are underlain by metamorphic rocks assigned to the Cretaceous and/or Tertiary Custer Gneiss in fault contact with Permian to Jurassic Hozameen Complex sediments to the east. Up stream, members of the Hozameen Complex are in fault contact with Early and Middle Jurassic Ladner Group sediments. This contact, the Hozameen fault, is a major, steeply dipping, north-northwest trending fracture system extending from northern Washington State to the Fraser River. Most of the mineral occurrences in the area lie east of but generally close to this fault, which encloses metaplutonic rocks of the Coquihalla serpentine belt between Mount Dewdney and Siwash Creek. The Ladner Group and, to a lesser extent, Hozameen Complex rocks are cut by a variety of small intrusive bodies of unknown age, ranging in composition from gabbro through granodiorite to syenite. The gold occurrences appear to be genetically related to these intrusions.

Numerous unsuccessful attempts have been made to mine the bedrock gravels of Siwash Creek by means of shafts, adits and sluicing operations. These include efforts by the Pacific Northwest Corporation around the turn of the century, the Siwash Creek Hydraulic Company between 1911 and 1915 and the Azalea Mining Company in 1925 and 1926. The gravels were also tested, in 1950, by Canadian American Mines Incorporated. Most of the gold recovered is said to have been found in gravels "which overlay a layer of clay". Total

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 634
REPORT: RGEN0100

CAPSULE GEOLOGY

recorded production for the creek is estimated to be 529 grams
(Bulletin 28, page 42).

BIBLIOGRAPHY

EMPR AR 1903-186; 1906-177; 1922-143; 1935-G45
EMPR BULL 20, Pt. IV, p. 21
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT 1911, p. 127

DATE CODED: 1992/03/27
DATE REVISED: 1992/05/05

CODED BY: DMN
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW044**

NATIONAL MINERAL INVENTORY:

NAME(S): **PIPE, JAY, SAWMILL CREEK**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 29 N
LONGITUDE: 121 27 54 W
ELEVATION: 800 Metres

NORTHING: 5496186
EASTING: 610899

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of diamond-drill hole SC-79-3 (Assessment Report 7552, Figure 3).

COMMODITIES: Copper Molybdenum Zinc

MINERALS

SIGNIFICANT: Pyrite Molybdenite Chalcopyrite Sphalerite

ASSOCIATED: Quartz Limonite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Stockwork
CLASSIFICATION: Diatreme Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Unknown
Cretaceous

Unnamed/Unknown Informal
Spuzzum Intrusions

ISOTOPIC AGE: 77 +/- 4 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

LITHOLOGY: Breccia
Granodiorite
Biotite Quartz Diorite
Rhyolite
Porphyry

HOSTROCK COMMENTS: Isotopic age by McTaggart, Wheeler and Harakal (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1979

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Molybdenum

0.1360

Per cent

COMMENTS: Commodity is MoS2. Sample taken across two-metre interval of quartz-pyrite veins in granodiorite-quartz diorite breccia.

REFERENCE: Assessment Report 7552.

CAPSULE GEOLOGY

The Sawmill Creek area is underlain by quartz diorite and granodiorite assigned to the Early and Middle Cretaceous Spuzzum Intrusions.

In the area of the Pipe occurrence, biotite quartz diorite has been intruded by three breccia pipes with associated rhyolitic phases. The breccia comprises fragments of coarse-grained quartz diorite, rhyolite and porphyry supported by a fine-grained matrix of quartz diorite, quartz and limonite. Vugs lined with pyrite and quartz crystals are common.

Iron sulphides "with modest copper and molybdenum content" are associated with quartz stockworks within the pipe(s). This mineralization is both disseminated and occurs as irregular blebs within vugs. Minor sphalerite has also been observed locally.

From diamond-drill hole SC-79-2, a two-metre long interval of granodiorite-quartz diorite breccia containing subparallel quartz-pyrite veins carrying molybdenite assayed 0.136 per cent MoS2

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 636
REPORT: RGEN0100

CAPSULE GEOLOGY

(Assessment Report 7552).

BIBLIOGRAPHY

EMPR ASS RPT 3797, 6262, 6472, *7552
EMPR EXPL 1977-E134; 1979-154
EMPR GEM 1972-133
GSC MAG 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/18

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW045**

NATIONAL MINERAL INVENTORY:

NAME(S): **SETTLER CREEK**, Ni, ZONE 4

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 33 38 N
LONGITUDE: 121 39 24 W
ELEVATION: 550 Metres

NORTHING: 5490640
EASTING: 597146

LOCATION ACCURACY: Within 500M

COMMENTS: At the end of a logging spur road on the south side of Cogburn Creek, 1.5 kilometres east of the confluence of Cogburn and Settler creeks (Geology, Exploration and Mining in British Columbia 1971, page 262).

COMMODITIES: Nickel Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrrhotite Magnetite

ASSOCIATED: Pyrite

COMMENTS: Pyrite is sparsely disseminated throughout most of the rocks units in the area.

ALTERATION: Chlorite

COMMENTS: Chloritization has occurred along shears cutting diorite in the area of the showing.

ALTERATION TYPE: Chloritic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound

CLASSIFICATION: Magmatic

TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

SHAPE: Irregular

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

Cretaceous

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions

Spuzzum Intrusions

ISOTOPIC AGE: 102.7 +/- 3.4 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

LITHOLOGY: Pyroxenite

Diorite

Gabbro

Norite

Pegmatitic Hornblendite Dike

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1971

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

0.0330

Per cent

Nickel

0.0800

Per cent

COMMENTS: From a 16.5-metre chip.

REFERENCE: Geology, Exploration and Mining in British Columbia 1971, page 263.

CAPSULE GEOLOGY

The Settler Creek showing occurs in a similar setting to the Pacific Nickel mine (Pride of Emory - 092HSW004), located at the head of Texas Creek, approximately 15 kilometre to the southeast.

The Cogburn Creek area is underlain by Early and Middle Cretaceous aged diorite, quartz diorite and granodiorite assigned to the Spuzzum Intrusions. These rocks have intruded metasediments and metavolcanics belonging to the Cretaceous Settler Schist and host irregular masses of ultramafic rock. Members of the Settler Schist

CAPSULE GEOLOGY

include quartz-muscovite(-garnet) schist and hornblende and hornblende-feldspar schist and phyllite (Geological Survey of Canada Map 41-1989). Regional foliation strikes from 290 to 320 degrees and dips from 45 to 85 degrees to the northeast. It is generally parallel to layering, although some foliation across layering suggests isoclinal folding (Eastwood, 1971 - Property File). The ultramafic masses comprise serpentized pyroxenite and peridotite which are probably related to those found at the Pacific Nickel mine.

In the immediate area of the showing, diorite, gabbro and norite enclose irregular masses of pyroxenite. Several dyke-like bodies of green pegmatitic hornblendite and diorite cut these rocks. The pyroxenite is medium grained and dark grey-brown in colour and comprises pale pink hypersthene and brown to colourless clinopyroxene. Accessory magnetite and pyrrhotite were estimated at three and four per cent respectively in one example, the latter occurring as small elongate blebs interstitial to the pyroxene crystals. Traces of chalcopyrite were also observed locally. Pyrite is sparsely distributed throughout most of the rocks in the area.

Of six chip samples ranging from 2.44 to 16.5 metres wide taken across both diorite and pyroxenite, the best assay was 0.08 per cent (total) nickel and 0.033 per cent copper. A high proportion of this nickel was silicate nickel.

Giant Explorations Ltd. carried out a major exploration program in the Cogburn Creek area in the early 1970's in an effort to extend the life of the Pacific Nickel Mine. It was during this period that the Settler Creek showing was discovered, along with numerous minor sulphide occurrences associated with local ultramafic bodies underlying the area.

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EMPR GEM 1970-248; *1971-258-264; 1972-116; 1973-153-154; 1975-E74
EMPR OF 1990-27
EMPR PF (Miscellaneous maps and air photographs by P. Eastwood)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/06

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW046**

NATIONAL MINERAL INVENTORY:

NAME(S): **CITATION**, MORGAN GROUP

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 52 N
LONGITUDE: 121 27 13 W
ELEVATION: 365 Metres

NORTHING: 5485796
EASTING: 611935

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of diamond-drill hole C-1 within the Citation 1 claim (Assessment Report 4422, Map 4).

COMMODITIES: Nickel Copper Zinc

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic			Settler Schist
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Gneiss
Schist
Amphibolite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Shuksan

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1972
SAMPLE TYPE: Drill Core
COMMODITY: Nickel GRADE Per cent
Nickel 0.2200

COMMENTS: A 1.52-metres interval from 1972 diamond-drill hole C-1.
REFERENCE: Assessment Report 4422.

CAPSULE GEOLOGY

The lower Emory Creek area is underlain by metasediments and metaplutonic rocks of the Mesozoic Settler Schist and the Cretaceous and/or Tertiary Custer Gneiss. These rocks come in contact along the Hope fault, which parallels the Fraser River to the west. Eocene aged sediments overlie members of the Custer Gneiss immediately east of the fault.

North of Emory Creek, and in the area of the Hope fault, "significant showings of copper" have been located. Two short holes drilled to test one of these showings intersected copper-nickel mineralization. The best assay, 0.22 per cent nickel, came from hole C-1 between 14.33 and 15.85 metres; low copper and zinc values were also reported (Assessment Report 4422).

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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/10

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW047**

NATIONAL MINERAL INVENTORY:

NAME(S): **J & J**, PACIFIC TALC, NORTH BEND

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H13E 092I04E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 59 59 N
LONGITUDE: 121 34 39 W
ELEVATION: 305 Metres

NORTHING: 5539569
EASTING: 601945

LOCATION ACCURACY: Within 500M

COMMENTS: Talc outcrop in the main pit area, 200 metres south of Nahatlatch River, along the east bank of Gold Dust Creek, 19 kilometres north-northwest of Boston Bar (Prospectus, Pacific Talc Ltd. - Property File).

COMMODITIES: Talc Magnesite

MINERALS

SIGNIFICANT: Talc Magnesite
ASSOCIATED: Dolomite Chlorite Limonite Magnetite Pyrite
ALTERATION: Talc Dolomite Chlorite Magnetite
ALTERATION TYPE: Talc
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Concordant Massive Stratabound
CLASSIFICATION: Metamorphic Epigenetic Industrial Min.
TYPE: M07 Ultramafic-hosted talc-magnesite E08 Carbonate-hosted talc
SHAPE: Bladed
MODIFIER: Sheared
DIMENSION: 600 x 110 x 70 Metres STRIKE/DIP: 130/90N TREND/PLUNGE:
COMMENTS: Dimensions are maximums. Drilling indicates talc extends at least to 110 metres depth.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	

LITHOLOGY: Schistose Chloritic Phyllite
Phyllite
Graphitic Phyllite
Quartzitic/Quartzose Phyllite

HOSTROCK COMMENTS: The Ladner Group is of Lower to Middle (and Late) Jurassic age.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: PACIFIC TALC REPORT ON: Y
CATEGORY: Indicated YEAR: 1993
QUANTITY: 8200000 Tonnes
COMMODITY: Talc GRADE: 60.0000 Per cent
COMMENTS: Preliminary estimate.
REFERENCE: Northern Miner - March 1, 1993.

CAPSULE GEOLOGY

The J & J prospect is situated south of the Nahatlatch River, approximately five kilometres up from its confluence with the Fraser River and nineteen kilometres north-northwest of Boston Bar. The prospect is owned by Pacific Talc Ltd. and property evaluation managed by A. Ismay Associates Inc.

Talc occurrences in the lower Nahatlatch Valley were recognized since before 1900. The Gisby claims located just south of the confluence of the Nahatlatch River with the Fraser River, were staked as a gold prospect and covered a number of talc and silica showings. Small amounts of silica and talc were mined from the group on the 1920s. The J & J claims were staked in 1970 and 1971 to cover a talc showing exposed for about 40 metres along the Nahatlatch River road. Preliminary work involved surface trenching and sampling to

CAPSULE GEOLOGY

investigate the extent of the talc body. Samples were shipped to Lakefield Research of Canada Ltd. and to Department of Energy, Mines and Resources of Canada, Mineral Processing Division for analyses. During the mid-1970s, a series of bulk samples were taken by Pacific Talc Ltd. and at least one sold to a Inuit art co-operative as carving stone. In late 1977, the claims were optioned to Mountain Minerals Co. Ltd., who conducted an extensive surface and subsurface evaluation of the property. Seven diamond-drill holes totalling 470 metres were completed along strike in 1978 and 1979. In late 1979, a 5.44-tonne bulk sample was taken and sent to a processing facility in Lethbridge, Alberta. The option was dropped in the early 1980s. In 1984, a compilation report, which included reserve estimations, was made. In 1987, S.A.S. Croft of Nevin Sadlier-Brown Goodbrand Ltd. conducted an engineering evaluation of the deposit and recommended further development. In 1988, several bulk samples were shipped to Ontario Research Foundation where flotation testing was completed. It was concluded the talc was marketable. In 1989, Bacon, Donaldson and Associates continued metallurgical test work to refine the flotation process. A test pit program was completed in 1989 under the direction of Steffen, Robertson and Kirsten to confirm or refine the assumed extent of the talc body over the southeastern half of the deposit. A technical and economic feasibility study was initiated by Pacific Talc Ltd. in 1990. In 1991, 13 drillholes totalling 1131.3 metres were completed to increase and define proven reserves.

A narrow, north-northwest trending belt of Permian to Jurassic Bridge River Complex (Group) metasediments occurs along and parallel to the Fraser River. These rocks are cut by many small serpentinized ultramafic intrusions. The Bridge River Complex is in contact with sediments of the Early and Middle Jurassic Ladner and Early and Middle Cretaceous Jackass Mountain groups along faults of the Fraser fault system to the east and west. Further west, metasediments of the Cretaceous Settler Schist, in fault contact with Ladner Group rocks, have been intruded by plutonic rocks of the Late Cretaceous Scuzzy pluton.

Geology in the area of the Pacific Talc occurrence is characterized by northwest striking, subvertically dipping, strongly schistose, chloritic phyllite and graphitic to quartzose phyllite of the Ladner Group.

The J & J talc deposit is a tabular, elongate body of sheared talc-magnesite-chlorite-dolomite rock hosted by medium to dark grey-green phyllite, striking approximately 130 degrees with vertical to steep northeast dips. The talc body appears conformable with the phyllite host. It ranges from 10 to 700 metres wide, averaging 45 metres, in northern exposures, up to 10 metres wide in southern exposures and has a strike length of 600 metres. Drilling indicates the talc body extends to a depth of at least 110 metres. The limits of the body remain open or undefined at depth and to the southeast.

The dark grey-green talc is platy and weathers to a buff to brown colour. It is associated with carbonates (magnesite and some dolomite), chlorite, serpentinite, limonite and magnetite. Up to five per cent pyrite is visible, mainly along fractures as well as disseminated throughout the rock. Thin sections show that the talc forms a fine-grained groundmass within which is enclosed larger (0.5 to 1.0-millimetre) grains or grain aggregates of carbonate (magnesite and dolomite). Locally, particularly near its contact with the phyllite, the talc body becomes increasingly chloritic.

Analytical data indicates that the material from the talc deposit comprises an admixture of talc (60 per cent) and magnesite (30 per cent), with minor amounts of chlorite (3 to 8 per cent), and lesser carbonates (0.5 to 2 per cent). Iron content (reported as Fe₂O₃) is in the order of 6 per cent. None of the analyses have detected deleterious minerals such as tremolite, actinolite or serpentines (Property File - Prospectus, Pacific Talc Ltd., 1989).

In 1991, a thirteen hole diamond drilling program was carried out in two phases to define the J & J talc deposit.

As part of a test program carried out in 1991, Pacific Talc Ltd. produced talc for use as pigment in the manufacture of paper samples called 'handsheets'. An integrated process pilot test was completed by Pacific Talc Ltd. on June 30, 1992. It consisted of taking a large bulk sample from the deposit, producing a talc concentrate by conventional flotation and then treating the concentrate in Pacific Talc's proprietary process to produce a final product that is hydrophilic and meets the specifications for paper filler pigments. The talc filler produced in the process pilot plant was then used in a subsequent pilot paper machine in the United States. Paper pulp from a British Columbia producer was shipped for these trials. Three grades (uncoated, mechanical pulp based, supercalendered printing and uncoated woodfree (photocopy type)) of paper were produced successfully and samples of each were then tested for mechanical,

CAPSULE GEOLOGY

optical and printing properties. Both the process pilot plant and pilot paper trials have been successful and have demonstrated that talc produced through this method can be used as paper pigment, and also generated the information required for the engineering study (George Cross News Letter No. 205 (October 23), 1992).

Preliminary estimates put deposit reserves at about 8.2 million tonnes grading 60 per cent talc (Northern Miner - March 1, 1993).

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EMPR GEM 1974-401-403
EMPR INF CIRC 1993-13
EMPR MAP 65, 1989
EMPR Mineral Market Update July, 1991
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EMPR PF (*Pacific Talc Ltd. (April 13, 1989): Prospectus; Pacific Talc Ltd. (1988): Letter of Intent; Sullivan, J. (1973): Report on the J & J Claims; Pacific Talc Ltd. - Proposal Assessment)
GSC MAP 737A; 1010A; 12-1969; 41-1989; 42-1989
GSC P 69-47, pp. 14-15; 90-1E, pp. 183-195
GCNL #240(Dec.14), 1989; #33(Feb.15), 1990; #56(March 19), #59(March 24), #81(Apr.27), #210(Oct.30), #250(Dec.30), 1992
N MINER Apr.9, 1990; Apr.8, 1991
NW PROSP Sept./Oct. 1989

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW048**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN CACHE**, GEM GROUP

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 12 N
LONGITUDE: 121 17 20 W
ELEVATION: 1260 Metres

NORTHING: 5486671
EASTING: 623844

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of Golden Cache occurrence (Memoir 139, page 145 and Geological Survey of Canada Map 1988).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

DIMENSION:

STRIKE/DIP: 110/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic

Ladner

Undefined Formation

LITHOLOGY: Slate
Slaty Argillite
Siltstone
Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Golden Cache occurrence is situated southeast of Spider Peak, approximately one kilometre north of the Carolin mine (092HNW007). The area is underlain by grey to black, locally organic-rich, pyritic slaty argillite intercalated with well-bedded siltstone and minor bands of wacke, all assigned to the Early and Middle Jurassic Ladner Group.

The occurrence comprises six parallel quartz veins, striking 110 degrees and dipping steeply to the north and south, similar to those developed at the Gem occurrence (092HNW010) to the north. The veins are hosted by slate and are sparingly mineralized with pyrite and arsenopyrite. Gold values in the veins were generally low, although systematic testing had not been carried out (Geological Survey of Canada Memoir 139, page 145).

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GSC MEM *139, p. 145
GSC P 69-47
GSC SUM RPT 1919, Pt. B, pp. 30B-35B; *1920, Pt. A, p. 34A; 1929, Pt. A, 144A-197A

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/01

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW049**

NATIONAL MINERAL INVENTORY:

NAME(S): **DUC (SOUTH ZONE)**, MOD, MOD-BAR,
SOUTH

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H14W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 47 50 N
LONGITUDE: 121 18 32 W
ELEVATION: 1160 Metres

NORTHING: 5517457
EASTING: 621703

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of diamond-drill hole # 1, South zone (Assessment Report 5742, Drawing No. 3).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Chalcocite
COMMENTS: Molybdenum mineralization was not observed.
ASSOCIATED: Quartz
ALTERATION: Sericite Clay
ALTERATION TYPE: Sericitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Pipe Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
SHAPE: Cylindrical
MODIFIER: Fractured
DIMENSION: 61 x 61 Metres STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Pasayten	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Tertiary			

LITHOLOGY: Rhyolite Breccia
Rhyolite
Hornfels
Hornfelsed Siltstone

HOSTROCK COMMENTS: The rhyolite hosting the DUC occurrence may be a boarder phase of one of several Tertiary intermediate intrusions identified in the area.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 0.2400 Per cent
Molybdenum 0.1500 Per cent
COMMENTS: Commodity is MoS2. Sample taken over 32.5 metres, starting 30 metres east of pipe, in an area characterized by sericite-altered rhyolite.
REFERENCE: Assessment Report 5742, page 10.

CAPSULE GEOLOGY

The Uztlius Creek area is underlain by Cretaceous aged pelitic sediments assigned to the Pasayten Group, which may be a non-marine facies equivalent of the upper part of the Jackass Mountain Group. The former group comprises sandstone, conglomerate, argillite and minor tuff occurring in a north-northwest trending belt extending across the entire 92H map area. These rocks are bound to the west by the Chuwanten fault and sediments belonging to the Jurassic Dewdney Creek Formation of the Ladner Group and to the east by the Pasayten fault and plutonic rocks of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex. Local Early Tertiary stocks of intermediate composition intrude the sediments.

In the immediate area of the DUC occurrence (South zone),

CAPSULE GEOLOGY

hornfelsed (tuffaceous) siltstone is in contact with porphyritic rhyolite. Although the rhyolite was thought to be part of a sequence of intermediate to felsic volcanics spatially located between the Pasayten sediments and granodiorites of the Eagle Complex, it is possible that it represents a boarder phase of one of the Tertiary aged granodiorite stocks recently identified in the area.

Adjacent to the rhyolite contact, fracture-controlled pyrite in the hornfels averages 5 to 10 per cent and highly fractured sections of hornfels have been argillically altered and host greater than five per cent pyrite. A breccia pipe, approximately 61 metres in diameter and hosting from 5 to 10 per cent pyrite as both fracture-fillings and disseminations, occurs within the rhyolite. Chalcopyrite with minor malachite and chalcocite occur in association with the pyrite. Sericitic alteration is widespread within the pipe and up to 61 metres to the east. Numerous quartz veinlets with or without accessory pyrite, chalcopyrite and/or sericite also occur in both the rhyolite and the hornfels adjacent to the pipe.

Three samples from this area returned the following assays (Assessment Report 5742):

SAMPLE LOCATION	% Cu	% MoS2
67 metres across pipe	0.09	0.17
0-30 metres east of pipe	0.14	0.10
30-62.5 metres east of pipe	0.24	0.15

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EMPR GEM 1975-E74; 1980-207; 1982-191
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GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/11

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW050**

NATIONAL MINERAL INVENTORY: 092H11 Mo2

NAME(S): **WHAT, RED BOG, BLUE GOLD,
EL PASO TRENCHES**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 49 42 03 N
LONGITUDE: 121 02 08 W
ELEVATION: 1370 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5507221
EASTING: 641653

LOCATION ACCURACY: Within 500M

COMMENTS: Location for El Paso trenches (Assessment Report 7135, Figure 9).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
ASSOCIATED: Chlorite Hematite
ALTERATION: Chlorite Pyrite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: STRIKE/DIP: 105 Polymetallic veins Ag-Pb-Zn±Au
120/90 TREND/PLUNGE:
COMMENTS: The strikes of veins at the Blue Gold showing range from 120 to 160 degrees.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Eagle Plutonic Complex

ISOTOPIC AGE: 102.4 +/- 2.1 Ma
DATING METHOD: Rubidium/Strontium
MATERIAL DATED: Unknown

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Isotopic age by Greig (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The What occurrence is located on the west side of the Coldwater River, approximately seven kilometres north of the Coquihalla Lakes and about 1 kilometre northwest of the Keystone mine (092HNW024).

The geology of the upper Coldwater River area is characterized by Late Triassic Nicola Group metavolcanic and metasedimentary rocks derived through the emplacement of granitic rocks assigned to the Late Jurassic and Early Cretaceous Eagle Plutonic Complex to the west. Along the Coldwater River, the Nicola Group comprises amphibolite, foliated diorite, mylonite and chlorite schist with minor marble in contact with gneissic granodiorite. A quartz diorite stock of Early Tertiary age has intruded the plutonic rocks west of this contact.

The What occurrence is situated just north of the quartz diorite (Keystone) stock. Trenching undertaken by El Paso Mining and Milling Company between 1973 and 1974 exposed propylitically altered, pyritic (less than 1 per cent average) granodiorite hosting numerous barren quartz veins and pyritic aplite dykes. A narrow quartz vein with chalcopyrite striking 050 degrees and dipping 80 degrees (?) was also encountered. Minor molybdenite mineralization is reported to occur locally.

Approximately 750 metres to the north, at the Blue Gold showing, several 1 to 5-centimetre wide quartz-pyrite veins hosting chalcopyrite and molybdenite strike 120 to 160 degrees and dip vertically. Pegmatitic veins have been observed to occur in association with these veins, which have been offset by northeast trending chlorite-hematite filled shears.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 647
REPORT: RGEN0100

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EMPR AR 1936-D31; 1954-113; 1955-A48; 1965-160; 1966-171
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7771, 8863, 9648, *18485, *19139
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property in the Coquihalla Valley (refer to Keystone - 092HNW024))
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DATE CODED: 1985/07/24
DATE REVISED: 1992/03/16

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW051**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARRISON LAKE GARNET**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H13W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 47 36 N
LONGITUDE: 121 57 34 W
ELEVATION: 1737 Metres

NORTHING: 5516172
EASTING: 574892

LOCATION ACCURACY: Within 500M

COMMENTS: Geographic centre of numerous occurrences within an irregularly shaped belt of schist north of Harrison Lake (Open File 1988-26, Figure 8).

COMMODITIES: Garnet Kyanite Sillimanite

MINERALS

SIGNIFICANT: Garnet Kyanite Sillimanite
ASSOCIATED: Andalusite Mica
MINERALIZATION AGE: Cretaceous

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists
SHAPE: Tabular
MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary Mesozoic			Custer Gneiss Settler Schist

LITHOLOGY: Pelitic Schist
Pelitic Gneiss

HOSTROCK COMMENTS: Some members may belong to the Mesozoic Slollicum Schist.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Shuksan
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Amphibolite
COMMENTS: Members of the Slollicum Schist are mainly greenschist facies.

CAPSULE GEOLOGY

Pelitic gneiss and schist of predominantly Mesozoic age crop out on the east side of Harrison Lake. Locally, members of the Cretaceous and/or Tertiary Custer Gneiss are extremely pelitic and may contain up to 50 per cent garnet (averaging approximately 20 per cent) and up to 40 per cent coarse-grained kyanite (averaging approximately 15 per cent) (Reamsbottom, 1971; 1974). Members of the Slollicum Schist and Settler Schist are also locally pelitic, containing from 4 to 50 per cent garnet, with averages of approximately 10 to 15 per cent, minor kyanite or andalusite and from 0 to 35 per cent sillimanite (Reamsbottom, 1971; 1974).

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DATE CODED: 1988/03/28
DATE REVISED: 1992/02/28

CODED BY: JP
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW052**

NATIONAL MINERAL INVENTORY:

NAME(S): **SCUZZY CREEK**, LYN, MIDGE,
MIN, NBS

STATUS: Developed Prospect

MINING DIVISION: New Westminster

REGIONS: British Columbia

NTS MAP: 092H13E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 49 43 N

LONGITUDE: 121 35 15 W

ELEVATION: 712 Metres

NORTHING: 5520532

EASTING: 601587

LOCATION ACCURACY: Within 500M

COMMENTS: Located at the confluence of Scuzzy Creek and South Fork Scuzzy
Creek, within the Lyn 3 claim (Assessment Report 5397, Figure 2).

COMMODITIES: Feldspar

Silica

MINERALS

SIGNIFICANT: Feldspar Silica

ASSOCIATED: Amphibole Mica

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Sedimentary

Placer

Industrial Min.

TYPE: B12 Sand and Gravel

SHAPE: Regular

DIMENSION: 1800 x 440 x 60 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Maximum size of individual deposits.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Recent

Upper Cretaceous

ISOTOPIC AGE: 72 +/- 4 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Glacial/Fluvial Gravels

Scuzzy Pluton

LITHOLOGY: Feldspathic Sand

Sand

Biotite Granodiorite

Quartz Diorite

HOSTROCK COMMENTS: Isotopic age from Geological Survey of Canada Map 41-1989, Sheet 3
(Wanless et al., 1973).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

At least four large sand deposits, of probable glacio-lacustrine origin, are located within three claim groups (Lyn, Midge and Min) along Scuzzy Creek and one of its tributaries, approximately four kilometres southeast of Scuzzy Mountain.

The feldspathic sand consists of unconsolidated grains 0.66 to 2 millimetres size. The sand, composed of plagioclase and quartz with minor mica and amphibole, ranges in colour from white to light grey or dark brown. Underlying rock consists of massive medium to coarse-grained biotite granodiorite of the Late Cretaceous Scuzzy pluton.

The individual deposits may be up to 1800 by 440 metres in the area and up to 60 metres thick. Samples analyzed had the following composition:

Major oxides	Weight per cent
SiO ₂	73.75 - 76.90
Al ₂ O ₃	14.43 - 15.40
Fe ₂ O ₃	0.53 - 0.76
CaO	2.77 - 3.05
Na ₂ O	4.44 - 4.84
K ₂ O	0.44 - 0.49

Analyses indicate the sand is potentially suitable for glass applications. On this basis, one sample was sent to CANMET for beneficiation. The first process step, screen analysis, produced the following results:

CAPSULE GEOLOGY

Screen Analysis Mesh	Weight per cent
+14	1.5
-14+28	17.1
-28+48	41.5
-48+100	28.1
-100+200	9.2
-200	2.6

Approximately 70 per cent of the grains are between -28 and +100-mesh, a size considered acceptable by glass manufacturers. The sample was next scrubbed, deslimed and a mica, iron and feldspar float produced. The feldspar concentrate was run over a dry magnetic separator. Results are tabulated as follows:

Flotation Test	Test #1 (Weight per cent)	Test #2	
+20 Mesh	-	4.40	
Mica-iron concentrate	1.0	1.20	
Feldspar concentrate 1	17.60	19.60	
Feldspar concentrate 2	26.50	-	
Cleaner tails	3.20	5.0	
Tails	35.90	65.30	
Slimes, losses	15.80	4.50	
Magnetic Separation	Test 1	Test 1	Test 2
Major oxides	Concentrate 1	Concentrate 2	
SiO ₂	55.80	59.60	58.90
Al ₂ O ₃	20.90	21.90	22.0
Fe ₂ O ₃	0.084	0.084	0.94
CaO	5.52	5.53	4.53
Na ₂ O	8.41	8.39	8.43
K ₂ O	0.52	0.45	0.53

Recovery rates for feldspar concentrates are low. After magnetic separation, tested samples are high in alumina and calcium and contain moderate amounts of iron (but less than 0.1 per cent).

Although recovery rates for feldspar are low, tests indicate that the Scuzzy Creek deposits contain material that meets glass manufacturers' requirements. Large volumes of sand are indicated, and relatively easy access increases the potential of the site as a raw material source for the glass industry.

In 1966, approximately 120 tonnes of silica sand was processed from one of the deposits within the Lyn Group (Minister of Mines Annual Report 1966, page 276). CAMROC made an unsuccessful attempt at developing the deposit in 1985 (Information Circular 1987-1, page 77).

In 1970 and 1971, several large blocks of quartz diorite rolled down a northwest facing mountainside above the south fork of Scuzzy Creek and were split and trucked out for ornamental stone.

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 EMPR OF 1991-10
 GSC MAP 737A; 1736A; 12-1969; 41-1989
 GSC P 69-1, Pt. A, pp. 29-37; 69-47; 90-1E, pp. 183-195

DATE CODED: 1985/07/24
 DATE REVISED: 1992/03/02

CODED BY: GSB
 REVISED BY: DMN

FIELD CHECK: N
 FIELD CHECK: N

MINFILE NUMBER: **092HNW053**

NATIONAL MINERAL INVENTORY:

NAME(S): **RODD B, SPUZZ B-RODD A, SPUZ B SOUTH, QUARTZ-CARBONATE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:
LATITUDE: 49 36 07 N
LONGITUDE: 121 21 16 W
ELEVATION: 700 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Approximate location of Rodd B zone (Assessment Report 6962, Figure 43).

MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5495675
EASTING: 618900

COMMODITIES: Gold Tungsten

MINERALS

SIGNIFICANT: Gold Scheelite
ASSOCIATED: Mariposite Fuchsite Quartz
ALTERATION: Clay Mariposite Fuchsite Quartz Carbonate
ALTERATION TYPE: Argillic Quartz-Carb.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Shear
CLASSIFICATION: Porphyry Hydrothermal
TYPE: I01 Au-quartz veins
DIMENSION: Metres STRIKE/DIP: 102 067/73S Intrusion-related Au pyrrhotite veins
COMMENTS: Attitude is for the fracture zone at the Spuz B South zone. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Granodiorite Sill
Felsic Porphyry Sill
Argillite
Slate
Listwanite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow
PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1978
SAMPLE TYPE: Chip
COMMODITY: Gold GRADE: 1.9900 Grams per tonne
COMMENTS: Sample from Rodd B zone across one metre.
REFERENCE: Assessment Report 6962.

CAPSULE GEOLOGY

The North Fork of Siwash Creek is underlain by Early and Middle Jurassic Ladner Group sediments east of the Hozameen fault, a major, steeply dipping, north-northwesterly trending fracture system which separates rocks of the Methow-Pasayten trough from members of the Permian to Jurassic Hozameen Complex to the west. Most of the mineral occurrences in the area lie east of but generally close to this fault, which encloses metaplutonic rocks of the Coquihalla serpentine belt between Mount Dewdney and Siwash Creek. The Ladner Group and, to a lesser extent, Hozameen Complex rocks are cut by a variety of small intrusive bodies ranging in composition from gabbro through granodiorite to syenite.

North-northwest striking, variably dipping Ladner Group argillite predominates in the area of the Rodd B occurrence, also referred to as the Spuz B-Rodd A. These rocks have been intruded by highly altered and sheared sills of felsic porphyry. Feldspar minerals within the intrusions have been altered to clay. A narrow fault slice of sheared carbonate rock containing minor

CAPSULE GEOLOGY

mariposite-fuchsite mineralization (listwanite?) also occurs in the area.

Narrow veinlets of quartz with some scheelite cut the sills and occur along foliation planes in the sediments. Gold has reportedly been recovered from panned samples of intrusive rock and associated quartz veins. A one-metre wide sample taken near the contact of one sill assayed 1.99 grams per tonne gold (Assessment Report 6962).

Similarly altered and shattered medium-grained sills of probable granodioritic composition cut slates at the Spuz B South zone, situated approximately 400 metres to the southeast. A major fracture zone striking 067 degrees and dipping 73 degrees to the southeast cuts these rocks.

Quartz hosting associated scheelite mineralization occurs as fracture-fillings up to two centimetres wide and as an irregular network of veins both within the sills and adjacent slates. Gold has been recovered from panned samples of altered intrusive.

A third showing, known as the Quartz-Carbonate zone and situated approximately 500 metres northwest of the Rodd B occurrence, consists of disseminated sulphides in strongly sheared slates adjacent to another fault slice of fuchsite-bearing carbonate rock (listwanite). These rocks have been sheared by three closely spaced fractures splaying off the nearby Hozameen fault system.

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1981-215
EMPR OF 1999-3
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/24

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW054**

NATIONAL MINERAL INVENTORY:

NAME(S): **MONUMENT**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 37 13 N
LONGITUDE: 121 21 56 W
ELEVATION: 910 Metres

NORTHING: 5497696
EASTING: 618053

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Monument vein (Bulletin 79, Figure 41, Sheet B).

COMMODITIES: Gold Tungsten Copper Lead

MINERALS

SIGNIFICANT: Gold Pyrite Pyrrhotite Chalcopyrite Scheelite
 Arsenopyrite Galena Copper Marcasite
ASSOCIATED: Quartz Feldspar Carbonate Fuchsite
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Concordant
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I02 Intrusion-related Au pyrrhotite veins
SHAPE: Tabular
MODIFIER: Faulted Fractured
DIMENSION: 400 x 2 Metres STRIKE/DIP: 150/90 TREND/PLUNGE:
COMMENTS: The vein dips vertically to steeply east at surface, but flattens at depth. The dimensions are for the entire vein system.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Argillite
Greywacke
Siltstone
Felsic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1977
SAMPLE TYPE: Channel
COMMODITY GRADE
Gold 22.6000 Grams per tonne
COMMENTS: Sample from south end of southern segment of the Monument vein across 1.75 metres.
REFERENCE: Assessment Report 6962.

CAPSULE GEOLOGY

The Bigjon Lake area is underlain by Early and Middle Jurassic Ladner Group siltstone and argillite and Permian to Jurassic Hozameen Complex chert in contact along the Hozameen fault, a major, steeply dipping, north-northwest trending fracture system extending from northern Washington State to the Fraser River. Most of the mineral occurrences in the area lie east of but generally close to this fault, which encloses metaplutonic rocks of the Coquihalla serpentine belt between Mount Dewdney and Siwash Creek. A small mass of serpentinite has been mapped along the fault just north of and beneath Bigjon Lake. The Ladner Group and, to a lesser extent, Hozameen Complex rocks are cut by a variety of small intrusive bodies ranging in composition from gabbro through granodiorite to syenite. The Monument vein system comprises four segments, fragmented by a set of north trending dextral crossfaults. The massive white quartz veining with minor feldspar and carbonate strikes north-northwest and dips vertically or steeply to the east at the

CAPSULE GEOLOGY

surface. It is hosted by Ladner Group argillite and siltstone which have been silicified adjacent to the vein contact. Altered felsic sills, similar to those found at the Rodd B (092HWN053) to the south, occur in close association with the veining and may have been involved in the emplacement of the economic mineralization.

The two northern segments vary from one to two metres wide and total approximately 160 metres in aggregate length. East-west striking, vertical crossfractures spaced a few centimetres apart cut the vein. Scheelite reportedly occurs along the eastern contact of the southern segment.

Assays from five surface samples across an average width of 1.72 metres averaged 2.88 grams per tonne gold. The best drill intersection in this area assayed 15.43 grams per tonne gold across 3.1 metres (Assessment Report 6962).

A five-metre wide greywacke interbed in the slates west of the northern-most section of the vein hosts fine-grained disseminated pyrite, pyrrhotite and chalcopyrite. Narrow quartz stringers in this unit were observed locally. Quartz stringers with minor fuchsite have also been introduced along shear zones cutting slate parallel to and west of the main vein. Fine-grained pyrite and minor chalcopyrite are disseminated in the surrounding rocks.

The two southern segments of the Monument vein vary from 1.5 to 2.5 metres wide and are exposed nearly continuously for approximately 200 metres. Conspicuous vertical crossfractures cut the vein at right angles.

Visible gold, occurring as 0.5 to 2.0-millimetre nuggets in vugs in the vein and as thin flakes on shears in the slates adjacent to the vein, has been observed near the north end of the southern section. A 1.75-metre wide sample taken at the southern end of the southern vein segment assayed 22.6 grams per tonne gold (Assessment Report 6962). Pyrite and arsenopyrite associated with argillite xenoliths and minor galena, native copper and possible marcasite occur within the vein in this area.

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1981-215
EMPR OF 1999-3
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/24

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW055**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPUZ A NORTH**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 37 42 N
LONGITUDE: 121 22 03 W
ELEVATION: 884 Metres

NORTHING: 5498588
EASTING: 617893

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of North zone (Assessment Report 6962, Figure 43).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Gold
ASSOCIATED: Quartz
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Podiform Stockwork Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

At the Spuz A North occurrence, four northwest striking shear zones cutting altered Lower and Middle Jurassic Ladner Group argillite have been exposed in a trench. Fault gouge and pods of quartz characterize these two to five-metre wide zones, which mainly parallel foliation in the argillite. The more lithic layers also host anastomosing quartz veinlets, suggesting selective replacement. Finely disseminated pyrite and minor chalcopyrite are associated with zones of silicification and occur throughout the host rock. Gold is reported to have been panned from samples from the silicified zones.

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EMPR EXPL 1976-E86; 1977-E133; 1978-E150; 1979-154; 1980-206
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/24

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW056**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORM**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 56 N
LONGITUDE: 121 19 48 W

NORTHING: 5487963
EASTING: 620839

ELEVATION: 1310 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location of 1983 diamond-drill hole 3 (Assessment Report 11453, Figure 5).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrite Magnetite Chalcopyrite

COMMENTS: Magnetite may actually be chromite.

ALTERATION: Talc Quartz Carbonate Fuchsite

ALTERATION TYPE: Quartz-Carb. Talc Carbonate

Silific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Stratabound Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE

Upper Triassic

Paleozoic-Mesozoic

Unknown

Unknown

GROUP

Undefined Group

Hozameen

FORMATION

Spider Peak

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal
Coquihalla Serpentine Belt

LITHOLOGY: Listwanite
Serpentinite
Feldspar Porphyry Sill
Chert
Greenstone
Siltstone

HOSTROCK COMMENTS: A narrow sequence of Lower and Middle Jurassic Ladner Group rocks also occurs in the area.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Methow

Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

0.5400

Grams per tonne

COMMENTS: Sample of listwanite-hosted quartz vein across six centimetres.

REFERENCE: Assessment Report 11453.

CAPSULE GEOLOGY

The Spider Peak area is underlain by a pyritic sequence of volcanic greenstone assigned to the Early Triassic Spider Peak Formation, which separates Lower and Middle Jurassic Ladner Group sediments to the east from ultramafic rocks of the Coquihalla serpentinite belt and the Hozameen fault to the west.

West of Spider Peak, a narrow slice of serpentinite and quartz(-carbonate)-veined listwanite occurs within the Hozameen fault system, immediately east of a large feldspar-quartz porphyry sill. This sill has intruded chert assigned to the Hozameen Complex west of the fault. The serpentinite is dark green to black in colour and has been sheared. Weathered exposures of massive to weakly foliated, medium to coarse-grained, dark yellow-brown listwanite occur locally in association with the serpentinite. Quartz(-carbonate) veins and veinlets varying from a few millimetres to one metre wide occur throughout the listwanite and finely disseminated pyrite, magnetite

CAPSULE GEOLOGY

(or possibly chromite) and minor chalcopyrite have been observed locally. Talc is widely developed along shear planes in the quartz-carbonate rocks and minor fuchsite occurs as sparse disseminations and rare, thin veinlets. Widespread silicification and/or carbonatization of the rocks in this area is apparent.

Precious metal values in samples of listwanite have been generally low. Higher assays have been obtained from quartz veining hosted by listwanite. A six-centimetre vein assayed 0.54 grams per tonne gold (Assessment Report 11453).

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GSC P 69-47
GSC SUM RPT *1929, Pt. A, p. 169A

DATE CODED: 1992/03/30
DATE REVISED: 1992/05/05

CODED BY: DMN
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW057**

NATIONAL MINERAL INVENTORY:

NAME(S): **GORDON CREEK ASBESTOS**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 51 N
LONGITUDE: 121 27 06 W
ELEVATION: 152 Metres

NORTHING: 5489473
EASTING: 612000

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location from description (Geological Survey of Canada Summary Report 1911, page 111).

COMMODITIES: Asbestos Chromium

MINERALS

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

DEPOSIT

CHARACTER: Stratabound Vein Disseminated
CLASSIFICATION: Metamorphic Hydrothermal Epigenetic
TYPE: M06 Ultramafic-hosted asbestos M03 Podiform chromite
DIMENSION: 150 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Dimension is maximum width of fault slice.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Spuzzum Intrusions

ISOTOPIC AGE: 96.4 +/- 4 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

Unknown

Ultramafic Intrusions

LITHOLOGY: Serpentinite
Granodiorite
Slate
Gneissic Granite

HOSTROCK COMMENTS: Isotopic age by McLeod (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Shuksan

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The Gordon Creek asbestos occurrence is described as being situated on Gordon Creek, approximately 800 metres west of the Fraser River.

The area is underlain by gneissic granite of the Cretaceous and/or Tertiary Custer Gneiss in contact with slate assigned to the Mesozoic Settler Schist along the north trending Hope fault. In the vicinity of Gordon Creek, a 150-metre wide slice of ultramafic rocks of unknown age occupies a short segment of the fault. An elongate body of granodiorite assigned to the Cretaceous Spuzzum Intrusions is in fault contact with the ultramafic rocks and has intruded the metasediments to the west.

The ultramafic rocks are dominated by shattered serpentinite, described as being dense and black and hosting minor disseminated chromite. Asbestos, occurring as slip fibre, was reportedly developed in fracture planes within the serpentinite. The only visible cross fibre apparently occurred in minute veins, which were not very abundant.

Development work to 1911 consisted of several opencuts and a few tunnels.

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EMPR MAP 1986-1C
EMPR OF 1995-25
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 659
REPORT: RGEN0100

BIBLIOGRAPHY

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DATE CODED: 1985/07/24
DATE REVISED: 1992/04/08

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW058**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARRISON LAKE ASBESTOS**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 19 N
LONGITUDE: 121 44 17 W
ELEVATION: 215 Metres

NORTHING: 5488098
EASTING: 591301

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location is a best estimate according to description in Industrial Minerals File. Latitude and longitude coordinates place the occurrence 2.5 kilometres south of Mount Fagervit in unlikely host rocks.

COMMODITIES: Asbestos

MINERALS

SIGNIFICANT: Tremolite
ASSOCIATED: Serpentine
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
Unknown			Ultramafic Intrusions

LITHOLOGY: Serpentinite

HOSTROCK COMMENTS: Host rock is believed to be part of a northwest trending, fault-bound belt of ultramafic rocks paralleling Talc Creek.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The Harrison Lake asbestos occurrence is reported to be situated on the north side of the south tributary to Fifteen Mile (Talc?) Creek, approximately two kilometres east of Harrison Lake.

The Talc Creek area is underlain by a northwest trending, fault bound belt of ultramafic rocks of probable Paleozoic and/or Mesozoic age. Light to dark green, brittle, fibrous tremolite in 15 to 30-centimetre wide veins are reported to be hosted by serpentine within or adjacent to this belt (Industrial Minerals File).

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EMPR OF 1995-25
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/05

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW059**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPUZZUM**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 41 59 N
LONGITUDE: 121 25 05 W
ELEVATION: 300 Metres

NORTHING: 5506447
EASTING: 614076

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location from October, 1961 edition of Western Homes & Living.

COMMODITIES: Jade/Nephrite Agate Gemstones

MINERALS

SIGNIFICANT: Jasper
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Industrial Min.
TYPE: Q01 Jade

Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Custer Gneiss
Cretaceous			Spuzzum Intrusions

LITHOLOGY: Pegmatitic Granite Gneiss
Pelitic Schist
Amphibolite
Marble
Ultramafic Rock
Agate
Jasper
Jade

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Shuksan

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The Spuzzum jade occurrence is situated in an area dominated by metamorphic rocks of the Cretaceous Custer Gneiss, which include pegmatitic granite gneiss, pelitic schist, amphibolite and minor marble and ultramafic rocks. These rocks are in contact with intrusive rocks assigned to the Cretaceous Spuzzum Intrusions along the Hope fault. Agate and jasper are reported to occur here as well as jade.

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Western Homes & Living, October 1961

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/08

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW060**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH BEND**, BOSTON BAR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H14W
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 53 00 N
LONGITUDE: 121 27 05 W
ELEVATION: 150 Metres

NORTHING: 5526809
EASTING: 611250

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location from October 1961 edition of Western Homes and Living.

COMMODITIES: Rhodonite Jade/Nephrite Agate Garnet Gemstones

MINERALS

SIGNIFICANT: Jasper
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Industrial Min.
TYPE: Q02 Rhodonite
 Q03 Agate

Q01 Jade

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	
Paleozoic-Mesozoic			Settler Schist

LITHOLOGY: Meta Sediment/Sedimentary
 Ultramafic
 Jade
 Agate

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

Shuksan

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

The North Bend occurrence is situated along or near to the Kwoiek fault, which separates metasediments of the Permian to Jurassic Hozameen Complex to the east from metasediments of the Mesozoic Settler Schist to the west. Both packages are known to include minor ultramafic rocks.
Rhodonite, jade, agate and garnet are reported.

BIBLIOGRAPHY

Western Homes & Living, October 1961

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/08

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW061**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALEXANDRA BAR**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 42 29 N
LONGITUDE: 121 24 05 W
ELEVATION: 305 Metres

NORTHING: 5507398
EASTING: 615258

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location from November, 1964 edition of Canadian Rockhound.

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Upper Cretaceous

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Scuzzy Pluton

LITHOLOGY: Mafic Volcanic
Gabbro
Chert
Pelite
Limestone
Ultramafic Rock
Agate

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Alexander Bar agate occurrence is situated in an area underlain by Permian to Jurassic Hozameen Complex rocks which have been extensively faulted along a complex part of the Fraser fault system. These rocks include chert, pelite, mafic volcanics, minor limestone, gabbro and ultramafic rock. The occurrence is located within a few kilometres of the eastern contact of the Late Cretaceous Scuzzy pluton. No other details are available.

BIBLIOGRAPHY

Canadian Rockhound, November 1964

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/08

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW062**

NATIONAL MINERAL INVENTORY:

NAME(S): **SADDLE ROCK**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 37 57 N
LONGITUDE: 121 23 40 W
ELEVATION: 158 Metres

NORTHING: 5499009
EASTING: 615938

LOCATION ACCURACY: Within 500M

COMMENTS: Location is center of quarry just west of railway (Canmet Report 811, page 180).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Quartz Mica
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 250 x 24 Metres
COMMENTS: Strikes northwest, dips vertically.

STRIKE/DIP: 315/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Mesozoic
Cretaceous

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Spuzzum Intrusions

ISOTOPIC AGE: 76 +/- 4 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Limestone
Quartzite
Granite

HOSTROCK COMMENTS: Hozameen Complex is reported to range from Permian to Lower Jurassic age (Geological Survey of Canada Open File 980).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cascade Mountains

RELATIONSHIP: Post-mineralization

GRADE:

INVENTORY

ORE ZONE: QUARRY

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Limestone

YEAR: 1944

GRADE: 53.4400 Per cent

COMMENTS: Sample of limestone free of quartz. Grade given for calcium oxide.

REFERENCE: CANMET Report 811, page 181, sample 4.

CAPSULE GEOLOGY

Just south of the Saddle Rock siding of the Canadian Pacific Railway, 7.5 kilometres north-northeast of Yale, a vertically dipping bed of limestone of the Permian to Jurassic Hozameen Complex outcrops on the west bank of the Fraser River. It continues northward up the steep river embankment for 250 metres, crossing both the highway and the railway. The bed widens from 15 metres along the Fraser River, to 24 metres at the railway. The limestone is intruded by granite from the west.

The deposit is generally composed of siliceous, bluish-white, fine-grained limestone that is extensively interbedded with quartzite along the river. At the railway, the bed contains a single, 4.6-metre wide band of quartzite. One hundred and fifty metres northwest of the railway, a small quarry exposes pale, brownish-grey limestone with quartz veins and flakes of mica. A sample from the quarry, free of quartz and quartzite, contained 53.44 per cent CaO, 1.21 per cent

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 665
REPORT: RGEN0100

CAPSULE GEOLOGY

MgO, 1.51 per cent SiO₂, 0.21 per cent Al₂O₃, 0.32 per cent Fe₂O₃ and a trace of sulphur (CANMET Report 811, page 181, sample 44).

During 1937 and 1940, a total of 245 tonnes of limestone were quarried by H. Reynolds for agricultural purposes.

BIBLIOGRAPHY

CANMET RPT *811, Pt. 5, pp. 180-181
GSC MAP 737A; 12-1969; 41-1989
GSC OF 980
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/05/05

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW063**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMORY CREEK**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 17 N
LONGITUDE: 121 28 29 W
ELEVATION: 1065 Metres

NORTHING: 5486537
EASTING: 610391

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location is approximate for one kyanite occurrence within an area between Emory and Gordon creeks where kyanite, sillimanite and garnet are known to occur in abundance (Open File 1988-26).

COMMODITIES: Kyanite Sillimanite Garnet

MINERALS

SIGNIFICANT: Kyanite Sillimanite
ASSOCIATED: Quartz Mica Amphibole
MINERALIZATION AGE: Mesozoic

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists
SHAPE: Tabular
MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic			Settler Schist

LITHOLOGY: Pelitic Schist

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Shuksan
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

North of Emory Creek, streaky pelitic layers within a dominantly quartzo-feldspathic member of the Mesozoic Settler Schist contains up to 12 per cent kyanite, 10 per cent sillimanite and 12 per cent garnet. Streaky amphibolite members in this area may also contain up to 30 per cent garnet (Pigage, 1973).

BIBLIOGRAPHY

EMPR OF *1988-26
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
WWW http://www.infomine.com/index/properties/EMORY_CREEK.html
Bartholomew, P.R. (1979): Geology and Metamorphism of the Yale Creek Area, British Columbia, unpublished M.Sc. thesis, University of British Columbia, Vancouver, British Columbia, p. 105
*Pigage, L.C. (1973): Metamorphism southwest of Yale, British Columbia, unpublished M.Sc. thesis, University of British Columbia, Vancouver, British Columbia, p. 95

DATE CODED: 1988/03/30
DATE REVISED: 1992/03/19

CODED BY: JP
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 667
REPORT: RGEN0100

MINFILE NUMBER: **092HNW064**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOPE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 30 49 N
LONGITUDE: 121 45 47 W
ELEVATION: 150 Metres

NORTHING: 5485289
EASTING: 589538

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location according to Geological Survey of Canada Map 737A (1943).

COMMODITIES: Graphite

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Industrial Min.
TYPE: P03 Microcrystalline graphite
COMMENTS: Deposit is described as comprising narrow seams.

P04 Crystalline flake graphite

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic			Slollicum Schist

LITHOLOGY: Carbonaceous Slate

HOSTROCK COMMENTS: Members of the Slollicum Schist were metamorphosed in the Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Cadwallader

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

Narrow seams of graphite are present within carbonaceous slate assigned to the Mesozoic Slollicum Schist, south of Bear Creek, on the east side of Harrison Lake.

BIBLIOGRAPHY

GSC MAP *737A; 12-1969; 41-1989
GSC P 69-47
WWW <http://www.infomine.com/>
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/09

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW064**

MINFILE NUMBER: **092HNW065**

NATIONAL MINERAL INVENTORY:

NAME(S): **HONEYBUN**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H13W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 55 59 N
LONGITUDE: 121 47 58 W
ELEVATION: 1646 Metres

NORTHING: 5531878
EASTING: 586159

LOCATION ACCURACY: Within 500M

COMMENTS: Location of gossan centre (Assessment Report 9781, Figure 2).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Pyrite Molybdenite Chalcopyrite
COMMENTS: Intrusive rocks are slightly pyritized within the gossanous area.

ASSOCIATED: Quartz

ALTERATION: Chlorite Clay Quartz

ALTERATION TYPE: Chloritic Argillic Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L05 Porphyry Mo (Low F-type)
DIMENSION: 600 x 600 Metres
COMMENTS: Gossan is roughly 600 metres in diameter.

STRIKE/DIP: L04 Porphyry Cu ± Mo ± Au
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Scuzzy Pluton

ISOTOPIC AGE: 79 +/- 1.5 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Quartz Monzonite
Feldspar Porphyry Dike

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

COMMENTS: Located near the centre of the Scuzzy pluton.

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The Honeybun occurrence is hosted by a weakly altered, ferruginous phase of the Late Cretaceous Scuzzy pluton. The dominant host rock is medium-grained, pyritic quartz monzonite which, due to surface oxidation, now stands out as a prominent gossan. Within the gossanous area, the monzonite has been cut by a dark grey, rusty weathering feldspar porphyry dyke which hosts pyrite, barren quartz veining and inclusions of quartz monzonite. This dyke is thought to be pre-mineralization. A northeast trending fault hosting a 30-centimetre wide quartz vein appears to have displaced the dyke by several hundred metres.

Finely disseminated molybdenite with sparse chalcopyrite is hosted by quartz stockwork veining within the gossan. The veining occurs within a roughly circular area 600 metres in diameter which is outlined by anomalous molybdenum and, to a lesser extent, silver and lead in soils. More abundant mineralization was noted near the intersection of the fault and dyke.

Silicification and argillic (clay) alteration of the host intrusives is common in areas of quartz veining. Chloritic alteration is also evident where mafic minerals have not been previously destroyed.

BIBLIOGRAPHY

EMPR ASS RPT *9781
GSC MAP 737A; 12-1969; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 669
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/02/27

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW066**

NATIONAL MINERAL INVENTORY:

NAME(S): **LORRAINE**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 31 50 N
LONGITUDE: 121 18 06 W
ELEVATION: 1265 Metres

NORTHING: 5487824
EASTING: 622893

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of Lorraine showing and diamond-drill holes LCN 81-14 and 15 (Assessment Report 11158, Figure 8).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Lower Triassic	Undefined Group	Spider Peak	

LITHOLOGY: Siltstone
Greenstone
Argillite
Wacke
Porphyritic Felsic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

3.5300

Grams per tonne

COMMENTS: Grade is average of 10 continuous, one-metre chip samples.

REFERENCE: Assessment Report 11158, Figure 15.

CAPSULE GEOLOGY

The Lorraine showing is situated near the headwaters of Ladner Creek, approximately 300 metres south of the Pipestem mine (092HNW011). The occurrence was located in 1981, as a result of two holes drilled by Carolin Mines Ltd. south of the Pipestem. Trenching undertaken in 1982 assisted in defining the mineralization on surface.

The mine area is underlain by grey to black, locally organic-rich, pyritic slaty argillite intercalated with well-bedded siltstone, all assigned to the Early and Middle Jurassic Ladner Group. A number of northwest striking bands of medium to very coarse-grained, tuffaceous, fossiliferous wacke also occur within the sequence. The bands vary from 5 to 45 metres thick and are the principal host to gold mineralization. Greenstone assigned to the Lower Triassic Spider Peak Formation is in contact with these sediments to the southwest.

The sedimentary rocks have all undergone a complex history of structural deformation characterized by folding and several north to northwesterly striking faults. The wacke bands are also cut locally by a pronounced fracture cleavage. These rocks have been intruded by narrow sills and dykes up to four metres thick. Several porphyritic felsic sills, similar to those associated with gold occurrences in the Siwash Creek area (092HNW004, 005, 015-017), host thin quartz veins with pyrite.

CAPSULE GEOLOGY

Although descriptions of the mineralization exposed at the Lorraine showing are lacking, the occurrence is known to lie along the contact between rocks belonging to the Ladner Group and Spider Peak Formation. Ten continuous one-metre wide chip samples from a trench south of diamond-drill holes LCN 81-14 and 15 averaged 3.53 grams per tonne gold (Assessment Report 11158).

Several old pits and trenches were observed in the immediate area of the showing and may represent the old Gem opencuts (092HWN010).

BIBLIOGRAPHY

EMPR ASS RPT *11158
EMPR BULL 20, Pt. IV, pp. 20-23; 79
EMPR EXPL 1982-188
GSC MAP 737A; 1988; 12-1969; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1919, Pt. B, pp. 30B-35B; 1920, Pt. A, pp. 23A-41A;
1929, Pt. A, 144A-197A

DATE CODED: 1992/04/02
DATE REVISED: 1992/05/05

CODED BY: DMN
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW067**

NATIONAL MINERAL INVENTORY:

NAME(S): **COQUIHALLA**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 36 26 N
LONGITUDE: 121 02 47 W
ELEVATION: 1000 Metres

NORTHING: 5496794
EASTING: 641143

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location for railway bridge over Fallslake Creek, midway between Romeo and Coquihalla.

COMMODITIES: Feldspar Silica Mica

MINERALS

SIGNIFICANT: Orthoclase Quartz Muscovite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Pegmatite Syngenetic Industrial Min.
TYPE: O04 Feldspar-quartz pegmatite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic-Cretaceous			Eagle Plutonic Complex

ISOTOPIC AGE: 102.8 +/- 1.5 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Muscovite

LITHOLOGY: Pegmatite
Granodiorite

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Pegmatites are a common occurrence within granodiorite of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex. They occur as irregular intrusions from a few centimetres to several metres wide and are best exposed along railway cuts between Romeo and Coquihalla and along either side of the Coquihalla River.

The pegmatites comprise pink orthoclase, milky white, massive quartz and muscovite in crystals up to five centimetres wide. Locally, they exhibit a gradation into the granodiorite and probably intruded at a late stage of consolidation of the pluton.

BIBLIOGRAPHY

EMPR OF 1991-10
GSC MAP 737A; 12-1969; 41-1989
GSC MEM 139, p. 94, 109
GSC P 69-47; 88-E1, pp. 177-183

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/16

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW068**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAMP 16**, CATHMAR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H14W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 45 53 N
LONGITUDE: 121 26 36 W
ELEVATION: 100 Metres

NORTHING: 5513635
EASTING: 612103

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location for Canadian Pacific Railway bridge over Tsileuh Creek,
which is thought to be close to the Camp 16 (Cathmar) quarry.

COMMODITIES: Granite Dimension Stone Building Stone Aggregate

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite R15 Crushed rock

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Oligocene			Chilliwack Batholith

ISOTOPIC AGE: 35 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Unknown

LITHOLOGY: Quartz Diorite Porphyry

HOSTROCK COMMENTS: Isotopic age by Baadsgard (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Plutonic Rocks

CAPSULE GEOLOGY

The Camp 16 (Cathmar) quarry is situated near the Canadian Pacific railway line between Spuzzum and North Bend and operated up to 1912. A considerable amount of stone was quarried for use in culverts, bridge piers and as fill along the line. It is not believed to have been of high enough quality for use as building stone.

The area is underlain by Oligocene aged granodiorite assigned to the Chilliwack batholith which has intruded granodiorite of the Cretaceous Spuzzum Intrusions.

The stone quarried was described as a coarse grained "quartz diorite porphyrite" consisting of fine quartz, orthoclase, hornblende and minor biotite with white plagioclase phenocrysts. Aplitic veinlets cutting much of the rock and stringers of quartz occurring along joints apparently detracted from the overall appearance of the

The quarry consisted of an irregular excavation approximately 200 metres long in the mountain side above the railway.

BIBLIOGRAPHY

EMPR IND MIN FILE (Granite Quarries (in Ministry Library))
Parks, W.A. (1917): Report on the Building and Ornamental Stones of Canada, Vol. V, No. 452, Department of Mines, pp. 75-77

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/09

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW069**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOSTON BAR**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H14W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 52 37 N
LONGITUDE: 121 26 26 W
ELEVATION: 183 Metres

NORTHING: 5526115
EASTING: 612043

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on road cut along the Trans-Canada Highway, directly east of terminal of aerial tram north of Boston Bar (McCammon, J.W., 1951 - Industrial Minerals File).

COMMODITIES: Travertine

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: H01 Travertine
DIMENSION: 400 x 46 x 2
COMMENTS: Deposit is a precipitate.

Massive
Industrial Min.

T02 Geothermal spring
STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Recent
GROUP: Undefined Group

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Tufa

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Travertine

YEAR: 1950

GRADE: 54.6000 Per cent

COMMENTS: Grade given for CaO.
REFERENCE: Industrial Mineral File (McCammon, 1951).

CAPSULE GEOLOGY

A deposit of tufa is situated in the bed, and just north, of a small creek flowing under Highway 1, about 1 kilometre north of the Boston Bar post office.

The deposit stretches discontinuously eastward from the highway along the creek for 400 metres, attaining a maximum width of 46 metres and a maximum thickness of 1.5 metres. A roadcut on the highway beside the creek exposes tufa over a width of 30 metres. As of 1950, tufa was still being deposited in the creek bed.

A grab sample of the tufa contained 54.6 per cent CaO, 0.14 per cent MgO, 0.87 per cent SiO₂, 0.042 per cent iron, 0.1 per cent fluorine and 42.86 per cent CO₂ (McCammon, 1951 - Industrial Minerals File).

The deposit was held by Mr. Graixte and Fred Bilow of The Canyon Cement Works in 1950. No development work has been done and no recent information concerning this occurrence is available.

BIBLIOGRAPHY

EMPR PF (*Memo by McCammon, J.W., 1951)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW070**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH FORK**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 32 N
LONGITUDE: 121 44 55 W
ELEVATION: 930 Metres

NORTHING: 5492193
EASTING: 590469

LOCATION ACCURACY: Within 500M

COMMENTS: Location of North Fork showing (Assessment Report 14001, Figure No. 3).

COMMODITIES: Copper Zinc Silver Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Pyrrhotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Stratiform Stratabound Concordant
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: G04 Besshi massive sulphide Cu-Zn
SHAPE: Tabular
DIMENSION: 100 x 50 x 1 Metres STRIKE/DIP: 165/85E TREND/PLUNGE: 180/60
COMMENTS: Attitude is average of enclosing schists.
Dimensions are minimums for main massive sulphide lens.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic			Cogburn Schist
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Biotite Quartz Schist
Massive Amphibolite
Phyllitic Argillite
Chert
Gabbro
Talc Serpentine Schist
Amphibole Plagioclase Quartz Schist

HOSTROCK COMMENTS: Recrystallized chert occurs adjacent to the showing.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist Amphibolite

INVENTORY

ORE ZONE: ROADCUT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Channel
COMMODITY GRADE

Silver	48.0000	Grams per tonne
Gold	0.3500	Grams per tonne
Copper	3.7200	Per cent
Zinc	1.4100	Per cent

COMMENTS: Sample across 0.8 metre from main sulphide lens.
REFERENCE: Assessment Report 14001.

CAPSULE GEOLOGY

The Cogburn Creek area is underlain by metasedimentary and metavolcanic members of the Cogburn Schist which is possibly correlative with the Permian to Jurassic Hozameen/Bridge River complexes. Granitic, gabbroic and ultramafic masses of Cretaceous to Tertiary age intrude these rocks.

In the area of the occurrence, a northwest striking, steeply east dipping sequence of medium to dark coloured, fine to medium-grained amphibole-plagioclase-quartz schist, grey to light brown, thinly-bedded to massive biotite-quartz schist, phyllitic argillite and recrystallized chert hosts small, commonly fault-bounded masses of metamorphosed and deformed gabbro and

CAPSULE GEOLOGY

talc-serpentine schist. The latter unit is believed to have been originally emplaced as peridotite and/or pyroxenite.

The North Fork showing consists of four stratabound lenses or beds of massive and banded sulphides. The stratigraphically lowest lens ranges from 0.8 to 1.2 metres thick and comprises predominantly massive, medium-grained pyrite with minor chalcopyrite and sphalerite near the base and sphalerite-pyrite and chalcopyrite bands at the top. Chalcopyrite is associated with pyrite and sphalerite, but is concentrated in fractures which are oriented at right angles to the long axis of the lens. A 0.8-metre wide sample across the lens assayed 3.72 per cent copper, 1.41 per cent zinc, 48.0 grams per tonne silver and 0.35 gram per tonne gold (Assessment Report 14001).

Three thin (less than 30-centimetre wide), conformable and discontinuous massive sulphide lenses occur in the hangingwall of the main lens. These lenses comprise medium-grained pyrite-pyrrhotite, chalcopyrite and minor sphalerite and are not internally banded.

There is some question as to whether a distinct stringer sulphide zone and attendant disconformable alteration zone adjacent to the massive lens has been located. A lack of such zones would suggest that the North Fork occurrence may be a distal exhalative deposit.

Although massive sulphide mineralization is restricted to distinct lenses, the host biotite-quartz schist contains up to 25 per cent disseminated pyrite and minor chalcopyrite. A 0.9-metre wide sample across a pyritic zone adjacent to the main lens assayed 1.78 per cent copper, 0.27 per cent zinc, 23.5 grams per tonne silver and 0.28 gram per tonne gold (Assessment Report 14001).

Drilling undertaken to date has defined the extent of the massive sulphide lens to a depth of approximately 250 metres downplunge from the surface showing. Here, a 2.16-metre interval graded 4.82 per cent copper, 0.46 per cent zinc, 19.94 grams per tonne silver and 0.17 gram per tonne gold. Testing further downplunge failed to intersect massive sulphide mineralization. The best drill assay has come from 1982 hole DDH 1, collared 50 metres west of the main sulphide lens. Here, a three-metre interval from 63 to 66 metres averaged 2.04 per cent copper, 0.98 per cent zinc and 9.17 grams per tonne silver (Assessment Report 10797).

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Medford, G.A. (1987): Geological Report on the North Fork 1-5 Claims for Island Star Resources Corporation

DATE CODED: 1985/07/24
DATE REVISED: 1992/03/04

CODED BY: GSB
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW071**

NATIONAL MINERAL INVENTORY: 092H12 Au2

NAME(S): **DOCTORS POINT**, NAGY, HARRISON LAKE,
CRYSTAL

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H12W
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 39 03 N
LONGITUDE: 121 59 23 W
ELEVATION: 122 Metres

NORTHING: 5500300
EASTING: 572926

LOCATION ACCURACY: Within 500M

COMMENTS: Location for centre of the Main zone, near the west shore of Harrison Lake, 250 metres west of Doctors Bay, 86 kilometres northeast of Vancouver (Assessment Report 18365).

COMMODITIES: Gold Silver Lead Zinc Copper
Bismuth

MINERALS

SIGNIFICANT: Gold Arsenopyrite Pyrite Galena Sphalerite
Chalcopyrite Tetrahedrite Bismuth Argentite

COMMENTS: A petrographic study indicates at least two episodes of precious metal mineralization.

ASSOCIATED: Quartz K-Feldspar Sericite Carbonate
ALTERATION: Silica Scorodite Anglesite Schultenite Jarosite
Malachite

COMMENTS: Lead-bismuth sulphosalts are associated with mineralization. Pyrrhotite, pyrite, magnetite, biotite, cordierite, andalusite and garnet occur in hornfels aureoles.

ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Mesothermal Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
DIMENSION: 1 Metres STRIKE/DIP: 300/ TREND/PLUNGE: /
COMMENTS: On surface, veins vary in width from 1 centimetre to 1 metre width. At the Main zone, veins strike 300 to 330 degrees, in and along a 330 degree trending fault zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cretaceous Fire Lake Brokenback Hill Doctors Point Pluton
Miocene

ISOTOPIC AGE: 20.4 +/- 0.8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Hornfels
Diorite
Quartz Diorite
Tuff
Volcanic Flow
Argillite
Volcanic Sandstone
Siltstone
Conglomerate

HOSTROCK COMMENTS: Isotopic date from Economic Geology, Volume 86, 1991, Table 2.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Gambier Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: Pre-mineralization GRADE: Hornfels
Syn-mineralization

INVENTORY

ORE ZONE: MAIN

REPORT ON: Y

CATEGORY:	Indicated	YEAR:	1988
QUANTITY:	113600 Tonnes		
COMMODITY		GRADE	
Silver		6.2000	Grams per tonne
Gold		2.1600	Grams per tonne

COMMENTS: Drill indicated based on closely-spaced grid drilling.
REFERENCE: Assessment Report 18365.

CAPSULE GEOLOGY

The Doctors Point prospect is located on the southwest shores of Harrison Lake, approximately 36 kilometres north of the Seneca deposit (092HSW013) and 86 kilometres northeast of Vancouver.

The occurrence was discovered by George Nagy in 1975 and later purchased by Rhyolite Resources Ltd. Over the next seven years, 12 different vein structures were isolated and at least three of these drilled. In 1994, the property lapsed and was subsequently restaked as the Crystal claim by J. Cuttle. Several undeveloped targets were prospected.

The Doctors Point prospect is situated on or close to the Harrison Lake shear zone, a right-lateral transcurrent fault which splays northward into an imbricate fan of high-angle brittle faults. In part, it passes along, and parallel to Harrison Lake, separating the Early and Middle Jurassic Harrison Lake Formation and Cretaceous Fire Lake Group on the west side of the lake, from the Cretaceous Slossicum Schist on the east side.

The Doctors Point area is underlain by a northwest striking, gently (30 degrees) east dipping sequence of interbedded sediments, volcanics and volcanoclastics assigned to the Early Cretaceous Brokenback Hill Formation, which has been correlated as part of the Fire Lake Group (Journeay and Csontos, 1989 and Lynch, 1990). Here, the formation comprises volcanic flows and tuff with minor argillite, volcanic sandstone, siltstone and polymictic conglomerate.

These rocks are intruded by the Tertiary Doctors Point pluton and four smaller (25 to 2000 metre diameter) diorite to quartz diorite plutons (Nagy, Island, Peninsula and Doctors Bay plutons). Potassium-argon age dates for the Doctors Point pluton are 22-24 Ma (Geological Survey of Canada Paper 89-1E, page 186) and 20.4 +/- 0.8 Ma (Economic Geology, Volume 86, Table 2, 1991).

The diorite plutons are surrounded by a 100 to 300 metre wide hornfels aureole characterized by silicification, pyrrhotite (up to 15 per cent), pyrite, magnetite and red biotite flake. Cordierite, andalusite, garnet and coarse, poikiloblastic biotite have also developed in the rocks adjacent to the intrusions. Major faults trend 330 and 360 degrees across the property, with numerous conjugate and en echelon fractures.

Gold-silver mineralization at Doctors Point is hosted in narrow, gently dipping, vuggy quartz-sulphide veins that show an overall spatial association to the pluton margins in that they appear to have followed pre-existing low angle cone sheet-type fractures resulting from the emplacement of the diorite intrusions. Veins are found in twelve separate localities, are hosted by either diorite or hornfelsic rocks and contain variable amounts of potassium feldspar, sericite and carbonate. On surface, they vary from 1 centimetre to over one metre in width. Pyrite and arsenopyrite are the most abundant sulphides, with traces of galena and sphalerite and minor chalcopyrite. Locally, the veins comprise coarse, massive sulphide material in which quartz is subordinate. Surface leaching has resulted in abundant boxwork structures in the quartz veins, and many mineralized outcrops are coated with green scorodite. Petrographic work done in 1983 suggests the native gold occurs along the grain boundaries of pyrite crystals as well as to a lesser extent with arsenopyrite. Microfracturing of these sulphides are infilled with calcite, pyrite, clay, native bismuth, argentite and lead bismuth sulphosalts. The veins have experienced at least two episodes of precious metal mineralization, one with the introduction of gold and the second with the introduction of silver-bismuth minerals.

The southernmost mineralized fracture lies outside the hornfelsic aureole that surrounds the plutons. It is not associated with quartz veining and contains little gold, but is enriched in silver, lead, zinc and arsenic. The zone contains pyrite, arsenopyrite, tetrahedrite and galena, together with alteration minerals that include scorodite, anglesite, schultenite, jarosite and malachite. This would suggest that a temperature-related mineral and element zoning probably exists in the area, with gold being found closer to the pluton margins and base metals predominating outside the hornfelsic envelope (Fieldwork 1984).

Drill indicated reserves based on closely-spaced grid drilling are 113,600 tonnes grading 2.16 grams per tonne gold and 6.2 grams

CAPSULE GEOLOGY

per tonne silver and occurs near surface in a triangular mass at the Main zone (Assessment Report 18365). The interbedded volcanics and sediments underlying this zone appear to be intruded by at least two phases of diorite, including dikes and sills. The zone is controlled in the northeast and southwest by faults trending 330 degrees which appear to serve as a locus for veining. The majority of the veins at the Main zone strike between 300 and 330 degrees. A later fault system, striking between 360 and 020 degrees, has produced a small offset in the veins.

The North zone, 1400 metres north-northwest of the Main zone, is located on and near the boundary of adjoining NTS map sheet 92G/9E, just east of Doctors Creek. Underlying the North zone is a portion of the Doctors Point pluton which is cut by a major fault trending 330 degrees. This fault is traceable to the southeast, back to the Main zone. A series of 30 degree, east dipping, gold-bearing quartz-sulphide veins occur in close proximity to this fault. A drillhole intersection near the centre of the zone assayed 1.5 grams per tonne over 1.22 metres (Assessment Report 18365).

The South Swamp-Pylon zone is situated 850 metres north-northwest of the Main zone, between the Main and North zones. It is underlain by volcanic and volcanoclastic rocks. The southern half of the zone is intruded by the Doctors Point pluton and the major fault trending south from the North zone truncates its eastern boundary. Stockwork-style, less than one-centimetre wide quartz-sulphide veins assaying up to 100.09 grams per tonne gold are hosted by the diorite (Assessment Report 18365).

Mineralization in the Doctors Point area is believed to be genetically and temporally related to the diorite plutons and probably represents a late hydrothermal phase of this magmatic event. The Nagy and Doctors Bay plutons, and the siliceous hornfels immediately adjacent to their margins, locally contain abundant pyrite and pyrrhotite, although these sulphide-rich pockets are not enriched in gold or silver. The gold-silver mineralization postdates both the intrusion of the plutons and a late suite of mafic dikes. The postulated sequence is: (1) emplacement of the diorite plutons with some barren sulphide mineralization, accompanied by low angle cone sheet fracturing in the hornfels aureole, (2) intrusion of the mafic dikes, (3) minor thrust faulting along the fractures, (4) gold-silver-arsenic mineralization along some of the cone sheet fractures and (5) late subvertical faulting. Veins generally dip toward the pluton cores and are predominantly associated with the Doctors Bay pluton, although a few veins lie within or adjacent to the Doctors Point and Nagy plutons. This suggests that the five diorite bodies in the area are related and probably represent apophyses of a single major body (Fieldwork 1984).

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EMPR FIELDWORK 1982, pp. 55-61; 1983, pp. 42-49; *1984, pp.121-123;
1985, pp. 95-97; 1990, pp. 41-46
EMPR MAP 65 (1989)
EMPR OF 1992-1
EMR MIN BULL MR 223 B.C. 122
EMR MP CORPFILE (Rhyolite Resources Inc.)
GSC MAP 737A; 12-1969; 1386A; 41-1989
GSC MEM 335
GSC P 69-47; 89-1E, pp. 177-187; 90-1E, pp. 183-195, 197-204; 90-1F,
pp. 95-107
GCNL #193,#169,#36,#32,#30, 1983; #219,#16, 1984; #197,#230, 1985;
#197(Oct.9), #204(Oct.24), #237(Dec.9), 1988; #6(Jan.10),
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DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HNW072**

NATIONAL MINERAL INVENTORY:

NAME(S): **SCUZZY**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H13W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 49 10 N
LONGITUDE: 121 49 04 W
ELEVATION: 1722 Metres

NORTHING: 5519226
EASTING: 585042

LOCATION ACCURACY: Within 500M

COMMENTS: Location of discovery showing (samples P616 and P617 of quartz veining hosting molybdenite) near the headwaters of an unnamed tributary to Big Silver Creek (Assessment Report 9793, Figure 2).

COMMODITIES: Molybdenum Copper Tungsten

MINERALS

SIGNIFICANT: Molybdenite Pyrite Pyrrhotite Chalcopyrite Magnetite
COMMENTS: Magnetite and sphalerite were also found in association with the other sulphides in float in the creek north of the occurrence.

ASSOCIATED: Quartz

ALTERATION: Sericite Chlorite
ALTERATION TYPE: Sericitic Chloritic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein Breccia
CLASSIFICATION: Porphyry
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous Scuzzy Pluton

ISOTOPIC AGE: 74 +/- 4 Ma

DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

LITHOLOGY: Granodiorite
Quartz Porphyry
Granodiorite Breccia
Aplite Dike

HOSTROCK COMMENTS: Isotopic age from Geological Survey of Canada Map 41-1989, Sheet 3 (Wanless et al., 1973).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

COMMENTS: Located within the Late Cretaceous Scuzzy pluton.

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Chip
COMMODITY GRADE
Molybdenum 8.2700 Per cent

COMMENTS: Sample across 0.10-metre quartz vein from unknown location.
REFERENCE: Assessment Report 11003.

CAPSULE GEOLOGY

Granodiorite and quartz monzonite of the Late Cretaceous Scuzzy pluton underlie the area. These rocks have been intruded by late aplite dykes and quartz porphyry plugs and are locally brecciated and/or silicified.

Near the headwaters of an unnamed tributary to Big Silver Creek, these rocks host structurally controlled quartz stockwork veining within an elliptically shaped gossan. Within this gossan, three mineralized zones have been identified as follows: Central Moly, Sericite Fracture and Quartz-Moly Breccia.

Within these zones, molybdenite occurs as coarse-grained rosettes along the selvages of the larger (up to 10-centimetre wide) veins, as disseminations and fine plates in the selvages of the smaller veins and along the walls of interstitial cavities in some

CAPSULE GEOLOGY

breccias. Molybdenite also occurs in association with pyrite(-chalcopyrite) as coatings along tight shears, along sericitic fractures and within zones of quartz-cemented intrusive breccia. Conspicuous molybdenite is restricted to the innermost 200 metres of the Central Moly zone.

Molybdenum values from chip samples range from 0.004 per cent in strongly pyritic rocks to 8.27 per cent across a 10-centimetre wide quartz vein. Sample C-177, across a 50-centimetre wide, rusty-weathering zone hosting pyrite, pyrrhotite, magnetite, chalcopyrite and molybdenum assayed greater than 0.1 per cent tungsten (Assessment Report 11003). The source of the tungsten has not been identified.

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EMPR EXPL 1984-197
GSC MAP 737A 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/12/18
DATE REVISED: 1992/02/28

CODED BY: AFW
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW073**

NATIONAL MINERAL INVENTORY:

NAME(S): **COGBURN CREEK**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 34 12 N
LONGITUDE: 121 39 35 W
ELEVATION: 760 Metres

NORTHING: 5491686
EASTING: 596906

LOCATION ACCURACY: Within 1 KM

COMMENTS: The location given represents the geographic centre of numerous occurrences north of Cogburn Creek (Open File 1988-26).

COMMODITIES: Kyanite Sillimanite

MINERALS

SIGNIFICANT: Kyanite Sillimanite

ASSOCIATED: Mica

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists
SHAPE: Tabular
MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic			Settler Schist

LITHOLOGY: Pelitic Schist
Gneiss

HOSTROCK COMMENTS: Members of the Settler Schist were metamorphosed in the Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Shuksan

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP: Syn-mineralization

GRADE: Amphibolite

CAPSULE GEOLOGY

Pelitic schist and gneiss of the Mesozoic Settler Schist crop out in a number of localities in the Hope-Yale-Harrison-Lytton area of southwestern British Columbia, marginal to the Scuzzy, Spuzzum and Chilliwack plutons. Locally, the schist and gneiss units contain abundant kyanite, sillimanite, andalusite and garnet.

North of Cogburn Creek, it contains up to 23 per cent kyanite porphyroblasts, which may reach 1.5 centimetres in length, and a few per cent coarse sillimanite as prisms in excess of 4 centimetres long (Lowe, B.E. (1972): Metamorphic Petrology and Structural Geology of the area east of Harrison Lake).

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*Lowe, B.E. (1972): Metamorphic Petrology and Structural Geology of the area east of Harrison Lake, British Columbia; unpublished Ph.D. thesis, University of Washington, Seattle, Washington, p. 186

DATE CODED: 1988/03/30
DATE REVISED: 1992/02/05

CODED BY: JP
REVISED BY: DMN

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW074**

NATIONAL MINERAL INVENTORY:

NAME(S): **CASCADE**, BOSTON BAR, B.C. GRANITE,
ALPINE SUMMER, MARGRANITE, QUARRY PACIFIC

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H11W
BC MAP:
LATITUDE: 49 35 41 N
LONGITUDE: 121 16 25 W
ELEVATION: 1219 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5495003
EASTING: 624759

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene			Needle Peak Pluton

LITHOLOGY: Coarse Grained Granite
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Cascade prospect is located about 27 kilometres northeast of the community of Hope, and is underlain by green-white coarse-grained granite of the Eocene Needle Peak pluton.

Test splitting of large boulders for building stone use has taken place late in 1992. The stone contains feldspar crystals up to 2 centimetres in diameter which have indications of zoning with light beige centres and greenish rims with white feldspar as pale matrix elsewhere. The rock contains occasional hornblende crystals.

The operator is B.C. Granite Ltd. of Burnaby. Available potential quarry sites are in several places of the valley.

Margranite Industry Ltd. possibly produced Alpine Summer from this quarry.

BIBLIOGRAPHY

EMPR OF 1994-1
GSC MAP 737A; 12-1969; 1712A; 41-1989
WWW <http://www.ceramstone.com>

DATE CODED: 1993/02/22
DATE REVISED: 1993/10/28

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW075**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAST ANDERSON RIVER**, ANDERSON RIVER, AQUA MIST,
QUARRY PACIFIC, WHITE WATER, WHITE WATER CLASSICO,
MARGRANITE

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092H11E
BC MAP:
LATITUDE: 49 40 13 N
LONGITUDE: 121 08 17 W
ELEVATION: 1550 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Quarry, just east of the headwaters of the East Anderson River and
500 metres north of Guanaco Peak, about 40 kilometres north-northeast
of the community of Hope.

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5503636

EASTING: 634347

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Jurassic-Cretaceous

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Coarse Grained Granite
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The East Anderson River quarry is located in coarse-grained, green-white granite of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex. Quarry Pacific Industries produces stone blocks from this quarry, to be processed into tile in Surrey.

The stone contains feldspar crystals up to 2 centimetres in diameter which have indications of zoning with light beige centres and pale greenish rims with white feldspar as matrix elsewhere. The rock contains occasional hornblende crystals.

In 1995, with Explore B.C. Program support, Quarry Pacific Industries Ltd. carried out a program of quarry preparation and development and some on-site block production from large boulders and outcrop. Limited quantities of two new products - Tiles of White Water and White Water Classico granite - were introduced on the market (Explore B.C. Program 95/96 - M148).

Margranite Industry Ltd. produces Aqua Mist from this quarry.

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EMPR Explore B.C. Program 95/96 - M148
EMPR OF 1994-1
GSC MAP 737A; 12-1969; 1712A; 41-1989
WWW <http://www.ceramstone.com>

DATE CODED: 1993/02/22
DATE REVISED: 1993/02/23

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW076**

NATIONAL MINERAL INVENTORY:

NAME(S): **JASON**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 32 55 N
LONGITUDE: 121 41 40 W
ELEVATION: 1000 Metres

NORTHING: 5489264
EASTING: 594437

LOCATION ACCURACY: Within 500M

COMMENTS: Near the confluence of Cogburn and Settler creeks just east of Harrison Lake.

COMMODITIES: Nickel Copper Chromium

MINERALS

SIGNIFICANT: Pyrrhotite Pentlandite Chalcopyrite Pyrite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Spuzzum Intrusions

ISOTOPIC AGE: 102.7 +/- 3.4 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

Paleozoic-Mesozoic

Ultramafic Intrusions

LITHOLOGY: Hornblendite
Gabbro
Pyroxenite
Peridotite
Diorite
Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Isotopic age by Monger (Geological Survey of Canada Map 41-1989, Sheet 3).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1999
SAMPLE TYPE:	Grab		
<u>COMMODITY</u>	<u>GRADE</u>		
Chromium	0.1400	Per cent	
Copper	0.1400	Per cent	
Nickel	0.2200	Per cent	

COMMENTS: Best assays from three different samples.

REFERENCE: Haughton, D. (1999): Prospectors Assistance Program, Final Report.

CAPSULE GEOLOGY

The Jason showing is located southwest of the confluence of Cogburn and Settler creeks. The former has its mouth on the east side of Harrison Lake about five kilometres west of the showing area.

The Cogburn Creek area is underlain by Early and Middle Cretaceous aged diorite, quartz diorite and granodiorite assigned to the Spuzzum Intrusions. In the area of the showing, dioritic rocks encompass mafic and ultramafic igneous intrusive rocks which may be the earliest phase of the Spuzzum pluton. The ultramafic rocks comprise gabbro, hornblendite, hornblende pyroxenite and peridotite. These rocks have intruded metasediments and metavolcanics belonging to the Slocicum Schist, Settler Schist and Cogburn Group. These range in age from early Cretaceous to Carboniferous.

Regional foliation strikes from 290 to 320 degrees and dips from

CAPSULE GEOLOGY

45 to 85 degrees to the northeast. It is generally parallel to layering, although some foliation across layering suggests isoclinal folding (Eastwood, 1971 - Property File).

A grant from the province in 1999 enabled prospector David Haughton to undertake an exploration program in the Harrison Lake area where he discovered and staked (Jason claims) a new magmatic nickel-copper occurrence. Mineralization in boulders and outcrop has been located in association with a 1 kilometre zone of hornblende pyroxenite. Minerals found within the ultramafic rocks include pyrrhotite, pentlandite, chalcopyrite and pyrite. Sulphide textures are described as lacy or net-textured (interstitial). Such textures, in conjunction with the mineralogy indicate that the sulphides are magmatic in origin. Best assays from three different samples are 0.22 per cent nickel, 0.14 per cent copper and 0.14 per cent chromium (Haughton, 1999).

BIBLIOGRAPHY

EM EXPL 2001-23-31; 2002-29-40,65-80
EM FIELDWORK 2001, p. 223
EMPR OF 1990-27
EMPR PF (Miscellaneous maps and air photographs by P. Eastwood)
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47
*Haughton, D. (1999): Prospectors Assistance Program, Final Report

DATE CODED: 2000/04/07
DATE REVISED: 2000/04/07

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW077**

NATIONAL MINERAL INVENTORY:

NAME(S): **SABLE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 43 24 N
LONGITUDE: 121 49 59 W
ELEVATION: 650 Metres

NORTHING: 5508520
EASTING: 584100

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Sable claim which is located 11 kilometres northeast of Harrison Lake on a tributary of Big Silver Creek.

COMMODITIES: Nickel Copper Palladium Chromium Cobalt

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Ultramafic Intrusions

LITHOLOGY: Amphibolite Schist

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 2000
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Cobalt	0.0300	Per cent
Chromium	0.0300	Per cent
Copper	0.1900	Per cent
Nickel	0.3100	Per cent
Palladium	0.0800	Grams per tonne

REFERENCE: Jacques Houle, personal communication, 2000.

CAPSULE GEOLOGY

A grant from the province in 2001 enabled prospector Murray McClaren to undertake an exploration program in the Harrison Lake area where he discovered a new nickel-copper occurrence. A grab sample taken from a 100 metre-wide outcrop of variably sulphidic quartz amphibolite schist yielded 0.19 per cent copper, 0.31 per cent nickel, 0.029 per cent cobalt, 0.032 per cent chromium and 0.08 grams per tonne palladium (Houle, Personal Communication, 2000). The observed sulphides are primarily pyrrhotite (up to 10 per cent) and chalcopyrite (trace).

BIBLIOGRAPHY

EM EXPL 2001-23-31; 2002-29-40,65-80
EMPR OF 1990-27
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 2001/02/02
DATE REVISED: 2001/02/02

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HNW078**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAVEN BLACK**, GRANITE CREATIONS

STATUS: Past Producer Open Pit

MINING DIVISION: Vancouver

REGIONS: British Columbia

NTS MAP: 092H12E

BC MAP:

LATITUDE: 49 34 19 N

LONGITUDE: 121 38 20 W

ELEVATION: Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5491923

EASTING: 598407

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry located 42 kilometres northeast of Harrison Hot Springs on Cogburn Creek Road (Fieldwork 1996).

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Plagioclase

COMMENTS: Black granite.

ASSOCIATED: Biotite Chlorite Magnetite

MINERALIZATION AGE: Cretaceous-Tertiary

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Syngenetic Industrial Min.

TYPE: R03 Dimension stone - granite

COMMENTS: Black granite.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cretaceous-Tertiary

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Coast Plutonic Complex

LITHOLOGY: Anorthosite
Pyroxene Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The Raven Black Quarry is located approximately 42 kilometres northeast of Harrison Hot Springs on Cogburn Creek road.

The owner is W. Streicek and the operator is Granite Creations and Stonework.

Large, blocky outcrops are exposed in the bottom part of a V-shaped valley. The stone is sound, lacking microfractures. The homogeneity is affected by scattered, long, 1 to 2 millimetre wide, very dark green veinlets. The anorthosite is part of the Coast Plutonic complex.

Raven Black is a medium black, medium-grained anorthosite. It has an even texture and uniform colour. The rock is comprised of plagioclase with very small amounts of biotite, chlorite and trace magnetite. It has no alteration, staining or fabric. It takes a fair to good polish (7-8/10) with some minor pitting on biotite. There are some narrow (1-2 mm), through going black to very dark green fractures, healed with chlorite, that mar the uniformity of the rock.

BIBLIOGRAPHY

EMPR EXPL 1992, pp. 107-116; 1996-A13

EMPR FIELDWORK 1994, pp.365-369; *1996, pp.301-306

EMPR INF CIRC 1996-1, p. 10; 1997-1, p. 13

GSC MAP 1836A

Streckeisen, A. (1976): To Each Plutonic Rock its Proper Name; Earth and Science Reviews, Volume 12, pages 1-33.

DATE CODED: 1997/02/05
DATE REVISED: 1997/02/05

CODED BY: DEJ
REVISED BY: ZDH

FIELD CHECK: Y
FIELD CHECK: Y

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 689
REPORT: RGEN0100

MINFILE NUMBER: **092HSE001**

NATIONAL MINERAL INVENTORY: 092H7 Cu1

NAME(S): **SIMILCO**, COPPER MOUNTAIN (SIMILCO), COPPER MOUNTAIN MINE,
SUNSET, PRINCESS MAY, SP

STATUS: Past Producer Open Pit Underground MINING DIVISION: Similkameen
REGIONS: British Columbia UTM ZONE: 10 (NAD 83)
NTS MAP: 092H07E
BC MAP:
LATITUDE: 49 19 52 N NORTHING: 5467190
LONGITUDE: 120 32 03 W EASTING: 679150
ELEVATION: 1188 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Pit 1 on Lot 1829, 750 metres east of the Similkameen River on the
 slopes of Copper Mountain, 14 kilometres south of Princeton.

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite
COMMENTS: Minor chalcocite.
ALTERATION: Biotite Albite Epidote K-Feldspar Scapolite
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Lower Jurassic
ISOTOPIC AGE: 193 +/- 7 Ma DATING METHOD: Potassium/Argon MATERIAL DATED: Biotite

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 700 x 300 x 170 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Pit 1 orebody.
Age date for mineralized veins on Copper Mountain (Bulletin 59, page 43).

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	Copper Mountain Intrusions
Lower Jurassic			
ISOTOPIC AGE: 194 +/- 8 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Monzonite			
Lower Jurassic			Lost Horse Intrusions

LITHOLOGY: Andesitic Basaltic Tuff Breccia
Andesitic Basaltic Tuff
Andesitic Basaltic Flow
Andesitic Basaltic Agglomerate
Diorite
Diorite Porphyry Dike
Felsite Dike
Pegmatite Vein

HOSTROCK COMMENTS: Isotopic age date is for the Copper Mountain stock (Bulletin 59, Figure 2, sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks RELATIONSHIP:
METAMORPHIC TYPE: Regional GRADE: Greenschist

INVENTORY

ORE ZONE: PIT 3, PHASE 2 REPORT ON: Y
CATEGORY: Measured YEAR: 1996
QUANTITY: 19139810 Tonnes
COMMODITY GRADE
Copper 0.4930 Per cent
COMMENTS: Geological resource as at December 31, 1996. Copper cutoff grade is 0.23 per cent and the strip ratio is 2.57.
REFERENCE: Princeton Mining Corporation 1996 Annual Report, page 9.

MINFILE NUMBER: **092HSE001**

INVENTORY

ORE ZONE: PIT 3, PHASE 1 REPORT ON: Y

CATEGORY:	Measured	YEAR:	1996
QUANTITY:	34049812 Tonnes		
COMMODITY		GRADE	
Copper		0.4780	Per cent

COMMENTS: Geological resource as at December 31, 1996. Copper cutoff grade is 0.23 per cent and the strip ratio is 2.22.

REFERENCE: Princeton Mining Corporation 1996 Annual Report, page 9.

ORE ZONE: PIT 2 REPORT ON: Y

CATEGORY:	Measured	YEAR:	1996
QUANTITY:	35376900 Tonnes		
COMMODITY		GRADE	
Gold		0.1200	Grams per tonne
Copper		0.3300	Per cent

COMMENTS: Geological resource as at December 31, 1996. Copper cutoff grade is 0.20 per cent and the strip ratio is 1.78.

REFERENCE: Princeton Mining Corporation 1996 Annual Report, page 9.

ORE ZONE: STOCKPILE REPORT ON: Y

CATEGORY:	Measured	YEAR:	1996
QUANTITY:	1015952 Tonnes		
COMMODITY		GRADE	
Copper		0.4030	Per cent

COMMENTS: Geological resource of salvage and other material as at December 31, 1996. Strip ratio is 0.71.

REFERENCE: Princeton Mining Corporation 1996 Annual Report, page 9.

ORE ZONE: TOTAL REPORT ON: Y

CATEGORY:	Measured	YEAR:	1997
QUANTITY:	129163140 Tonnes		
COMMODITY		GRADE	
Silver		1.5760	Grams per tonne
Gold		0.1550	Grams per tonne
Copper		0.3930	Per cent

REFERENCE: EMPR Information Circular 1998-1, pages 11 & 16.

CAPSULE GEOLOGY

The regional geological setting is characterized by major north-striking high-angle faults which form an ancient, long-lived rift system that extends from the United States border to at least 160 kilometres north. This system was the locus of a long, narrow marine basin in which Nicola Group rocks were deposited during Triassic time, and it then accommodated basins of continental volcanism and sedimentation in Early Tertiary time. The central part of the Nicola basin is marked by an abundance of high-energy, proximal volcanic rocks and contains a large number of coeval, comagmatic, high-level plutons with several associated copper deposits. A group of such plutons, some of which are differentiated, are known as the Copper Mountain Intrusions.

The copper deposits of the Copper Mountain camp occur chiefly in a northwest-trending belt of Upper Triassic Nicola Group rocks, approximately 1100 metres wide and 4300 metres long, that is bounded on the south by the Copper Mountain stock, on the west by a major normal fault system known as the Boundary fault, and on the north by a complex of dioritic to syenitic porphyries and breccias known as the Lost Horse complex. Copper mineralization diminishes markedly to the east, where the Copper Mountain stock and Lost Horse complex diverge sharply.

The Nicola rocks in the vicinity of Copper Mountain are andesitic to basaltic and are composed predominantly of coarse agglomerate, tuff breccia and tuff, with lesser amounts of massive flow units and some lensy layers of volcanic siltstone. These rocks were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). The coarse fragmental rocks, which locally contain clasts up to 35 centimetres in diameter, rapidly grade to the southeast and south into massive flows, abundant waterlain tuff and some pillow lava. This distribution of coarse fragmental volcanics, and their spatial association with the porphyry breccia complex and with the copper deposits indicate that one or more Nicola volcanic centres were localized close to the Lost Horse complex. It also indicates the close relationship between copper mineralization and Nicola magmatism in this camp.

CAPSULE GEOLOGY

West of the Boundary fault, the Nicola Group consists of intercalated volcanic and sedimentary rocks that include massive and fragmental andesites, tuff and generally well-bedded calcareous shale, siltstone and sandstone.

The Copper Mountain Intrusions include the Copper Mountain, Smelter Lake and Voigt stocks. These plutons form a continuous alkalic-calcic rock series ranging in composition from pyroxenite to perthosite pegmatite and syenite. The Copper Mountain stock is a concentrically differentiated intrusion, elliptical in plan, and approximately 17 square kilometres in area. Its major axis is 10 kilometres long and strikes 300 degrees. The stock is zoned, with diorite at its outer edge grading through monzonite to syenite and perthosite pegmatite at the core. The two smaller satellites, the Smelter Lake and Voigt stocks, show no differentiation, but are similar in composition to the outer phase of the Copper Mountain stock.

The Lost Horse complex is approximately 4300 metres long and 760 to 2400 metres wide, and consists of porphyries and porphyry breccias which range in composition from diorite to syenite, showing widespread but variable albitization, saussuritization and pink feldspar alteration. These porphyries are not a continuous mass, but are a complex of dykes, sills and irregular bodies. Some phases of the complex are mineralized, but others, such as some major dykes, are clearly post-mineral.

Radiometric age dates on the Lost Horse complex, the Smelter Lake and Voigt stocks, and on sulphide-bearing pegmatite veins indicate that the apparent age of these intrusions and of the associated mineralization is Early Jurassic (Bulletin 59, page 43; Canadian Journal of Earth Sciences, Volume 24, page 2533).

Nicola Group rocks near Copper Mountain exhibit secondary mineral assemblages which are characteristic of greenschist facies, or of albite-epidote hornfels. The volcanic rocks have widespread epidote, chlorite, tremolite-actinolite, sericite, carbonate and locally biotite and prehnite. In the immediate vicinity of the Copper Mountain stock, a narrow aureole of contact metamorphism, generally less than 60 metres wide, overprints the above assemblages and is characterized by a widespread development of granoblastic diopsidic pyroxene, green hornblende, brown to reddish biotite, abundant epidote, intermediate plagioclase and some quartz.

In the narrow belt of Nicola rocks, between the Ingerbelle mine (092HSE004) to the west and Copper Mountain, the alteration differs and, where best developed, involves widespread development of biotite, followed by albite-epidote, with subsequent local potash feldspar and/or scapolite metasomatism in both Nicola rocks and Lost Horse intrusions. The feldspar and scapolite metasomatism is characterized by intense veining and is controlled by the presence and intensity of fractures and by the proximity of large bodies of Lost Horse intrusive rocks.

The area near Copper Mountain is characterized by brittle deformation which produced a large number of faults and locally, intense fracturing. Very broad, northerly trending folds have been recognized or postulated at widely-spaced localities, but these folds decrease quickly in amplitude and down section. The area is dominated regionally by well-developed, northerly striking, high-angle faults which are best described as forming a rift system. Copper Mountain is dominated by strong easterly and northwesterly faulting. The narrow belt of Nicola rocks between Ingerbelle and Copper Mountain, confined between the Copper Mountain stock and the Lost Horse complex, is highly faulted and fractured, but does not appear appreciably folded. The strata are mostly flat-lying or very gently dipping where marker beds exist, and the few areas of steep dips can best be explained as blocks tilted by faulting. Faults in this area have been grouped in order of decreasing relative age of their latest movement into: easterly faults (Gully, Pit), "mine breaks", northwest faults (Main), northeast faults (Tremblay, Honeysuckle) and the Boundary fault. Of these, the Boundary fault is part of the regional rift system; the others appear to be local structures, the genesis and history of which are closely related to the evolution of the Copper Mountain Intrusions (Canadian Institute of Mining and Metallurgy Special Volume 15).

Three major orebodies are confined to a 1100 by 4300-metre belt. Numerous other occurrences of copper mineralization related to the Copper Mountain Intrusions are found over an area with maximum dimensions of 10 by 11 kilometres.

Development by Granby Consolidated Mining, Smelting and Power Company Ltd. during the 1950's and by Newmont Mining Corporation of Canada during 1968-69, outlined two areas of economic grade mineralization centred on Pit 1 and Pit 2. The Pit 1 (Princess May) orebody lies in a chalcopyrite zone immediately northwest of the

CAPSULE GEOLOGY

underground mine. It is 700 metres long and up to 300 metres wide, with open pit ore extending to a maximum depth of 170 metres. The bulk of the ore was emplaced along the Main fault in massive and fragmental volcanic rocks above the lower bedded tuff horizon. Recognizable pre-ore porphyritic intrusive rocks are scarce. Sulphides occur mainly as fine disseminations of chalcopyrite and pyrite and only rarely as blebs and stringers. Mineralization at the west end of the orebody, between the stock contact and the fault, consists typically of thin fracture coatings of bornite and chalcopyrite in the fine-grained tuff bed. Pits 1 and 7 are developed in this orebody.

The Pit 2 orebody is 900 metres long, 90 to 360 metres wide and appears to have a maximum mineable depth of 170 metres. It is located 240 metres northeast of Pit 1. It lies along an indistinct and irregular contact of volcanic rocks with Lost Horse intrusive rocks, both rock types being host to ore. Faults control the boundaries of the orebody to a considerable degree. The northern boundary is formed in part by a zone of faulting and crushing; the southern boundary, although relatively straight, has not been related to any structure to date. To the west, the ore diminishes in grade in the vicinity of a strong northerly fault; to the east, the outline of the orebody becomes most irregular and mineralization grades to predominant pyrite with minor chalcopyrite. Within the orebody, ore-grade material is distributed irregularly, but several local trends and centres of copper mineralization occur. The sulphides are predominantly chalcopyrite and pyrite; bornite is rare. The largest known breccia pipe in the area, 90 metres in diameter and at least 150 metres deep, lies in the north-central part of the orebody. Although fine disseminations and fracture coatings of sulphide are common, the Pit 2 orebody has a much greater proportion of coarse blebs and veinlets than Pit 1.

The Pit 3 (Sunset) orebody begins 200 metres southeast of the Pit 1 orebody and continues southeast, along the eastern margin the Copper Mountain stock, for 1200 metres. This zone is located over old caved and collapsed workings of the underground mine and is therefore also referred to as the Subsidence Area zone (Bulletin 59, page 68). The orebody is 120 to 250 metres wide over most of its length, and is hosted almost entirely in the Nicola Group volcanics. Mineralization occurs along the northwest-striking intrusive contact, along major faults such as the Main fault or the "Mine breaks" or at the intersection of a series of steeply-dipping, west-striking, Lost Horse porphyry dykes with northeast-striking breaks and pegmatite-sheeted zones. Mineralization penetrates only a metre or so into the diorite of the stock. The form of the orebody segments is pipe-like in many places, as a result of their control by steep planar elements and division by a series of barren north-striking felsite dykes. The diameter of the segments that were mined ranged from about 15 to 60 metres. The contact orebody, which produced about half of the underground ore, was mined over widths of 9 to 38 metres, along a length of 900 metres and a maximum depth of 400 metres. The most productive areas of the mine consisted mainly of sequences of fine-grained bedded tuffs. These rocks, being more brittle than the adjacent flows, tuffs and agglomerates, shattered readily and yielded more "ore fractures". The lower bedded unit warped downward near the contact of the stock, so that it also formed a hostrock on deeper levels of the orebody. In addition, Lost Horse Intrusions which occur within the less favourable massive flows and coarse tuffs contained more fractures, and copper mineralization was concentrated in the contact areas of these irregular masses. Ore minerals are bornite and chalcopyrite in roughly equal proportions, with most of the bornite occurring within 60 metres of the stock contact. Minor chalcocite occurs with the best bornite ore. Pyrite exists in areas of chalcopyrite mineralization, but was absent in areas where bornite was present. The sulphide content of the rocks generally decreases sharply at the limits of the mine area. This orebody has been mined from the Nos. 3, 5 and 6 pits over a vertical elevation of 450 metres and from an elaborate system of underground workings.

Concentric patterns of rock alteration about individual orebodies at Copper Mountain are not evident. Alteration appears to be related mainly to the intrusive bodies and also controlled in distribution by faults and fractures. Biotite is well-developed along the stock contact in the underground mine and appears to be associated with the orebodies, and also forms selvages on bigger veins. Pale green bleaching of both volcanic and intrusive rocks is best developed at Pit 2, but also occurs and is locally intense at several other localities throughout the camp, such as along the Lost Horse contact, in portions of Pit 1 and in the outer part of the underground mine. It appears to follow the biotite stage and

CAPSULE GEOLOGY

involves the development of albitic plagioclase and epidote, and the destruction of biotite and disseminated magnetite. Pink potash feldspar developed along fractures in the latest stage of alteration and is often accompanied by pegmatite veins. These "veins", found in most orebodies and elsewhere at Copper Mountain, consist of potash feldspar, biotite, calcite, fluorite, apatite and also some chalcopryrite and bornite. They are usually less than 0.3 metre wide and have formed in part by replacement of the wallrock. Closely-spaced thin pegmatite veins form the northeast sheeted zones of ore fractures. As at the Ingerbelle mine, copper mineralization appears to have occurred during the intermediate and late stages of alteration (Canadian Institute of Mining and Metallurgy Special Volume 15).

The well-differentiated Copper Mountain stock is thought to have been emplaced at the roots of an active volcanic centre. The various phases of the Lost Horse complex were intruded, with rapid uplift and erosion, as a series of separate injections from a differentiating magma. Their shallower, subvolcanic level of emplacement is indicated by their finer grained porphyritic texture, their highly variable contact relationships, including chilled margins, and the pipes and irregular bodies of breccia. The various characteristics of the orebodies suggest that they formed during the later stages of this magmatism. The Copper Mountain stock was probably not the immediate source of hydrothermal fluids at that time, but it most likely was still a hot mass and could easily have provided a temperature gradient as well as a physical and chemical barrier to the sulphide-bearing fluids which probably came from the same source as the Lost Horse rocks. This hypothesis might explain, at least in part, the crude sulphide zoning noted at the mine, which is characterized by a predominance of bornite and chalcopryrite near the Copper Mountain stock, and by a sharp decrease of bornite and an increase of pyrite toward the Lost Horse complex (Canadian Institute

Magnetite-rich parts of the Copper Mountain orebodies demonstrate textures of magmatic origin; the elevated PGE (platinum group elements) content of sulphide ore supports a mantle source similar to that of coeval and possibly cogenetic PGE-rich zoned Alaskan-type intrusions in eastern Quesnellia (e.g. Tulameen Ultramafic Complex, Polaris Intrusive Complex). Analyses of sulphide concentrate from the mine yielded up to 2.8 grams per tonne palladium and 0.155 gram per tonne platinum. A sample of a bornite-chalcopryrite vein from the glory hole yielded 3.25 grams per tonne palladium (Property File - Cordilleran Roundup 1991, Program and Abstracts Volume).

Most of the ore from the Copper Mountain mine came from glory hole and underground mining, but also included production from several open pits mined from 1952 to 1957. The mine closed in 1957. From 1959 through 1962 the mine was leased and small amounts of ore shipped.

In 1977-1978 the Ingerbelle mine (092HSE004) and Copper Mountain mine consolidated operations (the Ingerbelle open pit and mill are across the Similkameen River, west of the Copper Mountain mine). Production from the Ingerbelle orebody commenced in 1972 and mining in the Ingerbelle pit was completed in August 1981. With the installation of an ore conveyor across the Similkameen River canyon, the delivery of Copper Mountain ore from Pit 2 to the Ingerbelle mill began on a limited scale in October 1980, but full production was not implemented until September 1981 after the Ingerbelle orebody was depleted. The mining operation is currently called the Similco mine.

Recent targets for exploration are the Oriole (092HSE024), which is 330 metres southeast of Pit 3. The Oriole was mined in 1955 yielding 20,863 tonnes grading 0.8 per cent copper plus 9978 tonnes grading 0.5 per cent copper (George Cross News Letter #18, 1990). Drilling in the Oriole pits defined a vertically dipping linear sulphide zone grading 0.5 per cent copper. Average thickness of the portions drilled is 45 metres with a 182-metre strike length, open to depth (George Cross News Letter #118, 1990). The Oriole zone has been mapped over a 1219 metre length along the Main fault and is up to 304 metres wide.

In the Lost Horse Gulch area, 1200 metres north of Pit 1, recent drilling has indicated that the Alabama (092HSE013) and Virginia (092HSE242) zones are connected. The Virginia deposit contains indicated (probable) reserves of 13.6 million tonnes grading 0.40 per cent copper and 0.21 grams per tonne gold. The Alabama deposit, located 579 metres to the northwest of the Virginia deposit, contains inferred (possible) reserves of 9 million tonnes grading 0.32 per cent copper (George Cross News Letter #212, 1990). Also in the Lost Horse Gulch area, there are the Mill, Voigt and Wolf Creek East zones which carry gold and copper values (George Cross News Letter #148, 1990).

CAPSULE GEOLOGY

Currently, the Similco operations are mining the Pit 1 and 3 orebodies. Mineable copper reserves for Pits 1, 2 and 3 are as follow (Property File - Princeton Mining Corporation, 1991, page 11):

	Tonnes (millions)	Grade (Per cent)	Strip Ratio
Pit 1	13.5	0.47	0.78
Pit 2	35.4	0.33	1.78
Pit 3	19.5	0.45	0.73

Pit 3 contains additional reserves of 66.2 million tonnes grading 0.45 per cent copper with a strip ratio of 3.27 to 1.

Company reserve estimates at January 1, 1995 were 135.6 million tonnes grading 0.36 per cent copper plus gold and silver credits (Information Circular 1995-9, page 7). Similco re-opened on August 18, 1994 after a suspension of operations in November 1993 due to low metal prices. During 1995, Princeton has milled ore from the low-grade stockpile and from the Ingerbelle East (extension) pit (phase 1). It was planned that 75 per cent of the millfeed would come from the Ingerbelle pit by August.

In 1995, with support from the Explore B.C. Program, Similco Mines Ltd. completed a modest program of geophysical survey and trenching on the P-4 zone located immediately east of Wolf Creek. This program, consisting of 9.82 kilometres of ground IP, 45 rock samples and 344 metres of excavations in 14 trenches, was designed to ground test airborne geophysical anomalies from earlier surveys. Results were disappointing in that IP anomalies were found to be due to 1-3 per cent disseminated pyrite in mildly propylitically altered Nicola volcanics. No trace was found of potassic or albitic alteration, or of Lost Horse intrusions, commonly associated with economic copper mineralization (Explore B.C. Program 95/96 - A100).

In June 1996 copper prices took a sudden and unpredictable fall as a result of events involving trading irregularities on world markets. This, coupled with the inability of Similco to obtain attractive forward prices for its 1997 production and significant capital investment required to commence mining operations on the Copper Mountain side, resulted in the decision to proceed with an orderly shutdown and to place the operation on a care and maintenance basis. Similco ceased mining operations on November 8, 1996 and milling of residual ore was completed by November 12, 1996. Production compared favourably with 1995 in spite of the shutdown. The operation went on care and maintenance status on November 15, 1996.

Because of the uncertainty as to whether the mine will re-start operations, reserves have been downgraded to the resource category. As at December 31, 1996, geological resources are as follows:

	Ore (tonnes)	Cutoff (% Cu)	Grade (%Cu)	Strip Ratio
Virginia, 092HSE242	1,305,317	0.21	0.42	1.37
Oriole, 092HSE024	2,651,453	0.23	0.437	3.70
Salvage & Other	1,015,952	0	0.403	0.71
Pit 2	35,376,900	0.20	0.330	1.78
Pit 3, Phase 1	34,049,812	0.23	0.478	2.22
Pit 3, Phase 2	19,139,810	0.23	0.493	2.57
Ingerbelle, Phase 2, (092HSE004)	35,638,144	0.20	0.329	1.74
TOTAL	129,190,000		0.397	2.03

Reserve data from Princeton Mining Corporation 1996 Annual Report, page 9.

Reserves estimated by the company as of January 7, 1996 were 129,163,140 tonnes grading 0.393 per cent copper, 0.155 gram per tonne gold and 1.576 gram per tonne silver (Information Circular 1998-1). During 1996, 14 million tonnes with an average grade of 0.32 per cent copper were mined from the Ingerbelle East pit. Mining ceased in November, 1996. Further drill programs are planned.

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1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/01

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HSE002**

NATIONAL MINERAL INVENTORY:

NAME(S): **AUGUST LAKE**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 13 N
LONGITUDE: 120 27 45 W
ELEVATION: 914 Metres

NORTHING: 5479126
EASTING: 683961

LOCATION ACCURACY: Within 500M

COMMENTS: Agate showing No. 5, 1 kilometre west-northwest of August Lake, 4.5 kilometres southwest of Princeton (Bulletin of the Lapidary Rock and Mineral Society of B.C., May 1959, sketch map of Princeton area).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Eocene
Lower Jurassic

GROUP
Princeton

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Bromley Batholith

LITHOLOGY: Volcanic
Agate
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Scattered outcrops of white or cream-coloured moss agate are reported to occur in the valley containing August Lake and on the hillsides east and west of the lake, 4 to 6 kilometres southeast of Princeton. The area is underlain by volcanics of the Eocene Princeton Group and granodiorite of the Early Jurassic Bromley batholith.

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DATE CODED: 1991/12/20
DATE REVISED: 1991/12/20

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE003**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER BLUFF (L.1940)**, COPPER CLIFF (L.1939), CUMONT

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 19 49 N
LONGITUDE: 120 32 37 W
ELEVATION: 823 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5467075
EASTING: 678467

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 60 metres above the Similkameen River on the Copper Bluff claim (Lot 1940), 14 kilometres south of Princeton (Minister of Mines Annual Report 1901, page 1170).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Bornite
ASSOCIATED: Orthoclase
ALTERATION: Orthoclase
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkaalic porphyry Cu-Au
DIMENSION: 2 Metres STRIKE/DIP:
COMMENTS: Mineralization is contained in a shear zone up to 2.4 metres wide.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic			Lost Horse Intrusions
ISOTOPIC AGE: 195 +/- 8 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			

LITHOLOGY: Biotite Augite Porphyritic Monzonite

HOSTROCK COMMENTS: Isotopic age date for the Lost Horse Intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Copper Bluff showing is situated on the east bank of the Similkameen River, 14 kilometres south of Princeton. This showing occurs in biotite augite porphyritic micromonzonite of the Early Jurassic Lost Horse Intrusions. The rock is cut by fractures and shears containing pink orthoclase. One prominent shear zone, 1.8 to 2.4 metres wide, and 60 metres above the river on the Copper Bluff Crown-granted claim, contains blebs and irregular masses of bornite in a gangue of orthoclase. Anomalous gold and silver values are reported to accompany this copper mineralization (Minister of Mines Annual Report 1898, page 1113). Percussion drilling to the north, near the south end of the Copper Cliff Crown-granted claim, encountered low-grade copper mineralization. The showing was prospected as early as 1898. Cumont Mines Ltd. carried out geological mapping, induced polarization and soil surveys, and percussion drilling in 1968.

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GSC RPT 986 (1908)
GSC SUM RPT 1906, pp. 51,52

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 698
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1991/12/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE004**

NATIONAL MINERAL INVENTORY: 092H7 Cu7

NAME(S): **INGERBELLE** INGERSOLL BELLE (L.234), LA REINE (L.233),
LORRAINE, GOLDEN COPPER, MAGNETIC (L.235),
TEMPEST FRACTION (L.251), KENNEDY MOUNTAIN, INGERBELLE EAST,
SIMILCO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Open Pit Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 22 N
LONGITUDE: 120 33 22 W
ELEVATION: 1097 Metres

NORTHING: 5468064
EASTING: 677526

LOCATION ACCURACY: Within 500M

COMMENTS: Open pit, 750 metres west of the Similkameen River across from Copper Mountain, 13 kilometres south of Princeton.

COMMODITIES: Copper Gold Silver Molybdenum Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite Sphalerite

COMMENTS: Rare sphalerite.

ASSOCIATED: Pyrrhotite

ALTERATION: Biotite Albite Epidote Chlorite K-Feldspar

Scapolite Pyroxene Garnet

COMMENTS: Also sphene.

ALTERATION TYPE: Propylitic

Potassic Skarn

Biotite

MINERALIZATION AGE: Lower Jurassic

ISOTOPIC AGE: 193 +/- 7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

DEPOSIT

CHARACTER: Disseminated Stockwork

CLASSIFICATION: Porphyry Skarn

Hydrothermal

TYPE: L03 Alkalic porphyry Cu-Au

K01 Cu skarn

SHAPE: Cylindrical

MODIFIER: Faulted

COMMENTS: Isotopic age date is for mineralized veins from the nearby Similco mine (092HSE001) (Bulletin 59, page 43).

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic
Lower Jurassic

Nicola

Undefined Formation

Lost Horse Intrusions

ISOTOPIC AGE: 197 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Andesitic Basaltic Tuff
Fragmental Andesite
Diorite
Monzonite

HOSTROCK COMMENTS: Isotopic age date is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

Plutonic Rocks

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Measured

YEAR: 1996

QUANTITY: 35638144 Tonnes

COMMODITY

GRADE

Copper

0.3290

Per cent

COMMENTS: Geological resource of Phase 2 as at December 31, 1996. Copper cutoff grade is 0.20 per cent and the stripping ratio is 1.74.

REFERENCE: Princeton Mining Corporation 1996 Annual Report, page 9.

CAPSULE GEOLOGY

The regional geological setting is characterized by major north-striking high-angle faults which form an ancient, long-lived rift system that extends from the United States border to at least 160 kilometres north. This system was the locus of a long, narrow

CAPSULE GEOLOGY

marine basin in which Nicola Group rocks were deposited during Triassic time, and it then accommodated basins of continental volcanism and sedimentation in Early Tertiary time. The central part of the Nicola basin is marked by an abundance of high-energy, proximal volcanic rocks and contains a large number of coeval, comagmatic, high-level plutons with several associated copper deposits. A group of such plutons, some of which are differentiated, are known as the Copper Mountain Intrusions.

The copper deposits of the Copper Mountain camp occur chiefly in a northwest-trending belt of Upper Triassic Nicola Group rocks, approximately 1100 metres wide and 4300 metres long, that is bounded on the south by the Copper Mountain stock, on the west by a major normal fault system known as the Boundary fault and on the north by a complex of dioritic to syenitic porphyries and breccias known as the Lost Horse Intrusions. Copper mineralization diminishes markedly to the east, where the Copper Mountain stock and Lost Horse complex diverge sharply.

The Nicola rocks in the vicinity of Copper Mountain are andesitic to basaltic and are composed predominantly of coarse agglomerate, tuff breccia and tuff, with lesser amounts of massive flow units and some lensy layers of volcanic siltstone. The coarse fragmental rocks, which locally contain clasts up to 35 centimetres in diameter, rapidly grade to the southeast and south into massive flows, abundant waterlain tuff and some pillow lava. This distribution of coarse fragmental volcanics, and their spatial association with the porphyry breccia complex and with the copper deposits indicate that one or more Nicola volcanic centres were localized close to the Lost Horse Intrusions. It also indicates the close relationship between copper mineralization and Nicola magmatism in this camp.

West of the Boundary fault, the Nicola Group consists of intercalated volcanic and sedimentary rocks that include massive and fragmental andesites, tuff and generally well-bedded calcareous shale, siltstone and sandstone.

The Copper Mountain Intrusions include the Copper Mountain stock and the Smelter Lake and the Voigt stocks. These plutons form a continuous alkalic-calcic rock series ranging in composition from pyroxenite to perthosite pegmatite and syenite. The Copper Mountain stock is a concentrically differentiated intrusion elliptical in plan and approximately 17 square kilometres in area. Its major axis is 10 kilometres long and trends 300 degrees. The stock is zoned, with diorite at its outer edge grading through monzonite to syenite and perthosite pegmatite at the core. The two smaller satellites, the Smelter Lake and Voigt stocks, show no differentiation, but are similar in composition to the outer phase of the Copper Mountain stock.

The Lost Horse complex is approximately 4300 metres long and 760 to 2400 metres wide, and consists of porphyries and porphyry breccias which range in composition from diorite to syenite, showing widespread but variable albitization, saussuritization and pink feldspar alteration. These porphyries are not a continuous mass, but are a complex of dykes, sills and irregular bodies. Some phases of the complex are mineralized, but others, such as some major dykes, are clearly post-mineral.

Radiometric age dates on the Lost Horse and Copper Mountain intrusions, and on sulphide-bearing pegmatite veins indicate that the apparent age of these intrusions and of the associated mineralization is Early Jurassic (Bulletin 59, page 43; Canadian Journal of Earth Sciences, Volume 24, page 2533).

Nicola Group rocks near Copper Mountain exhibit secondary mineral assemblages which are characteristic of greenschist facies, or of albite-epidote hornfels. The volcanic rocks have widespread epidote, chlorite, tremolite-actinolite, sericite, carbonate and locally biotite and prehnite. In the immediate vicinity of the Copper Mountain stock, a narrow aureole of contact metamorphism, generally less than 60 metres wide, overprints the above assemblages and is characterized by a widespread development of granoblastic diopsidic pyroxene, green hornblende, brown to reddish biotite, abundant epidote, intermediate plagioclase and some quartz.

In the narrow belt of Nicola rocks, between the Ingerbelle mine and Copper Mountain (Similco) mine (092HSE001), the alteration differs and, where best developed, involves widespread development of biotite, followed by albite-epidote, with subsequent local potash feldspar and/or scapolite metasomatism in both Nicola rocks and Lost Horse Intrusions. The feldspar and scapolite metasomatism is characterized by intense veining and is controlled by the presence and intensity of fractures and by the proximity of large bodies of Lost Horse intrusive rocks.

The area near Copper Mountain is characterized by brittle

CAPSULE GEOLOGY

deformation which produced a large number of faults and locally, intense fracturing. Very broad, northerly striking folds have been recognized or postulated at widely-spaced localities, but these folds decrease quickly in amplitude and down section. The area is dominated regionally by well-developed, northerly striking, high-angle faults which are best described as forming a rift system. Copper Mountain is dominated by strong easterly and northwesterly faulting. The narrow belt of Nicola rocks between Ingerbelle and Copper Mountain, confined between the Copper Mountain stock and the Lost Horse complex, is highly faulted and fractured, but does not appear appreciably folded. The strata are mostly flat-lying or very gently dipping where marker beds exist, and the few areas of steep dips can best be explained as blocks tilted by faulting. Faults in this area have been grouped in order of decreasing relative age of their latest movement into: easterly faults (Gully, Pit), "Mine breaks", northwest faults (Main), northeast faults (Tremblay, Honeysuckle) and the Boundary fault. Of these, the Boundary fault is part of the regional rift system; the others appear to be local structures the genesis and history of which are closely related to the evolution of the Copper Mountain Intrusions (CIM Special Volume 15).

The known orebodies are confined to an 1100 by 4300-metre belt. Numerous other occurrences of copper mineralization related to the Copper Mountain Intrusions are found over an area with maximum dimensions of 10 by 11 kilometres.

The Ingerbelle orebody, a skarn deposit transitional to a porphyry, has been developed by both underground and open pit methods. It is crudely L-shaped, with arms oriented northeast and northwest and maximum dimensions of 520 by 760 metres. It straddles the east-striking Gully fault and can be divided into three zones. The southwest zone is a steeply northerly plunging pipe-like body on the south side of the fault. The southeast zone dips steeply to the south and also lies immediately south of the Gully fault. The north zone includes all ore north of the fault, and may be the down-faulted extension of the southeast zone. The hostrocks are mainly altered tuffs and fragmental andesite, previously mapped as the Wolf Creek Formation (Geological Survey of Canada Memoir 171). But, approximately 15 per cent of the ore is found in small, irregular masses of Lost Horse monzonite or diorite. Faults and numerous discontinuous shears and intense mineralized fractures indicate that thorough shattering occurred prior to alteration and mineralization. An important feature of Ingerbelle is the very irregular distribution of copper mineralization.

Chalcopyrite and pyrite are the dominant sulphide minerals, but their ratios change abruptly from place to place. Total sulphide content varies from 2 to 5 per cent, but some of the more pyritic material on the southern side of the ore zones carries up to 10 per cent sulphides. Pyrrhotite is found in the southeast zone. Sulphide mineralization occurs as fine disseminations and thin discontinuous fracture-fillings, and less commonly as coarser blebs or veinlets of appreciable thickness. Sphalerite is rare. Molybdenite is found most commonly in the north zone.

Alteration at Ingerbelle involved pervasive development of biotite, followed by albite, epidote and chlorite, which were in turn followed by the development, mostly along fractures, of pink feldspar and then scapolite. Secondary pyroxene, garnet and sphene are found in some places and appear to have formed during the albite-epidote stage. The two later stages of alteration, and especially the formation of scapolite, contributed to the healing of a large number of fractures and in many places produced a pale grey to pinkish grey, hard rock which is nearly devoid of sulphides. Sulphide mineralization favours the intervening, less altered, softer, greenish grey albite-epidote hornfels, which has only small amounts of pink feldspar and scapolite veining.

Clay minerals and minor calcite are developed extensively along the Gully fault. The major difference between rock alteration at Ingerbelle and that at the Copper Mountain mine is the extensive veining and flooding by pink feldspar and scapolite at Ingerbelle. Most of the pink feldspar is albite, with potash feldspar apparently limited to a later phase at the centre of some of the veins. The alteration does not form a concentric pattern about the Ingerbelle orebody, but rather appears to be centred on the Lost Horse Intrusions and diminishes in intensity with increasing distance away from the complex. The zone of volcanic rocks, 270 metres wide, that lies between the orebody and the Copper Mountain stock, has some of the least altered and most barren rocks in the area.

The well-differentiated Copper Mountain stock is thought to have been emplaced at the roots of an active volcanic centre. The various phases of the Lost Horse complex were intruded, with rapid uplift and

CAPSULE GEOLOGY

erosion, as a series of separate injections from a differentiating magma. Their shallower, subvolcanic level of emplacement is indicated by their finer grained porphyritic texture, their highly variable contact relationships, including chilled margins, and the pipes and irregular bodies of breccia. The various characteristics of the orebodies suggest that they formed during the later stages of this magmatism. The Copper Mountain stock was probably not the immediate source of hydrothermal fluids at that time, but it most likely was still a hot mass and could easily have provided a temperature gradient as well as a physical and chemical barrier to the sulphide-bearing fluids which probably came from the same source as the Lost Horse rocks (CIM Special Volume 15).

Production from the Ingerbelle orebody commenced in 1972 and mining in the Ingerbelle pit was completed in August 1981. Production for the last 3 months of 1980 and the first 8 months of 1981 was in part from the Copper Mountain mine (see 092HSE001). The Copper Mountain mine is located across the Similkameen River, east of the Ingerbelle pit and mill.

In 1977-78, the Ingerbelle and Copper Mountain mines consolidated operations. With the installation of an ore conveyor across the Similkameen River canyon, the delivery of Copper Mountain ore from Pit 2 to the mill began on a limited scale in October 1980, but full production was not implemented until September 1981 after the Ingerbelle orebody was depleted. Currently, the Copper Mountain mine is mining from Pits 1 and 3 and is known as the Similco copper mine operations.

Previous drilling in the Ingerbelle area had indicated a geological resource of 20 million tonnes grading 0.35 per cent copper (Information Circular 1994-19, page 7). Mining began in the Ingerbelle pit using reserves developed from a 1994 drilling program (Ingerbelle East zone). The first ore was processed in April 1995 (T. Schroeter, personal communication, 1995). Production is included with Similco (092HSE001).

The geological resource of Ingerbelle, Phase 2 as at December 31, 1996 is 35,638,144 tonnes grading 0.329 per cent copper at a copper cutoff grade of 0.20 per cent and a strip ratio of 1.74 (Princeton Mining Corporation 1996 Annual Report, page 9).

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NAGMIN June 1985
N MINER April 14, 1977; Aug. 31, 1978; March 27, 1980; Aug. 20, 1981
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WWW <http://www.infomine.com/>
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ENERGY AND MINERALS DIVISION

PAGE: 703
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1997/05/01

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HSE005**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER KING (L.403)**, RAY 1, RAY SHOWINGS

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 08 N
LONGITUDE: 120 33 22 W
ELEVATION: 1039 Metres

NORTHING: 5469485
EASTING: 677480

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on Copper King claim (Lot 403), 700 metres west of the Similkameen River and 12 kilometres south-southwest of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ASSOCIATED: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 340 Metres STRIKE/DIP:
COMMENTS: Zone of disseminated sulphides trends west-northwest for 340 metres.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Microdiorite
Monzonite
Syenite
Magnetite Breccia

HOSTROCK COMMENTS: Isotopic age date for the Lost Horse Intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Copper King showing is 700 metres west of the Similkameen River and 12 kilometres south-southwest of Princeton. The Ingerbelle mine (092HSE004) is located 1.5 kilometres to the south.

The showing is hosted in intrusive rocks of the Early Jurassic Lost Horse Intrusions, which are comprised of microdiorite, micromonzonite and microsyenite.

A zone of disseminated chalcopyrite and bornite trends west-northwest for 340 metres, generally following a zone of faulting of similar trend. The faults themselves are not mineralized. A 9-metre chip sample, taken along a roadcut on the old Hope-Princeton highway, in the centre of the zone, assayed less than 0.2 per cent copper (Assessment Report 941, page 14). Anomalous gold and copper assays are reported from a 4.5-metre deep shaft and one drill hole, completed in the southeastern portion of the zone in 1899 (Minister of Mines Annual Report 1899, page 741).

Magnetite breccia occurs in a circular area 90 metres in diameter, about 300 metres north of the west end of the disseminated sulphide zone. The breccia is healed with seams of coarse magnetite up to 1.3 centimetres wide. The magnetite is accompanied by traces of copper mineralization. Magnetite disseminations and streaks occur in the vicinity of the breccia zone.

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE006**

NATIONAL MINERAL INVENTORY: 092H7 Cu10

NAME(S): **RED BUCK (L.279)**, BORNITE (L.280), MOGUL (L.255)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 51 N
LONGITUDE: 120 32 59 W
ELEVATION: 792 Metres

NORTHING: 5468975
EASTING: 677961

LOCATION ACCURACY: Within 500M

COMMENTS: Adit, near the boundary between Red Buck and Mogul Fraction claims (Lots 279, 256), 50 metres west of the Similkameen River and 12.5 kilometres south-southwest of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Orthoclase
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Pegmatite Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Monzonite
Diorite
Andesite
Pegmatite Vein

HOSTROCK COMMENTS: This deposit is partially hosted in the Lost Horse Intrusions. The age date for these intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1934
SAMPLE TYPE: Chip
COMMODITY: Copper GRADE: 3.0000 Per cent

COMMENTS: This chip sample was taken over a length of 15 metres.
REFERENCE: Geological Survey of Canada Memoir 171, page 36.

CAPSULE GEOLOGY

The Red Buck mine is on the steep west bank of the Similkameen River, 12.5 kilometres south-southwest of Princeton. The Ingerbelle mine (092HSE004) is located 1 kilometre to the southwest.

This area along the Similkameen River, in the vicinity of Smelter Lakes, is underlain by intrusive rocks of the Early Jurassic Lost Horse Intrusions and the Early Jurassic Smelter Lake stock (Copper Mountain Intrusions), and volcanics of the Upper Triassic Nicola Group. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). All units are unconformably overlain to the east by volcanics and sediments of the Eocene Princeton Group.

Irregular and ill-defined bodies of mineralization occur in micromonzonite and microdiorite of the Lost Horse Intrusions and in

CAPSULE GEOLOGY

andesite of the Nicola Group. This mineralization is exposed in three adits over a vertical elevation of 47 metres on the Red Buck claim. The host rocks are cut by pegmatite veins, comprised of orthoclase, albite and quartz, striking northwest.

Mineralization consists of disseminated chalcopyrite and pyrite, associated with pegmatite and secondary orthoclase. Stronger mineralization is localized along shears and joints striking northeast and dipping 60 degrees northwest. A sample taken over a length of 15 metres in the highest of the three adits (No. 3 adit), averaged 3 per cent copper, including 7.6 metres of 4.02 per cent copper (Geological Survey of Canada Memoir 171, page 36).

A second area of copper mineralization is exposed in an adit 120 metres south of the above workings on the Bornite Crown-granted claim (Lot 280). Here, chalcopyrite and pyrite occur as disseminations and short fracture-fillings in a dark grey volcanic rock (andesite?). The sulphides are commonly developed in light-coloured, bleached alteration envelopes along fractures. Some of these fractures are filled with pink orthoclase.

Chalcopyrite also occurs as disseminations and blebs just north of the Red Buck mine on the adjoining Mogul Crown-granted claim (Lot 255). Assays from this mineralization averaged 8 per cent copper and 13 grams per tonne gold (Minister of Mines Annual Report 1901, page 1088).

This deposit was first explored some time before 1895. Two small ore shipments were made in 1910 and 1915 after some underground development in the early 1900's. The first shipment, consisting of 36 tonnes of sorted ore, averaged 4.8 grams per tonne gold, 51 grams per tonne silver and 6.63 per cent copper (Minister of Mines Annual Report 1927, page 253). A second shipment of 27 tonnes graded 2.7 grams per tonne gold, 31 grams per tonne silver and 6.27 per cent copper (Minister of Mines Annual Report 1937, page D25). Red Buck Mines Ltd. conducted extensive underground development between 1936 and 1938. The company commenced production in late 1938 with the completion of a 90 tonne-per-day flotation mill. Operations were shut down in early 1939 after producing 31 tonnes of concentrate grading 7 grams per tonne gold, 40 grams per tonne silver and 14.1 per cent copper.

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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 708
REPORT: RGEN0100

MINFILE NUMBER: **092HSE007**

NATIONAL MINERAL INVENTORY: 092H7 Cu2

NAME(S): **DUKE OF YORK (L.63S)**, HONEYSUCKLE (L.3263), CUMONT

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:
LATITUDE: 49 20 48 N
LONGITUDE: 120 32 40 W
ELEVATION: 884 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Collar of old adit on the Duke of York claim (Lot 63), 250 metres northeast of the Similkameen River and 12.5 kilometres south-southwest of Princeton (Bulletin 59, Figure 17).

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5468894
EASTING: 678348

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Chalcocite Covellite
ALTERATION: Orthoclase Albite Epidote Sericite Chlorite
ALTERATION TYPE: Potassic Propylitic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 460 x 240 Metres
COMMENTS: Duke of York zone.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation
Eocene Princeton Undefined Formation
Lower Jurassic Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Porphyritic Diorite
Porphyritic Monzonite
Porphyritic Syenite
Tuff
Andesite
Sandstone
Volcanic Breccia

HOSTROCK COMMENTS: Isotopic age date for the Lost Horse Intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1934
SAMPLE TYPE: Chip
COMMODITY GRADE
Copper 0.3700 Per cent

COMMENTS: This chip sample was taken over a length of 90 metres.
REFERENCE: Geological Survey of Canada Memoir 171, page 36.

CAPSULE GEOLOGY

The Duke of York prospect is situated on the east bank of the Similkameen River, 12.5 kilometres south of Princeton. This area on the east side of the Similkameen River is underlain by intrusive rocks of the Lost Horse Intrusions and the Smelter Lake stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). All units are unconformably overlain to the east by volcanics and sediments of the

MINFILE NUMBER: **092HSE007**

CAPSULE GEOLOGY

Eocene Princeton Group.

The prospect is hosted mostly in the Lost Horse Intrusions, which are comprised of medium-grained porphyritic diorite, monzonite and syenite. Minor remnants and fault bounded inclusions of altered tuff and andesite of the Nicola Group are also present.

The Lost Horse rocks are intensely altered over an area 460 metres long and 240 metres wide in the northern part of the deposit. The rocks have been totally or almost totally replaced by orthoclase, resulting in a deep pink to brick red, fine to medium-grained rock, devoid of mafic minerals, in which only outlines of the original plagioclase phenocrysts can be seen. A second area of alteration occurs to the south, where Lost Horse rocks have undergone intense albite-epidote alteration. These rocks are pale green to light grey or nearly white and devoid of magnetite. The original plagioclase and pyroxene have been reduced to irregular, ragged patches of albite, plagioclase, sericite and epidote, and chlorite and epidote respectively.

Faulting and fracturing in the northern part of the deposit is moderate to strong, and mostly oriented in a northeasterly and northwesterly direction. To the south, the rocks are cut by the northeast-striking Honeysuckle break, and several subsidiary northeast-striking faults.

Mineralization generally consists of pyrite-chalcopyrite fracture-fillings and disseminations in intrusives and volcanics, preferably in zones of stronger northeast faulting. Copper mineralization occurs in three distinct zones. On the Duke of York Crown-granted claim, mineralization occurs in intrusive rocks in the area of intense orthoclase alteration. A chip sample from a trench in this zone assayed 0.37 per cent copper over 90 metres (Geological Survey of Canada Memoir 171, page 36).

In the second zone, on the Honeysuckle Crown-granted claim (Lot 3263), 200 metres to the south, mineralization is found in intrusives and volcanics along the Honeysuckle break and subsidiary faults. This zone trends northeast for 270 metres and is 100 metres wide. Samples from here have assayed 4.5 per cent copper and 1.4 to 2.7 grams per tonne gold (Minister of Mines Annual Report 1899, page 741).

A third area of mineralization occurs 300 metres northeast of the Duke of York zone. Here, mineralization consists of chalcopyrite and pyrite, with minor chalcocite and covellite, in Lost Horse rocks, near the contact with overlying sandstone and volcanic breccia of the Princeton Group. A sample assayed 1.75 per cent copper (Geological Survey of Canada Memoir 171, page 36). One drill hole averaged 0.6 per cent copper over 6.1 metres (George Cross News Letter No. 218, 1966, hole C4).

The deposit was first prospected in 1898 by the Day Brothers. A number of trenches and an adit, 82 metres long, were excavated some time between 1908 and 1934. Cumont Mines Ltd. drilled six holes and completed 800 metres of trenching in 1966. Some percussion drilling is reported for 1969. The deposit was also trenched and sampled by Similco Mines Ltd. in 1990.

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GSC RPT 986 (1908)
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FIELD CHECK: N
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MINFILE NUMBER: **092HSE008**

NATIONAL MINERAL INVENTORY:

NAME(S): **ORONOCO (L.2158S)**, NO. 15 FRACTION (L.1598S), CUMONT

STATUS: Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

LATITUDE: 49 20 44 N

LONGITUDE: 120 32 10 W

ELEVATION: 1131 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit, on the boundary between the Oronoco (Lot 2158s) and No. 15 Fraction (Lot 1598s) claims, 700 metres northeast of the Similkameen River and 12.5 kilometres south-southwest of Princeton (Geological Survey of Canada Map 300A).

UTM ZONE: 10 (NAD 83)

NORTHING: 5468791

EASTING: 678957

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite

ALTERATION: Orthoclase Albite Epidote Chlorite Sericite

ALTERATION TYPE: Potassic Propylitic Sericitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated

CLASSIFICATION: Porphyry Hydrothermal Epigenetic

TYPE: L03 Alkalic porphyry Cu-Au

DIMENSION: 120 x 110 Metres

COMMENTS: Area of copper mineralization exposed in trenches.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic

Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Porphyritic Diorite
Porphyritic Monzonite
Porphyritic Syenite
Volcanic

HOSTROCK COMMENTS: Isotopic age date for the Lost Horse Intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

Quesnel

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1934

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

0.3200

Per cent

COMMENTS: This chip sample was taken over 12 metres.

REFERENCE: Geological Survey of Canada Memoir 171, page 37.

CAPSULE GEOLOGY

The Oronoco prospect is on the east bank of the Similkameen River, 12.5 kilometres south of Princeton.

The region east of the Similkameen River is underlain by intrusive rocks of the Lost Horse Intrusions and the Smelter Lake stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). All units are unconformably overlain to the east by volcanics and sediments of the Eocene Princeton Group.

The prospect is hosted in the Lost Horse Intrusions, consisting of medium-grained porphyritic diorite, monzonite and syenite. The

CAPSULE GEOLOGY

Lost Horse rocks exhibit intense albite-epidote alteration along the southern margin of the deposit. The altered rocks are pale green to light grey or nearly white and devoid of magnetite. The original plagioclase and pyroxene have been reduced to irregular, ragged patches of albite, plagioclase, sericite and epidote, and chlorite and epidote respectively. Pink orthoclase alteration, both along veins and pervasive, is widespread.

Mineralization consists of pyrite-chalcopyrite fracture-fillings and disseminations in Lost Horse rocks along the northeast-striking Honeysuckle break, and several subsidiary northeast-striking faults. This fault system also hosts the Duke of York prospect (092HSE007) to the west. Trenching has exposed copper mineralization over an area 120 metres long and up to 110 metres wide. A chip sample taken over the full length of a 12-metre long adit assayed 0.32 per cent copper (Geological Survey of Canada Memoir 171, page 37).

The deposit was initially explored by an adit excavated some time before 1934. Cumont Mines Ltd. completed 580 metres of trenching in about 1968. The deposit was also trenched and sampled by Similco Mines Ltd. in 1990.

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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE009**

NATIONAL MINERAL INVENTORY:

NAME(S): **PRINCETON AGATE** VERMILLION BLUFFS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 45 N
LONGITUDE: 120 34 52 W
ELEVATION: 853 Metres

NORTHING: 5481684
EASTING: 675272

LOCATION ACCURACY: Within 500M

COMMENTS: Petrified wood showing, on the northeast side of the Tulameen River, 5 kilometres west of Princeton (Geological Survey of Canada Paper 72-53, page 19, Figure 5).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Basalt
Agate
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Agate occurs in andesite and basalt of the Eocene Princeton Group, in the upper part of Vermillion Bluffs, on the northeast side of the Tulameen River, 5 kilometres west of Princeton. The overlying Princeton Group sediments contain petrified wood.

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Western Homes and Living, Oct. 1961

DATE CODED: 1991/12/21
DATE REVISED: 1992/05/29

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE010**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCCORMACKS FLATS**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 21 N
LONGITUDE: 120 35 23 W
ELEVATION: 853 Metres

NORTHING: 5480923
EASTING: 674671

LOCATION ACCURACY: Within 500M

COMMENTS: Agate showing, at the north end of McCormacks Flats, on the southwest side of the Tulameen River, 5.5 kilometres due west of Princeton (Geological Survey of Canada Paper 72-53, page 19, Figure 5).

COMMODITIES: Agate Gemstones

MINERALS

SIGNIFICANT: Agate Amethyst
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Undefined Formation	

LITHOLOGY: Andesite
Basalt
Agate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The McCormacks Flats gemstone showing is situated on the southwest side of the Tulameen River, 5.5 kilometres west of Princeton.

The northern part of McCormacks Flats is underlain by andesite and basalt of the Eocene Princeton Group. These lavas are reported to contain agate, crystal geodes and amethyst.

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Western Homes and Living, Oct. 1961

DATE CODED: 1991/12/21
DATE REVISED: 1992/05/29

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE011**

NATIONAL MINERAL INVENTORY:

NAME(S): **KNOB HILL (L.806S)**, BUD, BOB,
BON

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 25 16 N
LONGITUDE: 120 28 42 W
ELEVATION: 978 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5477328
EASTING: 682872

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Knob Hill claim (Lot 806s), 2 kilometres southwest of August Lake and 5 kilometres southeast of Princeton (NTS map sheet 092H/08 (Edition 2)).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Syenitic Diorite

HOSTROCK COMMENTS: Isotopic age date is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1984
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	33.8000	Grams per tonne	
Gold	0.9900	Grams per tonne	
Copper	0.6000	Per cent	

REFERENCE: Assessment Report 12736, South zone geochemistry map.

CAPSULE GEOLOGY

The Knob Hill showing is located 2 kilometres southwest of August Lake and 5 kilometres southeast of Princeton.

A mass of resistant syenodiorite projects above the surrounding overburden, forming a small hill known locally as Knob Hill. The syenodiorite outcrops over an area 1000 metres long and up to 600 metres wide. This intrusive body appears to be related to the Early Jurassic Lost Horse Intrusions, occurring in the vicinity of Copper Mountain to the southwest.

Some quartz-carbonate veins, containing chalcopyrite, occur on Knob Hill. Two grab (?) samples assayed 0.99 and 0.51 gram per tonne gold, 33.6 and 49.0 grams per tonne silver, and 0.60 and 1.22 per cent copper, respectively (Assessment Report 12736, South zone geochemistry map).

Various operators conducted surface exploration over the showing between 1966 and 1988. Knob Hill Explorations Ltd. drilled one hole in 1971.

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 715
REPORT: RGEN0100

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EMPR GEM 1971-269; *1973-135
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
WWW <http://www.infomine.com/>
Montgomery, J.H. (1967): Petrology, Structure and Origin of the
Copper Mountain Intrusions near Princeton, British Columbia,
Ph.D. Thesis, University of British Columbia

DATE CODED: 1991/12/21
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CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE012**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUNE BUG (L.3029)**, ONE STRIKE FRACTION (L.2156S)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 42 N
LONGITUDE: 120 30 58 W
ELEVATION: 1189 Metres

NORTHING: 5468777
EASTING: 680411

LOCATION ACCURACY: Within 500M

COMMENTS: Northernmost of two shafts on the boundary between the June Bug claim (Lot 3029) and the One Strike Fraction claim (Lot 2156s), 1.0 kilometre west of Wolfe Creek and 12.5 kilometres south of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 60 Metres
COMMENTS: The zone of mineralization trends north-northwest for at least 60 metres.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
Lower Jurassic

Copper Mountain Intrusions

LITHOLOGY: Porphyritic Syenite
Latite
Magnetite Breccia
Augite Hornblende Porphyritic Pyroclastic
Augite Hornblende Porphyritic Flow
Diorite
Monzonite
Pyroxenite
Gabbro

HOSTROCK COMMENTS: The isotopic age date is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1934

COMMODITY: Copper
GRADE: 1.5000 Per cent

COMMENTS: Grab sample is from the dump at the north shaft.
REFERENCE: Geological Survey of Canada Memoir 171, page 44.

CAPSULE GEOLOGY

The June Bug prospect is located 1 kilometre west of Wolfe Creek and 12.5 kilometres south of Princeton. The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. Old workings in porphyritic microsyenite and latite of the Lost

CAPSULE GEOLOGY

Horse Intrusions expose an area of disseminated pyrite and chalcopyrite cut by narrow magnetite veinlets. The southern part of the zone occurs in magnetite breccia. This deposit trends north-northwest for at least 60 metres. A sample from the dump of the northernmost of two shafts assayed 1.5 per cent copper (Geological Survey of Canada Memoir 171, page 44).

This occurrence was first explored by at least two shafts and a number of trenches, excavated some time between 1904 and 1934. The prospect was trenched by Cumont Mines Ltd. in 1966 and by Similco Mines Ltd. in 1990. Newmont Exploration of Canada Ltd. completed soil and magnetometer surveys over the deposit in 1987.

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GSC MEM *171, pp. 43,44; 243
GSC P 85-1A, pp. 349-358
GSC RPT 986 (1908)
GSC SUM RPT 1906, pp. 51,52
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CIM Trans. Vol. 18, pp. 192-201 (1915)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HSE013**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALABAMA (L.2429)**, CUMONT

STATUS: Developed Prospect

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 33 N

LONGITUDE: 120 31 08 W

ELEVATION: 1195 Metres

NORTHING: 5468492

EASTING: 680219

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of westernmost trench on the Alabama claim (Lot 2429), 1.15 kilometres west of Wolfe Creek and 13 kilometres south of Princeton (Bulletin 59, Figure 18).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Orthoclase Magnetite Epidote Calcite Ankerite
ALTERATION: Orthoclase
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 360 x 270 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Dimensions are given for area of recent drilling.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Biotite Pyroxene Monzonite
Biotite Pyroxene Latite
Syenite Porphyry
Pyroxene Monzonite
Felsite Dike
Breccia
Volcanic

HOSTROCK COMMENTS: Isotopic age date for the Lost Horse Intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: ALABAMA REPORT ON: Y

CATEGORY: Inferred	YEAR: 1996
QUANTITY: 29000000 Tonnes	
COMMODITY	GRADE
Gold	0.1600 Grams per tonne
Copper	0.3500 Per cent

COMMENTS: Previous work outlined a geological resource.
REFERENCE: T. Schroeter, personal communication, 1996.

CAPSULE GEOLOGY

The Alabama prospect is located on the north side of Lost Horse Gulch, 1 kilometre west of Wolfe Creek and 13 kilometres south of Princeton.

The area in the vicinity of Wolfe Creek is underlain by Early Jurassic intrusive rocks of the Lost Horse Intrusions and the Voigt stock (Copper Mountain Intrusions), and volcanics of the Upper Triassic Nicola Group. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada

CAPSULE GEOLOGY

Memoir 171). Wolfe Creek flows along the contact separating the stock to the east from the Lost Horse Intrusions and Nicola Group volcanics to the west. All units are cut by north-striking post-Early Cretaceous quartz feldspar porphyritic felsite dykes ("Mine Dykes"), and unconformably overlain to the north by volcanics of the Eocene Princeton Group.

The Alabama prospect is hosted entirely in the Lost Horse Intrusions. Two intrusive phases can be distinguished, an earlier phase of dark greenish grey pyroxene monzonite, and a later phase of pink to grey to brick-red biotite pyroxene micromonzonite/latite and microsyenite porphyry. The younger phase occurs as dykes and irregular bodies cutting the older monzonite. Micromonzonite/latite comprises most of the hostrock.

The deposit is cut by one large felsite dyke, approximately 50 metres wide, and several smaller dykes, up to 10 metres wide. These parallel dykes strike north-northwest.

Alteration consists of moderate to strong veining and local pervasive replacement by pink orthoclase. Epidote, calcite and ankerite veining is widespread, but nowhere predominant. The orthoclase veining and replacement is stronger in zones of shearing and fracturing, which commonly trend east to northeast with steep dips. A breccia zone, comprised of subrounded clasts of various Lost Horse rocks in a fine-grained, dark pinkish grey magnetite-rich matrix, is exposed in trenches in the central and southwestern portion of the deposit.

Mineralization consists of pyrite and chalcopyrite disseminations and fracture-fillings in both intrusive suites. The sulphides are best developed in areas of strong northeast fracturing and orthoclase alteration. Drilling in an area 270 metres wide and 360 metres long has defined reserves of 9 million tonnes grading 0.32 per cent copper and 0.2 gram per tonne gold (George Cross News Letter No. 118 (June 19), 1990; Exploration in British Columbia 1990, page 54).

This deposit was first extensively explored by Cumont Mines Ltd. between 1966 and 1968. The company drilled five holes and completed geological, soil and geophysical surveys, and 800 metres of trenching. Magnetometer and soil surveys were carried out by Newmont Exploration of Canada Ltd. in 1987. Twelve holes were drilled by Similco Mines Ltd. between 1988 and 1990.

During 1994, Princeton completed a phase 1 diamond drilling program totalling 4909 metres in 29 holes on the Alabama zone. A preliminary inventory of 20 million tonnes grading 0.31 per cent copper and 0.16 gram per tonne gold is indicated (Information Circular 1994-19, page 7).

Previous work on the Alabama zone outlined a geological resource of 29 million tonnes grading 0.35 per cent copper and 0.16 gram per tonne gold (T. Schroeter, personal communication, 1996).

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EMPR GEM 1969-353
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GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1906, pp. 51,52
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
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DATE CODED: 1985/07/24
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CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HSE014**

NATIONAL MINERAL INVENTORY:

NAME(S): **NO. 18 (L.3288)**, MILL ZONE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 12 N
LONGITUDE: 120 30 36 W
ELEVATION: 1097 Metres

NORTHING: 5467865
EASTING: 680886

LOCATION ACCURACY: Within 500M

COMMENTS: Southernmost of two closely-spaced adits on the No. 18 claim (Lot 3288), 450 metres west of Wolfe Creek and 13.5 kilometres south of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Orthoclase Epidote Zoisite Sericite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
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	Nicola	Undefined Formation	

LITHOLOGY: Massive Andesite
Fragmental Andesite
Pegmatite Vein
Quartz Feldspar Porphyritic Dike
Andesitic Dike

HOSTROCK COMMENTS: This showing occurs in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The No. 18 showing is located 450 metres west of Wolfe Creek and 13.5 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

The showing is underlain by massive and fragmental andesite of the Nicola Group. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). These rocks commonly contain pegmatite veins, and are intruded by several large, north-striking, post-Early Cretaceous quartz feldspar porphyritic felsite dykes ("Mine Dykes"), and smaller andesitic dykes.

The andesite is irregularly mineralized with chalcopyrite and pyrite in two tunnels, totalling 150 metres in length. Patchy copper mineralization is also exposed in nearby trenches. The sulphides are associated with orthoclase, epidote, zoisite and sericite. The richer areas of mineralization are estimated not to contain more than 1 per cent copper (Geological Survey of Canada Memoir 171, page 37). Gold and silver values are reported to be associated with this mineralization (Minister of Mines Annual Report 1908, page 128).

This showing was initially explored some time between 1906 and 1934. Cumont Mines Ltd. carried out trenching, percussion drilling and soil and geophysical surveys in 1968 and 1969. Nufort Resources Inc. (formerly Cumont Mines) conducted 440 metres of trenching in 1977. Newmont Exploration of Canada Ltd. completed soil and magnetometer surveys over the showing in 1987. The deposit was most recently drilled in 1990 by Similco Mines Ltd., operator of the nearby Similco (Copper Mountain) mine (092HSE001) to the south.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/12/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE015**

NATIONAL MINERAL INVENTORY:

NAME(S): **OLYMPIA (L.3262)**, OLYMPIC

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 06 N
LONGITUDE: 120 30 23 W
ELEVATION: 1091 Metres

NORTHING: 5467688
EASTING: 681154

LOCATION ACCURACY: Within 500M

COMMENTS: Adit, adjacent to a dyke on the Olympia claim (Lot 3262), 150 metres west of Wolfe Creek and 13.5 kilometres south-southeast of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz Magnetite
ALTERATION: Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Hornblende Andesite Breccia

HOSTROCK COMMENTS: This showing occurs in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
YEAR: 1930

COMMODITY	GRADE
Copper	0.4000 Per cent

REFERENCE: Minister of Mines Annual Report 1930, page 213.

CAPSULE GEOLOGY

The Olympia showing is located 150 metres west of Wolfe Creek and 13.5 kilometres south-southeast of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by several stocks of diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain intrusions.

Two trenches in hornblende andesite breccia of the Nicola Group contain minor chalcopyrite and pyrite. Material excavated from a shaft sunk near the trenches displayed a considerable amount of chalcopyrite and pyrite in a gangue of quartz (?) and magnetite. Some of this material is estimated to contain at least 2 per cent copper (Geological Survey of Canada Memoir 171, page 38). A grab sample from a shaft dump, containing some 27 tonnes of magnetite-pyrite-chalcopyrite-azurite ore, assayed trace gold and silver and 0.40 per cent copper (Minister of Mines Annual Report 1930, page 213).

This showing was first explored some time between 1900 and 1920. Newmont Exploration of Canada Ltd. completed soil and geophysical surveys over the showing in 1987.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 723
REPORT: RGEN0100

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CIM Trans. Vol. 18, pp. 192-201 (1915)
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DATE CODED: 1985/07/24
DATE REVISED: 1991/12/12

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE016**

NATIONAL MINERAL INVENTORY: 092H8 Cu2

NAME(S): **NELSON FRACTION (L.1778S)**, VOIGT'S CAMP

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E 092H08W
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 18 N
LONGITUDE: 120 30 17 W
ELEVATION: 1052 Metres

NORTHING: 5468063
EASTING: 681263

LOCATION ACCURACY: Within 500M

COMMENTS: Adit, adjacent to a road on the Nelson claim (Lot 1778s), 160 metres west of Wolfe Creek and 13 kilometres south of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkaline porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Monzonite
Latite

HOSTROCK COMMENTS: Isotopic age date for the Lost Horse Intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
YEAR: 1934

COMMODITY GRADE
Copper 0.2800 Per cent

COMMENTS: This chip sample was taken along the south wall of the adit over 23 metres.

REFERENCE: Geological Survey of Canada Memoir 171, page 37.

CAPSULE GEOLOGY

The Nelson showing is located 160 metres west of Wolfe Creek and 13 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

Micromonzonite/latite of the Lost Horse Intrusions is irregularly mineralized with disseminated pyrite and chalcopyrite. The strongest mineralization is exposed in a 34-metre long tunnel, 160 metres west of Wolfe Creek. A chip sample taken along the south wall of this tunnel assayed 0.28 per cent copper over 23 metres, and a selected grab sample assayed 1.97 per cent copper and 0.40 gram per tonne gold (Geological Survey of Canada Memoir 171, page 37).

This showing was explored by three tunnels and a number of trenches, excavated some time between 1916 and 1934. Cumont Mines Ltd. carried out soil, magnetometer and induced polarization surveys in 1968. Newmont Exploration of Canada Ltd. completed soil and geophysical surveys over the showing in 1987.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 725
REPORT: RGEN0100

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unpublished Ph.D. thesis, University of British Columbia

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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE017**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRON MASK (L.813)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 54 N
LONGITUDE: 120 32 09 W
ELEVATION: 914 Metres

NORTHING: 5470953
EASTING: 678906

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Iron Mask claim (Lot 813) on the north side of Smelter Lakes, 1.0 kilometre east of the Similkameen River and 10.5 kilometres south-southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

ISOTOPIC AGE: 197 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Copper Mountain Intrusions

Lower Jurassic

ISOTOPIC AGE: 194 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Lost Horse Intrusions

LITHOLOGY: Microdiorite
Monzonite
Syenite
Diorite

HOSTROCK COMMENTS: Age dates for Smelter Lake stock and Lost Horse Intrusions from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Iron Mask showing is on the north side of Smelter Lakes, 1 kilometre east of the Similkameen River and 10.5 kilometres south of Princeton.

This Crown-granted claim is underlain by microdiorite, micromonzonite and microsyenite of the Early Jurassic Lost Horse Intrusions to the east and by diorite of the Early Jurassic Smelter Lake Stock (Copper Mountain Intrusions) to the west.

A series of trenches and shafts is reported to have exposed a body of iron-rich mineralization (magnetite breccia ?), carrying minor gold values (Minister of Mines Annual Report 1908, page 128).

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EMPR BULL 59

GSC MAP 888A; 1386A; 41-1989

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DATE CODED: 1991/12/19
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE017**

MINFILE NUMBER: **092HSE018**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAY 12**, ADIT SHOWINGS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 55 N
LONGITUDE: 120 33 06 W
ELEVATION: 732 Metres

NORTHING: 5470946
EASTING: 677756

LOCATION ACCURACY: Within 500M

COMMENTS: Northernmost of two adits on the west bank of the Similkameen River, 10.5 kilometres south-southwest of Princeton (Assessment Report 941, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

ISOTOPIC AGE: 197 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Copper Mountain Intrusions

Lower Jurassic

ISOTOPIC AGE: 194 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Lost Horse Intrusions

LITHOLOGY: Diorite
Syenite Dike

HOSTROCK COMMENTS: The isotopic age dates for the Smelter Lake stock and the Lost Horse Intrusions are from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

Quesnel

CAPSULE GEOLOGY

The Ray 12 showing is on the west bank of the Similkameen River, 10.5 kilometres south-southwest of Princeton.

This area along the Similkameen River, in the vicinity of Smelter Lakes, is underlain by intrusive rocks of the Lost Horse Intrusions and the Smelter Lake stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). All units are unconformably overlain to the east by volcanics and sediments of the Eocene Princeton Group.

Two small streaks of chalcopyrite and pyrite occur in diorite of the Smelter Lake stock, near a northeast-striking microsyenite dyke of the Lost Horse Intrusions. Two short adits follow the sulphide streaks.

Similar mineralization occurs on the west bank of the river 370 metres to the south. Here, two streaks of chalcopyrite and magnetite, 15 and 25 centimetres wide, are hosted in diorite. This mineralization is developed along fractures striking north-northeast for up to 1.5 metres.

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
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PAGE: 728
REPORT: RGEN0100

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE019**

NATIONAL MINERAL INVENTORY: 092H8 Cu2

NAME(S): **R.S. (L.3357)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 11 N
LONGITUDE: 120 29 58 W
ELEVATION: 1155 Metres

NORTHING: 5467859
EASTING: 681653

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on R.S. claim (Lot 3357), 300 metres east of Wolfe Creek and 13.5 kilometres south-southeast of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 181 +/- 7 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Diorite
Quartz Feldspar Porphyritic Dike

HOSTROCK COMMENTS: This showing is hosted in the Voigt stock. The isotopic age date for this stock is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The R.S. showing is located 300 metres east of Wolfe Creek and 13.5 kilometres south-southeast of Princeton. Pyrite, magnetite and chalcopyrite occur in diorite of the Early Jurassic Voigt stock (Copper Mountain Intrusions), just east of a north striking, post-Early Cretaceous, quartz feldspar porphyritic felsite dyke ("Mine Dykes"). The old workings at this showing consist of a small shaft, a 30-metre long tunnel and several trenches, excavated some time between 1905 and 1934. The British Columbia Copper Company Ltd. explored this area in 1911 and 1912. The showing was most recently explored by Newmont Exploration of Canada Ltd., with the completion of soil, geophysical and geological surveys in 1987.

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RUN DATE: 26-Jun-2003
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REPORT: RGEN0100

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE020**

NATIONAL MINERAL INVENTORY: 092H8 Cu2

NAME(S): **VOIGT**, VOIGT ZONE, FRISCO (L.2430),
NO. 14 (L.3289), AUTOMATIC (L.1775S), VOIGHT'S CAMP,
VOIGT'S CAMP

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H08W 092H07E
BC MAP:
LATITUDE: 49 20 23 N
LONGITUDE: 120 30 03 W
ELEVATION: 1039 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Collar of Automatic No. 1 adit on the boundary between the Automatic (Lot 1775s) and Frisco (Lot 2430) claims, 40 metres east of Wolfe Creek and 13 kilometres south-southeast of Princeton (Bulletin 59, Figure 19, page 77).

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5468227

EASTING: 681540

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Pyrrhotite Bornite
ASSOCIATED: Hematite Magnetite Calcite
ALTERATION: Orthoclase Epidote Carbonate
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Massive
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
SHAPE: Bladed
DIMENSION: 800 x 200 x 50 Metres STRIKE/DIP: 095/
COMMENTS: Mineralization is hosted in a 50-metre wide, steeply-dipping zone of veining, brecciation and shearing that strikes 095 degrees for 800 metres and extends downdip for at least 200 metres.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 181 +/- 7 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Pyroxene Diorite
Latite
Andesite Breccia
Felsite Dike

HOSTROCK COMMENTS: This deposit is hosted in the western margin of the Voigt stock. The isotopic age date for this stock is from Bulletin 59, Figure 2.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Unclassified YEAR: 1973
QUANTITY: 220394 Tonnes
COMMODITY GRADE
Gold 1.4000 Grams per tonne
Copper 1.2100 Per cent
COMMENTS: Reserves were estimated from Granby's plans and sections.
REFERENCE: SMF, Aug. 17/73 - Report by Cumont Mines Ltd., A.D. Willmot, July 3/73.

CAPSULE GEOLOGY

The Voigt prospect occurs just east of Wolfe Creek, 13 kilometres south of Princeton. The area in the vicinity of Wolfe Creek is underlain by intrusive rocks of the Lost Horse Intrusions and the Voigt stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. The Nicola Group

CAPSULE GEOLOGY

volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). Wolfe Creek flows along the contact separating the Voigt stock to the east from the Lost Horse Intrusions and Nicola Group volcanics to the west. All units are cut by north-striking post-Early Cretaceous quartz feldspar porphyritic felsite dykes ("Mine Dykes"), and unconformably overlain to the north by volcanics of the Eocene Princeton Group.

A steeply dipping zone of veining, brecciation and shearing, trending 095 degrees, is hosted in pyroxene diorite in the western margin of the Voigt stock. The zone is 800 metres long and varies from a few metres to 300 metres wide, with an average width of about 50 metres. Tunnelling and diamond drilling has traced the zone to a depth of 200 metres below surface over part of its strike length. One deep hole intersected the zone 270 metres below surface. The deposit is cut by three felsite dykes, 20 to 30 metres wide, and at least ten smaller felsite dykes. The dykes dip steeply east to vertical.

Veining and brecciation are accompanied by alteration of the diorite. Orthoclase forms salmon pink alteration envelopes along veins and fractures. Yellowish green pervasive epidote occurs over areas of up to 30 metres in diameter or more. Pervasive carbonate alteration is associated with epidote and orthoclase. Pyrrhotite and bornite occur in a gangue of specular hematite, magnetite

and calcite. The sulphides and gangue minerals occur in anastomosing veins and breccia lenses with epidote-orthoclase-carbonate alteration halos. Mineralization occurs over widths of 1 to 30 metres. The copper, gold, hematite and magnetite content of this mineralization increases eastward. Gold is associated with hematite, rather than chalcopyrite. Masses of pure hematite contain up to 43 grams per tonne gold, while masses of pure chalcopyrite contain only traces of gold (CIM Transactions Volume 18, page 195).

Unclassified reserves are estimated at 220,394 tonnes grading 1.21 per cent copper and 1.4 grams per tonne gold, to a depth of 90 metres below surface. Reserves were estimated from Granby's plans and sections (Statement of Material Facts, August 17, 1973 - Report on the Properties of Cumont Mines Limited, A.D. Wilmot, July 3, 1973). This calculation is based on a review conducted in 1973 of old sections and plans prepared by Granby Mining, Smelting and Power Company Ltd. Trenching and diamond drilling by Newmont Exploration Company of Canada Ltd. in 1987 suggests the Voigt zone would average not more than 0.5 per cent copper and 1.7 grams per tonne gold (Assessment Report 16745, page 14).

A second west-trending zone of shearing occurs just east of Wolfe Creek, about 150 metres north of the Automatic No. 1 adit in the Voigt zone. A 30-metre long tunnel (Automatic No. 2 adit) exposes magnetite, pyrite, chalcopyrite and pink orthoclase in diorite of the Voigt stock. Mineralization is strongest in the vicinity of the shear.

A third tunnel (Automatic No. 3 adit), 150 metres northwest of the Automatic No. 2 adit, on the west bank of Wolfe Creek, is developed in latite and andesitic breccia of the Nicola Group. The rock in this tunnel contains sparse magnetite, pyrite and chalcopyrite.

This deposit was first explored in 1908 by Emil Voigt. The British Columbia Copper Company Ltd. conducted several thousand metres of diamond drilling and 460 metres of tunnelling between 1911 and 1912. The Consolidated Mining and Smelting Company Ltd. (Cominco) drilled the deposit from surface and sampled the underground workings in 1919 and 1927. Emil Voigt mined 24 tonnes of ore grading 6.5 grams per tonne silver and 2.46 per cent copper in 1920. Further drilling was conducted by Granby Mining, Smelting and Power Company Ltd. between 1949 and 1952. Cumont Mines Ltd., Nufort Resources Inc. (formerly Cumont Mines) and Fort Reliance Minerals Ltd. carried out surface exploration and some percussion drilling between 1964 and 1978. The prospect was most recently explored by Newmont Exploration Company of Canada Ltd. in 1987, involving geological, geophysical and soil surveys, 3155 metres of trenching and 2124 metres of drilling in 14 holes.

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1927-246; 1930-213; *1964-101; 1965-162; 1968-207
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EMPR EXPL 1977-E126; 1978-E143,E144
EMPR PF (Stevenson, J.S. (1950): Notes on Copper Mountain Geology)
EMR MP CORPFILE (The British Columbia Copper Co. Ltd., Fort Reliance

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GSC MEM *171, pp. 41-43; *243, pp. 87,88
GSC P 85-1A, pp. 349-358
GSC RPT 986 (1908)
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unpublished Ph.D. thesis, University of British Columbia

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE021**

NATIONAL MINERAL INVENTORY:

NAME(S): **FALUM (L.416S)**, VOIGT'S CAMP

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 17 N
LONGITUDE: 120 28 16 W
ELEVATION: 1265 Metres

NORTHING: 5468113
EASTING: 683705

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of mineralized area on the Falum claim (Lot 416s), 2.3 kilometres east of Wolfe Creek, 13.5 kilometres south-southeast of Princeton (CIM Transactions Volume 18, map of Copper Mountain following page 192).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite
ASSOCIATED: Magnetite Hematite Epidote Albite Hornblende
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Copper Mountain Intrusions

ISOTOPIC AGE: 181 +/- 7 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Diorite

HOSTROCK COMMENTS: This showing is hosted in the Voigt stock. The isotopic age date for this stock is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1934
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 2.7000 Grams per tonne
Copper 2.9400 Per cent
REFERENCE: Geological Survey of Canada Memoir 171, page 43.

CAPSULE GEOLOGY

The Falum showing is situated 2.3 kilometres east of Wolfe Creek and 13.5 kilometres south-southeast of Princeton. This showing is hosted in diorite of the Early Jurassic Voigt stock (Copper Mountain Intrusions). The copper mineralization at this occurrence is similar to that of the Azurite showing (092HSE022), 1600 metres to the west, consisting of chalcopyrite in magnetite-epidote veinlets. Hematite, pyrite and minor bornite associated with albite and hornblende are also reported. A selected grab sample assayed 2.94 per cent copper and 2.7 grams per tonne gold (Geological Survey of Canada Memoir 171, page 43). This showing was explored by three shafts and several trenches some time between 1906 and 1934. Sinmax Mines Ltd. carried out soil, magnetometer and geological surveys immediately south and east of the showing between 1968 and 1970.

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CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the
Copper Mountain Intrusions near Princeton, British Columbia;
unpublished Ph.D. thesis, University of British Columbia

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FIELD CHECK: N

MINFILE NUMBER: **092HSE022**

NATIONAL MINERAL INVENTORY:

NAME(S): **AZURITE (L.3268)**, COPPER GLANCE (L.3267), CAS

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 19 49 N
LONGITUDE: 120 28 48 W
ELEVATION: 1405 Metres

NORTHING: 5467227
EASTING: 683089

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on the Azurite claim (Lot 3268), 1.5 kilometres east of Wolfe Creek, 14.5 kilometres south-southeast of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite
ASSOCIATED: Magnetite Epidote
ALTERATION: Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkaic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 181 +/-7 Ma
DATING METHOD: Potassium/Argon

LITHOLOGY: Hornblende Porphyritic Andesite
Andesite
Andesitic Breccia
Diorite

HOSTROCK COMMENTS: This showing is on the southern margin of the Voigt stock. The age date for the stock is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Azurite showing is situated 1.5 kilometres east of Wolfe Creek and 14.5 kilometres south-southeast of Princeton. The Azurite showing is hosted in hornblende porphyritic andesite and andesitic breccia of the Upper Triassic Nicola Group, adjacent to the southern margin of the Early Jurassic Voigt stock (Copper Mountain Intrusions). The volcanics are cut by magnetite-epidote veinlets, containing some chalcopyrite. Finely disseminated pyrite and chalcopyrite are also present. The chalcopyrite is extensively altered to azurite in surface exposures. The copper content of this mineralization appears to be less than 1 per cent (Geological Survey of Canada Memoir 171, page 43). Similar mineralization containing bornite occurs in diorite of the Voigt stock. The showing was initially explored by a shaft, two tunnels and several opencuts excavated some time between 1900 and 1934. Sinmax Mines Ltd. carried out soil, magnetometer and geological surveys between 1968 and 1973.

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EMPR GEM 1969-352; 1971-274,275; 1973-134
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GSC MAP 300A; 569A; 888A; 889A; 1386A; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 737
REPORT: RGEN0100

BIBLIOGRAPHY

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unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE023**

NATIONAL MINERAL INVENTORY: 092H7 Cu6

NAME(S): **LELA (L.401)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 39 N
LONGITUDE: 120 33 33 W
ELEVATION: 1097 Metres

NORTHING: 5468582
EASTING: 677287

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of copper and magnetite mineralization on the southern part of the Lela claim (Lot 401), 800 metres southwest of the Similkameen River and 13 kilometres south-southwest of Princeton (Property File - B.C. Department of Mines, 1964, geological sketch map).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au K01 Cu skarn
DIMENSION: 240 x 60 Metres STRIKE/DIP: 360/ TREND/PLUNGE:
COMMENTS: Zone of chalcopyrite-magnetite mineralization.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Altered Volcanic
Porphyritic Syenitic Diorite
Porphyritic Latite
Schistose Volcanic
Argillite

HOSTROCK COMMENTS: This deposit is partially hosted in the Lost Horse Intrusions. The age date for these intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Lela prospect is 800 metres southwest of the Similkameen River and 13 kilometres south-southwest of Princeton. The Ingerbelle mine (092HSE004) is 500 metres to the south.

This area along the Similkameen River, in the vicinity of Smelter Lakes, is underlain by intrusive rocks of the Lost Horse Intrusions and the Smelter Lake stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). All units are unconformably overlain to the east by volcanics and sediments of the Eocene Princeton Group.

The deposit is hosted in altered Nicola Group volcanics, which are extensively intruded by porphyritic syenodiorite and latite of the Lost Horse Intrusions.

A mineralized zone, 60 metres wide, trends north for 240 metres between two bounding faults. The western fault separates strongly fractured and mineralized rocks from west dipping schistose volcanics and argillite. Diamond drilling indicates that the zone dips west.

Mineralization consists of chalcopyrite and magnetite, as veinlets and disseminations. The chalcopyrite is partly oxidized. Copper Basin Mines Ltd. conducted stripping, trenching and 90

CAPSULE GEOLOGY

metres of diamond drilling in two holes in 1962.

BIBLIOGRAPHY

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(1963): Lela C.G., Princeton, 1 to 6000 scale map)
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
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DATE CODED: 1991/12/18
DATE REVISED: 1992/04/06

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE024**

NATIONAL MINERAL INVENTORY: 092H7 Cu1

NAME(S): **ORIOLE (L.808)**, TIN CUP (L.635S), PIT 4,
COPPER MOUNTAIN

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 19 07 N

LONGITUDE: 120 30 50 W

ELEVATION: 1326 Metres

NORTHING: 5465849

EASTING: 680669

LOCATION ACCURACY: Within 500M

COMMENTS: Abandoned open pit on the Oriole claim (Lot 808), 1.8 kilometres east of the Similkameen River and 15.5 kilometres south of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Pyrite

ASSOCIATED: Magnetite Quartz

COMMENTS: Rare quartz.

ALTERATION: Epidote Zoisite Orthoclase Biotite

ALTERATION TYPE: Epidote Potassic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Porphyry Pegmatite Hydrothermal

TYPE: L03 Alkalic porphyry Cu-Au

DIMENSION: 180 x 46 Metres STRIKE/DIP: /90 TREND/PLUNGE:

COMMENTS: Drilled ore zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Monzonite

LITHOLOGY: Volcanic Breccia
Diorite
Pegmatite Vein
Agglomerate
Andesitic Tuff
Quartz Feldspar Porphyritic Dike

HOSTROCK COMMENTS: The isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Measured

YEAR: 1996

QUANTITY: 2651453 Tonnes

COMMODITY

GRADE

Copper

0.4370

Per cent

COMMENTS: Geological resource as at December 31, 1996. Copper cutoff grade is 0.23 per cent and the stripping ratio is 3.70.

REFERENCE: Princeton Mining Corporation 1996 Annual Report, page 9.

CAPSULE GEOLOGY

The Oriole deposit is located 1.8 kilometres east of the Similkameen River and 15.5 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. Refer to Similco

CAPSULE GEOLOGY

(092HSE001) for a detailed review of regional geology.

This deposit is situated on the east margin of the Copper Mountain stock (Copper Mountain Intrusions). The stock consists of locally altered, medium-grained diorite in this vicinity. The adjacent volcanics are comprised of breccia, agglomerate and andesitic tuff, formerly included with the Wolfe Creek Formation (Geological Survey of Canada Memoir 171). The contact between the stock and the volcanics is somewhat irregular, striking north to west-northwest through the deposit. The diorite and volcanics are intruded by five subparallel quartz feldspar porphyritic felsite dykes ("Mine Dykes"), striking north-northwest in the vicinity of the contact.

The intrusive and volcanic breccia are cut by fractures of various orientations. One prominent set strikes 055 to 085 degrees. Both lithologies are also cut by pegmatite veins.

The fractures and adjacent wallrock contain pyrite, magnetite, bornite, chalcopyrite, epidote, zoisite, orthoclase, biotite and rare quartz. This mineralization is not confined to a particular fracture set. The pegmatite veins contain abundant disseminated chalcopyrite and bornite. Minor disseminated pyrite, magnetite, bornite and chalcopyrite are also present in the volcanic breccia.

Diamond drilling has outlined a vertically dipping zone, 180 metres long, averaging 46 metres wide and grading 0.5 per cent copper (George Cross News Letter No. 118 (June 19), 1990). An assay of 4.3 grams per tonne gold is also reported (Minister of Mines Annual Report 1899, page 741).

A considerable amount of pyrite and chalcopyrite occurs in volcanic breccia one hundred metres to the north, in the southwest portion of the Tin Cup claim (Lot 635).

This deposit was initially explored by two shafts and a number of trenches between 1899 and 1908. Granby Consolidated Mining, Smelting and Power Company Ltd. began mining the deposit in 1954 from two open pits on Lot 808, just east of the Copper Mountain stock. Mining ceased in 1956. Production for 1955 amounted to 30,800 tonnes averaging 0.70 per cent copper (George Cross News Letter No.18 (January 25), 1990). Similco Mines Ltd. operator of the Similco (Copper Mountain) mine (092HSE001), carried out recent diamond drilling in 1989 and 1990.

As at December 31, 1996 the geological resource of the Oriole deposit is 2,651,453 tonnes grading 0.437 per cent copper at a cutoff grade of 0.23 per cent copper and a stripping ratio of 3.70 (Princeton Mining Corporation 1996 Annual Report, page 9).

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N MINER *July 2, 1990
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DATE CODED: 1985/07/24
DATE REVISED: 1997/05/01

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE025**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMBOLDT (L.121)**, HUMBOLDT, COPPER FARM

STATUS: Showing

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 57 N

LONGITUDE: 120 31 01 W

ELEVATION: 1332 Metres

NORTHING: 5465533

EASTING: 680457

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on the Humboldt claim (Lot 121), 1.5 kilometres east of the Similkameen River and 15.5 kilometres south of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Sulphide

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L03 Alkalic porphyry Cu-Au

DIMENSION: 1 Metres

STRIKE/DIP: 070/

TREND/PLUNGE:

COMMENTS: Mineralized vein strikes 070 degrees and is up to 1 metre wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

ISOTOPIC AGE: 193 +/- 7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Monzonite

Copper Mountain Intrusions

LITHOLOGY: Diorite

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Plutonic Rocks

Quesnel

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Humboldt showing is 1.5 kilometres east of the Similkameen River and 15.5 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

This showing is hosted in diorite of the Copper Mountain stock (Copper Mountain Intrusions), about 360 metres southwest of the stock's contact with Nicola Group volcanics.

A shaft exposes a quartz-calcite vein 0.9 to 1.0 metres wide, striking 070 degrees. The vein is mineralized with pyrite and copper sulphides. The diorite is reported to contain chalcopyrite and bornite in the vicinity.

This showing was explored by a shaft, 11 metres deep, and several trenches between 1898 and 1901. Some diamond drilling occurred between 1902 and 1934.

BIBLIOGRAPHY

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GSC BULL 239, pp. 140,141
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GSC MEM *171, p. 45; 243
GSC P 85-1A, pp. 349-358
GSC RPT 986 (1908)
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 743
REPORT: RGEN0100

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unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE026**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING SOLOMON (L.809)**, SPIDER FRACTION (L.811)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 51 N
LONGITUDE: 120 30 45 W
ELEVATION: 1347 Metres

NORTHING: 5465358
EASTING: 680786

LOCATION ACCURACY: Within 500M

COMMENTS: Southernmost of three shafts on the north edge of the Humbolt claim (Lot 809), 2.0 kilometres east of the Similkameen River and 16 kilometres south of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Magnetite
ASSOCIATED: Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 12 Metres
COMMENTS: Mineralized zone is 12 metres wide.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Diorite
Pegmatite Vein
Basalt Dike
Quartz Porphyritic Felsite Dike

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The King Solomon showing is 2 kilometres east of the Similkameen River and 16 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

This showing is hosted in diorite of the Copper Mountain stock (Copper Mountain Intrusions), about 400 metres southwest of the stock's contact with Nicola Group volcanics. The stock is intruded by several basalt dykes and quartz porphyritic felsite dykes in the vicinity of the showing.

The diorite is fractured and cut by small veins of pegmatite and epidote. Mineralization consists of disseminated chalcopyrite, bornite and magnetite in a zone 12 metres wide. The copper content is estimated to be below 1 per cent in most of the old workings (Geological Survey of Canada Memoir 171, page 46). Gold and silver values are also reported (Minister of Mines Annual Report 1908, page 125).

The workings consist of a number of trenches, three shafts and one 58-metre long tunnel excavated between 1900 and 1934. Some diamond drilling was also conducted during this time.

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GSC MAP 300A; 888A; 1386A; 41-1989
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GSC P 85-1A, pp. 349-358
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unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE027**

NATIONAL MINERAL INVENTORY:

NAME(S): **JENNIE SILKMAN (L.810)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 46 N
LONGITUDE: 120 30 29 W

NORTHING: 5465214
EASTING: 681115

ELEVATION: 1320 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, at the contact between a dyke and volcanic rocks, 2.5 kilometres east of the Similkameen River and 16 kilometres south of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Chalcocite
ASSOCIATED: Calcite Magnetite
ALTERATION: Biotite K-Feldspar
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
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	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Augite Porphyritic Volcanic Breccia
Diorite
Pegmatite
Andesite
Andesitic Tuff
Quartz Feldspar Porphyritic Dike

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks
COMMENTS: This occurrence is located in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.5800 Per cent
COMMENTS: Average assay over a core length of 66 metres from hole O-89-6.
REFERENCE: George Cross News Letter No. 118 (June 19), 1990.

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1901
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 3.0000 Grams per tonne
Copper 4.0000 Per cent
COMMENTS: This assay is an average for a number of samples.
REFERENCE: Minister of Mines Annual Report 1901, page 1088.

CAPSULE GEOLOGY

The Jennie Silkman prospect is 2.5 kilometres east of the Similkameen River and 16 kilometres south of Princeton.

CAPSULE GEOLOGY

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

This prospect is located on the east side of the Copper Mountain stock (Copper Mountain Intrusions). Here, an embayment of Nicola Group volcanics, 250 metres wide, extends 500 metres northwest, into diorite of the Copper Mountain stock. The deposit lies along the southwestern margin of the embayment, which is comprised of augite porphyritic volcanic breccia, massive andesite and andesitic tuff. The diorite and volcanics are cut by several post-Early Cretaceous quartz feldspar porphyritic felsite dykes ("Mine Dykes").

The diorite and breccia are fractured and contain secondary biotite and feldspar. Pegmatite occurs along some of the fractures. The fractures and adjacent wallrock are mineralized with chalcopyrite and small amounts of bornite. Pyrite, calcite and minor magnetite and chalcocite are also reported. Samples examined microscopically are estimated to contain about 2 per cent copper (Geological Survey of Canada Memoir 171, page 47). Samples of this mineralization are reported to average 4 per cent copper and 3 grams per tonne gold (Minister of Mines Annual Report 1901, page 1088). One drill hole (O-90-1) averaged 0.7 per cent copper over 40 metres, and a second hole (O-89-6) graded 0.58 per cent copper over 66 metres (George Cross News Letters No. 118 (June 19), No. 148 (Aug. 1), 1990). A third hole drilled 300 metres southeast assayed 0.50 per cent copper over 60 metres (George Cross News Letter No. 148 (Aug. 1), 1990).

This prospect was first explored by a 15-metre shaft and a number of trenches between 1899 and 1908. Similco Mines Ltd. drilled several holes in 1989 and 1990.

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GSC MEM *171, pp. 46,47; 243
GSC P 85-1A, pp. 349-358
GSC RPT 986 (1908)
GSC SUM RPT *1906, p. 51
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N MINER July 2, 1990
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Copper Mountain Intrusions near Princeton, British Columbia;
unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE028**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOLDFAST (L.3537)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 18 N
LONGITUDE: 120 32 41 W
ELEVATION: 823 Metres

NORTHING: 5467968
EASTING: 678357

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Holdfast claim (Lot 3537), on the east bank of the Similkameen River, 13.5 kilometres south of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Volcanic
Microdiorite
Monzonite
Syenite

HOSTROCK COMMENTS: Isotopic age date for the Lost Horse Intrusions is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

The Holdfast showing is situated on the Similkameen River, 13.5 kilometres south of Princeton.

The showing is hosted in volcanics of the Upper Triassic Nicola Group, which are extensively intruded by microdiorite, micromonzonite and microsyenite of the Early Jurassic Lost Horse Intrusions.

Chalcopyrite and pyrite occur in a zone 18 metres wide. The chalcopyrite has been altered to malachite and azurite at surface.

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DATE CODED: 1991/12/18
DATE REVISED: 1992/05/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE029**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARQUIS OF LORNE (L.2752S)**, CMAG

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 31 N
LONGITUDE: 120 30 50 W
ELEVATION: 1408 Metres

NORTHING: 5462884
EASTING: 680767

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft adjacent to road, 2.5 kilometres east of the Similkameen River and 18.5 kilometres south of Princeton (Assessment Report 15854, Figure 2).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Limonite Jarosite Malachite Chlorite Epidote
Albite

ALTERATION TYPE: Oxidation Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkaic porphyry Cu-Au K01 Cu skarn

DIMENSION: STRIKE/DIP: 175/90 TREND/PLUNGE:
COMMENTS: Two parallel shear zones, 60 metres apart, strike 175 degrees and dip vertically.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Andesitic Tuff
Cherty Tuff
Volcanic Siltstone
Volcanic Sandstone
Diorite
Monzonite
Pyroxenite
Gabbro

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This deposit occurs in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: SHAFT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 3.6000 Grams per tonne
Copper 0.5630 Per cent

COMMENTS: This chip sample was taken on the north side of an old shaft over a length of 5 metres.

REFERENCE: Assessment Report 11617, Figure 4.

CAPSULE GEOLOGY

The Marquis of Lorne prospect is located 2.4 kilometres east of the Similkameen River and 18.5 kilometres south of Princeton. The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by

CAPSULE GEOLOGY

diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

Mineralization is hosted in shear zones in andesitic and cherty tuff, with minor volcanic siltstone and sandstone, formerly included in the Wolf Creek Formation (Geological Survey of Canada Memoir 171). Most of the shear zones lie within 50 metres of the Copper Mountain stock (Copper Mountain Intrusions).

One prominent shear zone occurs in andesitic tuff, 40 metres south of the stock. The zone strikes 175 degrees and is vertical. The tuff is highly fractured and altered, with extensive limonite, jarosite and malachite staining. A grab sample contained 1.97 per cent copper and 10.7 grams per tonne silver (Assessment Report 15854, Appendix C, sample CME 81). A chip sample taken over 5 metres on the north side of a shaft contained 0.563 per cent copper, 0.012 gram per tonne gold and 3.6 grams per tonne silver (Assessment Report 11617, Figure 4).

A second parallel shear zone lies 60 metres southwest, in cherty tuff, 50 metres south of the stock. The zone exhibits epidote, chlorite and malachite, and traces of pyrite. A grab sample contained 1.53 per cent copper and 17.1 grams per tonne silver (Assessment Report 15854, Appendix C, sample CME 83). A chip sample returned 0.115 per cent copper, 0.002 gram per tonne gold and 2.4 grams per tonne silver over 5 metres (Assessment Report 11617, Figure 4).

Traces of malachite and chalcopyrite occur in two northeast-striking shear zones up to 1.5 metres wide and 15 metres long, about two hundred metres west-southwest of the previous shear zone. Pale greenish grey albite (?) alteration is associated with these two zones.

This prospect was mapped by Newmont Mining Corporation of Canada Ltd. in 1970 and 1971, and sampled in detail by Kidd Creek Mines Ltd. in 1983 and Targa Resources Inc. in 1986. Various other operators have conducted geophysical and geochemical surveys over this deposit between 1968 and 1975.

BIBLIOGRAPHY

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- EMPR ASS RPT 1840, *2846, 2847, 5480, 5767, 10956, *11617, *15854
- EMPR BULL 59
- EMPR EXPL 1975-E70
- EMPR GEM 1969-288,354; 1970-386; 1971-269
- EMPR PF (*Targas Resources Inc. (1987): Statement of Material Facts (Prospectus), Vancouver Stock Exchange)
- GSC MAP 300A; 888A; 1386A; 41-1989
- GSC MEM 171, p. 47; 243
- GSC P 85-1A, pp. 349-358
- CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
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DATE CODED: 1985/07/24
DATE REVISED: 1991/12/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE030**

NATIONAL MINERAL INVENTORY: 092H7 Cu6

NAME(S): **KENNEDY MOUNTAIN (NORTH SLOPE)**, DEE, X

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 36 N
LONGITUDE: 120 34 36 W
ELEVATION: 1067 Metres

NORTHING: 5470301
EASTING: 675960

LOCATION ACCURACY: Within 500M

COMMENTS: Copper occurrence on the north slope of Kennedy Mountain, 2.7 kilometres west of the Similkameen River and 12 kilometres southwest of Princeton (Geological Survey of Canada Map 888A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ASSOCIATED: Calcite Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 30 x 4 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Dimensions given for a mineralized breccia zone exposed in trenches near Kennedy Lake.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Andesite
Andesitic Tuff
Volcanic Breccia
Feldspar Porphyritic Dike
Breccia
Calcareous Siltstone
Calcareous Sandstone

HOSTROCK COMMENTS: Showing is hosted in dykes possibly related to the Lost Horse Intrusions; age date for these intrusions is from Bulletin 59, Fig. 2.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

This showing is on the north slope of Kennedy Mountain, about 12 kilometres southwest of Princeton.

The area between Whipsaw Creek and the Similkameen River is underlain by calcareous siltstone and sandstone, conglomerate, massive and pillowed andesite, andesitic tuff and volcanic breccia of the Upper Triassic Nicola Group. These rocks strike roughly north and dip 25 to 55 degrees west. They are cut by feldspar porphyritic dykes, possibly related to the Early Jurassic Lost Horse Intrusions, striking 025 to 050 degrees. These dykes are seldom over 7.6 metres wide.

Copper mineralization occurs in several zones of brecciation in the volcanics. These breccia zones are usually developed along the contacts of the feldspar porphyritic dykes. Mineralization consists of bornite and chalcopyrite in a gangue of calcite and minor quartz. One of these breccia zones has been exposed by trenching near Kennedy Lake. This zone is 30 metres long and 3 to 4.5 metres wide.

The various mineralized breccia zones were first prospected some time previous to 1947.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 752
REPORT: RGEN0100

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DATE CODED: 1991/12/16
DATE REVISED: 1991/12/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE031**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOHNSTON (L.645S)**, CMAG

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 29 N
LONGITUDE: 120 31 59 W

NORTHING: 5462777
EASTING: 679375

ELEVATION: 1186 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Shear zones on the northern edge of the Johnston claim (Lot 645s), 1.2 kilometres east of the Similkameen River and 18.5 kilometres south of Princeton (Assessment Report 2846, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Epigenetic Hydrothermal

TYPE: L03 Alkalic porphyry Cu-Au

DIMENSION: 140 x 2 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Mineralization is hosted in a shear zone striking northeast for 140 metres and up to 1.5 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

Nicola

Undefined Formation

Copper Mountain Intrusions

Lower Jurassic

ISOTOPIC AGE: 193 +/- 7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Monzonite

LITHOLOGY: Diorite
Gneissic Gabbro
Pegmatite Vein
Andesite
Siltstone
Breccia
Tuff

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Plutonic Rocks

Quesnel

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1934

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

1.7000

Per cent

COMMENTS: Selected grab sample is from shaft dump.

REFERENCE: Geological Survey of Canada Memoir 171, page 47.

CAPSULE GEOLOGY

The Johnston showing is located 1.2 kilometres east of the Similkameen River and 18.5 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

A northeast-striking shear zone cuts diorite of the Copper Mountain stock (Copper Mountain Intrusions), about 100 metres north of andesite, siltstone, breccia and tuff of the Nicola Group. The zone outcrops discontinuously for 140 metres and is 0.9 to 1.5 metres wide.

CAPSULE GEOLOGY

The shear zone is sparsely mineralized with chalcopyrite on surface. A shaft in the southwestern portion of the shear zone reveals numerous small pegmatite veins cutting gneissic gabbro. Many of the veins are mineralized with chalcopyrite, bornite and magnetite. A selected grab sample from the shaft dump assayed 1.7 per cent copper (Geological Survey of Canada Memoir 171, page 47).

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GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM *171, pp. 24,25,47; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
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Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE032**

NATIONAL MINERAL INVENTORY: 092H7 Cu5

NAME(S): **FRASER (L.231)**, FRASER FRACTION (L.226), CUMONT

STATUS: Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

LATITUDE: 49 19 54 N

LONGITUDE: 120 32 56 W

ELEVATION: 884 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Highest adit (No. 3 adit) on the west bank of the Similkameen River on the Fraser claim (Lot 231), 14 kilometres south of Princeton (Geological Survey of Canada Map 300A).

UTM ZONE: 10 (NAD 83)

NORTHING: 5467217

EASTING: 678079

COMMODITIES: Copper

Gold

Silver

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Chalcocite Pyrite Pyrrhotite

ASSOCIATED: Calcite Orthoclase

ALTERATION: Orthoclase

ALTERATION TYPE: Potassic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia

Vein

Disseminated

Stockwork

CLASSIFICATION: Porphyry

Hydrothermal

Epigenetic

TYPE: L03 Alkalic porphyry Cu-Au

DIMENSION: 90 x 2

Metres

STRIKE/DIP: 085/90

TREND/PLUNGE:

COMMENTS: Mineralized breccia vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic

Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Diorite

Breccia

Andesitic Tuff

HOSTROCK COMMENTS: This deposit is hosted in the Copper Mountain stock. The isotopic age date for this stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This prospect is in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1915

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

34.0000

Grams per tonne

Gold

0.6900

Grams per tonne

Copper

2.8000

Per cent

COMMENTS: This sample is from the dump of the No. 3 adit.

REFERENCE: Minister of Mines Annual Report 1915, page 237.

CAPSULE GEOLOGY

The Fraser prospect is situated on the west bank of the Similkameen River, 14 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

This prospect is hosted in diorite of the Copper Mountain stock (Copper Mountain Intrusions), 150 metres south of the contact with andesitic tuff formerly included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171).

CAPSULE GEOLOGY

A zone of fracturing has been traced up the west bank of the Similkameen River over a vertical distance of 90 metres. The zone contains a breccia vein 1.5 metres wide of the same orientation as the enclosing fracture zone. Both strike 085 degrees and dip vertical.

The breccia vein is comprised of chalcopyrite, pyrite, pyrrhotite and bornite in a gangue of calcite and diorite breccia fragments. The surrounding fracture zone is irregularly mineralized over widths of up to 8 metres with bornite, chalcopyrite and chalcocite, as disseminations or thin fracture-fillings. These copper sulphides are sometimes associated with areas of pink orthoclase alteration. A grab sample from the dump at the highest of three adits (No. 3 adit), assayed 2.8 per cent copper, 0.69 gram per tonne gold and 34 grams per tonne silver (Minister of Mines Annual Report 1915, page 237).

This prospect was explored by three adits over a vertical distance of 70 metres in 1915.

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GSC RPT 986 (1908)
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CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CIM Trans. Vol. 18, pp. 192-201 (1915)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/15

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE033**

NATIONAL MINERAL INVENTORY: 092H7 Cu4

NAME(S): **FRIDAY CREEK**, WHEELER, GLADSTONE,
ILK

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 18 00 N
LONGITUDE: 120 33 38 W
ELEVATION: 945 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5463669
EASTING: 677345

LOCATION ACCURACY: Within 500M

COMMENTS: Easternmost adit on the south side of Friday Creek, 550 metres west of the Similkameen River and 18 kilometres south of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

Gold

Silver

Palladium

Platinum

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Chalcocite Pyrite Merenskyite
Covellite Temagamite Kottulskite
ASSOCIATED: Calcite Quartz Orthoclase
ALTERATION: Biotite Epidote Orthoclase Malachite Azurite
ALTERATION TYPE: Potassic Epidote Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated Massive
CLASSIFICATION: Porphyry Hydrothermal Pegmatite Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 120 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Best mineralization occurs in four zones outcropping over a north-south distance of 120 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation
Lower Jurassic Copper Mountain Intrusions
ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Pyroxenite
Gabbro
Monzonite
Pegmatite Dike
Volcanic

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 3.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This deposit occurs in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 6.3000 Grams per tonne
Copper 0.9889 Per cent
Palladium 0.4200 Grams per tonne

COMMENTS: This assay is for a 3.0-metre intersection.

REFERENCE: Property File - Brican Resources Ltd., 1988, page 9 (hole F-87-4).

INVENTORY

ORE ZONE: C VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 2002

SAMPLE TYPE: Grab

COMMODITY

GRADE

Platinum 0.2110 Grams per tonne

Palladium 57.8000 Grams per tonne

Gold 0.2640 Grams per tonne

COMMENTS: Analysis by fire assay, massive bornite from K-spar-biotite pegmatite vein

cutting diorite.

REFERENCE: GeoFile 2002-2.

CAPSULE GEOLOGY

The Friday Creek prospect is located on Friday Creek, about 0.6 kilometres west of the Similkameen River and 18 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. The deposit lies about 400 metres northeast of the Boundary fault. This steeply dipping normal fault downdrops overlying Eocene volcanics and sediments of the Princeton Group to the west against Nicola Group rocks and the Copper Mountain stock (Copper Mountain Intrusions).

Numerous small pink pegmatite dykes, comprised of orthoclase, biotite, plagioclase, quartz and sphene, cut pyroxenite, gabbro and monzonite of the Copper Mountain stock, about 200 metres northeast of the contact with Nicola Group volcanics. The dykes occur singly or more commonly in groups and networks. They are especially numerous in the pyroxenite and gabbro. The dykes are steep to flat dipping and vary from less than a centimetre to 1.2 metres in width. Many of the steeply dipping dykes strike northeast and cannot be traced for more than a metre.

Similarly, the various intrusive rocks are cut by a number of faults, either flat or steeply dipping. Most of the faults are in pyroxenite and gabbro. The steeply dipping faults predominantly strike northeast and dip southeast or northwest. Some of the faults lie along pegmatite dykes, while others displace them.

The intrusive rocks are brecciated and altered near the faults. Biotite and epidote are plentiful, and are accompanied by abundant disseminated pink feldspar in the pyroxenite.

Mineralization is found mostly near or in the faults. Bornite and chalcocite occur as fracture-fillings and local disseminations in brecciated and altered rocks, and as blebs and stringers in calcite or quartz veins in faults. Disseminated pyrite is partly associated with the copper mineralization. Malachite and azurite occur in areas of weak to moderate oxidation while limonite is present in strongly oxidized exposures. Best mineralization occurs in pyroxenite, as ill-defined zones and irregular lenses up to 4.5 metres wide, commonly extending from the northwest walls of northeast striking faults. Four areas of such mineralization are distributed along a north-south line crossing Friday Creek, over a distance of 120 metres. Other mineralized outcrops occur in the immediate vicinity.

Mineralization is also associated, to a lesser extent, with the pegmatite dykes. Bornite, chalcocite and chalcocite occur as disseminations, pods and lenses in the dykes and in pyroxenite, near the dykes. The pegmatite-hosted sulphides tend to be more abundant where the dykes intersect each other.

The copper mineralization comprising this prospect appears to contain significant precious metal values. Three grab samples taken from the old workings in 1960 assayed 9.51 to 52.6 per cent copper, 4.5 to 411 grams per tonne gold, 58 to 374 grams per tonne silver and 1.7 to 717 grams per tonne palladium (D. Hamelin, 1960, samples 33190, 38676, 38677). A chip sample taken in 1986 contained 1.5 per cent copper, 5 grams per tonne gold, 10.0 grams per tonne silver and 0.98 grams per tonne palladium over 1.37 metres (Brican Resources Ltd., Statement of Material Facts, page 9, sample FCD 08). Diamond drilling in 1987 is reported to have intersected narrow zones of significant precious metals and copper mineralization. A 3.0-metre section of drill core contained 0.99 per cent copper, 6.3 grams per tonne gold and 0.42 gram per tonne palladium (Brican Resources Ltd., Statement of Material Facts, page 9, hole F-87-4).

This prospect was explored as early as 1891. E. Wheeler and associates assessed the deposit by trenching and excavating five adits between 1891 and 1908. Friday Creek Developments Ltd. carried

CAPSULE GEOLOGY

out stripping, trenching, geophysical surveys and 516 metres of diamond drilling in 1960 and 1961. Princeton Exploration Ltd. excavated a 30-metre long adit and completed 149 metres of surface and underground diamond drilling in 1963. The prospect was most recently mapped, sampled and diamond drilled by Brican Resources Ltd. in 1986 and 1987.

Detailed mineralogy has shown the presence of Temagamite (Pd₃HgTe₃), Kotulskite (PdTe) and Merenskyite (PdTe₂) (GeoFile 2002-2).

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DATE CODED: 1985/07/24
DATE REVISED: 1991/12/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE034**

NATIONAL MINERAL INVENTORY: O92H7,10 Fe1

NAME(S): **LODESTONE MOUNTAIN**, LODESTONE, H-G

STATUS: Developed Prospect

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 47 N

LONGITUDE: 120 50 13 W

ELEVATION: 1890 Metres

NORTHING: 5481182

EASTING: 656734

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of proven ore reserves, at the summit of Lodestone Mountain, 23.5 kilometres due west of Princeton (Wright Engineers Ltd., 1970, Drawing 392-02-1201).

COMMODITIES: Magnetite Iron Vanadium Platinum Titanium

MINERALS

SIGNIFICANT: Magnetite

COMMENTS: Mineralization is disseminated or in massive lenses or vein-like deposits.

ASSOCIATED: Pyroxene Hornblende Mica Ilmenite Leucoxene

COMMENTS: Trace spinel.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Massive Podiform
CLASSIFICATION: Magmatic Syngenetic Industrial Min.

TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

SHAPE: Bladed

DIMENSION: 1200 x 270 x 120 Metres

STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Area of proven reserves.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite
Dunite
Gabbro
Pyroxenite
Syeno Gabbro
Olivine Clinopyroxenite
Meta Volcanic
Meta Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE:

COMMENTS: This deposit is in the western margin of the Nicola belt.

INVENTORY

ORE ZONE: LODESTONE REPORT ON: Y

CATEGORY: Inferred YEAR: 1970

QUANTITY: 159000000 Tonnes

COMMODITY GRADE

Iron 10.0000 Per cent

REFERENCE: Property File - Wright Engineers Ltd., 1970, Section 1, page 5.

ORE ZONE: LODESTONE REPORT ON: Y

CATEGORY: Indicated YEAR: 1970

QUANTITY: 116468300 Tonnes

COMMODITY GRADE

Iron 13.9100 Per cent

COMMENTS: Probable ore.

REFERENCE: Property File - Wright Engineers Ltd., 1970, Section 1, page 5.

INVENTORY

ORE ZONE: LODESTONE REPORT ON: Y
CATEGORY: Measured YEAR: 1970
QUANTITY: 89497800 Tonnes
COMMODITY GRADE
Iron 15.5400 Per cent
Vanadium 0.0840 Per cent
COMMENTS: Proven ore reserves. Vanadium grade given was 0.15% V2O5. Conversion used to V is 1.7852. Also higher grade core-40.8 mt grading 17.56% Fe.
REFERENCE: Property File - Wright Engineers Ltd., 1970, Section 1, page 4.

CAPSULE GEOLOGY

The Lodestone Mountain magnetite deposit occurs at the summit of Lodestone Mountain, 23.5 kilometres due west of Princeton.

The area is underlain by intrusive rocks of the Early Jurassic Tulameen Ultramafic Complex. This ultramafite body intrudes metamorphosed volcanics and sediments of greenschist to amphibolite grade of the Upper Triassic Nicola Group, in the western margin of the Nicola belt. The body trends north-northwest for 20 kilometres, between Grasshopper Mountain and Arrastra Creek, roughly paralleling the contact between the Nicola Group and the Eagle Plutonic Complex to the west. The unit ranges up to 6 kilometres in width, and is at least 3 kilometres wide over most of its length. This intrusion varies in composition from dunite to gabbro, with the most abundant lithology being a coarse-grained pyroxenite.

The deposit is hosted in a belt of hornblende clinopyroxenite, extending along the western margin of the complex. The belt is flanked to the west by syenogabbro and to the east by olivine clinopyroxenite in the vicinity of Lodestone Mountain.

Magnetite occurs primarily as medium to coarse-grained disseminations intergrown with coarse-grained clinopyroxene and hornblende. The grain size of the disseminations is directly proportional to the grain size of the surrounding gangue. Magnetite also forms semimassive to massive lenses or vein-like bodies, with minor mica and pyroxene, up to 0.6 metres in diameter. The lenticular masses occur in an ill-defined zone, about 100 metres wide, that trends northwest along the crest of Lodestone Mountain for at least 670 metres.

Drilling up to 1969 has outlined proven reserves of 89,497,800 tonnes grading 15.54 per cent soluble iron and 0.084 per cent vanadium pentoxide in an area 1200 metres long and roughly 270 metres wide over a vertical elevation of 120 metres (Property File - Wright Engineers Ltd., 1970, Section 1, page 4; Canada Mines Handbook 1976-77, page 158). Conversion used to V is 1.7852. This area of proven reserves includes a higher grade core with open pit reserves of 40,800,000 tonnes grading 17.56 per cent soluble iron (Wright Engineers Ltd., 1970, Section 1, page 8). Probable reserves along strike to the northwest and southeast are 116,468,300 tonnes grading 13.91 per cent soluble iron for a cutoff grade of 11 per cent soluble iron (Wright Engineers Ltd., 1970, Section 1, page 5). Inferred reserves are estimated at 159 million tonnes of at least 10 per cent soluble iron (Wright Engineers Ltd., 1970, Section 1, page 5).

A bulk sample taken in 1969 contained 22.3 per cent soluble iron and 2.11 per cent titanium dioxide (Wright Engineers Ltd., 1970, Section 3, page 3). The chief titanium-bearing mineral is ilmenite, with minor leucoxene and trace spinel. These minerals are intimately associated with the magnetite. Additional sampling indicated that titanium is the only impurity to occur in elevated quantities.

Anomalous platinum values have been reported. Samples from three holes drilled in 1966 assayed 0.17 to 1.4 grams per tonne platinum (Imperial Metals and Power Corporation, 1968, assay certificate).

This deposit has been extensively explored by Imperial Metals Corporation. The company drilled 62 holes totalling 3633 metres between 1962 and 1969, in addition to bulk sampling and metallurgical studies. The company had planned to use the magnetite and nearby coal and limestone deposits to produce metallized iron ore pellets. Imperial Metals and Tiffany Resources Inc. have also conducted soil and rock sampling, geological mapping and 1226 metres of diamond drilling in 10 holes between 1986 and 1990, in order to assess the deposit for its chromite and platinum potential.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/01/22

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE035**

NATIONAL MINERAL INVENTORY: 092H7,10 Fe1

NAME(S): **TANGLEWOOD HILL**, IRON

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 32 N
LONGITUDE: 120 49 15 W
ELEVATION: 1588 Metres

NORTHING: 5484458
EASTING: 657807

LOCATION ACCURACY: Within 500M

COMMENTS: Magnetite prospect on the west slope of Tanglewood Hill, 3.35 kilometres north-northeast of the summit of Lodestone Mountain and 22.5 kilometres west-northwest of Princeton (Open File 1988-25).

COMMODITIES: Magnetite Iron Titanium

MINERALS

SIGNIFICANT: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Podiform Disseminated
CLASSIFICATION: Magmatic Syngenetic Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir
DIMENSION: 90 x 3 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Dimensions given for largest magnetite lens.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite
Gabbro
Dunite
Pyroxenite
Meta Volcanic
Meta Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Amphibolite
COMMENTS: This prospect is in the western margin of the Nicola belt.

INVENTORY

ORE ZONE: LENS REPORT ON: N
CATEGORY: Inferred YEAR: 1959
QUANTITY: 54000 Tonnes
COMMODITY GRADE
Iron 53.0000 Per cent
COMMENTS: Inferred ore for a massive magnetite lens. Iron grade is between 53.00 & 59.53% and 1.89-2.12% titanium (an impurity), assuming L=90m & W=3m.
REFERENCE: Minister of Mines Annual Report 1959, page 50.

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Inferred YEAR: 1962
QUANTITY: 2848000 Tonnes
COMMODITY GRADE
Iron 16.4000 Per cent
COMMENTS: Reserves for the entire deposit.
REFERENCE: Property File - A.H. Lindley, 1962, page 7.

CAPSULE GEOLOGY

The Tanglewood Hill prospect is on Tanglewood Hill, about 3.4 kilometres north-northeast of the summit of Lodestone Mountain and 22.5 kilometres west-northwest of Princeton.
The area is underlain by intrusive rocks of the Early Jurassic Tulameen Ultramafic Complex. This ultramafite body intrudes metamorphosed volcanics and sediments of greenschist to amphibolite grade of the Upper Triassic Nicola Group, in the western margin of

CAPSULE GEOLOGY

the Nicola belt. The body trends north-northwest for 20 kilometres, between Grasshopper Mountain and Arrastra Creek, roughly paralleling the contact between the Nicola Group and the Eagle Plutonic Complex to the west. The unit ranges up to 6 kilometres in width, and is at least 3 kilometres wide over most of its length. This intrusion varies in composition from dunite to gabbro, with the most abundant lithology being a coarse-grained pyroxenite.

Tanglewood Hill is underlain by a west-trending mass of hornblende clinopyroxenite covering an area 2.5 kilometres long and 0.5 to 1 kilometre wide. The mass is surrounded by gabbro in the eastern margin of the complex.

Magnetite is sparsely disseminated throughout the pyroxenite. Magnetite also occurs in some two dozen lenses on the west and south slopes of Tanglewood Hill. Eight massive magnetite lenses exposed on the hill's west slope are a few centimetres to 5.5 metres wide. Most are 0.6 to 1.2 metres wide. The lenses strike west to northwest and dip vertically to moderately southwest. The largest lens is estimated to contain 54,000 tonnes of magnetite grading 53.00 to 59.53 per cent iron and 1.89 to 2.12 per cent titanium (an impurity), assuming a length of 90 metres and an average width of 3 metres (Minister of Mines Annual Report 1959, page 50). A magnetite sample from this lens contained 0.02 per cent phosphorous and 0.04 per cent sulphur (Minister of Mines Annual Report 1959, page 51). Inferred reserves for the entire deposit, based on drilling to 1962, are 2,848,000 tonnes grading 16.4 per cent soluble iron (A.H. Lindley, 1962, page 7).

This prospect was explored by Imperial Metals and Power Company Ltd. between 1959 and 1970.

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DATE CODED: 1985/07/24
DATE REVISED: 1992/01/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE036**

NATIONAL MINERAL INVENTORY: 092H8 Au4

NAME(S): **MASCOT FRACTION (L.642S)**, HEDLEY MASCOT GOLD MINES LTD., NICK OF TIME FR. (L.657S),
NICKEL PLATE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:
LATTITUDE: 49 22 28 N
LONGITUDE: 120 02 17 W
ELEVATION: 1692 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of the Mascot Fraction claim (Lot 642s), 0.4 kilometre northwest of the summit of Nickel Plate Mountain, 3 kilometres northeast of Hedley (NTS map sheet 092H/08). See also Nickel Plate (092HSE038).

Underground MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)
NORTHING: 5473302
EASTING: 715001

COMMODITIES: Gold Silver Copper Arsenic

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Chalcopyrite
COMMENTS: Trace galena, native bismuth, gold, electrum, tetrahedrite, native copper, gersdorffite, marcasite, molybdenite, titanite, bismuth tellurides, cobaltite, erythrite, pyrrargyrite and breithauptite.
ASSOCIATED: Pyrite Sphalerite Magnetite Carbonate Pyroxene
Scapolite Garnet Quartz
ALTERATION: Pyroxene Garnet Carbonate Scapolite Quartz
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Skarn
TYPE: K04 Au skarn K08 Garnet skarn
SHAPE: Bladed
DIMENSION:
COMMENTS: Mineralization in two blade-like zones plunging west-northwest at 24 degrees.
STRIKE/DIP: TREND/PLUNGE: /24

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Siltstone
Limestone
Garnet Pyroxene Skarn
Hornblende Porphyritic Diorite Sill
Hornblende Porphyritic Diorite Dike
Limestone Boulder Conglomerate

HOSTROCK COMMENTS: Hedley Formation age date from Geological Fieldwork 1987, page 66.
Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PLUTONIC ROCKS: PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: UNDERGROUND WORKINGS REPORT ON: Y
CATEGORY: Unclassified YEAR: 1987
QUANTITY: 289800 Tonnes
COMMODITY: Gold GRADE: 5.5000 Grams per tonne
COMMENTS: Underground reserves.
REFERENCE: George Cross News Letter No.41, February 29, 1988.

INVENTORY

ORE ZONE: OPEN PIT REPORT ON: Y

 CATEGORY: Unclassified YEAR: 1987
 QUANTITY: 466000 Tonnes
 COMMODITY: GRADE
 Gold 3.8000 Grams per tonne
 COMMENTS: Open pit reserves.
 REFERENCE: George Cross News Letter No.41, February 29, 1988.

CAPSULE GEOLOGY

The Mascot Fraction is located on the northwest slope of Nickel Plate Mountain, 3 kilometres northeast of Hedley.

Nickel Plate Mountain is underlain by siltstone and limestone of the Hedley Formation and overlying limestone boulder conglomerate of the Whistle Creek Formation, both of the Upper Triassic Nicola Group. The sediments are extensively intruded by sills and dykes of hornblende porphyritic diorite of the Early Jurassic Hedley Intrusions.

This Crown-granted claim covers a portion of the Nickel Plate deposit, a westerly dipping skarn related gold deposit hosted in the upper part of the Hedley Formation. A discontinuous zone of garnet pyroxene skarn up to 300 metres thick and 6 square kilometres in area, is mineralized with arsenopyrite and pyrrhotite, with minor pyrite, chalcopyrite, sphalerite, and magnetite. Trace minerals include galena, native bismuth, gold, electrum, tetrahedrite, native copper, gersdorffite, marcasite, molybdenite, titanite, bismuth tellurides, cobaltite, erythrite, pyrrhotite and breithauptite. The deposit consists primarily of arsenopyrite, pyrrhotite and chalcopyrite, as disseminations and fracture-fillings, in a gangue of carbonate, pyroxene, scapolite, garnet and quartz at the Nickel Plate glory hole, 500 metres east-southeast of the Mascot Fraction claim. Two blade-like zones of mineralization, the Numbers 4 and 5 orebodies, plunge west-northwest at 24 degrees under the claim (Geological Survey of Canada Summary Report 1929, page 227A). Refer to the Nickel Plate mine (092HSE038) for a detailed review of the regional and mine geology.

The Hedley Gold Mining Company (operator of the Nickel Plate mine up to 1931), had mined the Nickel Plate deposit underground up to the boundaries of the claim. The company and the owner could not come to a suitable agreement regarding mining of ore on the Mascot Fraction. Hedley Mascot Gold Mines Ltd. was then formed in 1934 to acquire the Mascot Fraction, Copper Chief and Nick of Time claims.

Underground mining began in 1936 and continued through to 1949; 618,637 tonnes of ore grading 11.2 grams per tonne gold, 2.76 grams per tonne silver and 0.141 per cent copper were mined from three levels of underground workings over an elevation of 335 metres. Arsenic was also produced and sold as a byproduct of this operation. Mascot Gold Mines Ltd. completed 3733 metres of underground diamond drilling in 1987, resulting in open pit reserves of 466,000 tonnes grading 3.8 grams per tonne gold and underground reserves of 289,800 tonnes grading 5.5 grams per tonne gold (George Cross News Letter, February 29 (No. 41), 1988). These reserves are to be integrated into the Mascot North pit of the Nickel Plate mine.

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 GCNL #132, 1980; #196, 1982; #101, 1983; #49,#224, 1984; #55,#98,

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 767
REPORT: RGEN0100

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WWW http://www.infomine.com/index/properties/NICKEL_PLATE_MINE.html

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE037**

NATIONAL MINERAL INVENTORY:

NAME(S): **HEDLEY STAR**

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 35 N
LONGITUDE: 120 01 16 W
ELEVATION: 570 Metres

NORTHING: 5466157
EASTING: 716515

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 3762E, on Winters Creek, 0.9 kilometre east of the Similkameen River, 6.7 kilometres southeast of Hedley (Assessment Report 14522, Map 7).

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Apex Mountain	Undefined Formation	Cahill Creek Pluton
Middle Jurassic			

LITHOLOGY: Argillite
Greenstone
Limestone
Granodiorite

HOSTROCK COMMENTS: Apex Mountain Complex is Ordovician to Triassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Okanagan
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1984
SAMPLE TYPE:	Rock		
COMMODITY	GRADE		
Silver	6.0000	Grams per tonne	
Gold	0.6900	Grams per tonne	
Copper	1.0000	Per cent	
Zinc	0.4470	Per cent	

COMMENTS: Copper analysis greater than 1 per cent.
REFERENCE: Assessment Report 14522, Appendix, sample 3762E.

CAPSULE GEOLOGY

The Hedley Star showing outcrops on Winters Creek, 0.7 to 0.9 kilometre east of the Similkameen River, 6.7 kilometres southeast of Hedley.

The area in the vicinity of Winters Creek is underlain by a sequence of interbedded sediments and volcanics of the Ordovician to Triassic Apex Mountain Complex. This sequence is intruded from the west by granodiorite of the Middle Jurassic Cahill Creek pluton.

Various outcrops of argillite, greenstone and limestone occur along Winters Creek in the vicinity of the showing. A rock sample taken from an outcrop of argillite contained 0.69 gram per tonne gold, 6.0 grams per tonne silver, greater than 1 per cent copper, 0.4470 per cent zinc and greater than 1 per cent arsenic (Assessment Report 14522, Appendix, sample 3762E). A second sample taken on Winters Creek, 150 metres west-northwest of the previous sample assayed 1.1 grams per tonne gold (sample 3753E).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 769
REPORT: RGEN0100

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GSC MEM 2; 243
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DATE CODED: 1991/11/19
DATE REVISED: 1991/11/19

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE038**

NATIONAL MINERAL INVENTORY: 092H8 Au2

NAME(S): **NICKEL PLATE** NICKEL PLATE MINE, MASCOT GOLD,
SUNNYSIDE, BULLDOG

STATUS: Past Producer Open Pit Underground
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

LATITUDE: 49 21 55 N
LONGITUDE: 120 02 04 W

UTM ZONE: 10 (NAD 83)

ELEVATION: 1722 Metres

NORTHING: 5472293
EASTING: 715303

LOCATION ACCURACY: Within 500M

COMMENTS: South pit, on the southern slopes of Nickel Plate Mountain, 3 kilometres northeast of Hedley.

COMMODITIES: Gold Silver Arsenic Copper Zinc
Cobalt Lead Bismuth Nickel Molybdenum

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Pyrite Chalcopyrite Sphalerite
Galena Bismuth Gold Electrum Tetrahedrite
Copper Gersdorffite Molybdenite Tetradymite Hedleyite
Cobaltite

COMMENTS: Trace galena, native bismuth, native gold, electrum, tetrahedrite,
native copper, gersdorffite, molybdenite, tetradymite, hedleyite,
cobaltite, erythrite, pyrrargyrite, breithauptite and maldonite.

ASSOCIATED: Pyroxene Garnet Carbonate Scapolite Quartz

COMMENTS: Also calcite, epidote, chlorite, clinozoisite, prehnite, axinite,
magnetite, marcasite and titanite.

ALTERATION: Pyroxene Garnet Carbonate Scapolite Quartz
Biotite Orthoclase Wollastonite

COMMENTS: Also calcite, epidote, chlorite, clinozoisite, prehnite and axinite.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Massive Disseminated

CLASSIFICATION: Skarn
TYPE: K04 Au skarn

SHAPE: Tabular

COMMENTS: The deposit is hosted in a discontinuous zone of garnet pyroxene skarn alteration up to 300 metres thick and 6 square kilometres in area.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

ISOTOPIC AGE: 225 Ma

DATING METHOD: Fossil

MATERIAL DATED: Conodont

Lower Jurassic

ISOTOPIC AGE: 199 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

Hedley Intrusions

LITHOLOGY: Calcareous Siltstone
Tuffaceous Siltstone
Limestone
Garnet Pyroxene Skarn
Diorite Porphyry Sill
Diorite Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE:

INVENTORY

ORE ZONE: NICKEL PLATE

REPORT ON: Y

CATEGORY:	Proven	YEAR:	1996
QUANTITY:	696655 Tonnes		
COMMODITY		GRADE	
Gold		2.8400	Grams per tonne

COMMENTS: Estimated reserves at January 1, 1996.
REFERENCE: Information Circular 1997-1, page 9.

CAPSULE GEOLOGY

Gold-bearing skarn mineralization in the Hedley camp is hosted in Upper Triassic Nicola Group rocks and is genetically related to the Early Jurassic Hedley Intrusions, a suite of subalkalic, calcalkaline dioritic intrusions. A series of facies changes recognized within the Nicola succession is related to deposition across a fracture-controlled basin margin. This is economically important as the gold mineralization in the Hedley district is lithologically, stratigraphically and structurally controlled.

Most of the area is underlain by the Nicola Group which contains three distinct stratigraphic packages. The oldest, the Peachland Creek Formation, largely comprises mafic tuffs and minor conglomerate; while the youngest, the Whistle Creek Formation, is essentially an andesitic to basaltic volcanoclastic sequence. Between these two formations is a predominantly sedimentary succession that hosts most of the gold-bearing skarns in the camp. Several east-to-west facies changes are recognized in this sequence, which progressively thickens from 100 metres in the east to over 700 metres in the west.

The easternmost and most proximal facies, the French Mine Formation, has a maximum thickness of 150 metres and comprises massive to bedded limestone interlayered with thinner units of calcareous siltstone, chert pebble conglomerate, tuff, limestone boulder conglomerate and limestone breccia. It hosts the auriferous skarn mineralization at the French (092HSE059) and Goodhope (092HSE060) mines.

Further west, rocks stratigraphically equivalent to the French Mine Formation are represented by the Hedley Formation which hosts the gold-bearing skarn at the Nickel Plate mine. The Hedley Formation is 400 to 500 metres thick and characterized by thinly bedded, turbiditic calcareous siltstones that display some soft sediment structures, and units of pure to gritty, massive to bedded limestone that reach 75 metres in thickness and several kilometres in strike length.

The most distal facies to the west is represented by the Stenwinder Mountain Formation which is at least 700 metres thick and characterized by a monotonous sequence of black, organic-rich, thinly bedded calcareous argillite and turbiditic siltstone, and dark impure limestone beds that seldom exceed 3 metres in thickness.

Two Jurassic plutonic suites are recognized in the area. The oldest, the subalkalic, calcalkaline Hedley Intrusions is economically important. It forms major stocks (Toronto, Aberdeen, Stenwinder, Banbury) up to 1.5 kilometres in diameter and swarms of thin sills and dykes up to 200 metres in thickness and over 1 kilometre in length. The sills and dykes are mostly coarse-grained, massive diorites and quartz diorites with minor gabbro, while the stocks range in composition from gabbro through granodiorite to quartz monzonite. The Hedley Intrusions invade the Upper Triassic rocks over a broad area. Varying degrees of sulphide-bearing calcic skarn alteration are developed within and adjacent to many of these intrusions, particularly the dyke and sill swarms.

The second plutonic suite comprises coarse-grained, massive biotite hornblende granodiorite to quartz monzodiorite, of Early to mid-Jurassic age. It generally forms large bodies, such as the Bromley batholith which outcrops northwest of Hedley, and the Cahill Creek pluton which generally separates the Nicola Group rocks from the highly deformed Apex Mountain Complex further to the southeast. Some minor skarn alteration is also locally present but it is generally sulphide-poor and not auriferous.

Two distinct phases of folding has taken place in Nicola Group rocks. The youngest phase resulted in a major north-northeast striking, easterly overturned asymmetric anticline which is the dominant structure in the district; the axial plane of this fold dips steeply west. A related, but poorly developed northerly striking axial planar cleavage is present in some argillites, and the axes of smaller scale folds related to this deformation dip gently north and south. The oldest phase of folding occurred during the emplacement of the Hedley Intrusions but is only recognized in the Nickel Plate mine area. It produced small-scale northwesterly striking, gently plunging fold structures that are an ore control at the mine as well as a series of westerly to northwesterly striking fractures.

CAPSULE GEOLOGY

The Nickel Plate and Hedley Mascot (092HSE036) mines were largely developed on a single, very large, westerly dipping skarn-related gold deposit. It was discovered in 1898 and mined in several underground operations until 1955. During the process of development the two mines were connected underground at several points. Two old mill tailings piles from the Nickel Plate mine are currently being reprocessed by heap leach methods (see Candorado, 092HSE144).

Open pit mining resumed at the Nickel Plate in April 1987. Measured geological (proven) reserves are 6 million tonnes grading 2.57 grams per tonne gold (Mineral Exploration Review 1990, page 62). Current mineable reserves (as of November 1991) are 1.762 million tonnes grading 2.6 grams per tonne gold, with a strip ratio of 11.5 to 1 (R. Arksey, personal communication, 1991). Thirty-nine thousand tonnes of ore and waste are being mined each day from the North pit, of which 3400 tonnes are milled. The Central and South pits are now mined out (D. Bordin, personal communication, 1992).

The gold deposit is hosted within the upper part of the Hedley Formation where a discontinuous zone of garnet pyroxene skarn alteration, up to 300 metres thick and 6 square kilometres in area, is developed peripherally to the Toronto stock and swarms of Hedley Intrusions dykes and sills. The alteration zone on surface is subcircular in shape and westerly dipping. It lies parallel to, but locally crosscuts, the gently dipping hostrocks which comprise calcareous and tuffaceous siltstone with interbeds of impure limestone. The bulk of the zone extends a considerable distance north and northeast of the Toronto stock within an area of more intense deformation, but to the south the skarn alteration only extends 30 to 150 metres beyond the intrusive contact.

Swarms of Hedley diorite porphyry sills, 1 to 25 metres in thickness, locally make up 40 per cent of the skarn-altered section. In addition, several diorite porphyry dykes have followed west to northwest striking fault zones; mineralization and alteration tend to follow these dykes, forming deep keels of skarn that locally extend below the main alteration envelope. Skarn development is mostly confined to the Hedley Formation, but alteration extends locally up into the overlying "Copperfield conglomerate" (a limestone boulder conglomerate 1 to 200 metres thick, often found at the base of the Whistle Creek Formation and which forms an important stratigraphic marker horizon in the district).

The main episode of skarn development occurred during a period of folding that accompanied and immediately followed the emplacement of the diorite sills and dykes. Most of the sills and dykes within the skarn envelope are bleached and altered. The exoskarn is dark green to brown-coloured and typically consists of alternating layers of garnet-rich and clinopyroxene-rich alteration which reflect the original sedimentary bedding. Overall however, the Nickel Plate skarn is pyroxene-dominant compared to garnet.

Preliminary studies suggest that at least two stages of mineral growth are present in the skarn. The main minerals formed during the early stage were biotite, orthoclase, iron-rich pyroxene, garnet, quartz, wollastonite and carbonate. The later stage of skarn alteration is largely restricted to the outer and lower margins of the envelope, normally within 100 metres of the skarn front. This late-stage alteration is rarely seen in the central or upper parts of the skarn zone, except along fractures or dyke and sill margins. It resulted in the introduction of sulphides and gold, accompanied by abundant scapolite, calcite and quartz with minor amounts of epidote, chlorite, clinozoisite, prehnite, orthoclase and local axinite.

The gold-bearing sulphide zones normally form semi-conformable, tabular bodies situated less than 100 metres from the outer and lower skarn margins. They are both lithologically and structurally controlled along northwesterly plunging minor folds, fractures and sill-dyke intersections.

There are significant geochemical and mineralogical variations throughout the deposit. The main Nickel Plate ore zone near the Nickel Plate glory hole, in the northern part of the deposit, consists primarily of arsenopyrite, pyrrhotite and chalcopyrite with carbonate, pyroxene, scapolite, garnet and quartz. Arsenopyrite often forms coarse, wedge-shaped crystals up to 1 centimetre in length and the sulphides occur as disseminations and fracture-fillings within the exoskarn. The Sunnyside ore zones in the central part of the deposit are strongly controlled by either sill-dyke intersections or fold hinges. Although the sulphide mineralogy and textures resemble those in the Nickel Plate zone, pyrrhotite dominates in the Sunnyside zones. The mineralization in the southern part of the deposit (Bulldog zone) comprises lenses and pods of massive to semimassive sulphide mineralization; it is noticeably richer in chalcopyrite and contains higher silver and zinc values.

Grain boundary relationships suggest the following three stages

CAPSULE GEOLOGY

of sulphide deposition: (1) pyrite; (2) arsenopyrite and gersdorffite; and (3) pyrrhotite, chalcopyrite and sphalerite. Gold mineralization is related to the latter two stages, and minor amounts of magnetite are associated with the first and last sulphide phases. Pyrrhotite and arsenopyrite are the most common sulphides. Present in lesser amounts, but locally dominant, are pyrite, chalcopyrite, and cadmium-rich sphalerite with minor amounts of magnetite and cobalt minerals. Trace minerals include galena, native bismuth, gold, electrum, tetrahedrite, native copper, gersdorffite, marcasite, molybdenite, titanite, bismuth tellurides (hedleyite, tetradymite), cobaltite, erythrite, pyrargyrite and breithauptite. Trace amounts of maldonite have recently been identified. The native gold, with hedleyite, occurs as minute blebs, generally less than 25 microns in size, within and adjacent to grains of arsenopyrite and gersdorffite. In the South pit area, electrum occurs in close association with chalcopyrite, pyrrhotite, sphalerite and native bismuth; it tends to be concentrated in microfractures within and around the sulphides. Secondary gold enrichment is also present in some weathered, near-surface, oxide-rich zones and along certain faults. The resulting red hematitic clay zones may carry gold grading over 34 grams per tonne (Paper 1989-3).

A recent preliminary statistical study shows a strong positive correlation between gold and bismuth reflecting the close association of native gold with hedleyite, while the moderate positive correlation between gold, cobalt and arsenic confirms the observed association of gold, arsenopyrite and gersdorffite. The high positive correlation between silver and copper may indicate that some silver occurs as a lattice constituent in the chalcopyrite. The gold and silver values are relatively independent of each other despite the presence of electrum, and there is generally a low correlation between gold and copper. Gold:silver ratios in the Nickel Plate and Sunnyside zones are greater than 1 with silver averaging 2 parts per million. By contrast, in the southern part of the deposit where electrum is present, the gold:silver ratio is less than 1, with silver averaging 17 grams per tonne (Paper 1989-3).

Reserves at January 1, 1995 were estimated by the company at 2,900,000 tonnes grading 2.64 grams per tonne gold (Information Circular 1996-1, page 7). Mining and milling are projected to cease towards the end of 1996.

In 1995, with mineable reserves dwindling and with support from the Explore B.C. Program, Homestake Canada Inc. drilled 947 metres in 7 holes on the Cahill 1-2 claims optioned from Locke Goldsmith, in an effort to locate mineralization similar to that of the nearby profitable Canty deposit, now exhausted. This work was concentrated at the central end of the optioned claims and on adjoining Homestake claims. Only one of the seven holes penetrated the Tertiary cover to basement and intersected 23.9 grams per tonne gold over 2.4 metres. The south end of the claims remains untested (Explore B.C. Program 95/96 - A65).

Reserves estimated by the company at January 1, 1996 were 696,655 tonnes grading 2.84 grams per tonne gold (Information Circular 1996-1, page 9). The mine was closed in October of 1996.

Production from 1904 to 1996 totalled 14,604,948 tonnes yielding 15,941,519 grams of silver, 66,166,980 grams of gold, 981,030 kilograms of copper and 4 kilograms of zinc.

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IPDM Dec. 1985
N MINER Apr.30, Aug.13, 1981; June 10, Dec.16, 1982; Feb.17, Apr.13,
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DATE CODED: 1985/07/24
DATE REVISED: 1996/11/04

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HSE039**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOP**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 21 N
LONGITUDE: 120 48 37 W
ELEVATION: 1612 Metres

NORTHING: 5480435
EASTING: 658689

LOCATION ACCURACY: Within 500M

COMMENTS: Sulphide showing, 150 metres southeast of the southern tributary of Blakeburn Creek, 2.1 kilometres east-southeast of the summit of Lodestone Mountain and 21.5 kilometres due west of Princeton (Open File 1988-25).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite
ASSOCIATED: Quartz
ALTERATION: Epidote Chlorite Malachite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Tulameen Ultramafic Complex

LITHOLOGY: Syenite
 Syenitic Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This showing is in the western margin of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1986
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	30.5000 Grams per tonne
Gold	1.3000 Grams per tonne
Copper	4.0000 Per cent

COMMENTS: Sample of intrusive with chalcopyrite and bornite.
REFERENCE: Assessment Report 15106, page 77 (sample 7307).

CAPSULE GEOLOGY

The Hop showing outcrops in the headwaters of the southern tributary of Blakeburn Creek, 2.1 kilometres east-southeast of the summit of Lodestone Mountain and 21.5 kilometres due west of Princeton.

The showing is hosted in syenite and syenogabbro of the Early Jurassic Tulameen Ultramafic Complex, near the eastern contact with metavolcanics of the Upper Triassic Nicola Group. These rocks exhibit extensive epidote alteration of feldspar and minor chloritization of hornblende.

Sporadic copper mineralization is exposed in outcrop over a length of 35 metres. The strongest mineralization occurs in the northern part of the showing, where a set of conjugate fractures, striking 128 and 210 degrees, cuts altered syenite. The fractures are filled with chalcopyrite and bornite, with or without quartz, over widths of up to 5 millimetres. Disseminated pyrite is scattered throughout the showing. A sample of a high-grade chalcopyrite stringer assayed 23.0 grams per tonne gold, 89.5 grams per tonne silver and 7.49 per cent copper, and a sample of intrusive with chalcopyrite and bornite assayed 1.3 grams per tonne gold, 30.5 grams

CAPSULE GEOLOGY

per tonne silver and 4.00 per cent copper (Assessment Report 15106, page 7, samples 7303, 7307).

Minor copper mineralization also occurs in syenite, about 400 metres northeast of the main showing. A sample of epidote-altered syenite with malachite staining assayed 0.03 gram per tonne gold, 2.7 grams per tonne silver and 0.30 per cent copper (Assessment Report 15106, assay certificate, sample 7309).

The showing was explored by various operators between 1983 and 1988.

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DATE CODED: 1986/12/09
DATE REVISED: 1992/01/22

CODED BY: AFW
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE040**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUD (NORTH ZONE)**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 41 N
LONGITUDE: 120 26 05 W
ELEVATION: 1021 Metres

NORTHING: 5480059
EASTING: 685945

LOCATION ACCURACY: Within 500M

COMMENTS: Area of pits just west of a landing, 1.45 kilometres northeast of the north end of August Lake and 6 kilometres east-southeast of Princeton (Assessment Report 12736, North zone geology map).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite	Chalcocite			
ASSOCIATED:	Magnetite	Quartz	Carbonate			
ALTERATION:	Carbonate	Biotite	Epidote	Malachite	Chrysocolla	
ALTERATION TYPE:	Carbonate		Potassic	Epidote		Oxidation
MINERALIZATION AGE:	Unknown					

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal
TYPE: L04
DIMENSION: 400
COMMENTS: Mineralized zone trends north-northwest for 400 metres.

Disseminated
Epigenetic
Porphyry Cu ± Mo ± Au
Metres

STRIKE/DIP:
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith

ISOTOPIIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Altered Andesitic Tuff
Porphyritic Dike
Quartz Diorite Dike

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: PITS
REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Copper

YEAR: 1986

GRADE: 0.2200 Per cent

COMMENTS: A 1.2-metre chip sample from the area of pits at the south end of the mineralized zone.

REFERENCE: Assessment Report 15022, page 12.

CAPSULE GEOLOGY

The Bud (North Zone) prospect is about 1.5 kilometres northeast of August Lake and 6 kilometres east-southeast of Princeton. This area along the west flank of the Darcy Mountains is underlain to the west by volcanics and related sediments of the Upper Triassic Nicola Group and to the east by granodiorite of the Early Jurassic Bromley batholith. A zone of copper mineralization trends north-northwest for 400 metres, in altered andesite tuff. The tuff is intruded to the south by pink-weathering porphyritic dykes up to 0.5 metres wide, and to the north by quartz diorite dykes. These dykes are likely related to the nearby Bromley batholith. Chalcopyrite and pyrite are exposed in various trenches and pits at the north and south ends of the zone. These sulphides tend to

CAPSULE GEOLOGY

occur near the dykes. A 1.2-metre chip sample taken in the vicinity of the southern pits assayed 0.22 per cent copper, 0.21 gram per tonne gold and 1.7 grams per tonne silver (Assessment Report 15022, page 12). A grab sample assayed 0.76 per cent copper, 0.24 gram per tonne gold and 0.34 gram per tonne silver (Assessment Report 12736, North zone geology map). These pits expose stringers and disseminations of chalcopyrite and pyrite with abundant carbonate, magnetite, biotite and epidote. A chip sample of sparse chalcopyrite-malachite-chrysocolla mineralization taken along a 100-metre long, west-trending trench at the north end of the zone, contained 0.314 per cent copper and 0.6 gram per tonne silver (Assessment Report 15022, page 13). Sporadic malachite staining, sometimes associated with quartz-carbonate veins, occurs throughout the rest of the zone. Chalcocite is also reported.

The trenches and pits were excavated around 1980. Pacific Seadrift Resources Ltd. conducted prospecting, sampling and soil surveys between 1983 and 1986. G. & V. Explorations Ltd. carried out geological mapping and soil sampling in 1986 and 1987. The prospect was also soil sampled by Gold Brick Resources Inc. in 1988.

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CJES Vol. 24, pp. 2521-2536 (1987)
WWW <http://www.infomine.com/>

DATE CODED: 1992/01/06
DATE REVISED: 1992/04/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE041**

NATIONAL MINERAL INVENTORY:

NAME(S): **NO. 2 (L.1773S)**, VERDE NO. 3 (L.1600S)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 21 37 N
LONGITUDE: 120 29 01 W
ELEVATION: 1128 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5470553
EASTING: 682715

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on the main showing on the No. 2 claim (Lot 1773s), 950 metres due east of the confluence of Wolfe and Verde creeks, 11 kilometres south-southeast of Princeton (Assessment Report 12591, map of trenches).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 140 x 140 Metres
COMMENTS: Copper mineralization is exposed in trenches and outcrops over a 140 by 140 metre area.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene Lower Jurassic	Princeton	Undefined Formation	Copper Mountain Intrusions
ISOTOPIC AGE: 194 +/- 7 Ma			
DATING METHOD: Potassium/Argon			

LITHOLOGY: Diorite
Andesite
Basalt
Breccia
Tuff

HOSTROCK COMMENTS: The showing is hosted in the Voigt stock. The isotopic age date for this stock is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The No. 2 showing is about 1 kilometre east of Wolfe Creek and 11 kilometres south-southeast of Princeton.

This showing is hosted in diorite of the Early Jurassic Voigt stock (Copper Mountain Intrusions), just east of overlying andesite, basalt, breccia and tuff of the Eocene Princeton Group.

Four trenches and several outcrops expose fine disseminated pyrite and chalcopyrite over a 140 by 140 metre area on the No. 2 Crown-granted claim (Lot 1773s). Chalcopyrite is also scattered along north to northeast striking joints, about 380 metres to the south, on the Verde No. 3 Crown-granted claim (Lot 1600s).

This showing was explored by Giant Mascot Mines Ltd. in 1968. The company completed soil, geological and geophysical surveys, and conducted trenching and 1300 square metres of stripping. F. Polkosnik sampled some of the old trenches and drilled 1 hole, 62.8 metres long, in 1982.

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GSC BULL 239, pp. 140,141
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GSC MEM 171; 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 780
REPORT: RGEN0100

BIBLIOGRAPHY

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CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp.
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DATE CODED: 1985/07/24
DATE REVISED: 1991/12/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE042**

NATIONAL MINERAL INVENTORY:

NAME(S): **WILMAC**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 32 N
LONGITUDE: 120 40 47 W

NORTHING: 5471795
EASTING: 668424

ELEVATION: 1710 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching, 1.5 kilometres northwest of Twelve Mile (Corral) Creek, 6.0 kilometres west-northwest of the creek's confluence with Whipsaw Creek and 15 kilometres southwest of Princeton (Assessment Report 1852, Figure 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Magnetite Hornblende Plagioclase Apatite
ALTERATION: Epidote
ALTERATION TYPE: Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Pyroxenite
Hornblendite
Pegmatite Vein
Mafic Flow
Pyroclastic Breccia
Tuff
Argillaceous Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

COMMENTS: This showing is in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Wilmac showing is 1.5 kilometres northwest of Twelve Mile (Corral) Creek, 6.0 kilometres west-northwest of the creek's confluence with Whipsaw Creek and 15 kilometres southwest of Princeton.

A mass of hornblende pyroxenite intrudes a sequence of mafic flows, pyroclastic breccias, tuffs and argillaceous rocks of the Upper Triassic Nicola Group in the headwaters of Twelve Mile Creek. This ultramafic stock is possibly related to the Early Jurassic Tulameen Ultramafic Complex. The body outcrops discontinuously over a width of 200 metres, and is comprised of four northwest-trending lenticular pods averaging 12 metres in thickness.

Small lenses of magnetite and narrow pegmatitic veins of hornblendite, with interstitial plagioclase (epidote-altered) and apatite, are associated with areas of coarse-grained, black hornblendite in the intrusion. Disseminated chalcopyrite and pyrite occur in the mafic pegmatites and in the sheared margins of the pods.

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EMPR EXPL *1988, pp. B71-B81
EMPR GEM 1969-283,354
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 114
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 782
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE043**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUD 522**, BUD (NORTH ZONE)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 27 11 N
LONGITUDE: 120 25 47 W
ELEVATION: 975 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5480998
EASTING: 686276

LOCATION ACCURACY: Within 500M

COMMENTS: Rock geochemistry sample sites in a gossan zone on the Bud 522 claim, 2.45 kilometres northeast of the north end of August Lake and 6 kilometres east of Princeton (Assessment Report 12736, North zone geology map).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz Carbonate
ALTERATION: Limonite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 200 x 100 Metres STRIKE/DIP:
COMMENTS: Rusty gossan zone trends north for 200 metres and is approximately 100 metres wide. TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite
Volcanic
Sediment/Sedimentary

HOSTROCK COMMENTS: This deposit is hosted in the Bromley batholith, near its eastern margin. Date is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: GOSSAN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 6.0000 Grams per tonne
Copper 0.1836 Per cent
COMMENTS: Grab sample of gossan.
REFERENCE: Assessment Report 12736, Appendix, page 13.

CAPSULE GEOLOGY

The Bud 522 prospect is about 2.5 kilometres northeast of August Lake and 6 kilometres east of Princeton.

This area along the west flank of the Darcy Mountains is underlain to the west by volcanics and related sediments of the Upper Triassic Nicola Group and to the east by granodiorite of the Early Jurassic Bromley batholith.

A rusty gossan zone, 100 metres wide, trends north for 200 metres in granodiorite of the Bromley batholith. The zone is about 300 metres southeast of Nicola Group volcanics and sediments.

The zone exhibits malachite staining and quartz-carbonate stringers. A grab sample of the rusty gossan contained 0.184 per

CAPSULE GEOLOGY

cent copper, 0.005 gram per tonne gold and 6.0 grams per tonne silver (Assessment Report 12736, Appendix, page 13). A grab sample of a quartz-carbonate vein contained 0.135 per cent copper, 0.005 gram per tonne gold and 2.6 grams per tonne silver (Assessment Report 12736, Appendix, page 13).

The deposit was initially explored by Pacific Seadrift Resources Ltd., which conducted prospecting, sampling and soil surveys between 1983 and 1986. G. & V. Explorations Ltd. carried out geological mapping and soil sampling in 1986 and 1987. This prospect was also soil sampled by Gold Brick Resources Inc. in 1988.

BIBLIOGRAPHY

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EMPR EXPL 1984-190
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358, 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)
WWW <http://www.infomine.com/>

DATE CODED: 1991/01/06
DATE REVISED: 1992/01/06

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE044**

NATIONAL MINERAL INVENTORY:

NAME(S): **ST. LOUIS FRACTION (L.2308S)**, EDNA (L.2309S), CMAG

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 05 N
LONGITUDE: 120 32 11 W
ELEVATION: 1125 Metres

NORTHING: 5462028
EASTING: 679157

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of hole 75-1, 800 metres east of the Similkameen River and 19 kilometres south of Princeton (Assessment Report 5768, Figure 4).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Anhydrite Spinel
ALTERATION: Epidote Chlorite Albite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 600 x 300 Metres STRIKE/DIP:
COMMENTS: Zone of sulphide mineralization is 600 metres long and 200 to 300 metres wide. TREND/PLUNGE: 090/

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Volcanic Breccia
Volcanic Siltstone
Volcanic Sandstone
Andesitic Tuff
Cherty Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Drill Core
COMMODITY: Silver 1.4000 Grams per tonne
Copper 0.0300 Per cent
COMMENTS: Six metre section of drill core from hole 75-2.
REFERENCE: Assessment Report 5768, Figure 2.

CAPSULE GEOLOGY

The Saint Louis prospect is situated 200 to 800 metres east of the Similkameen River and 19 kilometres south of Princeton. The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. This prospect is hosted in a sequence of volcanic breccia, siltstone and sandstone, with minor andesitic and cherty tuff of the Nicola Group. These rocks were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). The Copper Mountain stock (Copper Mountain Intrusions) lies 120 to 250 metres to the north. The deposit consists of a 200 to 300-metre wide zone of pyrite-pyrrhotite mineralization extending eastward from the Reco prospect (092HSE114) for 600 metres. Total sulphides are in excess

CAPSULE GEOLOGY

of 1 per cent, occurring as disseminations and fracture-fillings. Two holes (75-1, 75-2), 260 metres apart, drilled near the east end of the deposit, encountered mostly pyrite and pyrrhotite, with minor chalcopyrite, in partially epidote and chlorite-altered volcanic breccia, and slightly bleached and albitized volcanic siltstone and sandstone (Assessment Report 5768). Pyrite occurs as stringers associated with chlorite, anhydrite and calcite, while pyrrhotite occurs in numerous fragments in volcanic breccia. Pyrrhotite and lesser chalcopyrite occur together as lenses, patches and disseminations in highly altered, anhydrite-rich zones 1 to 10 centimetres wide, in volcanic siltstone and sandstone. Individual zones are about 2 metres apart in drill core. Pyrrhotite generally fringes the chalcopyrite. Black, metamorphic spinel is associated with pyrrhotite.

A 6-metre section of drill core assayed 0.03 per cent copper, 0.001 per cent molybdenum, trace gold and 1.4 grams per tonne silver (Assessment Report 5768, Figure 2, hole 75-2). Ten other sections, 3 to 6 metres long, contained 0.01 to 0.02 per cent copper, 0.001 to 0.002 per cent molybdenum, 0.7 to 2 grams per tonne silver and trace to 0.07 gram per tonne gold (Assessment Report 5768, Figures 1 and 2).

The western portion of the deposit contains up to 10 per cent pyrite in fractures, shears and in mafic fragments in volcanic breccias. Eleven grab and chip samples from this area contained 0.003 to 0.039 per cent copper, nil gold and 0.1 to 0.4 gram per tonne silver (Assessment Report 15854, Appendix C).

This deposit was first assessed by Newmont Mining Corporation of Canada Ltd. in 1970 and 1971 by geological and geophysical surveying, and 424 metres of diamond and percussion drilling in 5 holes. Aquitaine Company of Canada Ltd. carried out geophysical and geochemical surveys, and 581 metres of diamond drilling in two holes in 1974 and 1975. Subsequent work by Kidd Creek Mines Ltd. and Targa Resources Inc. between 1982 and 1986 consisted of geophysical and geochemical surveys, with minor prospecting and sampling.

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CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
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DATE CODED: 1985/07/24
DATE REVISED: 1991/12/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE045**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKI 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 07 N
LONGITUDE: 120 35 33 W
ELEVATION: 1158 Metres

NORTHING: 5469369
EASTING: 674839

LOCATION ACCURACY: Within 500M

COMMENTS: Andesite outcrop on the east side of the Ski 2 claim, 500 metres west-northwest of the north end of Kennedy Lake and 13 kilometres southwest of Princeton (Assessment Report 2826, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au D03 Volcanic redbed Cu
DIMENSION: 80 x 40 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Dimensions are given for mineralized andesite outcrop.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Plagioclase Augite Porphyritic Andesite
Calcareous Siltstone
Calcareous Sandstone
Conglomerate
Andesite
Andesitic Tuff
Volcanic Breccia

HOSTROCK COMMENTS: This showing is hosted in unit 4, Bulletin 59 (Figure 2).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Ski 2 showing is 500 metres west-northwest of the north end of Kennedy Lake and 13 kilometres southwest of Princeton. This area between Whipsaw Creek and Kennedy Lake is underlain by calcareous siltstone and sandstone, conglomerate, andesite, andesitic tuff and volcanic breccia of the Upper Triassic Nicola Group. An outcrop of massive, light greenish grey, plagioclase augite porphyritic andesite is irregularly mineralized with trace to 2 per cent pyrrhotite and traces of chalcopyrite. The outcrop is 80 metres long and up to 40 metres wide.

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EMPR BULL 59
EMPR GEM 1970-384
GSC MAP 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1991/12/16
DATE REVISIED: 1992/05/29

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE046**

NATIONAL MINERAL INVENTORY: 092H8 Au7

NAME(S): **BANBURY, MAPLE LEAF, PINE KNOT,
POLLOCK MINES, GOLD MOUNTAIN MINES**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

LATITUDE: 49 21 22 N
LONGITUDE: 120 07 35 W
ELEVATION: 800 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5471016
EASTING: 708667

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the surface trace of the Pine Knot vein, 3.5 kilometres west of Hedley on the west bank of Henri Creek (Assessment Report 17631, Drawing 14a).

COMMODITIES: Gold Silver Zinc Copper Lead

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Pyrrhotite Sphalerite Chalcopyrite
Galena Gold

COMMENTS: Rare chalcopyrite and galena.

ASSOCIATED: Quartz Calcite Carbonate
COMMENTS: Quartz is pale pink, glassy and white and is strained.

ALTERATION: Sericite Garnet Clinopyroxene Chlorite Silica

COMMENTS: Skarn alteration predates quartz veining and mineralization.

ALTERATION TYPE: Sericitic Skarn Chloritic Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Breccia
CLASSIFICATION: Hydrothermal Epigenetic Skarn
TYPE: I01 Au-quartz veins K04 Au skarn
SHAPE: Tabular

DIMENSION: 270 x 240 x 7 Metres STRIKE/DIP: 025/65W TREND/PLUNGE:

COMMENTS: Dimensions and attitude given for the largest vein, the Pine Knot vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Stemwinder Mountain

ISOTOPIC AGE: 225 Ma

DATING METHOD: Fossil
MATERIAL DATED: Conodont

Lower Jurassic Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Hornblende Diorite
Limestone
Siltstone
Conglomerate
Andesitic Tuff

HOSTROCK COMMENTS: Stemwinder Mountain age date from Geological Fieldwork 1987, page 66.
Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

Plutonic Rocks

METAMORPHIC TYPE: Contact

RELATIONSHIP: Pre-mineralization

GRADE: Hornfels

INVENTORY

ORE ZONE: PINE KNOT

REPORT ON: Y

CATEGORY: Combined
QUANTITY: 150800 Tonnes

YEAR: 1982

COMMODITY Gold GRADE 11.0000 Grams per tonne

COMMENTS: Probable and inferred reserves.
REFERENCE: George Cross News Letter No.11, 1982.

INVENTORY

ORE ZONE: MAPLE LEAF
 CATEGORY: Combined
 QUANTITY: 17700 Tonnes
 COMMODITY: Gold 5.1000 Grams per tonne
 GRADE: 5.1000
 YEAR: 1982
 COMMENTS: Probable and inferred reserves.
 REFERENCE: George Cross News Letter No.11, 1982.

CAPSULE GEOLOGY

The Banbury occurrence is situated on the west bank of Henri Creek, 3.5 to 4 kilometres west of Hedley.

North-striking, steep dipping Upper Triassic Stemwinder Mountain and Whistle Creek formations (Nicola Group) sediments and volcanics are cut by leucocratic quartz diorite and gabbro/diorite dykes, sills and stocks of the Early Jurassic Hedley Intrusions. The Banbury stock, an elongate west-trending stock, 400 metres wide by 1.5 kilometres long, interfingers with limestone, siltstone, argillite, conglomerate and andesitic tuff, marked by a hornfelsed contact aureole. North-striking fracture systems containing quartz-carbonate veins cut through all rock types. The leucocratic diorite is locally intensely skarn-altered with coarse garnet and clinopyroxene. The quartz veins crosscut and therefore postdate the skarn alteration.

Mineralization is contained in a number of high-level tension fracture quartz-carbonate veins emanating from the southern contact of the Banbury stock. The veins are generally 0.2 to 4 metres in width and commonly dip 50 to 75 degrees west to northwest. They occur within hornblende diorite of the Banbury stock and argillite with minor limestone of the Stemwinder Mountain Formation. Known reserves are contained in the two largest veins, the Pine Knot and the Maple Leaf. Four smaller gold-bearing veins occur in the vicinity, including the Mike, Kelley and Musical Ride veins.

The Pine Knot vein strikes 025 to 030 degrees, dips 50 to 65 degrees northwest and varies between 0.6 and 6.7 metres in width. The vein extends downdip for 240 metres and along strike for 270 metres.

The Maple Leaf vein, an irregular branching shear zone situated 400 metres west of the Pine Knot vein, strikes roughly north and dips 60 degrees west. The zone varies from 0.6 to 6 metres in width, with strongly mineralized sections up to 3.7 metres wide. The zone has been explored in underground workings over a strike length of 60 metres and a downdip distance of 120 metres.

These vein/shear zone systems are locally vuggy and contain brecciated clasts of chloritized, silicified country rocks in a matrix of grey ("watery") to white quartz and lesser coarse calcite. Quartz also occurs as irregular systems of veinlets, lenses and grains within the shear zones. Some veins are surrounded by very fine sericite halos. Sulphides comprise 10 to 20 per cent of the vein material and consist mainly of arsenopyrite and pyrite, lesser pyrrhotite and sphalerite, and minor chalcopyrite and galena. Free gold is reported to be very fine, and in one instance occurs "studded" with massive arsenopyrite. Higher gold grades are found in the veins within an envelope extending 30 to 100 metres from the southern contact of the Banbury stock.

Total reserves in all categories for the Pine Knot and Maple Leaf veins are 215,221 tonnes grading 9.50 grams per tonne gold (Vancouver Stockwatch, June 23, 1987). Probable and inferred reserves are as follows (George Cross News Letter #11 (January 18), 1982):

	Probable		Inferred		Totals	
	tonnes	Au (g/t)	tonnes	Au (g/t)	tonnes	Au (g/t)
Pine Knot	73200	14.1	77600	8.2	150800	11.0
Maple Leaf	14100	5.1	3600	5.1	17700	5.1
Totals	87300	12.7	81200	8.2	168500	10.3

The various veins and shear zones of the Banbury prospect were explored as early as 1900. A significant amount of underground development was carried out by Gold Mountain Mines Ltd. between 1933 and 1935, culminating in the construction of a 60 tonne-per-day mill in 1936. The operation was closed down in 1937 after all the developed ore was exhausted. A total of 5897 tonnes of ore were mined in 1937 grading 4.99 grams per tonne gold, 2.27 grams per tonne silver, 0.014 per cent copper and 0.015 per cent lead. Banbury Gold Mines Ltd. conducted extensive surface and underground diamond drilling, percussion drilling, 800 metres of tunnelling and geological mapping between 1979 and 1984. The company operated a pilot heap leaching operation in 1984, processing a 6000-tonne bulk sample grading 5.1 grams per tonne gold. A second 250-tonne bulk

CAPSULE GEOLOGY

sample was taken to the Dankoe mine (082ESW002), 20 kilometres south of Keremeos, producing 112.69 tonnes of floated concentrate containing 1109 grams of gold and 15504 grams of silver (Northern Miner, November 15, 1984). The property was optioned to Noranda Inc., which conducted diamond drilling, geological mapping and soil sampling over the property during 1986 and 1987. Noranda's work resulted in the discovery of the nearby Banbury Porphyry prospect to the north (092HSE177).

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EMPR ASS RPT 8057, 15601, *16746, *17631
EMPR EXPL 1979-145; 1980-197
EMPR FIELDWORK 1985, pp. 101-105; *1986, pp. 76, 77; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6; 1992-1
EMPR PF (*Report by M.S. Hedley, 1937; *Dewar, D.A (1982): Banbury Gold Mines Ltd. - Stage 1 Submission to the Chairman of the Steering Committee of the Environment and Land Use Technical Committee)
EMR MP CORP FILE (Gold Mountain Mines Ltd., Banbury Gold Mines Ltd.)
GSC MAP 3A, 568A; 888A; 889A; 41-1989
GSC MEM 2, pp. 207-209; 243, p. 76
GSC OF 2167, pp. 59-80
GCNL #134,#223, 1981; #11,#201, 1982; #69,#96,#132,#137,#203, 1983; #11,#88,#108,#117,#157,#166,#192, 1984; #165,#208, 1985; #89, #109,#113,#123,#183,#218, 1986; #187, 1987
IPDM May/June 1984
MIN REV Sept./Oct. 1984
N MINER Dec.3, 1981; Jan.21, Oct.28, 1982; May 19, Sept.1, 1983; Feb.2, May 10, Aug.30, Nov.1, Nov. 15, 1984; Nov. 24, 1986
V STOCKWATCH June 23, Aug. 25, Sept. 29, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/05

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE047**

NATIONAL MINERAL INVENTORY: 092H8 Au8

NAME(S): **PATSY NO. 1**, PATSY NO. 1 (L.3403S), TUF 3,
IVAN HOLE, GRANDVIEW, DIAMOND

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 22 11 N
LONGITUDE: 120 09 12 W
ELEVATION: 732 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5472455
EASTING: 706654

LOCATION ACCURACY: Within 500M

COMMENTS: No. 1 adit (southernmost of three adits) on a prominent bluff on the south side of the Similkameen River, 5.5 kilometres west-northwest of Hedley (Assessment Report 15864, Map 1-C).

COMMODITIES: Gold Silver Zinc Copper

MINERALS

SIGNIFICANT: Arsenopyrite Sphalerite Chalcopyrite Pyrrhotite Pyrite
ASSOCIATED: Quartz Calcite
COMMENTS: Minor calcite in veins.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: K04 Au skarn
COMMENTS: Main arsenopyrite-rich vein in the No. 1 adit dips northwest.
STRIKE/DIP: 030/45W
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Tuff
Limestone
Hornblende Diorite
Andesite Ash Tuff
Andesite
Tuffaceous Siltstone

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional
Plutonic Rocks
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Syn-mineralization Post-mineralization
GRADE:

INVENTORY

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1937
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 46.6300 Grams per tonne
COMMENTS: Grab sample from 3.6 tonnes of sorted ore at the foot of No. 2 dump.
REFERENCE: Minister of Mines Annual Report 1937, page D5.

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 2.9000 Grams per tonne
Gold 19.5000 Grams per tonne
COMMENTS: A 15-centimetre chip sample across a shear zone containing arsenopyrite in a trench above the No. 1 adit.
REFERENCE: Assessment Report 15864, Appendix A, sample R83584.

CAPSULE GEOLOGY

The area is underlain by Upper Triassic Nicola Group volcanoclastics and sediments which can be informally separated into the younger Whistle Creek Formation and the older Hedley Formation. The rocks are intruded by Early Jurassic hornblende-bearing diorites of the Hedley Intrusions.

The property is underlain by andesite ash tuff, tuffaceous siltstone, argillite and minor limestone of the Whistle Creek Formation.

Mineralization on the Patsy No. 1 consists of irregular weak fractures in argillites and tuffs which are infilled by pyrite, arsenopyrite, sphalerite with minor chalcopyrite and pyrrhotite in a gangue of quartz and a little calcite. Mineralization is commonly 10 centimetres or less in width and is discontinuous. The main vein in No. 1 adit strikes 030 degrees and dips 40 to 55 degrees northwest, and attains a maximum width of 20 centimetres. In the No. 2 adit, a nearly parallel shear zone, about 10 centimetres in width, hosts mineralization comprised mainly of pyrite with calcite.

In 1937, a sample of the mineralization in the underground stope returned 83.66 grams per tonne gold. A sample from the No. 2 adit returned 3.48 grams per tonne gold. Seventy-five sacks (about 3.6 tonnes) of sorted ore were reported at the foot of the No. 2 dump in 1937. A grab sample of this ore assayed 46.63 grams per tonne gold (Minister of Mines Annual Report 1937, page D5). A 15-centimetre chip sample, taken across the main shear zone exposed in a trench above the No. 1 adit, contained 19.5 grams per tonne gold, 2.9 grams per tonne silver and 1.65 per cent arsenic (Assessment Report 15864, Appendix A, sample R83584).

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EMPR ASS RPT 12834, *15864, 16554
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR PF (Hedley, M.S. (1937): *Report on Property of Hedley Sterling Gold Mines Ltd.; see 092HSE178, Kirby Energy Inc. (1989): Prospectus)
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM *243, pp. 76,77
GSC OF 2167, pp. 59-80
CJES Vol. 9, pp. 1632-1639 (1972)

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/07

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE048**

NATIONAL MINERAL INVENTORY: 092H8 Au9

NAME(S): **PATSY NO.2 (L.3407S)**, GOLDEN CANYON

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 16 N
LONGITUDE: 120 10 14 W
ELEVATION: 853 Metres

NORTHING: 5470710
EASTING: 705468

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Patsy No. 2 claim (Lot 3407s) on the east side of Whistle (Sterling) Creek, 6.8 kilometres west-southwest of Hedley (NTS map sheet 092H/08).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I03 Turbidite-hosted Au veins
L01 Subvolcanic Cu-Ag-Au (As-Sb) I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 90 x 90 x 3 Metres STRIKE/DIP: 360/65E TREND/PLUNGE:
COMMENTS: The Number 5 shear zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Tuff
Chert
Limestone
Hornblende Diorite
Calcareous Sediment/Sedimentary
Cherty Sediment/Sedimentary
Diorite Sill

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
Plutonic Rocks
RELATIONSHIP: Syn-mineralization Post-mineralization
PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE:

INVENTORY

ORE ZONE: DRIFT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1937
SAMPLE TYPE: Channel
COMMODITY: Gold GRADE: 5.5000 Grams per tonne
COMMENTS: A 173-centimetre sample across a shear zone No. 2 from the south wall of a shaft in the No. 2 drift.
REFERENCE: Minister of Mines Annual Report 1937, page D7.

CAPSULE GEOLOGY

The Patsy No. 2 prospect is situated on the east bank of Whistle (Sterling) Creek, 6.8 kilometres west-southwest of Hedley. The Whistle Creek area is underlain by andesite ash tuff, tuffaceous siltstone, argillite and minor limestone of the Late Triassic Whistle Creek Formation (Nicola Group). These beds strike 000 to 040 degrees, dip moderately to steeply to the east and are intruded by dykes, stocks and small irregular masses of diorite of the Early Jurassic Hedley Intrusions. A band of light-coloured

CAPSULE GEOLOGY

calcareous and cherty sediments at least 60 metres thick, containing impure to pure limestone, chert and tuff, occurs within dark-coloured argillite at the Patsy No. 2 prospect.

Five subparallel shear zones occur conformably within Whistle Creek sediments over a stratigraphic thickness of 110 metres. The four lower zones are contained within the calcareous and cherty sediments, while a fifth zone is in overlying argillite along the footwall of a diorite sill. The zones strike north and dip 38 to 70 degrees east, generally following bedding of the hostrocks. Individual shear zones pinch and swell to widths of up to 3 metres and have been traced on surface along the east slope of Whistle Creek and in underground drifts for up to 100 metres. Trenching and underground development has traced the shear zones downdip for distances of up to 90 metres.

The five zones are variably mineralized with arsenopyrite, as bands, lenses and disseminations, and lesser amounts of pyrite as stringers and disseminations, in a gangue of quartz or calcite. Four samples of selected arsenopyrite from the Number 1 shear zone taken in the No. 1 drift assayed from 1.4 to 30.9 grams per tonne gold, while a 1.73-metre channel sample across the Number 2 shear zone assayed 5.5 grams per tonne gold (Minister of Mines Annual Report 1937, pages D6, D7). A 0.6-metre drill hole intersection of the Number 2 zone assayed 31.2 grams per tonne gold and 17 grams per tonne silver (Minister of Mines Annual Report 1934, pages D20, D21, Hole 5). Twenty-eight channel samples across the number 5 shear zone in the No. 5 drift gave a maximum value of 1.71 grams per tonne gold (Minister of Mines Annual Report 1937, page D7).

Siltstone and sandstone outcrops containing disseminated pyrite and local chalcopyrite occur just south of the old workings, in the vicinity of the confluence of Whistle and Pettigrew creeks (Assessment Report 11901).

This prospect has been explored as early as 1901. Between 1933 and 1935, the deposit was assessed by Canada Lode Gold Mines and Hedley Sterling Gold Mines with the development of four levels of underground workings between elevations of 762 and 826 metres above seal level, and 415 metres of underground diamond drilling in ten holes.

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EMPR EXPL 1983-245; 1984-188
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR PF (Hedley, M.S. (1937): Report on Property of Hedley Sterling Gold Mines Ltd.)
EMR MP CORPFILE (Vandorex Energy Corporation)
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 243, p. 76
GSC OF 2167, pp. 59-80
CJES Vol. 9, pp. 1632-1639 (1972)

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/04

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE049**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROLLO (L.2475)**, HORSE FLY (L.1927)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 45 N
LONGITUDE: 120 02 45 W
ELEVATION: 1433 Metres

NORTHING: 5471952
EASTING: 714488

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching (site 13) on the Rollo claim, 1.3 kilometres southwest of the summit of Nickel Plate Mountain, 2 kilometres east-northeast of Hedley (Minster of Mines Annual Report 1937, map following page D10).

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Pyrite Chalcopyrite Sphalerite
ASSOCIATED: Calcite Quartz
ALTERATION: Garnet Epidote Silica
ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Massive Podiform Disseminated
CLASSIFICATION: Hydrothermal Skarn Epigenetic
TYPE: I01 Au-quartz veins L01 Subvolcanic Cu-Ag-Au (As-Sb)
I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 120 x 90 x 1 Metres STRIKE/DIP: 100/70S TREND/PLUNGE:
COMMENTS: A mineralized shear zone.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Calcareous Sediment/Sedimentary
Garnet Skarn
Epidote Garnet Skarn
Garnetite
Limestone
Diorite
Diorite Sill

HOSTROCK COMMENTS: Hedley Formation age date from Geological Fieldwork 1987, page 66.
Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PLUTONIC ROCKS: Plutonic Rocks
RELATIONSHIP: Syn-mineralization Post-mineralization
PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE:

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Drill Core
COMMODITY: Silver 33.9000 Grams per tonne
Gold 16.9000 Grams per tonne

COMMENTS: A 1.6-metre intersection of massive pyrrhotite with lesser chalcopyrite and arsenopyrite, 14 metres below surface.

REFERENCE: Assessment Report 10801, hole HF-2.

INVENTORY

ORE ZONE: SKARN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1937

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

6.9000

Grams per tonne

Gold

29.5000

Grams per tonne

COMMENTS: Selected sample of arsenopyrite.

REFERENCE: Minister of Mines Annual Report 1937, page D13, sample 3.

CAPSULE GEOLOGY

The Rollo prospect is situated 1 to 1.5 kilometres southwest of the summit of Nickel Plate Mountain, 2 to 2.5 kilometres east-northeast of Hedley.

The region, northeast of Hedley, is underlain by a sequence of interbedded limestone, siltstone, and argillite of the Upper Triassic Hedley Formation (Nicola Group), which is intruded by diorite and gabbro stocks, dykes and sills of the Early Jurassic Hedley Intrusions.

A shear zone near the northeast corner of the Horse Fly claim strikes 100 degrees and dips 70 degrees south. The zone has been traced on surface for 90 metres and has been intersected by diamond drilling to a depth of 120 metres. The 0.15 to 0.90-metre wide zone cuts sediments and diorite, and is mineralized with arsenopyrite, pyrrhotite, pyrite, chalcopyrite and sphalerite in a gangue of silicified material with minor calcite and quartz. Pyrrhotite, arsenopyrite, with lesser chalcopyrite and sphalerite, occur as irregularly-shaped massive pods over a distance of 30 metres at the east end of the shear zone. Two selected samples from surface assayed 23.2 and 38.4 grams per tonne gold (Assessment Report 10801). A 1.6-metre section of massive pyrrhotite, with minor chalcopyrite and arsenopyrite, intersected 14 metres below surface, assayed 16.9 grams per tonne gold and 33.9 grams per tonne silver (Assessment Report 10801, hole HF-2).

A second shear zone, 0.3 to 0.45 metres wide, occurs in garnet skarn 30 metres to the south. The zone strikes 105 degrees for 20 metres and contains arsenopyrite, pyrrhotite, pyrite and chalcopyrite.

A large inclusion of massive garnetite in diorite outcrops on the Rollo claim over a 60 by 20 metre area, 430 metres west-southwest of the shear zones. The garnetite contains lenses and irregular masses of coarse calcite up to 1 metre across. Mineralization is sporadic and consists of chalcopyrite, with minor pyrrhotite, as stringers, small masses and disseminations.

Various old workings on the Rollo Crown-granted claim to the south, expose limestone and calcareous sediments intruded by diorite sills and locally altered to garnet and epidote garnet skarn over an east-west distance of 300 metres. The skarn is locally mineralized with lenses and bands of massive arsenopyrite and pyrite up to 0.6 metres in width. Arsenopyrite and lesser pyrrhotite, pyrite and chalcopyrite also occur as disseminations in the skarn. Four selected samples of arsenopyrite from the old workings assayed 19.9 to 61.0 grams per tonne gold and trace to 14 grams per tonne silver (Minister of Mines Annual Report 1937, page D13).

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*1937-D11-D14; 1948-124; 1968-219
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EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (Topographic Plan of Trethewey Group (1:1200), 1937)
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 2; 243, p. 74
GSC OF 2167, pp. 59-80
GCNL #84, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/15

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE050**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOST HORSE** LOST HORSE NO. 1 (L.3239S), LOST HORSE NO. 2 (L.3240S),
LOST HORSE NO. 3 (L.3241S), LOST HORSE NO. 4 (L.3242S), LOST HORSE A (L.3243S)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 31 N
LONGITUDE: 120 07 18 W
ELEVATION: 2067 Metres

NORTHING: 5462045
EASTING: 709353

LOCATION ACCURACY: Within 500M
COMMENTS: Sample MH 205 from a trench on Lot 3240s, 6.5 kilometres east of the Similkameen River and 10 kilometres south-southwest of Hedley (Assessment Report 15177, Figure 4).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Pyrite
ALTERATION: Diopside Actinolite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Middle Jurassic			Cahill Creek Pluton

LITHOLOGY: Ash Tuff
Lapilli Tuff
Tuffaceous Siltstone
Diopside Actinolite Skarn
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Rock
COMMODITY: Gold GRADE: 0.5350 Grams per tonne
COMMENTS: Sample of fine-grained skarn containing 15 to 20 per cent pyrrhotite.
REFERENCE: Assessment Report 15177, page 14, sample MH 205.

CAPSULE GEOLOGY

The Lost Horse showing is situated 6.5 kilometres east of the Similkameen River, 10 kilometres south-southwest of the town of Hedley.

This region north of Paul Creek is underlain by a sedimentary facies of the Upper Triassic Nicola Group, comprised of argillite, sandstone and tuff, locally with limestone and conglomerate. This sequence is faulted to the west against felsic tuffs of the Early Cretaceous Spences Bridge Group (?) and intruded from the east by granodiorite of the Middle Jurassic Cahill Creek pluton.

The showing is hosted in a steep westerly dipping section of fine-grained ash to lapilli tuff, with minor tuffaceous siltstone of the Late Triassic Whistle Creek Formation. These volcanoclastics display variable hornfels and biotite hornfels alteration. Minor green to white diopside actinolite skarn alteration also occurs along fractures. Pyrrhotite, arsenopyrite and pyrite are present in the more altered rocks, with total sulphide content usually not exceeding 5 per cent. A sample of fine-grained skarn containing 15 to 20 per cent pyrrhotite assayed 0.535 gram per tonne gold and 0.9 gram per

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 798
REPORT: RGEN0100

CAPSULE GEOLOGY

tonne silver (Assessment Report 15177, page 14, Sample MH 205).

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EMPR OF 1987-10; 1988-6
EMPR PF (Hedley, M.S. (1936): Special Report #31; *Montello Resources
Ltd. (1987): Prospectus, Vancouver Stock Exchange)
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 243, p. 79
GCNL Dec. 10, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1991/10/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE051**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPECULATOR (L.640S)**, DON 65, 66

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 57 N
LONGITUDE: 120 04 26 W
ELEVATION: 1554 Metres

NORTHING: 5462981
EASTING: 712796

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site MH 239, 8.5 kilometres due south of the town of Hedley (Assessment Report 15177, Figure No. 4).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Pyrite Chalcopyrite
ALTERATION: Epidote Quartz Biotite Limonite Calcite
Pyroxene Zoisite Apatite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stratabound Shear
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn
DIMENSION: 200 x 12 Metres STRIKE/DIP:
COMMENTS: Mineralized zone 200 metres long and up to 12 metres wide. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	
Lower Jurassic			Hedley Intrusions
Middle Jurassic			Cahill Creek Pluton

LITHOLOGY: Biotite Hornfels Argillite
Calcareous Siltstone
Skarn
Homblende Porphyritic Diorite
Limestone
Argillite
Siltstone
Granodiorite

HOSTROCK COMMENTS: Hedley Formation date from Geological Fieldwork 1987, page 66.
Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Rock
COMMODITY: Gold GRADE: 5.9000 Grams per tonne
REFERENCE: Assessment Report 15177, page 14, sample MH 239.

CAPSULE GEOLOGY

The Speculator showing is situated atop a rounded knoll along a ridge between Larcan and Johns creeks, 8.5 kilometres due south of the town of Hedley.

This region between Larcan and Johns creeks is underlain by a sedimentary facies of the Upper Triassic Nicola Group, comprised of argillite, sandstone and tuff, locally with limestone and conglomerate. This sequence is intruded from the east by

CAPSULE GEOLOGY

granodiorite of the Middle Jurassic Cahill Creek pluton.

In the immediate vicinity of the showing interbedded argillite, siltstone and limestone of the Hedley Formation strike north to northwest and dip moderately to steeply southwest in beds up to 10 metres thick. The argillite and siltstone are commonly hornfelsed or biotite hornfelsed, while the limestone beds are selectively replaced by various calcium silicates, as a result of the nearby intrusion of granodiorite, downslope to the east. Six old trenches, in a zone of intense limonitic oxidation, 200 metres long and up to 12 metres wide, along the south flank of the knoll, display fine to coarse-grained arsenopyrite, varying amounts of pyrrhotite, pyrite and minor chalcopyrite, hosted in skarn. Of seven rock samples taken from the six trenches, 6 assayed between 0.005 and 3.38 grams per tonne gold (Assessment Report 15177, page 14). A seventh sample, with the highest proportion of arsenopyrite and chalcopyrite, analysed 5.9 grams per tonne gold and 0.9 gram per tonne silver (Assessment Report 15177, page 14, Sample MH 239). A total of 385 metres of diamond drilling in four holes encountered interbedded hornfels and calcareous siltstone, with minor limestone and skarn containing up to 1 per cent disseminated pyrite and up to 1 per cent pyrrhotite as blebs and disseminations. Gold values in drill core varied up to 0.35 gram per tonne (Assessment Report 18228).

A second zone of mineralization occurs 150 metres to the north, within a zone of shearing and alteration that crosses a 6-metre wide sill of hornblende porphyritic diorite of the Early Jurassic Hedley Intrusions (Geological Survey of Canada Memoir 243; Energy, Mines and Petroleum Resources Open File 1988-6). The sill cuts argillite and limestone of the Hedley Formation. The zone consists largely of quartz, epidote, calcite, pyroxene, zoisite and apatite, with locally massive sulphides comprised mostly of arsenopyrite. Two samples assayed 0.34 and 0.69 gram per tonne gold (Geological Survey of Canada Memoir 243, page 80).

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EMPR GEM 1970-394
EMPR OF 1987-10; 1988-6
EMPR PF (Hedley, M.S. (1936): Special Report #9; Montello Resources Ltd. (1987): Prospectus, Vancouver Stock Exchange (see 092HSE050))
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM *243, p. 80
GCNL Dec. 10, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1991/10/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE052**

NATIONAL MINERAL INVENTORY:

NAME(S): **MISSION, FLINT, NEWT**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 19 39 N
LONGITUDE: 120 06 20 W
ELEVATION: 1311 Metres

NORTHING: 5467894
EASTING: 710302

LOCATION ACCURACY: Within 500M

COMMENTS: Trench, just east of a showing at the headwaters of Jamieson Creek, 4 kilometres southwest of Hedley (Assessment Report 9222, Figure 2).

COMMODITIES: Silver Zinc Gold Copper

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Sphalerite Tetrahedrite Chalcocopyrite

ASSOCIATED: Quartz

ALTERATION: Quartz Sericite Orthoclase Chlorite Epidote

 Calcite

ALTERATION TYPE: Silicific'n Sericitic Propylitic Potassic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Discordant Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: 240 x 5 Metres

STRIKE/DIP: 030/70E

TREND/PLUNGE:

COMMENTS: Barnes zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic

Upper Triassic

Middle Jurassic

GROUP

Nicola

Nicola

FORMATION

Hedley

Stemwinder Mountain

IGNEOUS/METAMORPHIC/OTHER

Cahill Creek Pluton

ISOTOPIC AGE: 168 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Biotite Granodiorite

Argillite

Siltstone

Limestone

HOSTROCK COMMENTS: Shear zones hosted in a northwest-trending tongue of Cahill Creek granodiorite cutting Nicola Group argillite, siltstone and limestone.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: PIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

32.6000

Grams per tonne

Gold

0.1700

Grams per tonne

COMMENTS: Chip sample across 3.05 metres in the Mission pit (Barnes zone?).

REFERENCE: Assessment Report 9222, drill hole plan.

CAPSULE GEOLOGY

The Mission prospect is located on a south-facing slope at the headwaters of Jamieson Creek, 4 kilometres southwest of Hedley.

An elongate mass of medium-grained biotite granodiorite of the Middle Jurassic Cahill Creek pluton extends northwest from the main intrusive body into argillite, siltstone and limestone of the Upper Triassic Hedley and Stemwinder Mountain formations (Nicola Group). The granodiorite is cut by a number of shear zones commonly striking at 030 and 060 degrees. Significant mineralization is contained along three principle shear zones, the Barnes, Walker and Winkler zones. The Barnes zone strikes 030 degrees and dips 70 degrees southeast. The zone has been traced for 240 metres and is between 3

CAPSULE GEOLOGY

and 5 metres wide. The Walker and Winkler zones extend southwest from the Barnes zone, both striking 060 degrees for 90 and 140 metres respectively, and dipping 80 degrees northwest and 85 degrees southeast respectively.

The granodiorite is altered in the shear zones to a white granular material comprised of quartz, sericite and orthoclase, with minor chlorite (altered biotite) and traces of epidote and calcite. The zones contain disseminations, bands and lenses of sulphides forming between trace and 40 per cent of the altered granodiorite. The sulphides include pyrite, fine-grained arsenopyrite, dark brown sphalerite and minor tetrahedrite and chalcopyrite. A chip sample taken from the Mission pit (Barnes zone?) assayed 0.17 gram per tonne gold and 32.6 grams per tonne silver across 3.0 metres (Assessment Report 9222, drill hole plan, sample 2). A selected grab sample from the Barnes zone contained 6.9 grams per tonne gold, 686 grams per tonne silver and 10.8 per cent zinc (Minster of Mines Annual Report 1936, page D12, sample 4).

Diamond drilling in the vicinity encountered thin stringers and disseminations of pyrite, arsenopyrite and sphalerite in silicified and propylitized granodiorite, in addition to a number of silver-zinc-bearing quartz veins. One drill core sample analysed 0.31 gram per tonne gold, 40.8 grams per tonne silver and 1.75 per cent zinc over 0.61 metres (Assessment Report 9222, Hole 80-2, 214.5-216.5 feet).

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EMPR GEM 1970-393; 1972-124
EMPR OF 1987-10; 1988-6
EMPR PF (Austro-Can Explorations Ltd. (1972): Prospectus, Vancouver Stock Exchange (see 082ENW048))
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM *243, p. 78
GSC OF 2167, pp. 59-80
GCNL #12,#64, 1981

DATE CODED: 1985/07/24
DATE REVISED: 1991/10/30

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE053**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWSTORM**, GOLD MINE, HED

MINING DIVISION: Similkameen

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H08E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 09 N
 LONGITUDE: 120 09 25 W
 ELEVATION: 1311 Metres

NORTHING: 5470531
 EASTING: 706464

LOCATION ACCURACY: Within 500M

COMMENTS: The northernmost of two adits on the Hed 2 claim, 5.8 kilometres west-southwest of Hedley on the east slope of Sterling Creek (now Whistle Creek) (Assessment Report 6060, Map 1).

COMMODITIES: Gold Silver Lead Arsenic

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Galena
 ASSOCIATED: Quartz Calcite
 ALTERATION: Limonite Silica
 ALTERATION TYPE: Oxidation Silicific'n
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: 20 x 1 Metres STRIKE/DIP: TREND/PLUNGE:
 COMMENTS: A 0.6-metre wide silicified shear zone strikes northwest for 20 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Whistle Creek	

LITHOLOGY: Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional
 Plutonic Rocks
 PHYSIOGRAPHIC AREA: Thompson Plateau
 RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1982
 SAMPLE TYPE: Chip
 COMMODITY GRADE
 Silver 3.8000 Grams per tonne
 Arsenic 27.0000 Per cent
 Gold 13.6000 Grams per tonne
 Lead 0.2100 Per cent

COMMENTS: Chip sample across a 0.6-metre wide quartz-carbonate vein.
 REFERENCE: Assessment Report 10018, page 3, sample 2A.

CAPSULE GEOLOGY

The area is underlain by Upper Triassic Nicola Group volcanoclastics and sediments which are separated into the younger Whistle Creek Formation and the older Hedley Formation. The rocks are intruded by Early Jurassic hornblende porphyritic diorites of the Hedley Intrusions. A second plutonic suite comprising the Cahill Creek pluton also intrudes these rocks and consists of massive, biotite or hornblende-bearing granodiorites of Middle Jurassic age. The showing is hosted in strongly sheared and fractured argillite of the Whistle Creek Formation. The unit is cut by numerous northeast and northwest-striking fault and fracture zones, some of which are mineralized and have been explored by trenches and shafts dating back to the mid-1920's. One shear zone is exposed in two shallow shafts (pits) over a distance of 20 metres. The zone strikes northwest and is 60 centimetres wide. The central part of the zone is bleached, silicified and mineralized with very fine-grained sulphides thought to be galena. The remainder of the zone is very limonitic. Two grab and two chip samples of the zone assayed

CAPSULE GEOLOGY

4.3 to 14.3 grams per tonne gold and 1.0 to 16.8 grams per tonne silver, respectively (Assessment Report 10882, Figure 14). The richest sample, a 96-centimetre chip sample of oxidized shear zone material with minor sulphides, assayed 14.3 grams per tonne gold and 16.8 grams per tonne silver (Assessment Report 10882, page 28, sample 48581).

Various quartz-carbonate veins containing arsenopyrite and pyrite, are exposed in the old workings in the immediate vicinity. A chip sample across a 0.6-metre wide, 3-metre long vein striking 035 degrees and dipping 65 degrees, assayed 13.6 grams per tonne gold, 3.8 grams per tonne silver, 0.21 per cent lead and 27.0 per cent arsenic (Assessment Report 10018, page 3, sample 2A).

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EMPR EXPL 1982, p. 178
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EMPR OF 1987-10; 1988-6
GSC EC GEOL Series No.4, p. 67 (1927)
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 243, pp. 77,78
GSC OF 2167, pp. 59-80
CJES Vol. 9, pp. 1632-1639 (1972)

DATE CODED: 1985/07/24
DATE REVISED: 1991/10/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE054**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD HILL**, GOLD MINE, HED

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 20 58 N
LONGITUDE: 120 08 44 W
ELEVATION: 1408 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5470222
EASTING: 707304

LOCATION ACCURACY: Within 500M

COMMENTS: Westernmost adit on the Hed 5 claim, 850 metres northwest of Henri Creek on the south side of the Similkameen River, 5 kilometres west-southwest of Hedley (Assessment Report 6060, Map 1).

COMMODITIES: Gold Silver Zinc Copper Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Arsenopyrite Chalcopyrite Galena
ASSOCIATED: Calcite Quartz Ankerite Carbonate
ALTERATION: Calcite Biotite Ankerite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Shear Disseminated Concordant
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: K04 Au skarn I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 40 x 30 x 25 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Breccia zone exposed over a 30 by 25 metre area on surface and intersected 40 metres below surface in an adit.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Tuffaceous Siltstone
Andesite Ash Tuff
Breccia
Hornblende Porphyritic Diorite

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Hornfels

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 7.9000 Grams per tonne
Gold 8.8500 Grams per tonne

COMMENTS: Grab sample of bedded, fine-grained sediments interlayered with calcite and mineralized with pyrite and coarse sphalerite.

REFERENCE: Assessment Report 10882, page 28, sample 48584.

CAPSULE GEOLOGY

Old workings of the Gold Hill prospect occur on the east flank of a north-trending ridge separating Whistle and Henri creeks, 5.0 kilometres west-southwest of Hedley.

The area is underlain by Upper Triassic Nicola Group volcanoclastics and sediments which are separated into the younger Whistle Creek Formation and the older Hedley Formation. These rocks are intruded by Early Jurassic hornblende porphyritic diorites of the Hedley Intrusions. A second plutonic suite of the Cahill Creek pluton also intrudes these rocks and consists of massive, biotite or hornblende granodiorites which are Middle Jurassic in age.

CAPSULE GEOLOGY

Mineralization is primarily hosted in interbedded tuffaceous siltstone, argillite and andesite ash tuff of the Whistle Creek Formation. This sequence is intruded by dykes and sills of fine-grained and coarse hornblende porphyritic diorite of the Hedley Intrusions. The dykes and sills locally carry disseminated pyrite and arsenopyrite. The sedimentary beds generally strike 180 to 185 degrees, dip vertically and are locally tightly folded.

Trenching and stripping has exposed a breccia zone over a 30 by 25 metre area comprised of sedimentary fragments in a calcite-quartz matrix. Fine-grained sediments, containing conformable bands of calcite 1 to 5 centimetres wide, appear to underlie the breccia zone. Locally, the carbonate vein margins are densely packed with elongate, interlocking sharply angular brecciated fragments of hornfelsed and skarn-altered wallrock up to 15 centimetres long. These clasts are rimmed by two generations of carbonate growth, an early, brown-coloured possibly ankeritic carbonate and a later phase of white crystalline calcite. An adit, 40 metres below surface exposures, intersected similar calcite-quartz breccia and calcite-banded wallrock over a distance of 20 metres. The breccia, and to a lesser degree the banded rocks, are mineralized with coarse masses of pyrite, small blebs of black sphalerite, and minor arsenopyrite, chalcopyrite and galena in surface and underground exposures. A grab sample of bedded, fine-grained sediment interlayered with calcite, containing pyrite and coarse sphalerite, assayed 8.85 grams per tonne gold and 7.9 grams per tonne silver (Assessment Report 10882, page 28, sample 48584).

To the southeast, a northwest-striking shear zone has been traced by two short adits over a distance of 20 metres to within 20 metres of the brecciated sediments. The zone contains coarse masses of silvery pyrite (arsenopyrite?) in leached and vuggy quartz. A sample of massive pyrite with quartz assayed 4.32 grams per tonne gold and 16 grams per tonne silver (Assessment Report 10882, page 27, sample 48570).

This prospect was first explored in the mid-1930's, by Hedley Gold Hill Mining Company Ltd., by several short adits and shafts, one long adit and a number of trenches and opencuts. Between 1982 and 1989 Philex Gold and Energy Corporation has carried out soil and geophysical surveys, geological mapping and sampling over the old workings.

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EMPR OF MAP 1987-10; 1988-6
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM *243, p. 77
GSC OF 2167, pp. 59-80
CJES Vol. 9, pp. 1632-1639 (1972)

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/01

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE055**

NATIONAL MINERAL INVENTORY:

NAME(S): **YETI**, ZANDU

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 44 N
LONGITUDE: 120 03 53 W
ELEVATION: 1402 Metres

NORTHING: 5475573
EASTING: 712974

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 822, 1250 metres east-southeast of the confluence of Hedley and McNulty creeks, 4 kilometres north-northeast of Hedley (Assessment Report 17430, geology map).

COMMODITIES: Gold Silver Lead Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Galena Arsenopyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Silica
ALTERATION TYPE: Silicific'n Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: K04 Au skarn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Stemwinder Mountain

DATING METHOD: Fossil
MATERIAL DATED: Conodont

Middle Jurassic Osprey Lake Batholith

ISOTOPIC AGE: 166 +/- 1 Ma
DATING METHOD: Lead/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite
Chert
Argillite
Siltstone
Quartzite
Limestone
Hornblende Diorite
Quartz Diorite
Granite

HOSTROCK COMMENTS: Stemwinder Mountain Formation date from Geological Survey of Canada Paper 91-2, page 9.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Thompson Plateau
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY Gold GRADE 4.1500 Grams per tonne

COMMENTS: Grab sample of chert with up to 3 per cent combined disseminated pyrrhotite and pyrite.

REFERENCE: Assessment Report 17430, page 12, sample 822.

CAPSULE GEOLOGY

The Yeti showing is situated 0.7 to 1.3 kilometres east-southeast of the confluence of Hedley and McNulty creeks, 4 kilometres north-northeast of Hedley.

This area on the east bank of Hedley Creek is underlain by a sequence of interbedded argillite, siltstone, quartzite, chert and limestone of the Upper Triassic Stemwinder Mountain Formation (Nicola

CAPSULE GEOLOGY

Group), which is intruded to the north by the Middle Jurassic Osprey Lake batholith. This intrusion is comprised of granite to granodiorite with a marginal phase of hornblende diorite to quartz diorite along the west-striking intrusive-sediment contact. A zone of silicification extends southward into the sediments. Local skarn alteration is also evident in the sediments at or near the intrusion.

The Osprey Lake batholith in this vicinity contains disseminated and stringer pyrite and pyrrhotite, with traces of chalcopyrite, and the occasional quartz vein. A grab sample from a quartz vein in granodiorite, with galena, chalcopyrite and arsenopyrite, assayed 0.2 gram per tonne gold, 147.5 grams per tonne silver, 0.195 per cent lead and 0.041 per cent arsenic (Assessment Report 15087, sample ZR 50). A second sample of gouge material from the margin of the vein contained 0.3 gram per tonne gold, 6.5 grams per tonne silver and 0.374 per cent arsenic (sample ZR 54).

The sediments south of the intrusion are variably mineralized with pyrite and pyrrhotite, and traces of arsenopyrite and chalcopyrite. Pyrite and pyrrhotite occur as disseminations, streaks and fracture coatings, generally in quantities of up to 5 per cent each, locally up to 30 percent. A grab sample of pale green-grey chert, located 460 metres southeast of the sampled quartz vein, with up to 3 per cent combined disseminated pyrrhotite and pyrite, assayed 4.15 grams per tonne gold (Assessment Report 17430, page 12, sample 822).

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GSC MAP 568A; 888A; 889A; 41-1989
GSC OF 2167, pp. 59-80
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1991/11/12
DATE REVISED: 1992/04/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE056**

NATIONAL MINERAL INVENTORY:

NAME(S): **PRINCE**, GORDON, FOB

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H01E 082E04W
BC MAP:

Underground

MINING DIVISION: Osoyoos

LATITUDE: 49 10 18 N
LONGITUDE: 120 00 08 W
ELEVATION: 579 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5450866
EASTING: 718496

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the west side of the Ashnola River forestry road, 21.6 kilometres south-southeast of Hedley (Property File - G.E.A. von Rosen, 1971, Figures 2 and 5).

COMMODITIES: Molybdenum Copper Silver Gold Lead

MINERALS

SIGNIFICANT: Pyrite Molybdenite Chalcopyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Stockwork Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 12 x 1 Metres STRIKE/DIP: 064/70N TREND/PLUNGE:
COMMENTS: Mineralized quartz vein 1 to 46 centimetres wide, traced underground for 12 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Apex Mountain	Undefined Formation	Cahill Creek Pluton
Middle Jurassic			
ISOTOPIC AGE: 168 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Altered Volcanic
Granodiorite
Feldspar Porphyry
Andesite

HOSTROCK COMMENTS: Cahill Creek pluton date from Geological Fieldwork 1989, page 274. Apex Mountain Complex is Ordovician to Triassic.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Okanagan
METAMORPHIC TYPE: Regional

Plutonic Rocks PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1971
SAMPLE TYPE: Chip
COMMODITY GRADE

Silver	13.7000	Grams per tonne
Gold	0.6900	Grams per tonne
Copper	0.4800	Per cent
Molybdenum	0.0500	Per cent

COMMENTS: A 0.46-metre chip sample across a vein. Molybdenum assay given for molybdenite.
REFERENCE: Property File - G.E.A. van Rosen, 1971, page 5, sample 11203.

CAPSULE GEOLOGY

The Prince showing is located on the west side of the Ashnola River forestry road, along the Ashnola River, about 22 kilometres south-southeast of Hedley. A quartz vein, 1 to 46 centimetres wide, in altered volcanics of the Ordovician to Triassic Apex Mountain Complex, has been explored by a short adit over a distance of 12 metres. The vein strikes 064 degrees and dips 70 degrees north. A flat-lying fault truncates the vein. The vein is mineralized with minor disseminated galena and

CAPSULE GEOLOGY

chalcopyrite. A chip sample taken across a width of 0.46 metres contained 0.69 gram per tonne gold, 13.7 grams per tonne silver, 0.48 per cent copper and 0.050 percent molybdenite (Property File - G.E.A. van Rosen, 1971, page 5, sample 11203). The quartz vein is also reported to carry values in lead.

A quartz-filled fracture zone occurs in granodiorite seventy metres east-northeast of the adit, on the east bank of the Ashnola River. This granodiorite may be related to the nearby Cahill Creek pluton. The zone strikes 025 degrees and dips 70 degrees to the west. Exposed widths vary from 1.5 to 4.0 metres. Mineralization consists of pyrite, chalcopyrite and molybdenite. Two chip samples, each 0.91 metres long, assayed trace of gold, 0.08 and 0.23 per cent copper, and 0.420 and 0.130 per cent molybdenite (G.E.A. van Rosen, 1971, page 5, samples 11204, 11205).

Molybdenite-bearing quartz stringers occur on surface over a 110 by 10 metre area fifty metres northwest of the previous fracture zone, near the east bank of the Ashnola River. The stringers occur in granodiorite and feldspar porphyry. Diamond drilling in the vicinity revealed strong molybdenite mineralization in feldspar porphyry and traces of molybdenite in green andesite. An angled hole drilled underneath the zone of quartz stringers encountered 0.107 per cent molybdenite over 51.2 metres (B. Taylor, 1977, page 3, hole KV3, 12 to 180 feet).

This prospect was initially explored in 1920, with work up to the 1960's being confined to the quartz vein west of the Ashnola River. Subsequent exploration by Cop-Ex Mining Corporation and Consolidated Kalco Valley Mines Ltd. between 1971 and 1977 outlined porphyry-style molybdenite-chalcopyrite mineralization on the east side of the Ashnola River. Four holes totaling 477 metres were drilled by Consolidated Kalco Valley Mines in 1976 and 1977.

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GSC MEM 243, p. 114
GCNL Feb., 1977
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DATE CODED: 1985/07/24
DATE REVISED: 1991/11/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE057**

NATIONAL MINERAL INVENTORY:

NAME(S): **FORKS**, BEN ROY, R CLAIMS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H01E 082E05W
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 07 46 N
LONGITUDE: 120 01 48 W
ELEVATION: 1128 Metres

NORTHING: 5446094
EASTING: 716656

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Zone 2, 750 metres southeast of the confluence of Ashnola River and Ewart Creek, 25.5 kilometres south-southeast of Hedley (Assessment Report 7590, geology map).

COMMODITIES: Molybdenum Copper Silver

MINERALS

SIGNIFICANT: Pyrite Molybdenite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Limonite Silica
ALTERATION TYPE: Oxidation Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 60 x 2 Metres STRIKE/DIP: 045/ TREND/PLUNGE:
COMMENTS: Mineralized zone contains a 0.6 to 1.8-metre wide quartz vein, striking 045 degrees for 60 metres and dipping steeply north.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Apex Mountain	Undefined Formation	
Middle Jurassic			Cahill Creek Pluton

ISOTOPIC AGE: 168 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende Biotite Quartz Diorite
Granite Dike
Quartz Mica Schist
Gneiss
Argillite
Slate
Phyllite
Andesite

HOSTROCK COMMENTS: Cahill Creek Pluton date from Geological Fieldwork 1989, page 274. Apex Mountain Complex is Ordovician to Triassic.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Okanagan PHYSIOGRAPHIC AREA: Thompson Plateau
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1971
SAMPLE TYPE: Chip
COMMODITY: Molybdenum GRADE: 0.3900 Per cent
COMMENTS: Chip sample taken across 1.2 metres. Assay is for molybdenite.
REFERENCE: G.E.A. von Rosen, 1971, page 6, sample 11201.

CAPSULE GEOLOGY

The Forks showing is situated east and southeast of the confluence of the Ashnola River and Ewart Creek, 25 to 25.5 kilometres south-southeast of Hedley. A band of argillite, slate, phyllite, schist, andesite and gneiss of the Ordovician to Triassic Apex Mountain Complex, locally about 500 metres wide, extends west-southwest into the Middle Jurassic Cahill Creek pluton for 15 kilometres.

CAPSULE GEOLOGY

Two zones of mineralization occur 260 to 350 metres southeast of this band of metasediments and volcanics, about 700 metres southeast of the confluence of the Ashnola River and Ewart Creek. A 3-metre wide shear zone, striking 065 degrees for 30 metres in hornblende-biotite quartz diorite, contains 1 to 2-centimetre wide quartz veinlets sparsely mineralized with pyrite and chalcopyrite blebs.

The second zone occurs 40 metres to the north and consists of 2 northeast-striking shear zones, each 3.3 metres wide, separated by a band of unsheared quartz diorite. The zones are exposed over a length of 30 metres and consist of quartz stringers and veins, mostly less than 2 centimetres wide, in limonitic and slightly silicified quartz diorite. The quartz contains minor disseminated pyrite and rare chalcopyrite. A sample of limonitic-stained quartz assayed 0.03 gram per tonne gold, 2 grams per tonne silver and 0.104 per cent molybdenite (Assessment Report 7590, page 9).

Approximately 500 metres farther north, a quartz vein, 0.6 to 1.8 metres wide, occurs on the northwest margin of the band of metasediments and volcanics of the Apex Mountain Complex. The vein follows the contact between a granite dyke and quartz mica schist and gneiss. The faulted and sheared wallrock is cut by quartz veinlets. The main vein, associated veinlets and wallrock are mineralized with finely disseminated pyrite, molybdenite and some chalcopyrite. This vein-hosted mineralization is part of a larger zone of mineralization that strikes 045 degrees, dips steeply north and has been traced on surface for 60 metres. A chip sample taken across 1.2 metres assayed 0.17 gram per tonne gold, 0.07 per cent copper and 0.390 per cent molybdenite (Property File - G.E.A. von Rosen, 1971, page 6, sample 11201).

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GSC MEM *243, p. 114
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DATE CODED: 1985/07/24
DATE REVISED: 1991/11/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE058**

NATIONAL MINERAL INVENTORY:

NAME(S): **VICTORIA (L.2464)**, TWO BROTHERS (L.2463), SPANISH GOLD

STATUS: Prospect

Underground

MINING DIVISION: Osoyoos

REGIONS: British Columbia

NTS MAP: 092H08E

BC MAP:

LATITUDE: 49 18 32 N

LONGITUDE: 120 00 15 W

ELEVATION: 1073 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: No. 2 adit just south of the southern corner of the Two Brothers claim (Lot 2463), 2 kilometres east-northeast of the Similkameen River and 7.5 kilometres southeast of Hedley (Assessment Report 14522, Map 7).

UTM ZONE: 10 (NAD 83)

NORTHING: 5466113

EASTING: 717750

COMMODITIES: Gold

Silver

Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Pyrrhotite Chalcopyrite

ASSOCIATED: Quartz Chlorite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Massive

CLASSIFICATION: Hydrothermal

Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

I01

Au-quartz veins

SHAPE: Tabular

MODIFIER: Faulted

DIMENSION: 187 x 116 x 1 Metres

STRIKE/DIP: 140/

TREND/PLUNGE:

COMMENTS: Vein, 0.02 to 0.66 metres wide, strikes 140 to 150 degrees for 187 metres and dips steeply southwest for 116 metres.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Apex Mountain

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Argillite

Granodiorite

HOSTROCK COMMENTS:

Apex Mountain Complex is Ordovician to Triassic in age (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Okanagan

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1936

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

10.0000

Grams per tonne

Gold

9.6000

Grams per tonne

COMMENTS: Chip sample across 0.66 metres of quartz with sparse sulphides.

REFERENCE: Minister of Mines Annual Report 1936, page D12.

CAPSULE GEOLOGY

The Victoria prospect is situated on the southeast bank of Winters Creek (16 Mile Creek), 2 kilometres northeast of the Similkameen River.

The area is underlain by rocks of the Ordovician to Triassic Apex Mountain Complex. They are represented by a highly deformed package of cherts, argillites, tuffaceous siltstones, greenstones and minor limestones, originally subdivided into the Independence, Bradshaw, Old Tom and Shoemaker formations. In 1984, these formations were grouped into the Apex Mountain Complex and Upper Devonian, Carboniferous and Middle to Late Triassic microfossils have been recovered from some of the units within the complex. The relationship between the complex and the supracrustal rock units of the Nicola Group, further to the west, is uncertain, however, the Apex Mountain Complex is believed to represent a highly deformed ophiolite complex that formed above an east-dipping subduction zone

CAPSULE GEOLOGY

(Milford, 1984).

A small, elongate northeast-trending body of granodiorite of unknown age outcrops over a 500 by 250 metre area, and intrudes Apex Mountain argillite, which underlies much of the southeastern bank of Winters Creek. A single quartz vein striking 140 to 150 degrees and dipping steeply southwest cuts both the granodiorite and the surrounding argillite. The vein has been explored by 3 adits over a strike length of 187 metres and a vertical distance of 116 metres. The 0.02 to 0.66-metre wide vein is segmented by several crossfaults in the underground workings.

The vein is composed of vitreous crystalline quartz containing arsenopyrite, pyrite, pyrrhotite, chalcopyrite, and occasional seams and patches of chloritic material. The distribution of the sulphides in the vein is quite irregular. Arsenopyrite forms 25 to 50 percent of the vein matter as lenses and seams in the lowermost adit to the northwest, the No. 1 adit. A selected sample of arsenopyrite assayed 4.5 grams per tonne gold and 8.6 grams per tonne silver (Minister of Mines Annual Report 1936, page D12). Sulphides form a low percentage of the vein in the No. 2 adit to the southeast. A chip sample of the face of the No. 2 adit, across 66 centimetres of quartz, assayed 9.6 grams per tonne gold and 10 grams per tonne silver (Minister of Mines Annual Report 1936, page D12).

This prospect was explored by trenching and 95 metres of tunnelling between 1899 and 1936 by various private owners.

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EMPR OF MAP 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (Starr, C.C. (1936): Report of Brief Examination of Victoria Group, 4 p.)
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DATE CODED: 1985/07/24
DATE REVISED: 1991/11/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE059**

NATIONAL MINERAL INVENTORY: 092H8 Au1

NAME(S): **FRENCH**, FRENCH MINE, OREGON (L.703S)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

LATITUDE: 49 19 33 N
LONGITUDE: 120 01 26 W
ELEVATION: 1180 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5467939
EASTING: 716242

LOCATION ACCURACY: Within 500M

COMMENTS: Abandoned workings, 1.5 kilometres northeast of the Similkameen River, 5.2 kilometres southeast of Hedley (Open File 1988-6, sheet A).

COMMODITIES: Gold

Silver

Copper

Molybdenum

Tungsten

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Chalcopyrite Covellite Bornite
Pyrrhotite Molybdenite Scheelite Gold Tellurobismuthite
Cobaltite Erythrite

ALTERATION: Garnet Diopside Calcite Plagioclase Wollastonite
Clinozoisite Epidote Biotite

COMMENTS: Also potassium feldspar, scapolite and quartz.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn

SHAPE: Bladed

MODIFIER: Folded Faulted

DIMENSION: 190 x 24 x 3 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Orebody trends northwest, plunges southeast and is flat lying over most of its length.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Upper Triassic
Lower Jurassic

GROUP: Nicola

FORMATION: French Mine

IGNEOUS/METAMORPHIC/OTHER: Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Limestone
Garnet Pyroxene Skarn
Limestone Conglomerate
Limestone Breccia
Tuff
Tuff Breccia
Cherty Tuff
Dioritic Dike
Dioritic Sill

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

RELATIONSHIP: Pre-mineralization
Syn-mineralization

GRADE: Hornfels

INVENTORY

ORE ZONE: MINE

REPORT ON: Y

CATEGORY: Inferred
QUANTITY: 8731 Tonnes
COMMODITY

YEAR: 1978

COMMODITY	GRADE	
Silver	103.0000	Grams per tonne
Gold	5.1000	Grams per tonne
Copper	2.0000	Per cent

COMMENTS: Mining in 1982 and 1983 (4438 tonnes) probably depleted any remaining reserves.

REFERENCE: Westervelt Engineering, 1978 (from National Mineral Inventory card).

CAPSULE GEOLOGY

The French mine is situated 1.5 kilometres northeast of the Similkameen River, 5.2 kilometres southeast of Hedley.

This area between Cahill and Winters creeks, along the northeast bank of the Similkameen River, is underlain by various sediments and volcanics comprising the Ordovician to Triassic Apex Mountain Complex, the Middle to Upper Triassic Peachland Creek Formation and the Upper Triassic Nicola Group. This sequence is cut by hornblende porphyritic diorite dykes and sills of the Early Jurassic Hedley Intrusions, and intruded by granodiorite of the Middle Jurassic Cahill Creek pluton.

The French mine is hosted in the French Mine Formation (Nicola Group), near the contact with the Cahill Creek pluton to the southwest. The formation locally consists of cherty tuffs, overlain by 4 to 6 metres of limestone and limestone conglomerate, which is in turn overlain by tuffs. These units are brecciated and skarn-altered along the hinge portion of a faulted anticline that strikes west to northwest. The alteration and associated mineralization is believed to be related to several dioritic dykes and sills that cut the mine area. The alteration consists of garnet, diopside and calcite, with variable quantities of plagioclase, wollastonite, clinozoisite, epidote, biotite, potassium feldspar, scapolite and quartz. Mineralogical zoning is evident, with an outer envelope of biotite hornfels passing inward into the later developed crosscutting garnet-diopside assemblages.

The mined orebody trends northwest, plunges southeast, but is flat lying for most of its length. Up to 1958, the deposit had been mined over a strike length of 190 metres and a dip length of 24 metres. Mineralization is terminated against the high angle French fault to the west and the west dipping, northeast-striking Cariboo thrust fault to the east. Other northeast and northwest striking high-angle faults have been identified underground, with displacements generally less than 3 metres.

Sulphides average less than 5 per cent by volume throughout most of the deposit, except for the western part, which is relatively rich in copper and low in gold. The skarn is mineralized with arsenopyrite, pyrite, chalcopyrite, covellite, bornite and pyrrotite, and sporadic coarse molybdenite and scheelite, in zones up to 40 metres in length and 3 metres in width. Minor cobaltite, erythrite, tellurides and native gold have also been identified. Gold is reported not to be associated with sulphide mineralization, occurring free in association with bismuth telluride. A chip sample taken over 0.91 metre assayed 1179.2 grams per tonne gold (Vancouver Stockwatch July 11, 1989). Several other samples yielded values of over 34 grams per tonne gold over similar widths. Inferred reserves are estimated at 8731 tonnes grading 5.1 grams per tonne gold, 103 grams per tonne silver and 2 per cent copper (National Mineral Inventory - Westervelt Engineering Ltd., 1978).

A total of 77,608 tonnes of ore averaging 20.66 grams per tonne gold was mined from three levels of underground workings over an elevation of 41 metres by Kelowna Mines Hedley Ltd. and French Mines Ltd. between 1950 and 1961. Grove Explorations Ltd. and Dankoe Mines Ltd. produced 4438 tonnes in 1982 and 1983 grading 5.95 grams per tonne gold, 30.48 grams per tonne silver and 0.4627 per cent copper. The underground workings were sampled by Golden North Resource Corporation in 1989.

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EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80; *1989, pp. 275,276
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EMR MP CORPFILE (Cariboo Gold Quartz Mining Co. Ltd., Kelowna Mines Hedley Ltd., French Mines Ltd., Kalco Valley Mines Ltd., Grove Explorations Ltd.)
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 243, p. 78
GSC OF 2167, pp. 59-80
GCNL Sept. 24, Nov. 5, 1976; Sept. 16, 23, 1977; Feb. 14, 1978; #18,

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 817
REPORT: RGEN0100

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1978

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE060**

NATIONAL MINERAL INVENTORY: 092H8 Au3

NAME(S): **GOOD HOPE** NIGHTHAWK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Open Pit Underground

MINING DIVISION: Osoyoos

LATITUDE: 49 20 22 N
LONGITUDE: 120 00 18 W
ELEVATION: 1542 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5469507
EASTING: 717554

LOCATION ACCURACY: Within 500M

COMMENTS: Open pit on the boundary between the Good Hope No. 1 claim (Lot 3917s) and the Good Hope No. 2 claim (Lot 3918s), 3.2 kilometres northeast of the Similkameen River and 5.5 kilometres east-southeast of Hedley (Assessment Report 10196, Plate 3).

COMMODITIES: Gold Silver Copper Bismuth Molybdenum
 Tungsten

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Pyrite Marcasite Chalcopyrite
 Bismuth Molybdenite Hedleyite Gold Scheelite
ASSOCIATED: Quartz Actinolite Epidote Calcite
ALTERATION: Hedenbergite Pyroxene Quartz Calcite Garnet

ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated Massive Vein
CLASSIFICATION: Skarn Hydrothermal Epigenetic
TYPE: K04 Au skarn
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 55 x 20 x 1 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Flat-lying, slightly saucer-shaped orebody about 1.2 metres thick.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	French Mine	
Triassic	Undefined Group	Peachland Creek	
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			
Middle Jurassic			Cahill Creek Pluton
ISOTOPIC AGE: 168 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Limestone
Garnetite
Pyroxene Quartz Garnet Skarn
Diorite Sill
Basaltic Ash Tuff
Aplitic Dike
Andesite Ash Tuff
Biotite Granodiorite
Granodiorite
Granite

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.
Host rocks also includes feldspar hornblende porphyritic diorite.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: Pre-mineralization
Syn-mineralization

GRADE:

INVENTORY

ORE ZONE: SOUTH

REPORT ON: Y

CATEGORY: Indicated
QUANTITY: 37200 Tonnes
COMMODITY: Gold
GRADE: 5.4500 Grams per tonne

YEAR: 1980

COMMENTS: Reserves in area of percussion drilling, adjacent to and south of pit.
Mining in 1982 amounted to 6874 tonnes which depleted the reserves.

REFERENCE: Dolmage, Mason and Stewart Ltd, 1980.

CAPSULE GEOLOGY

A small amount of high-grade gold ore was produced from the Good Hope mine, 3.2 kilometres northeast of the Similkameen River and 5.5 kilometres east-southeast of Hedley.

This area northeast of the Similkameen River is underlain by various sediments and volcanics comprising the Ordovician to Triassic Apex Mountain Complex, the Middle to Upper Triassic Peachland Creek Formation and the Upper Triassic Nicola Group. This sequence is cut by hornblende porphyritic diorite dykes and sills of the Early Jurassic Hedley Intrusions, and intruded by granodiorite of the Middle Jurassic Cahill Creek pluton.

The Good Hope mine is hosted in limestone of the Upper Triassic French Mine Formation (Nicola Group). The unit is locally underlain by basaltic ash tuff of the Peachland Creek Formation and overlain by andesite ash tuff of the Whistle Creek Formation (Nicola Group). A body of coarse-grained biotite granodiorite related to the Cahill Creek pluton outcrops 240 metres west of the mine area. A second 24-metre thick sill of Cahill Creek granodiorite and granite lies 20 metres below the old workings, outcropping just east of the pit. A 2-metre thick sill of feldspar-hornblende porphyritic diorite of the Hedley Intrusions separates the limestone from the underlying tuff. Bedding dips gently (up to 25 degrees) north, northeast and northwest in the vicinity of the mine.

The limestone is altered along its lower contact with the underlying diorite sill to a pyroxene-garnet skarn and garnetite. The pyroxene-garnet skarn, immediately underlying the limestone, is characterized by large prismatic crystals of dark green hedenbergite with interstitial glassy ("watery") quartz and coarsely crystalline calcite. Reddish brown garnet occurs locally in this zone of alteration, which is discontinuous and less than 0.3 metres thick. The pyroxene-garnet skarn passes downward into a zone up to 2 metres thick comprising massive coarse-grained garnetite or a fine-grained skarn comprised of garnet, pyroxene, quartz, calcite and epidote. The garnets and pyroxenes are locally partially replaced by a dark green amphibole. The limestone is also locally recrystallized and silicified.

The 1.2-metre thick orebody is hosted in the upper portion of the skarn, immediately underlying the limestone. The deposit is flat lying, slightly saucer-shaped, and oval in plane view, with a north-south length of 55 metres and an east-west distance of 20 metres. Mineralization also occurs in a 3-metre wide fault zone, striking 010 degrees and dipping 80 degrees west, in the western portion of the open pit.

Mineralization is generally sparse and consists of disseminated to massive pyrrhotite, arsenopyrite, pyrite, marcasite, and chalcopryite, with minor native bismuth, hedleyite (lead-bismuth telluride) and native gold. These minerals, in addition to quartz and calcite, commonly occur in fractures in hedenbergite crystals. The gold is erratically distributed and does not appear to be associated with any particular mineral. Small grains of gold occur in cleavage cracks in hedenbergite and coarse calcite. Gold is also casually associated with quartz, arsenopyrite and native bismuth. Mineralized grab samples assayed up to 94 grams per tonne gold (Paper 1989-3, page 29).

This skarn is cut by north-striking quartz-actinolite-epidote-calcite veins, sometimes containing molybdenite and scheelite, that border aplitic dykes of the Cahill Creek pluton.

A second zone of mineralization in garnetite and skarn occurs 70 metres south of the main workings. The zone strikes northeast for 60 metres and dips variably northwest. Percussion drilling between this zone and the pit to the north in 1980 outlined indicated reserves of 37,200 tonnes grading 5.45 grams per tonne gold (National Mineral Inventory - Dolmage, Mason and Stewart Ltd., 1980).

Some 4241 tonnes averaging 21.10 grams per tonne gold were mined by open pit by Hedley Mascot Gold Mines Ltd. between 1945 and 1948. A further 6874 tonnes grading 11.26 grams per tonne gold, 17.39 grams per tonne silver and 0.00875 per cent copper were mined from underground workings by Good Hope Resources Ltd. and Dankoe Mines Ltd. in 1982.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 820
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR EXPL 1980-32
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80;
*1989, p. 275
EMPR OF 1987-10; 1988-6; 1998-8-M, pp. 1-74
EMPR P *1989-3, pp. 29,30
EMR MP CORPFILE (Hedley Mascot Gold Mines Ltd., Highawk Mines Ltd.,
Good Hope Resources Ltd., Grove Explorations Ltd.)
GSC MAP 568A; 888A; 41-1989
GSC MEM 243, pp. 74,75
GSC OF 2167, pp. 59-80
CMH 1978-79, p. 132
GCNL #165, 1980; #39,#40,#49,#224, 1984; #2,#55, 1985; #150,
#218,#223, 1986; #7,#134, 1987
V STOCKWATCH July 17, 1987
Dolmage, Mason & Stewart Ltd. (1980): Report on the Good Hope
and Canty Mines, in Good Hope Resources (1981): Statement of
Material Facts No. 98/81

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE061**

NATIONAL MINERAL INVENTORY:

NAME(S): **FLORENCE (L.650S)**, CLIFT

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 59 N
LONGITUDE: 120 03 11 W
ELEVATION: 1509 Metres

NORTHING: 5474216
EASTING: 713875

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Florence claim (Lot 650s), 2 kilometres east of Hedley Creek, 3 kilometres northeast of Hedley (NTS map sheet 092H/08).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Arsenopyrite Gold
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn
SHAPE: Tabular

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Hedley	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Upper Triassic	Nicola	Stemwinder Mountain	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Limestone
Skarn
Siltstone
Argillite
Gabbro Sill
Diorite
Quartz Porphyry Dike
Andesite Dike

HOSTROCK COMMENTS: Hedley and Stemwinder Mtn. formations dated 225 Ma (Geol.Field. 1987).
Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Hornfels

CAPSULE GEOLOGY

Early Jurassic Hedley Intrusions consisting of diorite and gabbro dykes and sills cut limestone, siltstone and argillite of the Upper Triassic Hedley and Stemwinder Mountain formations (Nicola Group). Minor quartz porphyry and andesite dykes cut through all rocks.

The mineralization is described very generally as being tabular in shape with ill-defined walls. The mineralization consists of gold and arsenopyrite in skarn-altered limestone. Good gold values are reported to be associated with gabbro sills.

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EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (Starr, C.C. (1926): Report on Preliminary Examination of

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 822
REPORT: RGEN0100

BIBLIOGRAPHY

Mining Claims, Hedley Camp; Map of Hedley Camp with Geology and
claims, 1926 (in 092HSE062); Austro-Can Explorations Ltd. (1972):
Prospectus, Vancouver Stock Exchange (see 082ENW048))
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 2, p. 202; 243, p. 74
GSC OF 2167, pp. 59-80

DATE CODED: 1985/07/24
DATE REVISED: 1987/05/29

CODED BY: GSB
REVISED BY: MM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE062**

NATIONAL MINERAL INVENTORY:

NAME(S): **KINGSTON (L.2474)**, WARHORSE (L.2478), METROPOLITAN (L.2480)

STATUS: Prospect

Underground

MINING DIVISION: Osoyoos

REGIONS: British Columbia

NTS MAP: 092H08E

BC MAP:

LATITUDE: 49 21 50 N

LONGITUDE: 120 03 18 W

ELEVATION: 1024 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the south side of Horsefly gulch on the Kingston claim (Lot 2474), 1.5 kilometres east-northeast of Hedley (Geological Survey of Canada Memoir 2, Map 1A).

UTM ZONE: 10 (NAD 83)

NORTHING: 5472081

EASTING: 713817

COMMODITIES: Gold

Copper

Silver

Lead

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Chalcopyrite Galena Gold

Pyrite

ALTERATION: Garnet Epidote Diopside Amphibole

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Skarn

TYPE: K04 Au skarn

Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

DATING METHOD: Fossil

MATERIAL DATED: Conodont

Hedley

Lower Jurassic

ISOTOPIC AGE: 199 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

Hedley Intrusions

Middle Jurassic

Cahill Creek Pluton

LITHOLOGY:

Limestone
Garnet Epidote Diopside Skarn
Siltstone
Hornblende Porphyritic Diorite
Granodiorite Dike
Diorite Dike
Gabbro Dike
Rhyolite Dike
Lamprophyre Dike

HOSTROCK COMMENTS:

Hedley Formation date from Geological Fieldwork 1987, page 66.
Hedley Intrusions date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: Syn-mineralization

GRADE:

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1926

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver	26.7000	Grams per tonne
Gold	3.4000	Grams per tonne
Copper	2.6400	Per cent

COMMENTS: A 1.5-metre sample taken from an incline shaft on the Kingston claim.

REFERENCE: Minister of Mines Annual Report 1926, page 218.

CAPSULE GEOLOGY

The Kingston prospect occurs on both sides of Horsefly Gulch, a west-flowing tributary of Hedley Creek, about 1.5 kilometres northeast of the town of Hedley.

The region northeast of Hedley is underlain by a sequence of

CAPSULE GEOLOGY

interbedded limestone, siltstone and argillite of the Upper Triassic Hedley Formation (Nicola Group), which is intruded by stocks, dykes and sills of diorite and gabbro of the Early Jurassic Hedley Intrusions. All units are cut by granodiorite of the Middle Jurassic Cahill pluton. The sediments dip 15 to 35 degrees southwest and are extensively skarn-altered.

Mineralization occurs discontinuously over a 700-metre length in a northwest-trending band of limestone and siltstone up to 250 metres wide. The sediments are bounded to the northeast by hornblende porphyritic diorite of the Toronto stock (Hedley Intrusions) and to the southwest by a 100-metre wide granodiorite dyke originating from the Cahill pluton. The sediments are cut by numerous sills and dykes of diorite and gabbro and by a few rhyolite and lamprophyre dykes.

Skarn containing garnet, epidote, diopside and amphibole occurs at or near the diorite contact on the Warhorse and Kingston claims to the southeast. The skarn is mineralized with disseminated pyrrhotite, pyrite, chalcopyrite, arsenopyrite and galena. Samples from the dump on the Warhorse claim are reported to average around 6 per cent copper (Geological Survey of Canada Memoir 2, page 200). A sample taken over 1.5 metres in the incline shaft on the Kingston claim assayed 3.4 grams per tonne gold, 26.7 grams, per tonne silver and 2.64 per cent copper (Minister of Mines Annual Report 1926, page 218).

Garnet-epidote-diopside skarn occurs within 60 metre of the Toronto stock on the north side of Horsefly Gulch. This skarn has a higher gold and a lower copper content than the previously described skarn on the Kingston and Warhorse claims. Underground workings expose a body of mineralization in skarn up to 4 metre thick that dips gently to the southeast. The zone contains arsenopyrite and minor chalcopyrite and native gold. The gold occurs as small thin flakes in minute fractures. A chip sample of arsenopyrite-rich ore, taken from an adit on the Metropolitan claim, assayed 14.4 grams per tonne gold and 2.7 grams per tonne silver over 2.0 metres (Minister of Mines Annual Report 1926, page 218).

Mineralization on all three claims has been periodically explored since 1899. Most of the work was conducted by Kingston Gold and Copper Mining Ltd. between 1905 and 1909, and involved trenching and underground development. G.M. Explorations Ltd. carried out geological, geochemical and geophysical surveys and 613 metres of diamond drilling between 1969 and 1973.

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EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR GEM 1970-393; 1973-136
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (Starr, C.C. (1926): Report on Preliminary Examination of Mining Claims, Hedley Camp; Map of Hedley Camp with Geology and claims, 1926)
GSC MAP 3A; 568A; 888A; 889A; 41-1989
GSC MEM *2, pp. 198-202; 243, p. 74
GSC OF 2167, pp. 59-80
GSC SUM RPT 1907, pp. 30,31
CIM TRANS VOL. 44, pp. 555,556 (1941)
GCNL #147,#175, 1981
N MINER Aug. 13, Oct. 1, 1981

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/15

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE063**

NATIONAL MINERAL INVENTORY:

NAME(S): **DUFFY**, RENO (L.845), COPPER WORLD (L.695)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 15 N
LONGITUDE: 120 03 38 W
ELEVATION: 701 Metres

NORTHING: 5472837
EASTING: 713384

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Reno claim (Lot 845), 300 metres east of Hedley Creek, 1.5 kilometres northeast of Hedley (NTS map sheet 092H/08).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Sulphide
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Replacement Skarn Epigenetic
TYPE: K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	

DATING METHOD: Fossil
MATERIAL DATED: Conodont
Lower Jurassic

Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Limestone
Skarn
Siltstone
Argillite
Diorite
Gabbro

HOSTROCK COMMENTS: Hedley Formation date from Geological Fieldwork 1987, page 66.
Hedley Intrusions date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1926
SAMPLE TYPE:	Chip		
COMMODITY	GRADE		
Silver	5.1000	Grams per tonne	
Gold	1.7000	Grams per tonne	
Copper	0.4600	Per cent	

COMMENTS: A 1.8-metre chip sample from an adit on the Reno claim.
REFERENCE: Minister of Mines Annual Report 1926, page 217.

CAPSULE GEOLOGY

The various old workings of the Duffy showing are situated on the steep east bank of Hedley Creek, 1.5 to 2 kilometres northeast of Hedley.

The region northeast of Hedley is underlain by a sequence of interbedded limestone, siltstone and argillite of the Upper Triassic Hedley Formation (Nicola Group), which are intruded by stocks, dykes and sills of diorite and gabbro of the Early Jurassic Hedley Intrusions.

Sulphides are reported to occur as a replacement in limestone (skarn?) of the Hedley Formation. A chip sample, 1.8 metres long, taken from a 6-metre long tunnel on the Reno claim (Lot 845), assayed

CAPSULE GEOLOGY

1.7 grams per tonne gold, 5.1 grams per tonne silver and 0.46 per cent copper, and a grab sample from the Copper World claim (Lot 695), to the north, assayed 7.9 grams per tonne gold, 37.4 grams per tonne silver and 1.16 per cent copper (Minister of Mines Annual Report 1926, page 217).

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EMPR AR 1905-254; 1913-177; 1926-217
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (Starr, C.C. (1926): Report on Preliminary Examination of Mining Claims, Hedley Camp; Map of Hedley Camp with Geology and claims, 1926 (in 092HSE062))
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 243, p. 73
GSC OF 2167, pp. 59-80

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE064**

NATIONAL MINERAL INVENTORY: 092H8 Au5

NAME(S): **CANTY**, BOSTON (L.3112), GREENWOOD (L.3114),
PITTSBURG (L.3113)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Open Pit Underground

MINING DIVISION: Osoyoos

LATITUDE: 49 22 41 N
LONGITUDE: 120 00 14 W
ELEVATION: 1743 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5473801
EASTING: 717465

LOCATION ACCURACY: Within 500M

COMMENTS: Abandoned mine workings on Lot 3114, 2.3 kilometres east-northeast of
the summit of Nickel Plate Mountain and 5.5 kilometres northeast of
Hedley (NTS map sheet 092H/08 (Edition 2)).

COMMODITIES: Gold Silver Copper Cobalt Bismuth
Zinc

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Chalcopyrite Pyrrhotite Bismuth

ASSOCIATED: Clinopyroxene Calcite Quartz Garnet Epidote

Augite Albite Scapolite

COMMENTS: Also feldspar and nontronite.

ALTERATION: Clinopyroxene Calcite Quartz Garnet Epidote

Augite Albite Scapolite

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Massive Disseminated
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

LITHOLOGY: Lapilli Tuff
Ash Tuff
Siliceous Siltstone
Skarn
Diorite
Diorite Dike
Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

CAPSULE GEOLOGY

The Canty mine is hosted in the lower portion of the Upper Triassic Whistle Creek Formation (Nicola Group), locally comprising massive lapilli tuff, ash tuff and interbedded siliceous siltstone. See Nickel Plate (092HSE038) for detailed regional geology. Skarn-altered tuff, siltstone and diorite dykes (Hedley intrusions) are cut by an east-northeast striking, 120 to 180-metre wide granitic dyke. The skarn alteration is similar to that seen at the Nickle Plate mine to the southwest, but with much less garnet. The alteration assemblage includes calcite, garnet, clinopyroxene, quartz, scapolite and epidote. Augite, albite, feldspar and nontronite (chloropal) are also reported. Mineralization consists of arsenopyrite, pyrite, chalcopyrite, pyrrhotite and native bismuth. Gold is apparently associated with arsenopyrite. Mineralized grab samples from the Canty mine dump assayed up to 35 grams per tonne gold, 0.6 per cent cobalt and 29 per cent arsenic (Paper 1989-3, page 29). The mine lies adjacent to the Cahill Creek fracture zone, which may have played some role in controlling the mineralization. Underground work (in 1939) exposed several ore shoots, 6 to 21 metres long and 1.5 to 6 metres wide, developed in local fracture zones along a fold. The mineralized zone is outlined by drilling down to the 200 level. Continuation to depth (400 level) would

CAPSULE GEOLOGY

increase tonnage. A review of previous exploration data suggests that total reserves may be as high as 1 million tonnes (P. Thomas, International Corona Corporation, personal communication, 1991). Initial open pit reserves of 435,000 tonnes grading 3.4 grams per tonne gold are now exhausted (Mineral Exploration Review 1990, page 62). An unpublished amount of similar grade material remains in the pit.

The Canty mine was first explored in 1905. Canty Gold Mines (Hedley) Ltd. produced a total of 1483 tonnes grading 11.11 grams per tonne gold from underground workings between 1939 and 1941. The deposit was extensively explored by various companies, including Golden North Resource Corporation, during the 1980s. International Corona Corporation, operator of the nearby Nickel Plate mine, began open pit mining in August, 1990. Production ceased in April 1992. The company produced a total of 847,828 tonnes grading 2.73 grams per tonne gold during this time (Property File - D. Parsons, 1992).

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EMPR ASS RPT 8786, 10213, 10800, 13474, 13475, *15739
EMPR EXPL 1986-A29,A65; 1988-A44; 1990-12,47,59
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR INF CIRC 1991-1, p. 62
EMPR MAP 65 (1989)
EMPR OF 1987-10; 1988-6; 1992-1; 1998-8-M, pp. 1-74
EMPR P *1989-3, pp. 29,30
EMPR PF (Stewart, R.H. (Aug. 27, 1938, Feb. 3, 1939, Oct. 15, Oct. 19, 1940): Progress reports on development on Boston claim for Canty Gold Mines Ltd.; Farris, W.B (1940): Directors' Report to the Shareholders; Canty Gold Mines Ltd (Jan. 20, 1939, Mar. 21, Nov. 18, 1940): Balance sheets for Dec 31, 1938, Dec 30, 1939 and Aug. 31, 1940; Parsons, D. (1992): Fax transmission to P. Fischl)
EMR MP CORPFILE (Golden North Resource Corporation, Good Hope Resources Ltd., Grove Explorations Ltd.)
GSC MAP 568A; 888A; 41-1989
GSC MEM *243, p. 73
GSC OF 2167, pp. 59-80
GCNL #132,#194,#199, 1980; #62,#91,#158,#240,#241, 1981; #98, #112,#196, 1982; #29,#101, 1983; #39, 1984; #169,#235, 1985; #49,#80,#121,#130,#150,#218,#223, 1986; #17,#28,#34,#59, 1987; #41,#189,#238, 1988; #26(Feb.7),#54(Mar.17), 1989; #41(Feb.27), 1990
IPDM Nov. 1985
N MINER Apr.9, May 21, June 25, Aug.13, Dec.24, 1981; Oct.14, 1982; Feb.17, May 19, 1983; June 9,30, Dec.1, 1986; Feb.27, Nov.30, 1987; Mar.7, Nov.28, Dec.19, 1988; Feb.27, Mar.27, 1989
NW PROSP Sept./Oct. 1989
V STOCKWATCH Aug., July 17, Nov. 18, 1987; Dec. 12, 1989

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/21

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE065**

NATIONAL MINERAL INVENTORY:

NAME(S): **TORONTO**, GALENA, YAK,
SUN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 49 N
LONGITUDE: 120 05 20 W
ELEVATION: 1021 Metres

NORTHING: 5475659
EASTING: 711215

LOCATION ACCURACY: Within 500M

COMMENTS: A 3-metre adit on the west bank of Hedley Creek, at the base of a bluff, 700 metres southwest of the confluence with McNulty Creek (Minister of Mines Annual Report 1936, page D13).

COMMODITIES: Silver Gold Copper Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 3 x 1 Metres STRIKE/DIP: 080/75N TREND/PLUNGE:
COMMENTS: Vein up to 0.38 metres wide explored by tunnelling over a length of 3 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			

LITHOLOGY: Siltstone
Limestone
Quartzite

HOSTROCK COMMENTS: Stemwinder Mountain Formation date from Fieldwork 1987, page 66.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

INVENTORY

ORE ZONE: ADIT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1936
SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	165.0000	Grams per tonne
Gold	0.6900	Grams per tonne

COMMENTS: A 28-centimetre chip sample from an adit.
REFERENCE: Minister of Mines Annual Report 1936, page D13.

CAPSULE GEOLOGY

The Toronto showing occurs at the base of prominent bluffs, 700 metres southwest of the confluence of Hedley and McNulty creeks.

A zone of grey "watery" quartz up to 38 centimetres thick, strikes 080 degrees and dips 75 degrees north, within siltstone, limestone and quartzite of the Upper Triassic Stemwinder Mountain Formation (Nicola Group).

The zone is mineralized with bands and streaks of pyrite and small amounts of chalcopyrite and galena. A 28-centimetre chip sample of mineralized quartz, taken adjacent to the footwall, assayed 0.69 gram per tonne gold and 165 grams per tonne silver (Minister of Mines Annual Report 1936, page D13).

This showing was explored by an adit, 3 metres long, in 1936.

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 830
REPORT: RGEN0100

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GSC MEM 243, p. 75
GSC OF 2167, pp. 59-80
GSC SUM RPT 1907, p. 29

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE066**

NATIONAL MINERAL INVENTORY: 092H8 Au6

NAME(S): **WHIRLWIND (L.1866S)**, CYCLONE (L.1867S), PEGGY,
RAWHIDE, HEDLEY AMALGAMATED

STATUS: Prospect	Underground	MINING DIVISION: Osoyoos
REGIONS: British Columbia		UTM ZONE: 10 (NAD 83)
NTS MAP: 092H08E		NORTHING: 5473023
BC MAP:		EASTING: 711822
LATITUDE: 49 22 23 N		
LONGITUDE: 120 04 55 W		
ELEVATION: 1119 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Underground workings on the Whirlwind claim (Lot 1866s), 1.5 kilometres north-northwest of Hedley (NTS map sheet 092H/08).		

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Arsenopyrite	Pyrite	Pyrrhotite	Chalcopyrite	Covellite
ASSOCIATED: Sphalerite				
ALTERATION: Quartz	Garnet	Pyroxene	Carbonate	Scapolite
ALTERATION TYPE: Epidote	Wollastonite	Sericite		
COMMENTS: Also chlorite, orthoclase and prehnite.				
ALTERATION TYPE: Silicific'n	Skarn			
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Breccia	Concordant		
CLASSIFICATION: Hydrothermal	Skarn	Epigenetic	
TYPE: K04 Au skarn			
DIMENSION: 160 x 73 x 1	Metres	STRIKE/DIP: /22W	TREND/PLUNGE:
COMMENTS: Mineralized fault zone strikes northeast and dips 22 degrees northwest.			

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Stemwinder Mountain	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Limestone
Diorite
Garnet Pyroxene Skarn
Calcareous Argillite
Sill

HOSTROCK COMMENTS: Stemwinder Mountain Formation date from Geological Fieldwork 1987, p. 66; Hedley Intrusions date from Geological Fieldwork 1989, p. 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Contact	RELATIONSHIP: Pre-mineralization GRADE:

INVENTORY

ORE ZONE: SHOWING	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1933
SAMPLE TYPE: Drill Core	
COMMODITY: Gold	GRADE: 11.3000 Grams per tonne
COMMENTS: A 1.0-metre intersection.	
REFERENCE: Minister of Mines Annual Report 1933, page 171.	

CAPSULE GEOLOGY

The Whirlwind prospect is located atop the southeast-trending spur of Stemwinder Mountain, 1.5 kilometres north-northwest of Hedley.

The region north of Hedley is underlain by a sequence of interbedded siltstone, argillite, limestone, quartzite and chert of

CAPSULE GEOLOGY

the Upper Triassic Stenwinder Mountain Formation (Nicola Group), which is intruded by stocks, dykes and sills of diorite and gabbro of the Early Jurassic Hedley Intrusions. The Stenwinder, Aberdeen and Toronto stocks are three of the more prominent dioritic bodies intruding these sediments. Bedding generally strikes northeast and dips shallow northwest.

The underground workings are developed in limestone with some interbedded calcareous argillite along the southwest flank of the Stenwinder stock. The limestone progressively grades into coarse-grained garnet-pyroxene skarn, while the argillite changes to a greenish, siliceous fine-grained skarn to the northeast. Carbonate, quartz, scapolite, epidote, wollastonite, sericite, chlorite, orthoclase and prehnite are also present in the skarn. The sediments are intruded by various sills originating from the Stenwinder stock.

The diorite and flanking metasediments are cut by a fault zone dipping about 22 degrees to the northwest, generally following bedding. Two levels of underground workings have traced the zone over a strike length of 160 metres and a downdip distance of 73 metres.

The zone is comprised of brecciated wallrock cemented and partly replaced by dark-coloured cherty quartz. Mineralization consists of disseminations and stringers of arsenopyrite, pyrite, pyrrhotite and minor chalcopyrite in the cherty parts of the zone. This fault-controlled mineralization is discontinuous, and occurs over lengths of up to 67 metres, with widths of up to 1 metre. Sixteen channel samples, 23 to 107 centimetres long, taken over a distance of 37 metres in the No. 2 level assayed trace to 29 grams per tonne gold and up to 1.4 grams per tonne silver (Minister of Mines Annual Report 1947, page 150). A hole drilled in 1926 encountered 1.0 metre grading 11.3 grams per tonne gold (Minister of Mines Annual Report 1933, page 171). Grab samples of sulphide-rich material collected from the dump at the old workings gave maximum assay values of 29 grams of gold and 16 grams of silver per tonne, with 0.52 per cent copper and 2.5 per cent arsenic (Paper 1989-3, page 30).

Weaker mineralization also occurs in the enclosing garnet-pyroxene skarn. Arsenopyrite and traces of chalcopyrite, covellite and sphalerite are disseminated throughout the skarn.

Exploration of this prospect dates back to 1920. Most of the work was carried out by Hedley Amalgamated Gold Mines Ltd. between 1934 and 1949 and involved tunnelling, raising and surface and underground diamond drilling.

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EMPR ASS RPT 12203
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
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EMPR PF (Sketch showing Red adit (1:360), 1936; Geologic Map Red Tunnel (1:240); Hedley Amalgamated Gold Mines, 1936; Assay Plan, Showing Upper Working and Diamond Drill Holes (1:240), 1938; Underground Section, Showing Diamond Drill Holes & Tunnels (1:180), Hedley Amalgamated, 1935; Diamond Drill Holes (1:180), with analyses, 1935; Claim map, Hedley Amalgamated (1:9000), 1936; Diamond Drill Hole Assay & Core Log sketches (3), Holes 1-11, Hedley Amalgamated Gold Mines Ltd., 1936; Mine Sections showing Geology, Hedley Amalgamated Gold Mines Ltd., 1936; Assay Map - Red Tunnel (1:240), Hedley Amalgamated Gold Mines, 1936)
EMR MP CORPFILE (Hedley Amalgamated Gold Mines Ltd.)
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 243, p. 75
GSC OF 2167, pp. 59-80

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE067**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED STAR** REDSTAR RED STAR (L.399),
ANACONDA (L.400), SPHENO, SAILOR JACK (L.273),
SAILOR LASS, HINGE 1-8, BELL CREEK,
BELL, ROCHE, PASAYTEN,
TELL, AU, STAR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H02E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 08 59 N
LONGITUDE: 120 36 36 W
ELEVATION: 1158 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5446850
EASTING: 674279

LOCATION ACCURACY: Within 500M

COMMENTS: Adit in the Red Star Main zone, 300 metres northwest of Highway 3 on the northwest bank of the Similkameen River, 2.2 kilometres southwest of the river's confluence with the Pasayten River and 35 kilometres south-southwest of Princeton (Assessment Report 21491, Figure 6).

COMMODITIES: Zinc Copper Silver Gold Lead
Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite Pyrite Galena Bornite
Molybdenite Pyrrhotite Chalcocite

COMMENTS: Trace of cadmium in samples from underground workings.

ASSOCIATED: Quartz Barite Kaolinite Sericite
ALTERATION: Silica Biotite Magnetite Chlorite Sericite
Pyrite

ALTERATION TYPE: Silicific'n Biotite Chloritic Sericitic Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Podiform Massive
CLASSIFICATION: Volcanogenic Hydrothermal Epigenetic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 480 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Mineralized zone trends north for 480 metres. Four distinct types of mineralization occur. Shear-hosted quartz veins and sweats are the best mineralization of the Main zone.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Sericite Chlorite Schist
Argillite
Siltstone
Massive Chlorite Schist
Chlorite Sericite Schist
Quartz Sericite Schist
Dacite Lapilli Tuff
Rhyolite Lapilli Tuff

HOSTROCK COMMENTS: The 'western facies' of the Nicola Group.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Syn-mineralization
Post-mineralization

GRADE: Greenschist

COMMENTS: Deposit is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Channel

YEAR: 1991

COMMODITY	GRADE	
Silver	38.4000	Grams per tonne
Gold	0.9500	Grams per tonne
Copper	3.7200	Per cent
Zinc	40.0000	Per cent

COMMENTS: This sample was taken over a thickness of 1.1 metres.

REFERENCE: Assessment Report 21491, page 15 (sample 95875).

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Drill Core

YEAR: 1994

COMMODITY	GRADE	
Silver	10.6000	Grams per tonne
Copper	0.2600	Per cent
Zinc	0.7600	Per cent

COMMENTS: Sample 942600, taken over the 1.46-metre interval between 225.70 and 227.16 metres in drillhole 94-02.

REFERENCE: Assessment Report 23981.

CAPSULE GEOLOGY

The Red Star deposit is situated on the northwest bank of the Similkameen River, just above Highway 3 and about 35 kilometres south-southwest of Princeton.

Exploration work has been conducted in the Bell Creek area since 1900. Most of this work has been focused on a couple of showings near the eastern boundary of Manning Provincial Park, just north of Eastgate, British Columbia. The Redstar has received the most exploration attention, although the Knob Hill (092HSE069), Golden Crown (092HSE191) and Paw (092HSE093) have also been explored. Several adits were excavated on the better showings by early workers, extending up to 332 metres in length. There are at least five adits with raises and shafts on the former Red Star claims, with a total known length of 565 metres. Between 1967 and 1970, Spheno Mines Ltd. carried out an exploration program over the Knob Hill and Red Star claim area. In 1964 and 1965, 36 tonnes of sorted ore were mined from the Main zone. This program was followed up with five diamond-drill holes. Cominco Ltd. optioned the claims covering the Red Star occurrence in 1980 and conducted a comprehensive exploration program for volcanogenic massive sulphide deposits. A strong electromagnetic conductor coinciding with an induced polarization conductor was defined. Weak copper and zinc soil anomalies associated with the favourable Red Star horizon were also coincident with geophysical results. In 1986 and 1987, Bukara Resources Ltd. completed additional exploration including 1100 metres of trenching, focused on gold-bearing pyritiferous schists in the Red Star horizon. The Red Star massive sulphide lens was excavated over caved underground workings. In 1990, the Red Star occurrence and surrounding area were restaked by Pamicon Developments Ltd. in 1990. Many of the old surface workings were resampled and mapped, including the massive sulphide lens. In 1992, Westmin Resources Ltd. optioned the claims from Pamicon Developments Ltd. and conducted two phases of comprehensive exploration. In 1993 and 1994, exploration was continued by Westmin Resources Ltd. and included 1406.34 metres of diamond drilling in 5 holes. In 1997, Teck began a 1200-metre drilling program to earn interest from Redstar Resources.

The property is underlain by Upper Triassic Nicola Group volcanics which consist of a varied assemblage of intermediate to mafic and locally felsic to intermediate calcalkaline volcanic flows and pyroclastics with associated greywacke, argillite, and minor limestone. The Nicola Group rocks form a northeast-trending belt, 5 to 6 kilometres wide, which are metamorphosed to greenschist facies and amphibolite facies along the eastern margin of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex granodiorite. The resulting chloritic and sericitic schists strike 165 to 180 degrees with an average dip of 65 degrees west.

To the north, the Nicola Group rocks are unconformably overlain by andesite and basalt flow rocks of the Eocene Princeton Group. The relatively fresh andesites and basalts form a capping over the Nicola rocks and are represented by a resistant topographic high.

In the immediate vicinity of the deposit, Nicola Group rocks include sericite-quartz(+/- chlorite) schist, argillite, siltstone, massive chlorite schist, chlorite-sericite schist, quartz-sericite schist, and dacite and rhyolite lapilli tuff that form up to 7 locally defined lithological units. The dominant foliation strikes

CAPSULE GEOLOGY

south-southeast to south and dips moderately to steeply west and parallels the contact between the Nicola Group and the Eagle Plutonic Complex. Open kinks and isoclinal folds in compositional layering are observed on a outcrop scale. Fold hinges plunge shallowly to the north and south. Faults parallel the regional and local foliation. A series of low to high angle anastomosing shears occur in association with alteration around the Red Star occurrence. These structures appear to be concentrated on the west side of the Red Star horizon but can be found to the east as well.

Well-developed secondary biotite and magnetite, in the form of disseminated grains, lenses and seams, occurs in some units. Chloritization, silicification and sericitization are the most common forms of alteration.

Mineralization is hosted by a wide zone of strongly sheared, locally faulted, strongly schistose quartz-sericite-pyrite schist, sericite schist and chlorite schist containing large boudinaged quartz veins and smaller fractured quartz veins along gouge-filled subvertical structures. Intense sericitization is characteristic over the entire Red Star horizon and is observed along strike to the north and south but is cut off abruptly in the structural hangingwall. The sericitization has produced a 'talco-like' texture. Other variably hydrothermal alteration types include silicification and pyritization. The rocks associated with the Red Star occurrence have anomalously high K₂O/Na₂O ratios, enriched SiO₂, magnesium and barium contents, and a depleted CaO content. Barite is a significant component of the mineralization at the Red Star occurrence.

Alteration and remobilization of the mineralization has resulted in several types of ore (Geological Survey of Canada Memoir 243): 1) general pyritization of the silicified schists; 2) further silicification of the fracture zones resulting in the production of white sugary quartz carrying pyrite, sphalerite, chalcocite and galena (these deposits are about 0.9 metre in width and are the ore-bearing sources); 3) small persistent and distinct veins of white quartz, usually less than 46 centimetres in width; and 4) glassy quartz with patches of blebs of pyrite, chalcocite and rarely bornite with chalcocite.

The best mineralization is associated with the Main zone, which extends north-south for 480 metres, and generally consists of disseminated sphalerite and chalcocite in quartz veins and veins within highly sheared, sericitic schist. Significant sphalerite, chalcocite with galena, silver and gold mineralization was reported from the underground workings which have since caved in. Trace cadmium was reported in all samples. Locally, within the Main zone, 3 to 40-centimetre thick, highly folded and boudinaged quartz veins host trace to pods of chalcocite and sphalerite.

A lens of massive sulphide mineralization believed to be of volcanogenic origin occurs within the Main zone. The lens is 0.15 to 1.2 metres thick and has been traced over a strike length of 16 metres. The lens appears to closely parallel the foliation of the enclosing pyritic sericite chlorite schists. The lens consists of coarse-grained sphalerite, pyrite and chalcocite, which display weak banding. Minor bornite, galena, molybdenite and pyrrhotite are also present. Gangue minerals include quartz, barite, kaolinite and sericite.

In the late 1960s, two diamond-drill holes, 210 metres apart, intersected 75.9 and 45.4 metres grading 1.17 per cent and 0.65 per cent zinc, respectively (Assessment Report 8170). A channel sample taken over a thickness of 1.1 metres, assayed 0.95 gram per tonne gold, 38.4 grams per tonne silver, 3.72 per cent copper and 40.0 per cent zinc (Assessment Report 21491, page 15, sample 95875). In 1994, the best intersections of five drillholes on the Red Star occurrence were from drillhole 94-02. Sample 942565, taken over the 1.22-metre interval between 94.5 and 95.72 metres, yielded 0.16 per cent zinc, 0.20 per cent copper, 1.2 grams per tonne silver and 0.13 per cent barium (Assessment Report 23981). Sample 942600, taken over the 1.46-metre interval between 225.70 and 227.16 metres, yielded 0.76 per cent zinc, 0.26 per cent copper, 10.6 grams per tonne silver and 0.51 per cent barium. Sample 942602, taken over the 1.50-metre interval between 235.23 and 236.73 metres, yielded 0.22 per cent zinc, 0.16 per cent copper and 10.6 grams per tonne silver.

In 1964 and 1965, 36 tonnes of sorted ore grading 0.86 gram per tonne gold, 72.6 grams per tonne silver, 6.51 per cent copper and 8.14 per cent zinc were mined from the Main zone.

Teck Corp. drilled the property in 1998 to earn 70 per cent interest from Redstar Resources Corp.

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*1938-D25,D26; 1965-A54; 1967-278,279
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EMPR BC METAL MM00297
EMPR EXPL 1980-186-187
EMPR INDEX 4-124
EMPR GEM *1969-290-291; 1970-386,387
EMPR OF 1999-2
EMPR PF (*McKechnie, N.D. (1959): Brief Report on the Red Star Group
Dec. 3, 1959; old National Mineral Inventory card; Red Star Res.
Corp., Prospectus, March 7, 1997 (in Rock and Roll file - 104B
377))
GSC BULL 238
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, pp. 104-105
GSC P 85-1A, pp. 349-358
GSC SUM RPT *1923, pp. 78A,79A
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #77 (Apr.22), #219 (Nov.14), 1997; #20, (Jan.29), 1998;
#221(Nov.20), 2000
N MINER Dec. 15, 1997
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE068**

NATIONAL MINERAL INVENTORY:

NAME(S): **PASAYTEN**, PASSAYTON (L.229), ROACHE (L.1195),
PEYSAYTON, BELL, STAR,
TELL, AU

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H02E
BC MAP:
LATITUDE: 49 09 23 N
LONGITUDE: 120 35 28 W
ELEVATION: 1131 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adit on the Passayton claim (Lot 229), on the northwest side of the Similkameen River (Roche River), 700 metres west-southwest of the river's confluence with the Pasayten River (Assessment Report 21491, Figure 5).

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5447635
EASTING: 675632

COMMODITIES: Copper Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Tetrahedrite Bornite Gold
Telluride
COMMENTS: Native gold and a telluride were reported but not confirmed.
ASSOCIATED: Quartz
ALTERATION: Carbonate Azurite Malachite Chlorite
COMMENTS: Spots of ferruginous carbonate have developed in the schists.
ALTERATION TYPE: Carbonate Oxidation Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Faulted
DIMENSION: 400 x 300 x 8 Metres STRIKE/DIP: 085/ TREND/PLUNGE:
COMMENTS: Veins outcrop over an area 400 by 300 metres and in at least one underground working over a vertical distance of 8 metres.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
FORMATION: Undefined Formation
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Chlorite Schist
Chlorite Sericite Schist
Mafic Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This deposit is situated near the south end of the Nicola belt.
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Post-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: ADIT
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Silver 20.6000 Grams per tonne
Gold 4.8000 Grams per tonne
Copper 4.5000 Per cent
COMMENTS: A hand-picked sample from a lower adit.
REFERENCE: Minister of Mines Annual Report 1927, page 250.

CAPSULE GEOLOGY

The Pasayten prospect is situated 400 to 800 metres west of the confluence of the Similkameen and Pasayten rivers, 34 kilometres south-southwest of Princeton. Exploration work has been conducted in the Bell Creek area since 1900. Most of this work has been focused on a couple of showings near the eastern boundary of Manning Provincial Park, just north of Eastgate, British Columbia. The Redstar (092HSE067) has received the

CAPSULE GEOLOGY

most exploration attention, although the Knob Hill (092HSE097), Golden Crown (092HSE191) and Paw (092HSE093) have also been explored. Several adits were excavated on the better showings by early workers, extending up to 332 metres in length. The Paw prospect was intermittently explored between 1900 and 1927. Between 1967 and 1970, Spheno Mines Ltd. carried out an exploration program over the Knob Hill and Red Star claim area. Cominco Ltd. optioned the claims covering the Red Star occurrence in 1980 and conducted a comprehensive exploration program for volcanogenic massive sulphide deposits. In 1986 and 1987, Bukara Resources Ltd. completed additional exploration including 1100 metres of trenching, focused on gold-bearing pyritiferous schists in the Red Star horizon. In 1990, the Red Star occurrence and surrounding area were restaked by Pamicon Developments Ltd. in 1990. In 1992, Westmin Resources Ltd. optioned the claims from Pamicon Developments Ltd. and conducted two phases of comprehensive exploration. In 1993 and 1994, exploration was continued by Westmin Resources Ltd.

The area is underlain by Upper Triassic Nicola Group volcanics which consist of a varied assemblage of volcanic flows, pyroclastics and associated clastics with minor limestone. To the northwest these rocks are unconformably overlain by andesite and basalt flows of the Eocene Princeton Group. Greenschist facies metamorphism has affected the Nicola sequence in a northeast-trending belt, 5 to 6 kilometres wide, that parallels the eastern margin of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The resulting chloritic and sericitic schists strike 165 to 180 degrees with an average dip of 65 degrees west.

Old workings on the property consist of an adit about 51 metres long and another about 40 metres, with some shallow opencuts and trenches. Mineralization is hosted in numerous narrow quartz veins in foliated mafic volcanics. The veins outcrop over a 400 by 300 metre area lying within and east of Lot 229.

Strong carbonate alteration accompanies the various quartz veins. Ferruginous carbonate is developed throughout the schist in the vicinity of the above vein.

Much of the trenching and tunnelling has concentrated on a narrow quartz vein, 5 to 31 centimetres wide, which follows a major fissure in chlorite and sericite schists. The vein strikes 085 degrees for at least 14 metres and has been traced over a vertical distance of at least 8 metres. The structure of the vein is complicated by postmineral faulting. Intense crossfaulting at one point has segmented the vein into a series of lenses.

The trenched and tunnelled vein contains pyrite, chalcopyrite, bornite, tetrahedrite and azurite. The presence of native gold and a telluride was reported but not confirmed. Strongest mineralization occurs at or near the crossfaults. The various other quartz veins are mineralized with disseminated tetrahedrite, chalcopyrite, bornite and malachite.

A selected grab sample from the lower tunnel of the faulted vein assayed 4.8 grams per tonne gold, 20.6 grams per tonne silver and 4.5 per cent copper (Minister of Mines Annual Report 1927, page 250). Ten grab samples of selected material from the veins assayed 0.03 to 30.65 grams per tonne gold, 1.1 to 13.6 grams per tonne silver, 0.12 to 1.39 per cent copper and nil to 0.14 per cent lead (Assessment Report 21491, Figure 5, samples 95818 to 95827).

The area surrounding the Paw prospect, referred to as the Roche grid area by Westmin Resources Ltd., was soil sampled in 1994 to test for base metal, massive sulphide mineralization associated with felsic volcanics and for gold-copper mineralization associated with quartz veins. The results were the delineation of a copper-zinc soil anomaly striking 175 to 180 degrees. Copper values ranged up to 520 parts per million and zinc concentrations up to 370 parts per million (Assessment Report 23981). This zone is also locally anomalous in barium (up to 1720 parts per million).

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GSC MEM *243, pp. 105-106
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1906, p. 50; *1923, p. 77A
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE069**

NATIONAL MINERAL INVENTORY:

NAME(S): **KNOB HILL (L.709)**, ROCHE RIVER, SPENHO-35,
 WINE, BELL, ROCHE,
 STAR, PASAYTEN, TELL,
 AU

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H02E
 BC MAP:
 LATITUDE: 49 08 48 N
 LONGITUDE: 120 37 36 W
 ELEVATION: 1341 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Westernmost adit, 450 metres southwest of Bell Creek and 2.2 kilometres northwest of Highway 3 on the northwest side of the Similkameen River (Assessment Report 21491, Figure 5).

Underground
 MINING DIVISION: Similkameen
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5446472
 EASTING: 673074

COMMODITIES: Copper Silver Zinc Gold

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite Chalcocite
 ASSOCIATED: Quartz
 ALTERATION: Malachite Azurite Hematite Silica
 ALTERATION TYPE: Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated
 CLASSIFICATION: Epigenetic Hydrothermal
 TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn 105 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: 15 x 2 Metres STRIKE/DIP: 169/43W TREND/PLUNGE:
 COMMENTS: Mineralization is hosted in two shear zones up to 2.4 metres wide. One zone is traced over a vertical extent of 15 metres.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Sericite Schist
 Sericite Chlorite Schist
 Sericitic Schist
 Talc Schist
 Meta Sediment/Sedimentary
 Siliceous Rock
 Granodiorite

HOSTROCK COMMENTS: The Eagle Plutonic Complex is Late Jurassic to Early Cretaceous in age (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional
 COMMENTS: This deposit is situated near the south end of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
 RELATIONSHIP: Post-mineralization
 GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1991
 SAMPLE TYPE: Grab
 COMMODITY

COMMODITY	GRADE	
Silver	80.2000	Grams per tonne
Gold	1.0000	Grams per tonne
Copper	7.4300	Per cent

COMMENTS: Grab sample of pyritic and sericitic material from dump of old adit.
 REFERENCE: Assessment Report 21491, page 16, sample 95806.

CAPSULE GEOLOGY

The Knob Hill prospect is located 0.5 kilometre southwest of Bell Creek, on the northwest side of the Similkameen River and 35 kilometres south-southwest of Princeton. Exploration work has been conducted in the Bell Creek area since 1900. Most of this work has been focused on a couple of showings

CAPSULE GEOLOGY

near the eastern boundary of Manning Provincial Park, just north of Eastgate, British Columbia. The Redstar (092HSE067) has received the most exploration attention, although the Knob Hill, Golden Crown (092HSE191) and Paw (092HSE093) have also been explored. Several adits were excavated on the better showings by early workers, extending up to 332 metres in length. The Knob Hill prospect was first explored by John Bowman between 1920 and 1927, with a 48-metre long crosscut adit and several opencuts and trenches. Between 1967 and 1970, Spheno Mines Ltd. carried out an exploration program over the Knob Hill and Red Star claim area. Cominco Ltd. optioned the claims covering the Red Star occurrence in 1980 and conducted a comprehensive exploration program for volcanogenic massive sulphide deposits. In 1986 and 1987, Bukara Resources Ltd. completed additional exploration including 1100 metres of trenching, focused on gold-bearing pyritiferous schists in the Red Star horizon. In 1990, the Red Star occurrence and surrounding area were restaked by Pamicon Developments Ltd. in 1990. In 1992, Westmin Resources Ltd. optioned the claims from Pamicon Developments Ltd. and conducted two phases of comprehensive exploration. In 1993 and 1994, exploration was continued by Westmin Resources Ltd.

The area is underlain by Upper Triassic Nicola Group volcanics, which are comprised of a varied assemblage of volcanic flows, pyroclastics with associated clastics with minor limestone. These rocks are metamorphosed to greenschist facies in a 5 to 6 kilometre wide northwest-trending belt, that parallels the eastern margin of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex granodiorite. The resulting chloritic and sericitic schists strike 165 to 180 degrees, with an average dip of 65 degrees west. The Nicola Group is unconformably overlain by the Eocene Princeton Group rocks comprised of basaltic and andesitic flows, pyroclastics and agglomerates.

This prospect is hosted in a sericitic and talcose schist within a sericite and sericitic chlorite schist sequence. Silicification varies from moderate to extreme. Silica-rich lithologies tend to exhibit boxwork textures.

Mineralization occurs in two shear zones 2.4 and 1.8 metres wide respectively, exposed in a west-trending adit. The zones are 17 metres apart. The easternmost zone also occurs on surface, 15 metres above the adit. Both strike 165 to 172 degrees and dip 33 to 53 degrees southwest, conformable to the enclosing schist.

These zones are silicified with sugary quartz, accompanied by abundant pyrite and some chalcopyrite and chalcocite, and minor hematite, malachite and azurite. Chalcocite occurs as a coating on pyrite. A drillhole intersected 'heavy sulphides' on the down-dip projection of both zones but failed to intersect significant copper mineralization (Assessment Report 878). A selected grab sample assayed trace gold, 20.6 grams per tonne silver and 9.6 per cent copper (Minister of Mines Annual Report 1927, page 250). A sample of pyritic, sericitic material taken from the adit dump assayed 1.0 gram per tonne gold, 80.2 grams per tonne silver, 7.43 per cent copper and 0.659 per cent zinc (Assessment Report 21491, page 16, sample 95806).

Exploration in the immediate vicinity of the shear zones encountered widespread disseminated sphalerite, in addition to disseminated and stringer pyrite in quartz veins, metasediments and siliceous rocks. Four samples assayed 0.27 to 0.79 per cent zinc and trace to 0.03 per cent copper (Assessment Report 878, page 4). Magnetic surveys completed in 1993 and 1994 indicated that the favourable volcanic rocks which host the Knob Hill occurrence may extend to the north and south. A very-low-frequency electromagnetic conductor is also present along strike from the Knob Hill occurrence in an area referred to as the Knob Hill grid area. Subsequent soil sampling in the Knob Hill grid area has outlined a narrow, copper (up to 414 parts per million) and zinc (up to 1170 parts per million) anomaly coinciding with a barium anomaly up to 2220 parts per million.

BIBLIOGRAPHY

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EMPR ASS RPT *878, 2807, *16465, *21491, 22606, 22934, *23408, *23981
EMPR GEM 1970-386
GSC BULL 238
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, p. 106
GSC P 85-1A, pp. 349-358
GSC SUM RPT *1923, pp. 77A, 78A
CJES Vol. 24, pp. 2521-2536 (1987)

MINFILE NUMBER: **092HSE070**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIG BEN**, SPARKLER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H02W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 09 01 N
LONGITUDE: 120 51 10 W
ELEVATION: 1585 Metres

NORTHING: 5446381
EASTING: 656575

LOCATION ACCURACY: Within 500M

COMMENTS: No. 3 tunnel on the south side of Big Ben Creek, 650 metres west of the Similkameen River, 4 kilometres north-northeast of Allison Pass and 42 kilometres southwest of Princeton (Property File - G.H. Shepherd, 1949).

COMMODITIES: Zinc Gold Silver Copper Antimony

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Sphalerite Arsenopyrite Chalcopyrite

Stibnite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Breccia Stockwork Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: E15 Blackbird sediment-hosted Cu-Co 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 800 x 400 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of sulphide mineralization.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Cretaceous Pasayten Undefined Formation

LITHOLOGY: Conglomerate
Arkose
Tuffaceous Sandstone
Siltstone
Shale
Lithic Tuff
Gabbro Dike
Gabbro Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1959
SAMPLE TYPE: Chip
COMMODITY GRADE
Zinc 3.3900 Per cent
COMMENTS: A 1.8-metre chip sample across the hangingwall of a fault containing sphalerite.
REFERENCE: Minister of Mines Annual Report 1959, page 121.

CAPSULE GEOLOGY

The Big Ben showing outcrops west of the Similkameen River, about 4 kilometres north-northeast of Allison Pass and 42 kilometres southwest of Princeton.

This showing is hosted in a section of conglomerate, arkose, tuffaceous sandstone, lithic tuff, siltstone and shale of the Cretaceous Pasayten Group. The beds strike 130 degrees and dip 70 degrees southwest. Several dykes and sills of gabbro have intruded the beds in the vicinity of the showings.

The various sulphide showings comprising this occurrence are scattered about an area 800 metres long and up to 400 metres wide, bounded by two creeks flowing eastward into the Similkameen River, Cameron (Coldwater) Creek to the north and Big Ben (Bonanza) Creek to the south. Most of the mineralization outcrops along the two creeks.

Pyrrhotite, pyrite and sphalerite, with minor arsenopyrite and chalcopyrite, occur as narrow stringers, aggregates and massive

CAPSULE GEOLOGY

lenses, usually in faults, shears and in small breccia zones. Stibnite has also been reported. Individual breccia zones are up to 15 metres long and 3 metres wide. Stronger mineralization occurs over widths of up to 1.2 metres. A chip sample, 1.8 metres long, taken across the hangingwall of a bedding-plane fault with sphalerite, assayed 3.39 per cent zinc, and a sample from a sulphide lens, 1.8 metres long and up to 0.43 metres wide, assayed 0.3 gram per tonne gold, 34 grams per tonne silver, 0.13 per cent copper and 0.06 per cent zinc (Minister of Mines Annual Report 1959, page 121). Samples containing abundant pyrite, arsenopyrite, sphalerite and chalcopyrite, taken along Big Ben Creek, assayed 12 grams per tonne gold, 21 grams per tonne silver and 16.2 per cent arsenic (Minister of Mines Annual Report 1927, page 248).

Similar mineralization is reported to be hosted in the gabbro dykes and sills.

This occurrence has been periodically explored between 1924 and 1965.

BIBLIOGRAPHY

- EMPR AR 1925-212; 1927-248; 1928-265; *1959-119-121
EMPR ASS RPT *137, 690
EMPR PF (*McKechnie, N.D. (1959): correspondence to R.R. Steiner; McKechnie, N.D. (1959): correspondence to H. Sargent; Sargent, H. (1959): correspondence to N.D. McKechnie; *Shepherd, G.H. (1949): 1 to 3600 scale sample plan of Big Ben showing; Steiner, R.R. (1959): correspondence to N.D. McKechnie)
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, pp. 113,114
GSC P 85-1A, pp. 349-358
CJES #23, pp. 1022-1041

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE071**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER MOON**, MORNING STAR (L.1201), APEX (L.1202)

STATUS: Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H02E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 49 N

LONGITUDE: 120 33 14 W

ELEVATION: 945 Metres

NORTHING: 5452230

EASTING: 678200

LOCATION ACCURACY: Within 500M

COMMENTS: Gold-copper showing on the east bank of the Similkameen River, 0.8 kilometre north of the confluence with Copper Creek (Geological Survey of Canada Map 888A).

COMMODITIES: Gold

Silver

Zinc

Copper

Lead

MINERALS

SIGNIFICANT: Arsenopyrite Gold Pyrite Sphalerite Chalcopyrite

Galena

ASSOCIATED: Quartz Calcite

ALTERATION: Chlorite

ALTERATION TYPE: Chloritic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Shear

Massive

Disseminated

CLASSIFICATION: Hydrothermal

Epigenetic

TYPE: I01 Au-quartz veins

DIMENSION: 10 x 1

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Gold mineralization in flat-lying quartz and calcite stringers up to 0.4 metre wide that have been exposed for lengths of up to 10 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Fragmental Volcanic
Fragmental Porphyritic Andesite
Massive Porphyritic Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

Overlap Assemblage

METAMORPHIC TYPE: Contact Regional

RELATIONSHIP: Post-mineralization

GRADE:

COMMENTS: This deposit occurs in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1938

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

309.0000

Grams per tonne

Gold

1123.2000

Grams per tonne

COMMENTS: A high-grade, arsenopyrite-rich sample with free gold.

REFERENCE: Minister of Mines Annual Report 1938, page D24.

CAPSULE GEOLOGY

The various outcrops of the Silver Moon occurrence are situated along the Similkameen River, in the vicinity of the river's confluence with Copper Creek, about 29.5 kilometres south of Princeton.

The area is underlain by Upper Triassic Nicola Group volcanics which are comprised of a varied assemblage of volcanic flows and pyroclastics with associated greywacke, argillite and minor limestone. Greenschist facies metamorphism has affected the Nicola sequence, and chloritization occurs throughout.

The showings consist of shear zones in fragmental volcanics of the Nicola Group. The principle showing, 120 to 370 metres north of Copper Creek, is comprised of a series of vertical, irregular branching and reticulating shears striking roughly north, contained in three zones up to 4.6 metres wide. The shears range from a few centimetres to a metre in width and are generally pyritized with some

CAPSULE GEOLOGY

quartz vein infillings. The shear zones are accompanied by numerous barren veinlets striking 110 degrees and dipping 60 degrees northeast.

Five flat-lying quartz and calcite veins up to 0.4 metre wide occur amongst the shear zones. These veins have been exposed over lengths of up to 10 metres and are locally mineralized with massive or disseminated arsenopyrite. Native gold is reported to occur in tiny veinlets cutting the arsenopyrite. Microscopic examination indicates that elongate gold particles, less than 10 microns in size, occur aligned on fractures and along arsenopyrite grain boundaries. Two samples collected from the flat veins assayed 6.17 and 1123 grams per tonne gold, and trace and 309 grams per tonne silver respectively (Minister of Mines Annual Report 1938, page D24).

Several shear zones up to 0.6 metres wide, striking north and dipping vertical to steeply east, occur along the river, just south of the previous showings. The zones locally contain quartz and calcite stringers and lenses up to 0.3 metre wide. The stringers strike 110 degrees and are sparsely mineralized with pyrite, arsenopyrite, sphalerite, chalcopyrite and galena.

Between 1938 and 1940, about 7 tonnes of ore were mined, producing 1,027 grams of gold and 374 grams of silver.

BIBLIOGRAPHY

EMPR AR *1938-A35,D24,D25; 1939-37; 1940-25
GSC BULL 238
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243, pp. 106-107
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/17

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE072**

NATIONAL MINERAL INVENTORY:

NAME(S): **KNIGHT AND DAY, LUCKY PAIR, NIGHT AND DAY, N SHOWING, JASON**

STATUS: Prospect	Underground	MINING DIVISION: Similkameen
REGIONS: British Columbia		UTM ZONE: 10 (NAD 83)
NTS MAP: 092H07W		NORTHING: 5459142
BC MAP:		EASTING: 664950
LATITUDE: 49 15 46 N		
LONGITUDE: 120 43 58 W		
ELEVATION: 1530 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Knight and Day showing, 2.0 kilometres south-southwest of the confluence of Forty-seven Mile and Whipsaw creeks, 27 kilometres southwest of Princeton (Assessment Report 18069, Figure 4).		

COMMODITIES: Zinc Lead Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Breccia	Massive		
CLASSIFICATION: Hydrothermal	Epigenetic		
TYPE: I05 Polymetallic veins	Ag-Pb-Zn±Au	G04	Besshi massive sulphide Cu-Zn
DIMENSION: 2	Metres	STRIKE/DIP: 150/75E	TREND/PLUNGE:
COMMENTS: Breccia zone in adit.			

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	Tulameen Ultramafic Complex
Upper Jurassic			

LITHOLOGY: Chlorite Sericite Schist
 Pyroxene Porphyroblastic Amphibole Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Amphibolite
COMMENTS: This deposit is hosted in the western margin of the Nicola belt.	

INVENTORY

ORE ZONE: ADIT	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1915
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	21.0000 Grams per tonne
Gold	7.0000 Grams per tonne
Zinc	3.0000 Per cent
COMMENTS: Chip sample taken across 0.44 metre.	
REFERENCE: Minister of Mines Annual Report 1915, page 247.	

CAPSULE GEOLOGY

The Knight and Day showing occurs 2.0 kilometres south-southwest of the confluence of Forty-seven Mile and Whipsaw creeks, about 27 kilometres southwest of Princeton. The Five Fissures showing (092HSE 098) is 550 metres to the north.

The region in the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by metamorphosed volcanics and sediments of the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest. A northwest-trending ultramafic body, possibly related to the Early Jurassic Tulameen Ultramafic Complex, intrudes Nicola Group rocks east of the showing. The body is 100 metres wide and is comprised of pyroxene porphyroblastic amphibolitic schists.

Surface exposures reveal two breccia zones, each at least 30 metres wide, in chlorite sericite schist of the Nicola Group. The

CAPSULE GEOLOGY

zones are about 30 metres apart. This deposit is one of several occurrences (S and M, 092HSE073 and Five Fissures, 092HSE098) hosted in the same fault zone, which extends north-northwest across Whipsaw Creek for at least 1.5 kilometres.

The breccias contain fragments, 2.5 to 25 centimetres wide, in a matrix of sheared clayey rock and fault gouge. Many of the fragments consist of massive to semimassive sulphides, comprised of sphalerite, galena, pyrite, chalcopyrite and argentite with carbonate. Three selected samples of galena-rich fragments averaged 0.13 gram per tonne gold, 124 grams per tonne silver, 0.18 per cent copper, 4.84 per cent lead and 3.22 per cent zinc (Assessment Report 4170, samples 1A to 1C).

A tunnel, 46 metres below the surface exposures, encountered a breccia zone striking 150 degrees and dipping 75 degrees northeast. This zone is 0.6 to 1.5 metres wide and is comprised of silicified and carbonatized fragments cemented by quartz and calcite. Pyrite, chalcopyrite, galena and sphalerite occur irregularly throughout the breccia. A sample taken across 0.44 metre assayed 7 grams per tonne gold, 21 grams per tonne silver, nil copper, trace lead and 3.0 per cent zinc (Minister of Mine Annual Report 1915, page 247).

The showing was trenched and tunnelled by W. Knight and C. Day between 1911 and 1928. Whipsaw Mines Ltd. conducted trenching, soil sampling and geological mapping between 1970 and 1973.

BIBLIOGRAPHY

- EMPR AR *1915-247; 1920-160; 1928-264
- EMPR ASS RPT 2802, *4170, 5024, 12484, 12703, 17923, 18069, 21186
- EMPR EXPL 1988, pp. B71-B81
- EMPR GEM 1970-384; 1972-118
- EMPR P 1992-6
- GSC MAP 888A; 889A; 1386A; 41-1989
- GSC MEM *243, p. 104
- GSC P 85-1A, pp. 349-358
- GSC SUM RPT 1911, p. 123
- CJES Vol. 24, pp. 2521-2536 (1987)
- GCNL May 14, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/15

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE073**

NATIONAL MINERAL INVENTORY:

NAME(S): **S AND M, SILVER TIP, OK 1,
 W SHOWING, SPENCER**

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092H07E
 BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 16 32 N
 LONGITUDE: 120 44 10 W
 ELEVATION: 1524 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5460555
 EASTING: 664665

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of D adit, 1.3 kilometres west-southwest of the confluence of
 Forty-seven Mile and Whipsaw creeks, 26 kilometres southwest of
 Princeton (Assessment Report 15042, Figure 3).

COMMODITIES: Lead Zinc Copper Silver Gold

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Chalcopyrite
 ASSOCIATED: Quartz Carbonate Ankerite Dolomite Calcite
 ALTERATION: Limonite Cerussite
 ALTERATION TYPE: Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au G04 Besshi massive sulphide Cu-Zn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
 Upper Triassic Nicola Undefined Formation

LITHOLOGY: Chloritic Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Amphibolite
 COMMENTS: This deposit is in the western margin of the Nicola belt.

INVENTORY

ORE ZONE: ADIT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1928
 SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	48.0000	Grams per tonne
Gold	0.3400	Grams per tonne
Copper	0.2000	Per cent
Lead	2.1000	Per cent
Zinc	1.9000	Per cent

COMMENTS: Chip sample taken across 0.9 metre of stronger mineralization.
 REFERENCE: Minister of Mines Annual Report 1928, page 264.

CAPSULE GEOLOGY

The S and M deposit is located on the northwest side of Whipsaw Creek, about 26 kilometres southwest of Princeton. The Five Fissures showing (092HSE098) is 900 metres south of this occurrence. The region in the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by metamorphosed volcanics and sediments of the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest. A fault zone strikes slightly west of north, up the north bank of Whipsaw Creek. The zone cuts chloritic schist of the Nicola Group and varies from 5 metres to greater than 10 metres in width. The fault contains lenticular zones of brecciation healed by ankerite, dolomite or calcite. This zone continues southward across Whipsaw Creek for at least 1.5 kilometres and hosts several other deposits (Knight and Day, 092HSE072 and Five Fissures, 092HSE098). Within a zone of faulting and brecciation, pyrite, sphalerite, galena and chalcopyrite occur as disseminations and blebs in

CAPSULE GEOLOGY

quartz-carbonate veinlets a few millimetres to 40 centimetres wide, and in narrow quartz veins generally up to 15 centimetres in width. This mineralization is accompanied by limonite and minor cerussite (lead carbonate). A 0.9-metre chip sample, taken across stronger mineralization exposed in an adit, assayed 0.34 gram per tonne gold, 48.0 grams per tonne silver, 0.2 per cent copper, 2.10 per cent lead and 1.9 per cent zinc (Minister of Mines Annual Report 1928, page 264). A selected sample from a quartz vein assayed 2 grams per tonne gold, 310 grams per tonne silver, 8 per cent lead and 8 per cent zinc (Minister of Mines Annual Report 1927, page 253). Diamond drilling encountered several sections, 3 metres long, averaging 0.48 gram per tonne gold, 34 grams per tonne silver and at least 1 per cent combined zinc, copper and lead (Assessment Report 15042, page 6).

The deposit was explored as early as 1911. Pacific Slope Mines Ltd. and Copper Basin Mines Ltd. trenched and tunnelled the deposit between 1927 and 1931. A carload of ore grading 8.3 grams per tonne gold equivalent for combined gold and silver was shipped by Copper Basin Mines to the Trail smelter in 1931 (Minister of Mines Annual Report 1931, page 130). Silver Tip Explorations Ltd. mined 32 tonnes grading 1 gram per tonne gold, 546 grams per tonne silver, 13.6 percent lead and 5.96 per cent zinc in 1969.

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1930-214; 1931-24,130; 1967-178,179; 1968-213
EMPR ASS RPT 2802, 4170, 5491, *15042, 17923, 18069
EMPR EXPL 1975-E69; 1976-E81; 1977-E125; 1978-E143; 1979-143
EMPR GEM 1969-290; 1970-384; 1971-272; 1972-118
EMPR PF (Huff, H.P. (1969): map of OK claims showing areas of work by
Silver Tip Explorations Ltd. in 1969; Silver Tip Explorations Ltd.
(undated): map of drill holes on OK claims; Huff, H.P. (undated):
two cross-sections of underground workings)
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM *243, pp. 102,103
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1911, p. 123; 1922, pp. 119A,120A
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL May 14, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1991/01/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE074**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARIAN**, MARION, THREE FORKS (L.172)

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H07W
 BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 39 N
 LONGITUDE: 120 45 27 W
 ELEVATION: 1676 Metres

NORTHING: 5460724
 EASTING: 663103

LOCATION ACCURACY: Within 500M

COMMENTS: Zinc-lead showing just southwest of Lot 1551, 0.6 kilometre north-northeast of the confluence of Forty-three Mile and Whipsaw creeks, 26.5 kilometres southwest of Princeton (Assessment Report 2802, Map 3).

COMMODITIES: Zinc Copper Gold Silver Lead
 Molybdenum

MINERALS

SIGNIFICANT: Sphalerite Pyrite Pyrrhotite Chalcopyrite Galena
 Molybdenite
 ALTERATION: Garnet Diopside Epidote Quartz Magnetite
 ALTERATION TYPE: Skarn
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
 CLASSIFICATION: Skarn
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au G04 Besshi massive sulphide Cu-Zn
 K01 Cu skarn K02 Pb-Zn skarn
 DIMENSION: 500 x 2 Metres STRIKE/DIP: 163/45W TREND/PLUNGE:
 COMMENTS: Skarn-bearing limestone bed.

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Migmatite
 Chlorite Schist
 Limestone

HOSTROCK COMMENTS: This deposit is hosted along the contact between the Nicola Group and the Eagle Plutonic Complex.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel Plutonic Rocks
 METAMORPHIC TYPE: Regional RELATIONSHIP:
 GRADE: Amphibolite

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1915
 SAMPLE TYPE: Grab
 COMMODITY GRADE
 Silver 209.0000 Grams per tonne
 Gold 4.5000 Grams per tonne
 Copper 1.8000 Per cent
 Zinc 15.8000 Per cent

COMMENTS: Sample of sorted ore.
 REFERENCE: Minister of Mines Annual Report 1915, page 244.

CAPSULE GEOLOGY

The Marian showing is located on the north side of Whipsaw Creek, about 26.5 kilometres southwest of Princeton. The region at the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by metamorphosed volcanics and sediments of the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest. This showing is hosted in a bed of limestone within a zone of migmatite and chlorite schist along the contact between the Nicola Group and the Eagle Plutonic Complex. The bed strikes 160 to 165

CAPSULE GEOLOGY

degrees, dips 45 degrees southwest and is 1.5 to 2.4 metres thick. The unit is exposed intermittently over a length of 500 metres.

Two areas of skarn mineralization occur in the northern and southernmost limestone exposures. Mineralization consists of sphalerite, pyrite, pyrrhotite and chalcopyrite with minor galena and molybdenite in a garnet-epidote-diopside or quartz-epidote skarn. Magnetite is also reported. This mineralization occurs over widths of 1.2 to 2.4 metres in several adits. A grab sample of sorted ore assayed 4.5 grams per tonne gold, 209 grams per tonne silver, 1.8 per cent copper, 15.8 per cent zinc and trace lead (Minister of Mines Annual Report 1915, page 245). Four grab samples of sulphides taken from the dumps of old workings analysed 0.82 to 3.3 grams per tonne gold, 31.5 to 89.1 grams per tonne silver, 0.12 to 0.63 per cent copper and 3.315 to 6.192 per cent zinc (Assessment Report 21186, page 19).

The showing was prospected, trenched and tunnelled by S. Spencer and Pacific Slope Mines Ltd. between 1915 and 1930. Whipsaw Mines Ltd. mapped the showing in 1970. World Wide Minerals Ltd. conducted soil sampling in 1987, followed by surveying and sampling of old workings in 1990.

BIBLIOGRAPHY

EMPR AR *1915-245,246; 1920-160; *1927-251; 1928-264; 1929-276;
1930-214
EMPR ASS RPT *2802, 17923, *21186
EMPR PF (Old map of Silver Tip Nos. 1 and 2 claims, 1966)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
GSC SUM RPT 1911, p. 123; 1922, p. 120A
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL May 14, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE075**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIO GRANDE**, LUCKY STRIKE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 35 N
LONGITUDE: 120 56 36 W
ELEVATION: 1265 Metres

NORTHING: 5471333
EASTING: 649288

LOCATION ACCURACY: Within 500M

COMMENTS: Copper-gold-zinc showing 250 metres north of the confluence of Podunk Creek with the Tulameen River, 32.5 kilometres west-southwest of Princeton (Geological Survey of Canada Map 888A).

COMMODITIES: Zinc Lead Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Kaolin Sericite Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 2 Metres

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: The Eagle Plutonic Complex is Late Jurassic to Early Cretaceous in age (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1928
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 14.0000 Grams per tonne
Zinc 1.2000 Per cent

COMMENTS: Chip sample across a 1.5-metre wide shear zone.
REFERENCE: Minister of Mines Annual Report 1928, page 267.

CAPSULE GEOLOGY

The Rio Grande showing is on the west bank of the Tulameen River, 250 metres north of the river's confluence with Podunk Creek and 32.5 kilometres west-southwest of Princeton. A shear zone, 1.5 metres wide, is developed in granodiorite in the western margin of the Eagle Plutonic Complex. The zone contains narrow stringers of massive galena and sphalerite, 2.5 to 10 centimetres wide, in a sheared matrix of kaolin, sericite, crushed quartz and oxidized pyrite. A chip sample taken across the zone assayed trace gold, 14 grams per tonne silver, nil lead and 1.2 per cent zinc, and a selected sample of galena assayed 0.7 gram per tonne gold, 463 grams per tonne silver, 28 per cent lead and 2 per cent zinc (Minister of Mines Annual Report 1928, page 267).

BIBLIOGRAPHY

EMPR AR *1928-267,268
EMPR ASS RPT 20350
GSC MAP 888A; 1386A; 41-1989
GSC MEM *243, p. 113

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 852
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/23

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE076**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEWTON CREEK**, COALMONT GOLD MINES, WHEELER'S,
FITZGERALD, DORA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 27 44 N
LONGITUDE: 120 44 11 W
ELEVATION: 1097 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5481304
EASTING: 664022

LOCATION ACCURACY: Within 500M

COMMENTS: Gold showing at the confluence of Newton and Granite creeks, 16 kilometres due west of Princeton (Geological Survey of Canada Map 888A).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 460 x 2 Metres
COMMENTS: Quartz veins traced on surface.

STRIKE/DIP: L01 Subvolcanic Cu-Ag-Au (As-Sb)
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Andesite
Breccia
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

COMMENTS: This showing is in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1929

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

0.2000

Per cent

COMMENTS: Sample of sheared quartz with pyrite and chalcopyrite.

REFERENCE: Minister of Mines Annual Report 1929, page 279.

CAPSULE GEOLOGY

The Newton Creek showing occurs at the confluence of Newton and Granite creeks, 16 kilometres due west of Princeton.

Several quartz veins and shear zones cut argillite, andesite, limestone and breccia of the Upper Triassic Nicola Group.

The quartz veins are up to 2.4 metres wide and have been traced on surface over lengths of up to 460 metres. The veins contain disseminated pyrite, and have assayed trace gold and trace silver. A tunnel driven on a fault that diagonally cuts one of the veins encountered sheared quartz with pyrite and chalcopyrite. A sample of quartz assayed trace gold, trace silver and 0.20 per cent copper (Minister of Mines Annual Report 1929, page 279).

Narrow quartz stringers in argillite with high-grade gold are reported in the vicinity.

Several oxidized and leached pyrite shear zones have been exposed by trenching northwest of the area of quartz veining.

BIBLIOGRAPHY

EMPR AR 1915-248,249; *1929-279,280; 1930-215; 1933-173
GSC MAP 46A; 888A; 1386A; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 854
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 26; *243, p. 113
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE077**

NATIONAL MINERAL INVENTORY: 092H7 Au2

NAME(S): **RIV, VIRGINIA**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 18 N
LONGITUDE: 120 36 05 W
ELEVATION: 908 Metres

NORTHING: 5469688
EASTING: 674183

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on Whipsaw Creek, 2.4 kilometres southwest of the Lamont Creek bridge and 13 kilometres southwest of Princeton (Minister of Mines Annual Report 1928, page 265).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite
ASSOCIATED: Quartz
ALTERATION: Limonite Silica
ALTERATION TYPE: Oxidation Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 45 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Breccia zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Andesitic Volcanic
Dacitic Volcanic
Breccia

GEOLOGICAL SETTING

TECTONIC BELT:
TERRANE:

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1928
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 2.0000 Grams per tonne
Gold 18.5000 Grams per tonne

COMMENTS: Sample with arsenopyrite.
REFERENCE: Minister of Mines Annual Report 1928, page 265.

CAPSULE GEOLOGY

The RIV showing is situated on Whipsaw Creek, 13 kilometres southwest of Princeton.

This area in the vicinity of Whipsaw Creek and Kennedy Lake is underlain by calcareous siltstone and sandstone, conglomerate, andesite, andesitic tuff and volcanic breccia of the Upper Triassic Nicola Group.

The showing consists of a highly oxidized zone of brecciation and mineralization in an intensely silicified andesitic to dacitic volcanic. The breccia zone is 45 metres wide and appears to cross the creek. The zone contains veins and stringers of quartz with disseminated pyrite and arsenopyrite. A grab sample containing arsenopyrite assayed 18.5 grams per tonne gold and 2 grams per tonne silver (Minister of Mines Annual Report 1928, page 265). Samples of oxidized pyrite carried no gold.

This deposit was first explored between 1928 and 1931. A magnetometer survey was completed by Control Energy Corporation in 1986.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 856
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR *1928-265; 1931-130
EMPR ASS RPT 14958
EMPR BULL 59
EMR MP CORPFILE (Control Energy Corp.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 171; *243, p. 113
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #218, 1982

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE078**

NATIONAL MINERAL INVENTORY: 092H8

NAME(S): **REGAL**, UNITED EMPIRE, GE,
TNT

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 28 56 N
LONGITUDE: 120 28 20 W
ELEVATION: 759 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5484136
EASTING: 683087

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole DH 1, 400 metres east of the confluence of Allison (One Mile) and Deer Valley creeks, on the northwest slope of Mount Miner, 4 kilometres northeast of Princeton (Property File - Dolmage Campbell Consultants, 1963).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite

ASSOCIATED: Quartz

COMMENTS: Also iron oxide.

ALTERATION: Malachite Azurite Gypsum Pyrolusite Chlorite
Carbonate Epidote Zoisite

ALTERATION TYPE: Oxidation Chloritic Propylitic Carbonate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: D03 Volcanic redbed Cu

DIMENSION: 340 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Mineralization occurs in an area of slide debris over an area 340 metres long.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic

GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Tuff
Volcanic Breccia
Andesite
Gravel
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SLIDE

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1974

QUANTITY: 200000 Tonnes

COMMODITY: Copper GRADE: 0.5000 Per cent

COMMENTS: Reserves are approximate and are contained in slide material.

REFERENCE: Geology, Exploration and Mining in British Columbia 1974, page 118.

CAPSULE GEOLOGY

The Regal prospect occurs on the southeast side of Deer Valley Creek, near its confluence with Allison (One Mile) Creek, 4 kilometres northeast of Princeton.

This area in the vicinity of Mount Miner (Baldy Mountain, Allison Mountain) is underlain by the eastern facies of the Upper Triassic Nicola Group, consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by small dioritic bodies that may be coeval with the volcanics. A fault striking northeast along Deer Valley Creek (Deer Valley fault) juxtaposes the volcanics against coal-bearing sandstones and shales of the Eocene Princeton Group to the northwest.

Abundant malachite and azurite occur in an area trending west-northwest for 340 metres in a gravity slide block that overlies

CAPSULE GEOLOGY

Princeton Group rocks. This slide material appears to have originated from an area of copper mineralization (G.E., 092HSE203), higher up on the northwest slope of Mount Miner, about 600 metres northeast. The slide is comprised of broken and weathered Nicola Group tuffs, breccias and andesites. These rocks exhibit strong chlorite and carbonate alteration, with lesser epidote and zoisite. A trench in the lowermost (western) edge of the deposit exposes unconsolidated gravel, overlain by coal fragments, followed by broken volcanic debris. A hole drilled near the east end of the deposit (hole DH 1) encountered oxides in the first 12 metres and ended in coaly material at 91 metres.

This copper oxide mineralization is accompanied by fair amounts of gypsum, iron oxide and manganese. Some of the volcanic fragments exhibit chalcopyrite and chalcocite when broken. Underground workings have encountered sulphides at depth. Chalcopyrite is found to occur in blocks of quartz, in one instance at the bottom of a shaft. Sulphides encountered in a tunnel assayed 1.87 to 2.8 per cent copper and 2.5 grams per tonne gold equivalent for combined gold and silver (Minister of Mines Annual Report 1918, page 214). The slide material is reported to contain several hundred thousand tonnes of oxide-sulphide mineralization grading about 0.50 per cent total copper (Geology, Exploration and Mining in British Columbia 1974, pages 117, 118).

This prospect was initially explored by United Empire Company Ltd. in 1908, while developing its underground coal mine (United Empire Colliery, 092HSE218) nearby to the north. Minor trenching, tunnelling and drilling occurred in 1918 and 1929. Various operators conducted geological, geophysical and soil surveys, trenching and 547 metres of drilling in 4 holes between 1951 and 1981. Saracen Mines Ltd. attempted to recover copper oxides exposed in trenches after constructing a leaching plant in 1971. This method of copper production was unsuccessful.

BIBLIOGRAPHY

- EMPR AR 1908-130,131; 1915-241; *1918-214; 1929-278; 1959-142;
1963-63-65
EMPR ASS RPT 251, 488, *1721, 9634, 10379, 10565
EMPR EXPL 1982-179
EMPR GEM 1969-353; 1970-388; 1971-275; *1974-117,118
EMPR PF (*Dolmage Campbell Consultants (1963): 1 to 2400 scale map of
geology, trenches and drill holes; Bethlehem Copper Corp. (1973):
location and general geology map; old National Mineral Inventory
card)
GSC MAP 569A; 888A; 889A; 1386A; 41-1989
GSC MEM 243, p. 91
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #84(May 2), #97(May 19), #122(June 26), 2000

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/10

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE079**

NATIONAL MINERAL INVENTORY: 092H8 Cu3

NAME(S): **SHAMROCK**, BLUE RIDGE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 28 05 N
LONGITUDE: 120 24 27 W
ELEVATION: 853 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5482720
EASTING: 687829

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing 800 metres north of the Similkameen River and 8 kilometres east-northeast of Princeton (Geological Survey of Canada Map 888A).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite
ASSOCIATED: Quartz Calcite
ALTERATION: Malachite Azurite Epidote Garnet
ALTERATION TYPE: Oxidation Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Stockwork Disseminated
CLASSIFICATION: Hydrothermal Skarn Epigenetic
DIMENSION: 6 x 1 Metres STRIKE/DIP: 360/
COMMENTS: Mineralized shear zone on the Blue Ridge claim. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith
ISOTOPIC AGE: 193 +/- 1 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Porphyritic Andesite
Porphyritic Basalt
Epidote Garnet Skarn
Granodiorite
Granite
Quartz Diorite

HOSTROCK COMMENTS: Mineralization is hosted in bodies and dyke-like masses of Nicola Group volcanics in the western margin of the Bromley batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1915
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 27.0000 Grams per tonne
Copper 7.2000 Per cent

COMMENTS: Sample of sorted ore from the Blue Ridge claim.
REFERENCE: Minister of Mines Annual Report 1915, page 242.

CAPSULE GEOLOGY

The Shamrock property is situated on the steep north bank of the Similkameen River, known locally as Holmes Mountain, about 8 kilometres east of Princeton. This area north of the Similkameen River is underlain to the east by intrusive rocks of the Early Jurassic Bromley batholith, and to the west by volcanics and minor sediments of the Upper Triassic Nicola Group.

The numerous areas of mineralization comprising this occurrence lie in the western margin of the Bromley batholith, near the contact with Nicola Group rocks. Here, various north-trending bodies and dyke-like masses (roof pendants?) of dark green to greenish grey

CAPSULE GEOLOGY

porphyritic andesite and basalt are engulfed in grey to pink, coarse-grained granodiorite, granite and quartz diorite. The volcanic bodies are 8 to 30 metres wide and extensively altered and fractured.

Chalcopyrite, bornite and pyrite occur along fractures and shears in a gangue of quartz and brecciated country rock within the volcanic masses. This mineralization is strongest at or near intrusive contacts. The zones trend north and exhibit extensive malachite staining over widths of up to 15 metres and occur in the cliffs just below the plateau-like summit of Holmes Mountain. Small inclusions of skarn-altered sediments, containing chalcopyrite and pyrite in a gangue of epidote and garnet, are sometimes found in the volcanics and intrusives. Samples from various old workings assayed 2.3 to 6.6 grams per tonne gold, 34 to 1030 grams per tonne silver and 3.5 to 16 per cent copper (Minister of Mines Annual Report 1908, page 130).

One zone of fracturing and shearing on the Blue Ridge claim, on the south side of Holmes Mountain, has been traced northward by tunnelling for 37 metres. One prominent shear, up to 0.9 metre wide, contains malachite, azurite, chalcopyrite and pyrite over a width of 25 centimetres and a length of 6 metres in a gangue of brecciated volcanics cemented with quartz and calcite. A sample of sorted ore from this shear assayed trace gold, 27 grams per tonne silver and 7.2 per cent copper (Minister of Mines Annual Report 1915, page 242). Nine tonnes of ore mined from this zone and shipped to the Granby smelter at Grand Forks averaged 35 grams per tonne silver and 15 per cent copper (Minister of Mines Annual Report 1919, page 172). A crosscut indicates the adjacent unfractured volcanics are mineralized with disseminated chalcopyrite and pyrite for at least 23 metres from the zone of fracturing and shearing.

This occurrence has been explored by a number of trenches and adits excavated between 1908 and 1919. A total of 9 tonnes were mined in 1913.

BIBLIOGRAPHY

EMPR AR 1908-129; 1913-421; *1915-241-243; 1919-171,172
EMPR ASS RPT 943
EMR MP CORPFILE (Southern Lights Resources Ltd.)
GSC MAP 569A; 888A; 889A; 1386A; 41-1989
GSC MEM *243, p. 91
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE080**

NATIONAL MINERAL INVENTORY: 092H7 Cu9

NAME(S): **DEEP GULCH**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 51 N
LONGITUDE: 120 33 26 W
ELEVATION: 1128 Metres

NORTHING: 5465252
EASTING: 677536

LOCATION ACCURACY: Within 500M

COMMENTS: Located 200 metres south of Deep Gulch Creek, 100 metres east of Highway 3 and 16.5 kilometres south-southwest of Princeton (Bulletin 59, Figure 4, property no. 43).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Pyrite
ASSOCIATED: Orthoclase
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive Disseminated
CLASSIFICATION: Pegmatite
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 760 x 360 Metres STRIKE/DIP:
COMMENTS: Mineralization occurs in an area of trenching up to 360 metres wide and trending north for 760 metres. TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Syeno Gabbro
Syeno Diorite
Monzonite
Pegmatite
Tuff

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end. PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1959
SAMPLE TYPE: Bulk Sample
COMMODITY
Gold 1.3700 Grams per tonne
Copper 0.7900 Per cent
COMMENTS: Average assay for a 230-kilogram bulk sample.
REFERENCE: Property File - R. Collishaw, 1959, page 4.

CAPSULE GEOLOGY

The Deep Gulch prospect is situated 100 metres south of Deep Gulch Creek, just east of Highway 3 and 16.5 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. The deposit lies just east of the Boundary fault, which separates Nicola Group

CAPSULE GEOLOGY

volcanics to the west from the Copper Mountain stock (Copper Mountain Intrusions) to the east, in the vicinity of Deep Gulch Creek.

Syenogabbro, syenodiorite and monzonite of the Copper Mountain stock underlie an area 760 metres long and 120 to 360 metres wide that has been exposed by extensive trenching. These rocks are intruded by veins, streaks and patches of pink orthoclase-rich pegmatite. A number of faults are also present. Most of the pegmatite veins and some of the faults strike northeast with steep dips.

The best mineralization is exposed in the southern part of the trenched area and consists of bornite and some chalcopyrite, as lenses, veinlets and disseminations, in pegmatite. Partial oxidation has produced malachite and limonite. Pyrite occurs locally in minor amounts. Numerous sections of low-grade mineralization occur in the trenches over widths of 1 to 20 metres. Fourteen holes drilled in this area encountered short sections of mineralization up to 3 metres in width. A 3-metre chip sample taken across pegmatite veins with bornite lenses assayed 5 per cent copper, and a second chip sample taken along a trench face over 15 metres assayed 0.75 per cent copper (Property File - Deep Gulch Mines Ltd., 1959). A 230-kilogram bulk sample assayed 0.79 per cent copper and 1.4 grams per tonne gold (Property File - R. Collishaw, 1959, page 4).

Mineralization is also present to the northwest, where the Boundary fault separates syenogabbro and syenodiorite from sheared and sericitized tuffs of the Nicola Group. The syenogabbro and syenodiorite contain some pegmatite veins with bornite, while the tuffs exhibit traces of malachite and pyrite.

This prospect was discovered by J.W. Gallagher in 1952. Deep Gulch Mines Ltd. completed geological and geophysical surveys, 2400 metres of trenching and 133 metres of diamond drilling in 1 hole in 1958 and 1959. Copper Mountain Mines Ltd. (formerly Deep Gulch Mines) conducted geophysical surveys and 790 metres of diamond drilling in 15 holes in 1960 and 1961.

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EMPR BULL *59, pp. 81,82
EMPR PF (*Collishaw, R. (1959): Letter to Dr. H. Sargent; Sargent, H. (1959): Letter to R. Collishaw; Collishaw, R. (1960): Letter to J.M. Carr; *Collishaw, R. (1961): Letter to J.M. Carr; *Collishaw, R. (1962): Letter to J.M. Carr; Collishaw, R. (undated): sketch map of geology of Deep Gulch prospect; *Deep Gulch Mines Ltd. (1959): 1:1200 scale geology map of trenches; Gilford Resources Ltd. (1977): Prospectus, Vancouver Stock Exchange)
EMR MP CORPFILE (Copper Mountain Consolidated Ltd., Kalco Valley Mines Ltd.)
GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171, p. 25; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE081**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAZIE**, MAZEY, VIOLET

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 29 N
LONGITUDE: 120 42 00 W
ELEVATION: 1372 Metres

NORTHING: 5460541
EASTING: 667294

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Mazey 1 to 4 claim group, 1.4 kilometres east-southeast of the confluence of Forty-seven Mile and Whipsaw creeks, 24.5 kilometres southwest of Princeton (Energy, Mines and Petroleum Resources claim sheet map 092H07E).

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Eagle Plutonic Complex
Jurassic-Cretaceous			

LITHOLOGY: Andesitic Dacitic Pyroclastic
Andesitic Dacitic Flow
Sediment/Sedimentary
Intrusive
Metamorphic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Mazie prospect is 1.4 kilometres southeast of the confluence of Forty-seven and Whipsaw creeks, 24.5 kilometres southwest of Princeton.

The occurrence is underlain by andesitic to dacitic pyroclastics, flows and sediments of the Upper Triassic Nicola Group. Various intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex outcrop 4 kilometres to the southwest.

In 1962, Mazie Mines Ltd. excavated a 60-metre long adit in order to intersect at depth a zone of mineralization uncovered by trenching. The company mined 2.7 tonnes of ore which yielded 124 grams of silver and 62 kilograms of lead (Minister of Mines Annual Report 1963, page A48).

BIBLIOGRAPHY

EMPR AR 1962-63; 1963-A48
EMPR ASS RPT 11579
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE082**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED MOUNTAIN (L.2666)**

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 45 N
LONGITUDE: 120 02 47 W
ELEVATION: 1554 Metres

NORTHING: 5473803
EASTING: 714376

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Red Mountain claim (Lot 2666), 1.2 kilometres northwest of the summit of Nickel Plate Mountain, 3 kilometres northeast of Hedley (NTS map sheet 092H/08 (Edition 2)).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Diorite Dike
Andesite Dike
Siltstone
Limestone
Gabbro Dike
Gabbro Sill

HOSTROCK COMMENTS: Hedley Formation date from Geological Fieldwork 1987, page 66.
Hedley Intrusions date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Gold
GRADE: 8.2000
YEAR: 1901
Grams per tonne

COMMENTS: Average grade of samples.

REFERENCE: Minister of Mines Annual Report 1901, page 1163.

CAPSULE GEOLOGY

The Red Mountain showing is situated 1.2 kilometres northwest of Nickel Plate Mountain, about 3 kilometres northeast of Hedley. This area on the south flank of Aberdeen Ridge is underlain by siltstone and limestone of the Upper Triassic Hedley Formation (Nicola Group). These sediments are intruded by dykes and sills of diorite and gabbro of the Early Jurassic Hedley Intrusions. A fine-grained igneous rock (andesite/diorite dyke or sill?) of undefined width is mineralized with arsenopyrite and pyrite. Samples are reported to average 8.2 grams per tonne gold (Minister of Mines Annual Report 1901, page 1163).

BIBLIOGRAPHY

EMPR AR 1900-883; 1901-1163; 1903-248; 1913-177
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 865
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 59-80

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE083**

NATIONAL MINERAL INVENTORY:

NAME(S): **PUNCH BOWL**, PUNCH EAST, PUNCH

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W 092H06E
BC MAP:
LATITUDE: 49 17 33 N
LONGITUDE: 120 59 25 W
ELEVATION: 1524 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Site of chip sample, on the east bank of Punch Bowl Creek, 1.05 kilometres north of Punch Bowl Lake and 39 kilometres southwest of Princeton (Assessment Report 14692, geology map).

MINING DIVISION: New Westminster
Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5461916
EASTING: 646129

COMMODITIES: Zinc Silver Lead Copper

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Sphalerite Chalcopyrite Galena
ASSOCIATED: Quartz
ALTERATION: Silica
COMMENTS: Iron oxides.
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Cretaceous GROUP: Pasayten FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Arkosic Sandstone
Siltstone
Argillite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Methow
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Chip
COMMODITY: GRADE
Silver 1.5000 Grams per tonne
Zinc 0.2750 Per cent
COMMENTS: A 4.5-kilogram chip sample taken across an 18-metre section.
REFERENCE: Assessment Report 14692, page 7.

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY: GRADE
Silver 13.0000 Grams per tonne
Lead 0.5200 Per cent
Zinc 1.0000 Per cent
COMMENTS: Sample contains greater than 1 per cent zinc; a 0.1-metre chip sample across a quartz-sphalerite vein.
REFERENCE: Assessment Report 16279, page 7.

CAPSULE GEOLOGY

The Punch Bowl showing outcrops on Punch Bowl Creek, 1.05 kilometres north of Punch Bowl Lake and 39 kilometres southwest of Princeton.

Punch Bowl Creek is underlain by thin-bedded siltstones, argillite and arkosic sandstone of the Cretaceous Pasayten Group. These sediments are intruded by altered hornblende diorite dykes and

CAPSULE GEOLOGY

plugs. Bedding strikes north with steep to vertical dips. A small plug of medium-grained diorite intrudes argillite, siltstone and sandstone along the east bank of Punch Bowl Creek. The plug is faulted against the sediments and contains abundant pyrite and surficial iron oxide. The sediments are intensely fractured and moderately silicified, bleached and laced by a stockwork of pyrite veinlets over a distance of 200 metres along the creek. Adjacent to the main intrusive body, concordant and discordant shears cut the sediments and contain narrow discontinuous quartz veins with variable amounts of pyrite and arsenopyrite, and trace amounts of chalcopyrite, sphalerite and galena. Pyrite, sphalerite and arsenopyrite also form blebs and disseminations in the sediments near the fault. A 4.5-kilogram chip sample taken across an 18-metre section exposed along the creek, analysed 0.275 per cent zinc, 0.005 per cent copper, 1.5 grams per tonne silver and 0.025 gram per tonne gold (Assessment Report 14692, page 7). A chip sample, 0.1 metres long, taken across a vertical quartz-sphalerite vein, assayed 0.085 gram per tonne gold, 13.0 grams per tonne silver, greater than 1.0 per cent zinc, 0.52 per cent lead and 0.025 per cent copper (Assessment Report 16279, page 7).

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EMPR EXPL 1986-C204,C205
EMPR FIELDWORK *1991, pp. 57-61
EMPR PF (Cardinal, D.G. (1987): Preliminary Geological Evaluation Report on the Punch Bowl Claim Group, in Locke Rich Minerals Ltd. (1988): Prospectus, Vancouver Stock Exchange (see 092HSE145))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 23, pp. 1022-1041 (1986)

DATE CODED: 1987/11/25
DATE REVISED: 1992/01/24

CODED BY: LLC
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE084**

NATIONAL MINERAL INVENTORY:

NAME(S): **WINTERS GOLD**, XR-1

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 56 N
LONGITUDE: 120 01 09 W
ELEVATION: 915 Metres

NORTHING: 5466811
EASTING: 716630

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 5365, 1.2 kilometres northeast of the Similkameen River, 6.3 kilometres southeast of Hedley (Assessment Report 16400, Figure 5).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Apex Mountain	Undefined Formation	

LITHOLOGY: Argillite
Chert
Limestone
Plagioclase Porphyritic Dacite

HOSTROCK COMMENTS: Apex Mountain Complex is Ordovician to Triassic (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PLUTONIC ROCKS RELATIONSHIP:	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel		GRADE:
METAMORPHIC TYPE: Regional		

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	4.6000 Grams per tonne
Gold	0.9950 Grams per tonne
Copper	0.1420 Per cent

COMMENTS: Sample of pyrrhotite and chalcopyrite from a minor shear.
REFERENCE: Assessment Report 16400, page 18, sample 5365.

CAPSULE GEOLOGY

The Winters Gold occurrence is 500 metres north of Winters Creek, 1.2 kilometres northeast of the creek's confluence with the Similkameen River and 6 kilometres southeast of Hedley. The showing is hosted in a northeast-trending sequence of interbedded argillite, chert and limestone of the Ordovician to Triassic Apex Mountain Complex. Minor plagioclase porphyritic dacite is also present. These rocks are cut by small shear zones containing disseminated sulphides. A chip sample from a small shear zone hosting pyrrhotite and chalcopyrite analysed 0.995 gram per tonne gold, 4.6 grams per tonne silver, 0.142 per cent copper, 0.0867 per cent arsenic and 28.25 per cent iron (Assessment Report 16400, page 18, sample 5365). A grab sample of silicified limestone (?) with 1 per cent disseminated pyrite, from a shear in interbedded chert and argillite, assayed 3.2 grams per tonne gold (Assessment Report 14879, sample WGR-1, assay certificate). Two rock samples taken in the vicinity analysed 6.58 and 6.8 grams per tonne gold, 1.2 and 0.8 grams per tonne silver, 0.007 and 0.005 per cent copper, and 0.05 and 0.145 per

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 869
REPORT: RGEN0100

CAPSULE GEOLOGY

cent manganese, respectively (Assessment Report 14522, page 8, samples 3750E, 3751E).

BIBLIOGRAPHY

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EMPR EXPL 1982-176; 1985-C178; 1986-C210
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC MEM 2; 243
GSC OF 2167, pp. 59-80
GSC SUM RPT 1929, pp. 198A-252A
CIM TRANS Vol. 44, pp. 524-590
CJES Vol. 9, pp. 1632-1639
Milford, J.C., (1984): Geology of the Apex Mountain Group, North
and East of the Similkameen River, South Central British Columbia,
unpublished M.Sc. thesis, University of British Columbia

DATE CODED: 1988/03/21
DATE REVISED: 1991/11/18

CODED BY: LLC
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE084**

MINFILE NUMBER: **092HSE085**

NATIONAL MINERAL INVENTORY:

NAME(S): **PICK AXE** STAG FR. (L.3538), G ZONE,
NORFOLK (L.3539)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 05 N
LONGITUDE: 120 03 01 W
ELEVATION: 1110 Metres

NORTHING: 5470705
EASTING: 714214

LOCATION ACCURACY: Within 500M

COMMENTS: Pick Axe zone, 1.3 kilometres northeast of Highway 3, 1.95 kilometres northwest of Cahill Creek and 2 kilometres east-southeast of Hedley (Assessment Report 16400, Figure 4).

COMMODITIES: Gold Silver Copper Bismuth

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Arsenopyrite Pyrite
ASSOCIATED: Calcite Garnet
ALTERATION: Garnet Calcite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn
DIMENSION: 9 x 1 Metres STRIKE/DIP: 025/ TREND/PLUNGE:
COMMENTS: Massive sulphide layer.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	
Middle Jurassic			Cahill Creek Pluton
Lower Jurassic			Hedley Intrusions

DATING METHOD: Fossil
MATERIAL DATED: Conodont
ISOTOPIC AGE: 168 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon
ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Siltstone
Chert
Limestone
Skarn
Feldspar Porphyritic Andesite Sill
Granodiorite
Cherty Sediment/Sedimentary
Homblende Porphyry Sill

HOSTROCK COMMENTS: Cahill Creek pluton date from Geological Fieldwork 1989, page 274.
Hedley Intrusions date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY	GRADE	
Silver	5.2000	Grams per tonne
Gold	17.7000	Grams per tonne
Copper	0.2540	Per cent

COMMENTS: Massive pyrrhotite, chalcopyrite, arsenopyrite and pyrite from a depth of 1.3 metres in a trench.

REFERENCE: Assessment Report 16400, page 12, sample 1100.

CAPSULE GEOLOGY

The Pick Axe showing is 1.3 kilometres northeast of Highway 3, 2 kilometres northwest of Cahill Creek and 2 kilometres east-southeast of Hedley.

This occurrence is hosted in a sequence of siltstone, argillite limestone and chert of the Upper Triassic Hedley Formation (Nicola Group). The beds strike north, dip moderately west and are intruded by hornblende porphyry sills of the Early Jurassic Hedley Intrusions. The showing lies along the west flank of a granodiorite dyke-like apophysis of the Middle Jurassic Cahill Creek pluton.

A layer of massive pyrrhotite, chalcopyrite, arsenopyrite and pyrite, striking 025 degrees, is exposed over a length of 9 metres and a width of up to 0.54 metre. The massive sulphides are enclosed in a section of argillite, siltstone and skarned cherty sediments, lying between two sills of feldspar porphyritic andesite, possibly of the Hedley Intrusions. A sample of massive pyrrhotite, chalcopyrite, arsenopyrite and pyrite, with some chert, assayed 17.7 grams per tonne gold, 5.2 grams per tonne silver, 0.073 per cent arsenic, 0.054 per cent bismuth and 0.254 per cent copper (Assessment Report 16400, page 12, sample 1100). Six chip samples of massive sulphides, taken over widths of 0.35 to 0.50 metre assayed 4.05 to 37.03 grams per tonne gold, 3.1 to 9.6 grams per tonne silver, 0.001 to 0.118 per cent arsenic, 0.015 to 0.109 per cent bismuth and 0.092 to 0.251 per cent copper, respectively (Property File - S.L. Todoruk, C.K. Ikona, 1988, page 11, samples 14704-14707, 14709, 14710). A chip sample of interbedded argillite, chert and limestone with less than 1 per cent pyrrhotite and pyrite assayed 4.4 grams per tonne gold and 0.3 gram per tonne silver over 0.50 metre (Assessment Report 14879, assay certificate, sample HR 24). The sample was taken near the granodiorite contact.

A second zone of sulphide mineralization occurs 30 metres northeast of the Pick Axe showing on the southern part of the Norfolk claim (Lot 3539). A zone of garnet skarn (G zone) trends northeast for 30 metres in limestone and is up to 10 metres wide. The zone contains disseminated arsenopyrite, pyrrhotite and chalcopyrite in a gangue of garnet and calcite. One sample assayed 0.8 gram per tonne gold and 0.019 per cent copper (Assessment Report 16400, assay certificate, sample 5234). Four additional samples all assayed less than 0.17 gram per tonne gold (samples 5334 to 5337).

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EMPR ASS RPT 14879, *16400
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EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF MAP 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (*Todoruk, S.L. and C.K. Ikona (1988): Geological Report on the Hedley Project, in Winters Gold Hedley Ltd. (1988): Prospectus, Vancouver Stock Exchange)
GSC MAP 568A; 888A; 41-1989
GSC MEM 2; 243
GSC OF 2167, pp. 59-80
GSC SUM RPT 1929, pp. 198A-252A
CIM TRANS Vol. 44, pp. 524-590 (1941); Vol. 48, pp. 27-68
CJES Vol. 9, pp. 1632-1639
V STOCKWATCH June 9, 1987

DATE CODED: 1988/03/23
DATE REVISED: 1991/11/18

CODED BY: LLC
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE086**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPERFIELD, SWEDEN (L42S), SWEDEN SHAFT,
BK, GALENA PIT, BOUNDARY ZONE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

LATITUDE: 49 21 13 N
LONGITUDE: 120 03 27 W
ELEVATION: 1200 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5470931
EASTING: 713680

LOCATION ACCURACY: Within 500M

COMMENTS: Sweden shaft, 1.3 kilometres northeast of Highway 3, 2.5 kilometres northwest of Cahill Creek and 1.5 kilometres east-southeast of Hedley (Assessment Report 16400, Figure 4).

COMMODITIES: Gold Silver Lead Zinc Copper
Magnetite Iron

MINERALS

SIGNIFICANT: Pyrrhotite Galena Chalcopyrite Arsenopyrite Pyrite

Sphalerite Magnetite

ASSOCIATED: Calcite Garnet

ALTERATION: Garnet Magnetite Calcite

COMMENTS: Calcsilicate.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Massive Disseminated
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Whistle Creek	
Upper Triassic	Nicola	Hedley	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Limestone Boulder Conglomerate
Chert
Skarn
Garnetite
Limestone
Argillite
Siltstone
Hornblende Porphyry Sill

HOSTROCK COMMENTS: Hedley Intrusions date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

Plutonic Rocks

RELATIONSHIP: Syn-mineralization

GRADE:

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	2.2000	Grams per tonne
Gold	0.2600	Grams per tonne
Copper	0.1149	Per cent

COMMENTS: Grab sample from the wall of the Sweden shaft. Pod of pyrite, chalcopyrite and garnets measuring about 0.3 by 0.3 metre.

REFERENCE: Assessment Report 16400, page 14, sample 51773.

CAPSULE GEOLOGY

The Copperfield showing is 1.3 kilometres northeast of Highway 3, 2.4 to 2.6 kilometres northwest of Cahill Creek and 1.5 kilometres east-southeast of Hedley.

CAPSULE GEOLOGY

The area immediately southeast of Hedley is underlain by the Upper Triassic Hedley and Whistle Creek formations (Nicola Group). Mineralization occurs primarily in the basal limestone boulder conglomerate member of the Whistle Creek Formation (Copperfield conglomerate), and to a lesser extent in underlying interbedded limestone, argillite, siltstone and chert of the Hedley Formation. The Hedley Formation sediments are cut by four shallow northwest dipping hornblende porphyry sills of the Early Jurassic Hedley Intrusions, immediately below the Copperfield conglomerate. The conglomerate strikes 070 degrees for 250 metres and dips 50 degrees northwest. The unit is composed of well-rounded to angular pebbles, cobbles and boulders of limestone generally up to 1.0 metres in diameter.

The Copperfield conglomerate contains three zones of mineralized skarn, where recrystallized limestone fragments are hosted in a garnetite matrix. Chert is also mineralized in this unit. The zones contain pyrrhotite, galena, chalcopyrite, arsenopyrite, pyrite, and sphalerite in a gangue of garnet and calcite.

The Sweden Shaft zone is the southwesternmost of the three zones and consists of a 5-metre deep shaft in pods of massive pyrrhotite with pyrite, chalcopyrite, arsenopyrite and garnet crystals. A sample of a 0.3 by 0.3-metre pod of pyrite and chalcopyrite in garnet assayed 0.260 gram per tonne gold, 2.2 grams per tonne silver and 0.115 per cent copper (Assessment Report 16400, page 14, sample 51773). A trench about 4.0 by 1.0 metres blasted immediately east of the shaft exposed a zone of massive magnetite with 1 per cent chalcopyrite in skarn-altered chert with pyrrhotite, chalcopyrite and arsenopyrite. A sample of the magnetite assayed 0.035 gram per tonne gold, 0.10 gram per tonne silver, 0.022 per cent copper and 21.07 per cent iron (Assessment Report 16400, page 15, sample 51775).

The BK zone is 175 metres northeast of the Sweden shaft along the strike of the Copperfield conglomerate. Mineralization occurs in a zone of skarn-altered chert and conglomerate over a 40 by 20 metre area. Pyrrhotite, pyrite, galena, chalcopyrite, arsenopyrite and sphalerite occur as disseminations, fracture fillings and patchy blebs in a gangue of calcite and garnet. A sample analysed 8.8 grams per tonne silver, 0.013 per cent copper, 0.375 per cent lead and 0.141 per cent zinc (Assessment Report 16400, page 15, sample 1093).

The Galena Pit zone is 75 metres east-northeast of the BK zone and is hosted by skarned cherts in the Copperfield conglomerate. A sample analysed 0.04 gram per tonne gold, 5.3 grams per tonne silver, 0.176 per cent lead, 0.252 per cent zinc and 0.025 per cent copper (Assessment Report 16400, page 16, sample 5355).

Sphalerite, galena, chalcopyrite and arsenopyrite occur in a zone of skarn-altered Hedley Formation sediments underlying the Copperfield conglomerate. The showing, identified as the Boundary zone, is 100 metres northwest of the Sweden Shaft zone. A sample assayed 0.84 gram per tonne gold, 30.4 grams per tonne silver, 0.670 per cent copper, 0.0001 per cent lead and 0.004 per cent zinc (Assessment Report 16400, page 16, assay certificate, sample 455). A second sample analysed 0.04 gram per tonne gold, 25.6 grams per tonne silver, 0.080 per cent copper, 1.587 per cent lead and 0.653 per cent zinc (Assessment Report 16400, page 17, sample 1090).

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- EMPR OF MAP 1987-10; 1988-6
- EMPR P 1989-3, pp. 19-35
- GSC MAP 568A; 888A; 41-1989
- GSC MEM 2; 243
- GSC OF 2167, pp. 59-80
- GSC SUM RPT 1929, pp. 198A-252A
- CIM Trans Vol. 44, pp. 524-590 (1941); Vol. 48, pp. 27-68
- CJES Vol. 9, pp. 1632-1639 (1972)
- V STOCKWATCH June 9, 1987

DATE CODED: 1988/03/23
DATE REVISED: 1991/11/18

CODED BY: LLC
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE087**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED TOP**, RED TOP FR. (L.36S)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 18 N
LONGITUDE: 120 02 40 W
ELEVATION: 1280 Metres

NORTHING: 5471123
EASTING: 714622

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 1061 in the Red Top zone, 1.9 kilometres northeast of Highway 3, 1.75 kilometres northwest of Cahill Creek and 2.5 kilometres east of Hedley (Assessment Report 16400, Figure 5).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Chalcopyrite
COMMENTS: Calcsilicate.
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn
DIMENSION: 30 x 20 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of skarn.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Hedley	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Limestone
Calc-silicate Skarn
Hornblende Porphyry Sill

HOSTROCK COMMENTS: Hedley Formation date from Geological Fieldwork 1987, page 66.
Hedley Intrusions date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: SKARN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 0.5000 Grams per tonne
Copper 0.0042 Per cent
COMMENTS: Sample from calcsilicate skarn.
REFERENCE: Assessment Report 16400, page 18, sample 1061.

CAPSULE GEOLOGY

The Red Top showing is 1.9 kilometres northeast of Highway 3, 1.75 kilometres northwest of Cahill Creek and 2.5 kilometres east of Hedley.

The showing is hosted in the Sunnyside limestone member of the Upper Triassic Hedley Formation (Nicola Group). The limestone is cut by hornblende porphyry sills of the Early Jurassic Hedley Intrusions in the vicinity of the showing.

Calcium silicate skarn is developed over a 30 by 20 metre area. The skarn is mineralized with arsenopyrite, pyrrhotite and chalcopyrite. A sample assayed 0.5 gram per tonne gold, 0.6 gram per tonne silver, 0.004 per cent copper, 0.6514 per cent arsenic, 0.003

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 875
REPORT: RGEN0100

CAPSULE GEOLOGY

per cent bismuth and 0.081 per cent strontium (Assessment Report 16400, page 18, assay certificate, sample 1061). A second sample assayed nil gold, 1.6 grams per tonne silver, 0.024 per cent copper, 0.155 per cent arsenic, nil bismuth and 0.026 per cent strontium (sample 1063).

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EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC MEM 2; 243
GSC OF 2167, pp. 59-80
GSC SUM RPT 1929, pp. 198A-252A
CIM Trans. Vol. 44, pp. 524-590 (1941); Vol. 48, pp. 27-68
CJES Vol. 9, pp. 1632-1639 (1972)

DATE CODED: 1988/03/25
DATE REVISED: 1991/11/18

CODED BY: LLC
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE087**

MINFILE NUMBER: **092HSE088**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOST HORSE 86**

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 52 N
LONGITUDE: 120 05 12 W
ELEVATION: 1688 Metres

NORTHING: 5462791
EASTING: 711873

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site SM7S-210 in trench TR-1, 8.5 kilometres south-southwest of the town of Hedley (Assessment Report 17085, Figures 5, 6).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Arsenopyrite Chalcopyrite
COMMENTS: Rare arsenopyrite and chalcopyrite.
ALTERATION: Garnet Diopside
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stratabound
CLASSIFICATION: Skarn
TYPE: K04 Au skarn
DIMENSION: 800 x 500 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Variably sulphidic alteration zone, trending north for at least 800 metres, is up to 500 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Calc-silicate Hornfels
Chert
Homblende Feldspar Porphyritic Sill
Argillite
Siltstone
Limestone
Tuff
Sandstone
Conglomerate
Granodiorite

HOSTROCK COMMENTS: The Hedley Formation is about 225 Ma (Geological Fieldwork 1987, page 66); date from Geological Fieldwork 1989, page 27.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 26.0000 Grams per tonne
Gold 5.4200 Grams per tonne
COMMENTS: A 0.5-metre chip sample taken across calcic hornfels with 5 per cent disseminated pyrite.
REFERENCE: Assessment Report 17085, page 16.

CAPSULE GEOLOGY

The Lost Horse 86 showing is situated on a ridge between Larcan

CAPSULE GEOLOGY

and Johns creeks, 8.5 kilometres south-southwest of the town of Hedley and 4 kilometres west of the Similkameen River.

This region, between Larcan and Johns creeks, is underlain by the sedimentary facies of the Upper Triassic Nicola Group, comprised of argillite, sandstone and tuff, locally with limestone and conglomerate. This sequence is intruded from the east by granodiorite of the Middle Jurassic Cahill Creek pluton.

The showing is hosted in a westward dipping (40 to 70 degrees) sequence of argillite, with minor interbedded siltstone, tuff and limestone of the Hedley Formation (Nicola group). The sequence is intruded by sulphide-rich hornblende feldspar porphyritic sills and dykes of the Early Jurassic Hedley Intrusions. The argillite is extensively altered ("calicic hornfelsed") in a 500-metre wide zone trending northward for at least 800 metres, resulting in a white-weathering, variably coloured, siliceous and massive "chert", containing red-brown garnet and patches of dark green diopside. Pyrrhotite and pyrite are the dominant sulphides in the calicic hornfels, generally occurring in quantities of up to 3 per cent each as blebs, disseminations and along fine fractures, with rare arsenopyrite and chalcopyrite. Sills and dykes of the Hedley Intrusions contain up to 5 per cent pyrrhotite, as irregular blebs, up to 3 per cent arsenopyrite, as disseminations and veins, and up to 1 per cent disseminated pyrite. A chip sample taken across 0.5 metre of calicic hornfels, with 5 per cent disseminated pyrite, analysed 5.42 grams per tonne gold and 26 grams per tonne silver (Assessment Report 17085, page 16).

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EMPR P 1989-3, pp. 19-35
EMPR PF (*Montello Resources Ltd. (1987): Prospectus, Vancouver Stock Exchange (see 092HSE088))
GSC MAP 568A; 888A; 889A; 41-1989
GCNL Dec. 10, 1987

DATE CODED: 1991/10/27
DATE REVISED: 1991/11/29

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE089**

NATIONAL MINERAL INVENTORY: 092H7 Bnt

NAME(S): **PRINCETON COLLIERY**, NO. 1 MINE, NO. 2 MINE,
NO. 3 MINE, NEW SHAFT MINE, SUNBLAZE COLLIERY

STATUS: Past Producer Open Pit Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E 092H08W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 27 29 N

LONGITUDE: 120 30 03 W

ELEVATION: 646 Metres

NORTHING: 5481380

EASTING: 681104

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of No. 1 mine, 200 metres east of the Similkameen River and
0.8 kilometre south of the confluence of the Similkameen and Tulameen
rivers (Geological Survey of Canada Paper 52-12, Figure 1B).

COMMODITIES: Coal Bentonite Clay

MINERALS

SIGNIFICANT: Coal Montmorillonite Clay

ALTERATION: Montmorillonite

ALTERATION TYPE: Argillic

MINERALIZATION AGE: Eocene

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Stratiform Massive

CLASSIFICATION: Sedimentary Fossil Fuel Replacement Industrial Min.

TYPE: A03 Sub-bituminous coal E06 Bentonite

B06 Fireclay E07 Sedimentary kaolin

SHAPE: Tabular

MODIFIER: Faulted

DIMENSION: 1100 x 640 x 3 Metres

STRIKE/DIP: 040/12S

TREND/PLUNGE:

COMMENTS: Single coal seam.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Upper Triassic

Nicola

Undefined Formation

LITHOLOGY: Sandstone
Coal
Bentonite
Shale
Rhyolite Tephra
Shaly Coal
Volcanic
Sediment/Sedimentary

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982,
page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE: Sub-Bituminous

COMMENTS: Rank is sub-bituminous B to sub-bituminous A.

CAPSULE GEOLOGY

The various underground workings of the Princeton Colliery lie mostly east of the Similkameen River, adjacent to the town of Princeton (Nos. 1 and 2 mines). Some of the workings are in the town itself near the west bank of the Similkameen River (No. 3 (New Shaft) mine).

This coal deposit is situated near the eastern margin of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-trending Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton are two major east-trending asymmetric anticlines with gentle to

CAPSULE GEOLOGY

moderate southerly dips continuing to the south. On the western margin of the basin, the strata dip approximately 50 degrees east. In the southern part of the basin, two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast striking, westerly-dipping faults. The main faults are the Asp Creek and Boundary faults.

The Princeton Colliery is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). The mine is developed in the Princeton-Black-Blue Flame coal zone, the stratigraphically lowest and thickest of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. Its thickness varies from 1.6 to 19.2 metres with approximately 9.1 metres of coal. The coal occurs in bands from approximately 7 centimetres to 5.5 metres thick, with interbeds of shaly coal, bentonite, sandstone, and shale separating the individual seams. The partings and beds associated with the coal change thickness and stratigraphic position laterally, making correlation difficult. Coal quality also varies laterally. The Princeton-Black-Blue Flame coal zone was also mined at the Princeton-Tulameen mine (092HSE209), Tulameen Collieries (092HSE210), the Pleasant Valley Nos. 2 and 4 mines (092HSE211), the Black mine (092HSE212) and the Blue Flame Colliery (092HSE216).

The coal seam at the Princeton Colliery strikes approximately 040 degrees and dips 8 to 16 degrees south. The seam has been traced downdip in the No. 1 mine, the deepest of the three mines, for 640 metres. The three mines followed the seam over a total strike length of 1100 metres. The deposit is displaced along a northeast striking fault that separates the Nos. 1 and 2 mines.

The mined seam is 1.8 to 3.2 metres thick and contains minor clay, as bands usually between 3 and 19 millimetres thick. It forms the uppermost section of a sequence of dirty coal, shale, clay and clean coal, 5.5 to 7.3 metres thick.

The coal is non-coking in character and ranges in rank from sub-bituminous B to sub-bituminous A. The coal is jet black and resinous in appearance, and of low specific gravity. It frequently breaks with a conchoidal fracture. Two samples from the No. 1 mine analyzed as follows:

	Sample 1 (per cent)	Sample 2 (per cent)
Moisture	16.17	11.97
Volatile matter	37.58	30.49
Fixed carbon	41.67	49.21
Ash	4.58	8.33

Sample 1 is a selected grab sample (Geological Survey of Canada Memoir 69, page 261). Sample 2 is a channel sample taken across 2.4 metres of coal with occasional thin shale bands (Minister of Mines Annual Report 1901, page 1176). Four additional samples from the Nos. 1, 2 and 3 mines contained 15.29 to 18.0 per cent moisture, 28.5 to 33.0 per cent volatile matter, 42.8 to 49.7 per cent fixed carbon, 5.4 to 9.2 per cent ash, 0.4 to 0.7 per cent sulphur, and 9850 to 10540 British Thermal Units per pound (Bulletin 41, page 16; Geological Survey of Canada Memoir 243, pages 116, 117).

The deposit was initially explored by Vermillion Mining and Development Company Ltd. between 1901 and 1908. The Princeton Coal and Land Company Ltd. commenced production in December 1909 with the development of the No. 1 mine. Declining reserves and spontaneous combustion of old workings in the No. 1 mine prompted the company to develop the No. 2 mine, southeast of and adjacent to the No. 1 mine, which commenced production in 1923. After encountering coal of poor quality in the No. 2 mine, Princeton-B.C. Colliery Company Ltd. (formerly Princeton Coal and Land Company) abandoned both mines in 1924 and developed the No. 3 (New Shaft) mine to the northwest, across the Similkameen River. This mine operated briefly during 1925 and early 1926, having to shut down due to excessive inflow of groundwater. A total of 359,150 tonnes of coal were produced from the underground workings. An additional 1585 tonnes of coal were stripped from outcrops at the No. 1 mine by J.P. Wukelick between 1949 and 1951.

A few potentially economic seams of bentonite occur in the Princeton-Black-Blue Flame coal zone, usually overlying or underlying coal seams. One bentonite bed occurs in a shale member known informally as the Vermillion Bluffs shale, underneath the coal seam in the No. 2 mine (Open File 1987-19). The bentonite seam is 0.45 metre thick, and is comprised of creamy white clay.

A second bed of greyish, white-weathering clay (bentonite?) occurs in the No. 1 mine, 4.3 metres above the mined coal seam. The bed is 0.6 metre thick and comprised of fine-grained, non-refractory

CAPSULE GEOLOGY

clay that is quite sticky and plastic. A sample contained 75.20 per cent total silica, 3.66 per cent hydrous silica, 11.39 per cent Al₂O₃, 1.83 per cent Fe₂O₃ and 0.21 per cent carbonaceous matter (Geological Survey of Canada Memoir 65, page 27). The excessive shrinking and cracking experienced during air drying was almost completely eliminated by preheating the clay to 300 degrees Celsius. Air shrinkage was thus reduced to 5 per cent. The firing characteristics of the preheated clay are as follows (Geological Survey of Canada Memoir 65, page 29):

Cone	Fire shrinkage (per cent)	Absorption (per cent)
010	0.6	25.15
05	2.0	25.50
1	4.0	19.36
5	5.0	18.80
9	6.0	16.80
12	6.0	15.00
15	Fused	-

The clay burns to a porous, buff-coloured body that is rather light in weight.

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1911-187,246-248; 1912-190,*289-291; 1913-242,378-380;
1914-367,*475-479; *1915-237-240,415-417; 1916-488-490;
1917-421-423; 1918-214,215,442,443; 1919-340,341; 1920-160,
317-319; 1921-179,324-326; 1922-169,331-334; 1923-190,191,
357-359; 1924-174,175,344,345; 1925-212,409,410; 1926-234,
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1950-265; 1951-279
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839
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EMPR OF 1987-19; 1992-1
EMPR P *1983-3; *1986-3, pp. 28-29
GSC MAP 888A; 1386A; 41-1989
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DATE CODED: 1985/07/24
DATE REVISED: 1992/02/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE090**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEL**, JOHN, CONFEDERATION,
SNOW SHOE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H01E
BC MAP:

MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 14 09 N
LONGITUDE: 120 04 43 W
ELEVATION: 1280 Metres

NORTHING: 5457781
EASTING: 712654

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the westernmost sampled trench on the John 8 claim, 200 metres southeast of Paul Creek, 13.5 kilometres due south of the town of Hedley (Assessment Report 12475, assay plan).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Middle Jurassic

GROUP

Apex Mountain

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Cahill Creek Pluton

ISOTOPIC AGE: 168 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Altered Sediment/Sedimentary
Granodiorite

HOSTROCK COMMENTS: Apex Mountain Complex is Ordovician to Triassic (Geological Survey of Canada Map 41-1989); Cahill Creek pluton date from Fieldwork 1989.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Okanagan

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: WEST

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

13.2000

Grams per tonne

REFERENCE: Assessment Report 12475, page 1.

CAPSULE GEOLOGY

The Kel showing is situated on the southeast side of Paul Creek, 13.5 kilometres due south of the town of Hedley.

Altered fine-grained sediments of the Ordovician to Triassic Apex Mountain Complex are separated to the west from Upper Triassic Nicola Group volcanics and sediments by a north-trending body of granodiorite of the Middle Jurassic Cahill Creek pluton. The Apex Mountain sediments contain lenses of arsenopyrite, pyrrhotite and pyrite at the junction of fractures near the east flank of the granodiorite mass. Arsenopyrite, pyrrhotite, pyrite and minor chalcopyrite are also widely disseminated throughout these sediments. Chip sampling of various old trenches on the John 8 and Kel 3 claims encountered gold assays of up to 0.96 gram per tonne (Assessment Report 12475, plan of assays and outcrops).

Just west of these old workings, in the vicinity of Paul Creek, a small body of similarly altered and mineralized sediments lies within the granodiorite intrusive. Two grab samples assayed 13.2 and 12.1 grams per tonne gold (Assessment Report 12475, page 1).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 882
REPORT: RGEN0100

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EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 889A; 41-1989

DATE CODED: 1991/10/28
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE091**

NATIONAL MINERAL INVENTORY: 092H8 Cu1

NAME(S): **COPPER FARM**, PRINCETON MINING & DEVELOPMENT, G.O.D.,
 BARB, STEVENSON, BONNIE

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092H08W
 BC MAP:
 LATITUDE: 49 27 18 N
 LONGITUDE: 120 24 23 W
 ELEVATION: 792 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Collar of the southwesternmost of two adits (No. 2 adit) on the Barb claims, 500 metres south of the Similkameen River and 8 kilometres due east of Princeton (Assessment Report 5014, Map 2).

Underground
 MINING DIVISION: Similkameen
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5481272
 EASTING: 687959

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Tetrahedrite Bornite Freibergite
 ASSOCIATED: Quartz Calcite Siderite Chlorite
 ALTERATION: Malachite Azurite
 ALTERATION TYPE: Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated Vein Massive
 CLASSIFICATION: Hydrothermal Epigenetic
 SHAPE: Bladed
 DIMENSION: 200 x 85 x 3 Metres STRIKE/DIP: 360/90W TREND/PLUNGE:
 COMMENTS: Shear zone strikes almost due north for 200 metres and dips slightly west.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith
ISOTOPIC AGE: 193 +/- 1 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Andesite
 Basalt
 Granodiorite
 Granite
 Quartz Diorite
 Quartz Porphyry Dike

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Plutonic Rocks Quesnel
 PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ADIT REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1928
 SAMPLE TYPE: Chip

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	17.0000	Grams per tonne
Gold	1.4000	Grams per tonne
Copper	1.1600	Per cent

 COMMENTS: This chip sample was taken across a width of 2.4 metres in the No. 2 tunnel.
 REFERENCE: Minister of Mines Annual Report 1928, page 262.

CAPSULE GEOLOGY

The Copper Farm prospect is situated on the south side of the Similkameen valley, 500 metres east of Basely Creek and 8 kilometres east of Princeton. This area, on the north flank of the Darcy Mountains, is primarily underlain by intrusive rocks of the Early Jurassic Bromley batholith, with minor volcanics and sediments of the Upper Triassic Nicola Group.

CAPSULE GEOLOGY

In the vicinity of the deposit, Nicola Group andesites and basalts are intruded by irregular bodies and dykes of granodiorite, granite and quartz diorite related to the Bromley batholith.

A shear zone has been traced southward into the steep south bank of the Similkameen River by two adits (Nos. 2 and 3 tunnels) over a strike length of 200 metres and a vertical distance of 85 metres. The zone strikes almost due north, dips slightly to the west, and varies from a few centimetres to 3 metres in width. It is cut by a barren, pink, quartz porphyry dyke, 18 to 21 metres wide on surface, striking 045 degrees with a dip of about 45 degrees southwest.

Sulphide mineralization is erratic, consisting of disseminations, blebs, lenses and stringers of chalcopyrite, pyrite, tetrahedrite and bornite in a gangue of quartz, calcite, siderite, chlorite and sheared country rock. The sulphides are commonly accompanied by malachite and azurite. Individual sulphide lenses are up to 51 centimetres wide. High-grade mineralization generally occurs over widths of less than 0.3 metre. Twenty-seven chip samples taken over widths of 0.30 to 2.6 metres, in the Nos. 2 and 3 tunnels, assayed trace to 1.4 grams per tonne gold, trace to 78.9 grams per tonne silver and nil to 10.93 per cent copper (Minister of Mines Annual Report 1928, page 262). Seventeen of the samples contained at least 0.70 per cent copper. One sample in particular (No. 13) assayed 1.4 grams per tonne gold, 17 grams per tonne silver and 1.16 per cent copper over 2.4 metres. Other northerly striking shears, sparsely mineralized with chalcopyrite and pyrite, and less than 0.3 metre wide, occur in the vicinity of the old workings.

Discontinuous exposures of mineralization continue on surface farther south, beyond the Nos. 2 and 3 tunnels. A zone of massive pyrrhotite, pyrite, chalcopyrite and tetrahedrite, 100 metres long, occurs just above the No. 1 tunnel, 210 metres south of the collar of the No. 2 tunnel. Also, a vein of massive tetrahedrite, 3 to 15 centimetres wide, is exposed at the top of the valley side, 670 metres south of the No. 2 tunnel. A sample assayed 2.4 grams per tonne gold, 1850 grams per tonne silver and 12 per cent copper (Minister of Mines Annual Report 1922, page 169).

This prospect was explored as early as 1908. Princeton Mining and Development Company Ltd. completed 550 metres of drifting, crosscutting and raising in the Nos. 2 and 3 tunnels between 1920 and 1927, after initially mining 15 tonnes of ore in 1919. The ore graded 15.2 per cent copper and 64.5 grams per tonne silver (National Mineral Inventory card). The company also excavated several smaller adits and numerous trenches and pits. Various operators conducted geological, magnetometer and soil surveys, and 169 metres of diamond drilling in two holes between 1968 and 1983.

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*1927-242-246; *1928-261-263; 1929-277
EMPR ASS RPT *5014, 5536, 6601, *7551, *11432
EMPR EXPL 1975-E71; 1978-E144; 1979-145
EMPR GEM 1974-119
EMPR PF (*Princeton Mining and Development Co. (1926): 1 to 600 scale plan of underground workings and 1 to 1200 scale cross-section of surface and underground workings)
EMR MP CORPFILE (Princeton Mining and Development Co. Ltd., Silver Arrow Explorations Ltd., Hamard Mines and Explorations Ltd., Northern Lights Resources Ltd.; Starr, C.C. (1955): Abstract on the Mining Claims of Princeton Mining & Development Co., Ltd.)
GSC MAP 569A; 888A; 889A; 1386A; 41-1989
GSC MEM *243, p. 90
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL 1970, 1971

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE092**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKAGIT 1 FRACTION (L.2629S)**, CMAG

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 31 N
LONGITUDE: 120 30 23 W
ELEVATION: 1402 Metres

NORTHING: 5462902
EASTING: 681312

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching along a road in the southeastern corner of the Skagit No. 1 claim (Lot 2629s), 3.0 kilometres east of the Similkameen River and 18.5 kilometres south of Princeton (Assessment Report 2846, Map 2).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Copper Mountain Intrusions

ISOTOPIIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Andesitic Tuff
Volcanic Siltstone
Volcanic Sandstone

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

COMMENTS: This deposit occurs in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

2.9000

Grams per tonne

Copper

0.2763

Per cent

COMMENTS: Average of six chip samples taken sequentially over a total length of 30 metres.

REFERENCE: Assessment Report 11617, Figure 3.

CAPSULE GEOLOGY

The Skagit No. 1 prospect is located 3.0 kilometres east of the Similkameen River and 18.5 kilometres south of Princeton. The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

This occurrence is comprised of several sulphidic shear zones and fractures cutting andesitic tuff, with minor volcanic siltstone and sandstone formerly included in the Wolf Creek Formation (Geological Survey of Canada Memoir 171). The deposit lies within 60 metres of the Copper Mountain stock (Copper Mountain Intrusions), situated to the northwest.

The shear zones and fractures are weakly mineralized with

CAPSULE GEOLOGY

bornite, chalcopyrite and malachite. Two adjacent 5-metre chip samples taken along a roadcut averaged 0.362 per cent copper, 0.0025 gram per tonne gold and 2.3 grams per tonne silver over 10 metres (Assessment Report 11617, Figure 3). A second series of chip samples were taken in sequence along a trench about 30 metres to the south. Six chip samples, each 5 metres long, averaged 0.2763 per cent copper, 0.008 gram per tonne gold and 2.9 grams per tonne silver over 30 metres (Assessment Report 11617, Figure 3). Malachite staining is developed over a 20 metre length along a trench wall a further 40 metres to the south.

This prospect was mapped by Newmont Mining Corporation of Canada Ltd. in 1970 and 1971, and sampled in detail by Kidd Creek Mines Ltd. in 1983. Various other operators have conducted geophysical and geochemical surveys over this deposit between 1968 and 1986, most recently by Targa Resources Inc.

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EMPR EXPL 1975-E70
EMPR GEM 1971-269
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE093**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAW, NEW ROAD, SPEHNO,
RED STAR, BELL, STAR,
ROCHE, PASAYTEN, TELL,
AU**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H02E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 09 16 N
LONGITUDE: 120 37 16 W
ELEVATION: 1344 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5447350
EASTING: 673452

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 95812 (at shaft), 300 metres northeast of Bell Creek,
1.25 kilometres northwest of Highway 3 on the northwest side of the
Similkameen River (Assessment Report 21491, Figure 5).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Tetrahedrite Bornite Chalcopyrite Chalcocite
ASSOCIATED: Quartz Magnetite
ALTERATION: Malachite Azurite Carbonate Epidote Chlorite
ALTERATION TYPE: Oxidation Carbonate Epidote Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I06 Cu±Ag quartz veins
COMMENTS: Various mineralized quartz veins up to 0.5 metre wide occur in an area
300 metres long.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
FORMATION: Undefined Formation
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Greenstone
Sericite Schist
Schistose Meta Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This deposit occurs in the Nicola belt, near its south end.
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Post-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Silver 19.5000 Grams per tonne
Gold 1.9200 Grams per tonne
Copper 9.2300 Per cent

COMMENTS: Sample of quartz vein material from trench.
REFERENCE: Assessment Report 21491, page 16, sample 95812.

CAPSULE GEOLOGY

The Paw showing outcrops along the northeast bank of Bell Creek, 1.2 to 1.6 kilometres northwest of Highway 3 on the northwest side of the Similkameen River and 33 kilometres south-southwest of Princeton. Exploration work has been conducted in the Bell Creek area since 1900. Most of this work has been focused on a couple of showings near the eastern boundary of Manning Provincial Park, just north of Eastgate, British Columbia. The Redstar (092HSE067) has received the most exploration attention, although the Knob Hill (092HSE097), Golden Crown (092HSE191) and Paw have also been explored. Several adits were excavated on the better showings by early workers, extending up to 332 metres in length. Between 1967 and 1970, Speno Mines Ltd. carried out an exploration program over the Knob Hill and Red Star claim area. Cominco Ltd. optioned the claims covering the

CAPSULE GEOLOGY

Red Star occurrence in 1980 and conducted a comprehensive exploration program for volcanogenic massive sulphide deposits. In 1986 and 1987, Bukara Resources Ltd. completed additional exploration including 1100 metres of trenching, focused on gold-bearing pyritiferous schists in the Red Star horizon. In 1990, the Red Star occurrence and surrounding area were restaked by Pamicon Developments Ltd. in 1990. In 1992, Westmin Resources Ltd. optioned the claims from Pamicon Developments Ltd. and conducted two phases of comprehensive exploration. In 1993 and 1994, exploration was continued by Westmin Resources Ltd.

The property is underlain by Upper Triassic Nicola Group volcanics, which consists of a varied assemblage of volcanic flows, pyroclastics and related clastics with minor limestone. These rocks are affected by greenschist facies metamorphism in a northwest trending belt, 5 to 6 kilometres wide, that parallels the eastern margin of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex granodiorite. The resulting chloritic and sericitic schists strike from 165 to 180 degrees, with an average dip of 65 degrees west. These rocks are unconformably overlain by the Eocene Princeton Group, comprised of basaltic and andesitic flows, pyroclastics and agglomerates.

About 0.8 kilometre northwest of the upper adits on the Red Star claim (092HSE067), mineralization occurs in white quartz veins in a foliated, relatively massive and uniform greenstone unit that stratigraphically overlies schistose metasediments. Carbonate-epidote alteration is associated with these quartz veins. Abundant epidote also occurs along foliation planes. Magnetite is a distinctive feature of this greenstone unit and varies from disseminated grains to seams and lenses.

The mineralized quartz veins outcrop in an area 300 metres long, on the east side of Bell Creek, just south of overlying Princeton Group volcanics. The veins are up to 0.5 metre wide and occur as conformable seams or as crosscutting veins.

The veins contain tetrahedrite, malachite, bornite, and chalcopyrite in selvages. Disseminated chalcocite and local coatings of azurite are also reported. A grab sample from a trench assayed 1.92 grams per tonne gold, 19.5 grams per tonne silver and 9.23 per cent copper (Assessment Report 21491, page 16, sample 95812). Eight grab samples of quartz vein material from various other trenches contained between nil and 1.58 grams per tonne gold, 1.2 to 16 grams per tonne silver and 0.03 to 5.26 per cent copper (Assessment Report 21491, Figure 5).

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EMPR GEM 1969-290; 1970-386
GSC BULL 238
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE094**

NATIONAL MINERAL INVENTORY: 092H1 Cu1

NAME(S): **ASH, NOLA, ASHNOLA,
RICK, CAT, CAR**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H01W
BC MAP:

MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 07 19 N
LONGITUDE: 120 20 08 W
ELEVATION: 1835 Metres

NORTHING: 5444431
EASTING: 694398

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of a zone of copper enrichment, 700 metres northeast of
McBride Creek, 2.3 kilometres northwest of the Ashnola River
(Assessment Report 5610, Figure 4).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT:	Pyrite	Chalcopyrite	Molybdenite	Chalcocite	Covellite
ASSOCIATED:	Quartz	Sericite	Carbonate	Magnetite	
ALTERATION:	Sericite	Quartz	Clay	Biotite	
ALTERATION TYPE:	Sericitic		Argillic	Silicific'n	Potassic
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Disseminated	Stockwork	Breccia	
CLASSIFICATION:	Porphyry	Hydrothermal	Diatreme	Epigenetic
TYPE:	L04 Porphyry Cu ± Mo ± Au			
DIMENSION:	1000 x 300	Metres	STRIKE/DIP:	TREND/PLUNGE:
COMMENTS:	A zone enriched in copper trending north-northwest.			

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous	Spences Bridge	Undefined Formation	

LITHOLOGY: Quartz Andesine Porphyritic Diorite
Quartz Andesine Porphyritic Monzonite
Quartz Albite Porphyritic Rhyolite
Porphyritic Dacite
Quartz Gabbro
Quartz Diorite
Quartz Monzonite

HOSTROCK COMMENTS: Rhyolite mapped as subvolcanic equivalent to the Middle to Upper
Cretaceous Spences Bridge Group (Geol. Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT:	Intermontane	PHYSIOGRAPHIC AREA:	Thompson Plateau
TERRANE:	Overlap Assemblage		Plutonic Rocks

INVENTORY

ORE ZONE:	SHOWING	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1968
SAMPLE TYPE:	Drill Core		
COMMODITY		GRADE	
Copper		0.0920	Per cent
Molybdenum		0.0110	Per cent
COMMENTS:	Average grade over 143 metres.		
REFERENCE:	National Mineral Inventory card.		

CAPSULE GEOLOGY

The Ash copper-molybdenum prospect is situated on the north side of McBride Creek, 2 kilometres west of the Ashnola River and 32 kilometres southwest of Hedley.

An extensive area lying northwest of the Ashnola River, between McBride Creek and Cool Creek, is underlain by Middle to Late Cretaceous felsic intrusions that may be subvolcanic equivalents of the Spences Bridge Group. These intrusions are in turn cut by small stocks and dykes of quartz porphyry and quartz diorite to quartz monzonite in the vicinity of McBride Creek. The various intrusives are cut by dacite and andesite dykes.

The country rock in the immediate vicinity of the deposit consists of porphyritic rhyolite containing up to 2 percent

CAPSULE GEOLOGY

phenocrysts of quartz, albite and potassium feldspar. This unit is intruded by an irregular northeast trending stock of the Lightning Creek series (?), 600 metres long and 180 metres wide. The stock varies from quartz diorite to quartz monzonite and is zoned. The plug exhibits a coarse-grained, porphyritic core containing quartz, feldspar (andesine), and biotite phenocrysts in a matrix of anhedral, fine-grained quartz and plagioclase, and an outer margin of slightly porphyritic dacite and sugary-textured quartz microgabbro.

Several distinct alteration assemblages are present in the stock and enclosing rhyolite, occurring in concentric zones centred about a magnetite-rich core lying northwest and adjacent to the stock. Magnetite occurs as disseminations and stringers over a 200 by 250 metre area in the core zone. The core is rimmed by an annular zone of phyllic alteration, 4 kilometres wide, consisting of fracture-controlled sericite and quartz. Small zones of argillic alteration and pervasive to fracture-controlled silicification are contained within the phyllic alteration envelope. Weak potassic alteration, in the form of hydrothermal biotite, occurs in the core area and locally throughout the rest of the deposit.

Mineralization consists of pyrite, chalcopyrite and molybdenite in a gangue of quartz, with lesser sericite and sporadic carbonate. Supergene chalcocite and covellite occur in minor amounts. Two distinct phases of sulphide mineralization comprise this deposit. The temporal relationship between these two phases remains uncertain. One phase, enriched in copper and molybdenum, is centred on the quartz diorite stock, occurring within the stock and the surrounding rhyolite. This phase exhibits quartz-pyrite-sericite veins commonly containing chalcopyrite and molybdenite. Chalcopyrite and molybdenite occur as small veinlets in which one or the other or both predominate. Disseminations of pyrite and rare chalcopyrite are also present.

A second phase of copper mineralization is centred about the magnetite-rich core and is characterized by a pyrite-rich halo with an inner diameter of 1.6 kilometres and an outer diameter of 3.2 kilometres. This horseshoe-shaped halo is open to the east and forms an incomplete cylinder with a vertical to near vertical axis. The halo is situated in the inner part of the phyllic zone, and contains between 2 to 5 per cent pyrite, locally to 10 percent, as disseminations and stringers with minor quartz. Chalcopyrite and minor sporadic molybdenite occur as fracture coatings within the inner phyllic zone, inside the pyritic halo. Total sulphides increase outward across the phyllic zone from 1 to 5 per cent, with pyrite to chalcopyrite ratios increasing outward from 2:1 to 50:1. Better copper grades occur in strongly silicified rocks within the inner phyllic zone, external to the magnetite core. The mineralization and associated alteration are believed represent the upper levels of a porphyry copper system.

A post-mineral diatreme, previously mapped as a lithic tuff, cuts the eastern portion of the deposit, resulting in the characteristic horseshoe-shape of the various zones of sulphide mineralization and alteration. The diatreme outcrops over an elongate area up to 800 metres wide trending north-northwest for 1800 metres, and contains angular to subangular fragments of porphyritic rhyolite up to 10 centimetres in diameter. The clasts are mineralized with chalcopyrite and molybdenite as disseminations and fracture coatings. The enclosing matrix contains only disseminated pyrite.

Diamond drilling over various parts of the deposit has encountered grades of up to 0.18 per cent copper and 0.05 per cent molybdenum over narrow widths (Assessment Report 7827, page 5). A hole drilled in 1968 averaged 0.092 per cent copper and 0.011 per cent molybdenum over 143 metres (National Mineral Inventory card). One of six holes drilled in 1972 averaged 0.17 per cent copper over 152 metres (Assessment Report 4379, page 8). The elevated copper values tend to occur in a zone up to 300 metres wide, trending north-northwest for 1000 metres along the inner edge of the pyritic halo. Five holes drilled in this zone to depths of up to 120 metres averaged 0.1 per cent copper (Assessment Report 5610, page 15). Drilling to depths of 547 metres has shown that copper grades decrease with depth and molybdenum grades increase with depth (Assessment Report 7827).

The Ash prospect was discovered by Kennco Explorations (Western) Ltd. in 1960. The deposit was extensively explored by various operators up to 1979. Work included geological mapping, stream and soil sampling, geophysical surveying and 5979 metres of drilling. International Prism Explorations Ltd. carried out rock sampling and resampling of old drill core in 1988 in order to assess the deposit for precious metals.

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6929, *7827, *18415
EMPR EXPL 1975-E61; 1976-E76; 1977-E121,E122; 1978-E139,E140;
1979-140,141
EMPR GEM 1970-394; 1971-256,257; 1972-99; 1973-123
EMR MP CORPFILE (Prism Resources Ltd.)
GSC MAP 888A; 41-1989
GSC MEM 243
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Copper Deposit near Keremeos, B.C., in Association of Exploration
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DATE CODED: 1985/07/24
DATE REVISED: 1991/11/26

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE095**

NATIONAL MINERAL INVENTORY: 092H7,10 Cu11

NAME(S): **ASP**, LODE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 28 N
LONGITUDE: 120 50 28 W
ELEVATION: 1402 Metres

NORTHING: 5484293
EASTING: 656342

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching on the Asp 6 claim, 3.1 kilometres north-northwest of the summit of Lodestone Mountain, 24 kilometres west-northwest of Princeton (Property File - G. White, 1969, page 31).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Olivine Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1969
SAMPLE TYPE:	Chip		
COMMODITY	GRADE	Grams per tonne	Per cent
Silver	11.0000		
Copper	3.5100		

COMMENTS: Chip sample of gabbro with disseminated bornite, 3.4 metres long.
REFERENCE: Property File - G. White, 1969, page 28 (sample 428).

CAPSULE GEOLOGY

The Asp showing is about 3 kilometres north-northwest of the summit of Lodestone Mountain and 24 kilometres west-northwest of Princeton.

Bornite and chalcopyrite occur as very fine disseminations in olivine gabbro within the Early Jurassic Tulameen Ultramafic Complex. This mineralization appears to be associated with faults and forms lenticular and discontinuous zones with gradational margins. A chip sample of altered gabbro with disseminated bornite, 3.4 metres long, assayed 3.51 per cent copper and 11 grams per tonne silver (G. White, 1969, page 28).

The showing was trenched and soil sampled by Sicintine Mines Ltd. in 1969 and 1970.

BIBLIOGRAPHY

EMPR ASS RPT *2526, 12506, 15434, 16661, 17819, 18675, 27009
EMPR EXPL 1988-B71-B81
EMPR FIELDWORK 1987, pp. 281-294
EMPR GEM 1970-382,383
EMPR OF 1988-25
EMPR P 1992-6
EMPR PF (*White, G. (1969): Preliminary Report on the Asp Claim Group, in Sicintine Mines Ltd. (1970): Prospectus, pages 26-31)
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 893
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,
Yale District, British Columbia, unpublished Ph.D. thesis, Queen's
University, 415 pages.

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/21

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE096**

NATIONAL MINERAL INVENTORY:

NAME(S): **IDAHO (L.2049)**, GOULDIE (L.708), TRACHYTE (L.2016S)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 39 N
LONGITUDE: 120 32 00 W
ELEVATION: 1122 Metres

NORTHING: 5464938
EASTING: 679285

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite occurrence on the baseline at line 82 E, 600 metres southeast of the Similkameen River and 16 kilometres south of Princeton (Assessment Report 2792, Map 5).

COMMODITIES: Copper Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
COMMENTS: Mineralized fractures generally strike west and dip steeply north.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Syeno Diorite
Syenite Pegmatite
K-Feldspar Porphyry Dike

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
PHYSIOGRAPHIC AREA: Thompson Plateau
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1970
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Gold		1.0000	Grams per tonne
Copper		0.3500	Per cent
COMMENTS:	Grab sample from a cliff face.		
REFERENCE:	Assessment Report 2792, page 5.		

CAPSULE GEOLOGY

The Idaho showing is situated 600 metres southeast of the Similkameen River, 16 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

Syenodiorite of the Copper Mountain stock (Copper Mountain Intrusions) is cut by potassium feldspar porphyry dykes carrying copper mineralization. The dykes become larger and more numerous to the west. They appear to be related to the syenite pegmatite body outcropping along the Similkameen River in the core of the Copper Mountain stock.

Chalcopyrite and malachite occur in thin, short fracture fillings in the dykes. The fractures generally strike west and dip

CAPSULE GEOLOGY

steeply north. A grab sample of this mineralization taken from a cliff face assayed 0.35 per cent copper and 1.0 grams per tonne gold (Assessment Report 2792, page 5).

Similar mineralization occurs several hundred metres to the northwest on the Gouldie and Trachyte Crown-granted claims. Five chalcopyrite occurrences lie in an area up to 140 metres wide, extending 460 metres eastward from the Similkameen River. These occurrences are hosted in syenodiorite and syenite pegmatite of the Copper Mountain stock.

Cumont Mines Ltd. conducted geological, soil and magnetometer surveys over this showing in 1966 and 1970.

BIBLIOGRAPHY

- EMPR AR 1916-524
EMPR ASS RPT 838, *2792
EMPR BULL 59
GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE097**

NATIONAL MINERAL INVENTORY:

NAME(S): **METESTOFFER**, SILVER TIP, FITZGERALD,
 MIKE, MAE

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H07E
 BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 15 41 N
 LONGITUDE: 120 44 46 W
 ELEVATION: 1465 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5458958
 EASTING: 663984

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 87-108, 200 metres south-southwest of the
 confluence of Forty-five Mile and Whipsaw creeks, 27 kilometres
 southwest of Princeton (Assessment Report 17923, Figure 4).

COMMODITIES: Zinc Gold Silver Copper Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite Galena Gold

Argentite

ASSOCIATED: Quartz Carbonate Calcite Clay

ALTERATION: Quartz Carbonate Clay Sericite

ALTERATION TYPE: Silicific'n Carbonate Argillic Sericitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au G04 Besshi massive sulphide Cu-Zn

I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Chlorite Schist
 Hornblende Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Amphibolite

COMMENTS: This deposit occurs in the western margin of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1973

SAMPLE TYPE: Drill Core

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	86.1000	Grams per tonne
Gold	1.3000	Grams per tonne
Copper	0.1100	Per cent
Lead	0.0700	Per cent
Zinc	1.9800	Per cent

COMMENTS: Average grade over 5.2 metres.

REFERENCE: Assessment Report 4170, page 8 (hole P2, 32.9-38.1 metres).

CAPSULE GEOLOGY

The Metestoffer prospect is just southwest of the confluence of Forty-five Mile and Whipsaw creeks, 27 kilometres southwest of Princeton. The BZ prospect (092HSE207) is 600 metres to the north.

The region at the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by metamorphosed volcanics and sediments of the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest.

A zone of brecciation and veining outcrops in Whipsaw Creek and continues southward up the south bank of the creek for 140 metres, in chlorite schist and hornblende gneiss of the Nicola Group. This deposit is one of several occurrences (T.G.S., 092HSE206 and BZ, 092HSE207) hosted in the same fault zone, which strikes north for at least 1.4 kilometres.

CAPSULE GEOLOGY

The breccia zone contains numerous intersecting sulphide veins comprised of massive to semimassive sphalerite and pyrite, with lesser chalcopyrite and minor galena. Individual veins are enclosed in quartz-carbonate-clay-sericite alteration envelopes up to ten times the width of the veins. The envelopes contain disseminated sphalerite, chalcopyrite and pyrite. Native gold is associated with euhedral pyrite, and argentite is associated with sphalerite and chalcopyrite. Sulphide mineralization occurs over widths of 0.3 to 0.6 metre on surface and 3 to 9 metres at 30 to 60 metres depth. Drilling along the zone, to the south, encountered weaker mineralization consisting of pyrite with minor sphalerite and chalcopyrite in quartz and calcite veins and stringers. A selected sample from a 0.15-metre wide vein exposed in Whipsaw Creek assayed 15 grams per tonne gold, 288 grams per tonne silver and 0.5 per cent copper (Minister of Mines Annual Report 1929, page 276). One angled drill hole graded 1.3 grams per tonne gold, 86.1 grams per tonne silver, 0.11 per cent copper, 0.07 per cent lead and 1.98 per cent zinc over 5.2 metres (Assessment Report 4170, page 8, hole P2, 32.9-38.1 metres).

The zone is cut near its north end by a west-striking, south-dipping quartz vein that pinches and swells over a distance of 45 metres. The vein is mineralized with pyrite, sphalerite, galena and chalcopyrite.

Similar mineralization occurs in hornblende gneiss, three hundred metres west of the breccia zone, in the vicinity of the Silver Tip adit (northeast corner of Lot 1553). Drilling on the north bank of Whipsaw Creek encountered quartz veins with coarse pyrite, sphalerite and chalcopyrite.

This prospect was first explored sometime previous to 1929. Whipsaw Mines Ltd. geologically mapped the deposit and drilled 9 holes totalling 393 metres between 1966 and 1972. World Wide Minerals Ltd. drilled 16 holes totalling 1769 metres between 1987 and 1990.

BIBLIOGRAPHY

- EMPR AR 1929-276
- EMPR ASS RPT 2802, *4170, 5491, *10849, *17923, 18069, *20165
- EMPR GEM 1970-384; 1972-118; 1974-114,115; 1975-E69
- EMPR PF (Huff, H.P. (1969): map of OK claims showing areas of work by Silver Tip Explorations Ltd. in 1969 (see 092HSE073))
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC P 85-1A, pp. 349-358
- CJES Vol. 24, pp. 2521-2536 (1987)
- GCNL May 14, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE098**

NATIONAL MINERAL INVENTORY:

NAME(S): **FIVE FISSURES**, F SHOWING, MAE,
 JASON

STATUS: Prospect	Underground	MINING DIVISION: Similkameen
REGIONS: British Columbia		UTM ZONE: 10 (NAD 83)
NTS MAP: 092H07E		NORTHING: 5459696
BC MAP:		EASTING: 664873
LATITUDE: 49 16 04 N		
LONGITUDE: 120 44 01 W		
ELEVATION: 1520 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Adit in Five Fissures showing, 1.6 kilometres southwest of the confluence of Forty-seven Mile and Whipsaw creeks, 26.5 kilometres southwest of Princeton (Assessment Report 18069, Figure 4).		

COMMODITIES: Lead Zinc Silver Copper Gold

MINERALS

SIGNIFICANT: Sphalerite	Pyrite	Galena	Chalcopyrite	Silver
Argentite	Gold	Chalcocite		
ASSOCIATED: Quartz				
ALTERATION: Carbonate	Clay	Sericite		
ALTERATION TYPE: Carbonate		Argillic	Sericitic	
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Stockwork	Vein		
CLASSIFICATION: Hydrothermal	Epigenetic		
TYPE: I05 Polymetallic veins	Ag-Pb-Zn±Au	G04	Besshi massive sulphide Cu-Zn
I06 Cu±Ag quartz veins			
DIMENSION: 15	Metres	STRIKE/DIP: 360/	TREND/PLUNGE:
COMMENTS: Quartz vein network.			

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Chlorite Sericite Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP:
COMMENTS: This showing is in the western margin of the Nicola belt.	GRADE: Amphibolite

INVENTORY

ORE ZONE: SHOWING	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1973
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	170.0000 Grams per tonne
Gold	0.1700 Grams per tonne
Lead	14.0000 Per cent
Zinc	4.8500 Per cent
COMMENTS: Selected sample of sheared and leached rock.	
REFERENCE: Assessment Report 4170, page 10.	

CAPSULE GEOLOGY

The Five Fissures showing occurs 1.6 kilometres southwest of the confluence of Forty-seven and Whipsaw creeks, 26.5 kilometres southwest of Princeton. The Knight and Day showing (092HSE072) is 550 metres to the south.

The region at the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by metamorphosed volcanics and sediments of the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest. A northwest-trending ultramafic body, possibly related to the Early Jurassic Tulameen Ultramafic Complex, intrudes Nicola Group rocks east of the showing. The body is 100 metres wide and is consists of pyroxene porphyroblastic amphibolitic schists.

The showing consists of a north-striking quartz vein network, 15

CAPSULE GEOLOGY

metres wide on surface, in chlorite sericite schist of the Nicola Group. An adit driven under the showing suggests the zone widens with depth. This deposit is one of several occurrences (Knight and Day, 092HSE072 and S and M, 092HSE073) hosted in the same fault zone, which extends north-northwest across Whipsaw Creek for at least 1.5 kilometres.

The vein network is mineralized with sphalerite, pyrite, galena, chalcopyrite, native silver, argentite and possibly native gold. Chalcocite is also reported. Extensive carbonate, clay and sericite alteration surrounds individual veins. A selected sample of sheared and leached rock assayed 0.17 gram per tonne gold, 170 grams per tonne silver, 14.0 per cent lead and 4.85 per cent zinc (Assessment Report 4170, page 10). A sample of gossan analysed 1.7 grams per tonne gold, 115.5 grams per tonne silver, 0.237 per cent copper, 1.962 per cent lead and 0.941 per cent zinc (Assessment Report 21186, page 17).

Whipsaw Mines Ltd. carried out geological mapping, soil sampling, geophysical surveying and trenching over the showing between 1970 and 1974. The deposit was also mapped and sampled by World Wide Minerals Ltd. between 1987 and 1990.

BIBLIOGRAPHY

EMPR ASS RPT 2802, *4170, 5024, 12484, 12703, 17923, 18069, *21186
EMPR EXPL 1988, pp. B71-B81
EMPR GEM 1970-384; 1972-118; 1974-114,115
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL May 14, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/15

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE099**

NATIONAL MINERAL INVENTORY:

NAME(S): **X**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 41 N
LONGITUDE: 120 34 13 W
ELEVATION: 914 Metres

NORTHING: 5470470
EASTING: 676419

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on the X 260 claim, 2.2 kilometres west of the Similkameen River and 11.5 kilometres southwest of Princeton (Assessment Report 3037, Map 1).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic GROUP: Nicola FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Volcanic Breccia
Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This showing is in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1971

COMMODITY	GRADE	
Silver	2.7000	Grams per tonne
Copper	0.0100	Per cent

REFERENCE: Property File - R.G. Jury, 1971, page 3.

CAPSULE GEOLOGY

The X showing is 2.2 kilometres west of the Similkameen River and 11.5 kilometres southwest of Princeton.
This occurrence is hosted in volcanic breccia and agglomerate of the Upper Triassic Nicola Group.
The volcanics contain minor chalcopyrite, as disseminations, and in small quartz veins. A series of grab samples from a trench assayed trace gold, 2.1 to 2.7 grams per tonne silver and trace to 0.01 per cent copper (Property File - R.G. Jury, 1971, page 3).

BIBLIOGRAPHY

EMPR ASS RPT 2197, 3037
EMPR BULL 59
EMPR GEM 1971-271
EMPR PF (*Jury, R.G. (1971): Report on Claire and X claims for Falcon Exploration Ltd.)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/01/18
DATE REVISED: 1992/06/02

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE100**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASH 2, WEL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 53 N
LONGITUDE: 120 54 55 W
ELEVATION: 1579 Metres

NORTHING: 5471944
EASTING: 651309

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching (Ash 9-12 claims), 300 metres southeast of Packers Creek, 2.0 kilometres northeast of the Tulameen River and 30 kilometres west-southwest of Princeton (Assessment Report 5583, Map 3).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Kaolinite Chlorite Epidote Ferrimolybdenite Malachite
ALTERATION TYPE: Argillic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Disseminated
CLASSIFICATION: Magmatic Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)
DIMENSION: 500 Metres STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Biotite Gneiss
Gneissic Granodiorite
Syenite Dike
Andesite Dike

HOSTROCK COMMENTS: The Eagle Plutonic Complex is Late Jurassic to Early Cretaceous in age (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Amphibolite

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Grab
COMMODITY: Molybdenum GRADE: 0.5000 Per cent
COMMENTS: Average grade of quartz-muscovite bodies. Grade given for molybdenite.
REFERENCE: Assessment Report 5583, page 2.

CAPSULE GEOLOGY

The Ash 2 showing is situated southeast of Packers Creek, 2 kilometres northeast of the Tulameen River and 30 kilometres west-southwest of Princeton.
The showing is hosted in biotite gneiss (gneissic granodiorite) of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. The complex is locally intruded by northeast-striking andesite and syenite dykes, 0.6 to 3.0 metres wide.
Mineralization outcrops sporadically along the southeast bank of Packers Creek over a length of 500 metres. Most of the mineralization is contained in several large, irregular masses of milky white quartz and muscovite, up to 24 metres wide, that may have formed as late differentiates in the Eagle Plutonic Complex. These bodies are enclosed in kaolinite and/or chlorite-epidote alteration envelopes. They are irregularly mineralized with molybdenite and ferrimolybdenite, occurring as fine disseminations and along fractures in quartz. Minor disseminated pyrite and chalcopyrite are

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 902
REPORT: RGEN0100

CAPSULE GEOLOGY

developed in the surrounding gneiss. The molybdenite content of these bodies varies up to 3 per cent and is reported to average about 0.50 per cent (Assessment Report 5583, page 2).

The syenite dykes contain minor malachite and disseminated chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT *3182, *5583, 5992, *7974
EMPR EXPL 1975-E69; 1976-E81
EMPR GEM 1969-282; 1971-273
GSC MEM 243
GSC P 85-1A, pp. 349-358
GSC MAP 888A; 1386A; 41-1989

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/23

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE101**

NATIONAL MINERAL INVENTORY: 092H7 Au1

NAME(S): **GRANITE SCHEELITE** GRANITE MOUNTAIN

STATUS: Developed Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07W

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 19 45 N

LONGITUDE: 120 52 41 W

ELEVATION: 1707 Metres

NORTHING: 5466215

EASTING: 654174

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the Granite Scheelite No. 2 claim, 2.6 kilometres east-southeast of the confluence of Holding and Buchanan creeks, 1.6 kilometres southwest of the summit of Granite Mountain and 30 kilometres west-southwest of Princeton (Property File - A.F. Roberts, 1971, claim map).

COMMODITIES: Gold Silver Copper Zinc Lead
 Tungsten

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Scheelite

ASSOCIATED: Quartz

ALTERATION: Silica

Sericite

Epidote

Epidote

ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I06 Cu±Ag quartz veins

I02 Intrusion-related Au pyrrhotite veins

SHAPE: Bladed

DIMENSION: 270 x 90 x 1 Metres

STRIKE/DIP: 155/80E

TREND/PLUNGE:

COMMENTS: Mineralized zone with reserves.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic-Cretaceous

Eagle Plutonic Complex

LITHOLOGY: Amphibolite
Hornblende Quartz Feldspar Gneiss
Pegmatite Dike

HOSTROCK COMMENTS: The Eagle Plutonic Complex is Late Jurassic to Early Cretaceous in age (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Plutonic Rocks

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Amphibolite

INVENTORY

ORE ZONE: CENTRAL

REPORT ON: Y

CATEGORY: Inferred
QUANTITY: 72568 Tonnes

YEAR: 1980

COMMODITY

GRADE

Silver

79.8700

Grams per tonne

Gold

9.0800

Grams per tonne

COMMENTS: Possible reserves estimated over a strike length of 270 metres, with a minimum mining width of 0.91 metre projected to a depth of 90 metres. Grades quoted are dilut.

REFERENCE: SMF, Feb.28/80 - Northern Lights Res. Ltd., R.W. Phendler, Oct.17/79.

CAPSULE GEOLOGY

The Granite Scheelite prospect is on the southwest slope of Granite Mountain, about 30 kilometres west-southwest of Princeton.

Granite Mountain is primarily underlain by hornblende, biotite and garnet-bearing amphibolites of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. These rocks are intruded by quartz-albite-muscovite pegmatite dykes. Diamond drilling in the vicinity of the deposit encountered mostly hornblende-quartz-feldspar gneiss (amphibolized metavolcanic).

A shear zone strikes 150 to 160 degrees for at least 900 metres

CAPSULE GEOLOGY

and dips vertically to 80 degrees northeast. The zone, which averages about 1.8 metres in width, is developed along the western segmented margin of a pegmatite dyke. The shear contains a system of parallel and bifurcating quartz veins 2.5 to 100 centimetres wide. The sheared wallrock is highly silicified for up to 0.6 metre from individual quartz veins. Sericite and epidote are also noted.

The veins are comprised of slightly ribboned, occasionally vuggy quartz, containing blebs, small lenses and disseminations of pyrite, chalcopyrite, galena and sphalerite in fractures and along contacts. Grains of greenish to amber-coloured scheelite are also reported in the quartz. Disseminated pyrite and chalcopyrite are present in the silicified wallrock. Very fine-grained pyrite, chalcopyrite and galena occur throughout the rest of the zone. Grab sampling returned values of up to 60 grams per tonne and silver values of nearly 2000 grams per tonne in narrow quartz veins carrying chalcopyrite, sphalerite and galena (Geological Fieldwork 1991, page 59). A channel sample taken across the shear at the face of an adit assayed 8.85 grams per tonne gold, 85.0 grams per tonne silver, 0.28 per cent copper, 0.05 per cent lead and 0.13 per cent zinc over 1.8 metres (Property File - A.F. Roberts, 1972, assay certificate). A chip sample across 20 centimetres of quartz, with scheelite and sulphides, exposed in a trench assayed 4.1 grams per tonne gold, 58 grams per tonne silver and 0.05 per cent tungsten trioxide (Bulletin 10, page 116).

Inferred reserves of the Central zone are 72,568 tonnes grading 79.87 grams per tonne silver and 9.08 grams per tonne gold (Statement of Material Facts, February 28, 1980 - Northern Lights Resources Ltd., R.W. Phendler, October 17, 1979). The reserves are estimated over a strike length of 270 metres, with a minimum mining width of 0.91 metre projected to a depth of 90 metres. Grades quoted are diluted.

The deposit was first explored some time prior to 1942. Silver Tip Explorations Ltd. drove a 46-metre long adit along the shear zone in 1969, extracting a 120-tonne bulk sample in the process. Long Lac Mineral Exploration Ltd. drilled 5 holes totalling 307 metres in 1980.

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- EMR MP CORPFILE (Northern Lights Resources Ltd., Long Lac Mineral Exploration Ltd.)
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- GSC MEM 243
- GSC P 85-1A, pp. 349-358
- EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/24

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE102**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHIPSAW**, WHIP, SAW,
PICK, AXE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 36 N
LONGITUDE: 120 45 34 W
ELEVATION: 1646 Metres

NORTHING: 5462480
EASTING: 662909

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole W90-7, 2.35 kilometres due north of the confluence of Whipsaw and Forty-three Mile creeks, 25.5 kilometres southwest of Princeton (Assessment Report 20165, Figure 4).

COMMODITIES: Copper Molybdenum Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Bornite Chalcocite
Covellite
ASSOCIATED: Quartz Calcite Magnetite
ALTERATION: Epidote Chlorite Kaolinite Sericite
ALTERATION TYPE: Propylitic Argillic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1000 x 500 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: An area of sporadic mineralization.

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE

Upper Triassic
Jurassic-Cretaceous
Tertiary

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Eagle Plutonic Complex
Unnamed/Unknown Informal

LITHOLOGY: Chlorite Schist
Amphibole Schist
Feldspar Quartz Biotite Porphyry
Feldspar Porphyry Dike
Intrusive Breccia
Granodiorite
Gneiss
Quartzite
Grit
Chloritoid Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: SOUTH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core

YEAR: 1981

COMMODITY

Copper

GRADE

0.1127

Per cent

Molybdenum

0.0070

Per cent

COMMENTS: Average grade of cuttings from a percussion hole over 12.2 metres.

REFERENCE: Assessment Report 9456, page A-9 (hole 81-4, 27.4-39.6 metres).

INVENTORY

ORE ZONE: NORTH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1990

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper

0.2980

Per cent

Molybdenum

0.0115

Per cent

COMMENTS: Average grade over 26.8 metres.

REFERENCE: Assessment Report 20165, page 18 (hole W90-7, 10.2-37.0 metres).

CAPSULE GEOLOGY

The Whipsaw prospect is located 1.2 to 2.4 kilometres north of the confluence of Forty-three Mile and Whipsaw creeks, about 26 kilometres southwest of Princeton.

The region in the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by greenschist facies metavolcanics and metasediments of the Upper Triassic Nicola Group. The contact between the two units strikes north-northwest. The Nicola Group rocks exhibit a strong foliation striking 150 to 160 degrees and dipping moderately to steeply west.

A steep-sided, crescent-shaped body of feldspar-quartz-biotite porphyry, 1500 metres long and up to 600 metres wide, intrudes rocks of the Eagle Plutonic Complex and the Nicola Group. A narrow apophysis of the stock extends southeast along the moderately to steeply west-dipping contact between the two units. The Eagle Plutonic Complex consists of foliated biotite granodiorite and granitic gneiss, containing bands of biotite gneiss, biotite amphibole schist and quartzite. The Nicola Group is comprised mostly of amphibole and chlorite schists with lesser quartzite, grit and chloritoid schist. An intrusive breccia, containing clasts of schist or granodiorite in a feldspar porphyry matrix, is occasionally present along the stock's margin. Various dykes and sills of feldspar porphyry, striking north-northwest, intrude the Nicola Group north and south of the stock.

The Nicola Group rocks are altered and extensively pyritized near the stock. Epidote and chlorite are the most common alteration minerals. Argillic alteration is best developed in the margins of the stock. The porphyry also exhibits quartz-sericite alteration, which appears to be associated with the argillic alteration. Feldspars are replaced by kaolinite and minor epidote and sericite in the more altered sections of the stock.

Sulphide mineralization is developed over a widespread area, as disseminations and fracture fillings, and in quartz and calcite veins. Pyrite is most abundant, occurring in quantities of 2 to 10 percent. The stock contains significant amounts of finely disseminated pyrite when altered. Trace amounts of chalcopyrite, molybdenite, bornite, chalcocite and covellite occur with up to 10 per cent magnetite, primarily in the Nicola Group and Eagle Plutonic Complex rocks flanking the stock, and in the feldspar porphyry dykes and sills. Chalcopyrite is closely associated with pyrite and occurs as disseminations in the porphyry and schist, as fracture fillings, and in quartz-carbonate veins in schist. Molybdenite forms fine-grained coatings along fractures and along margins of quartz and quartz-carbonate veins in the Nicola Group, Eagle Plutonic Complex and feldspar porphyry dykes extending south of the stock. Bornite is closely associated with pyrite and occurs as fine disseminations in the porphyry. Thin blebs and rounded coatings of chalcocite and covellite are present in porphyry dykes to the south.

Stronger mineralization occurs along the stock's northern contact and near the southern contact, where the southeastward trending apophysis extends from the main body. Diamond drilling and trenching has traced a zone of richer copper mineralization in Nicola Group schists, over a distance of 600 metres, along the stock's northern margin. The zone averages 0.20 to 0.30 per cent copper and 3.4 grams per tonne silver over a thickness of 76 metres (Property File - G.E. Paulus, 1972, pages 7, 8). Copper grades gradually decrease away from the stock. One recent diamond-drill hole located just north of the stock averaged 0.298 per cent copper and 0.015 per cent molybdenum over 26.8 metres (Assessment Report 20165, page 18, hole W90-7, 10.2 to 37.0 metres). A second hole intersected 0.177 per cent copper over 188.4 metres (Property File - G.E. Paulus, 1972, page 6, hole 72-W-3, 9.7 to 198.1 metres).

Percussion drilling near the southern contact, about 1 kilometre south of the recent diamond drilling, encountered elevated copper and molybdenum values. One hole averaged 0.113 per cent copper and 0.007 per cent molybdenum over 12.2 metres (hole 81-4, 27.4 to 39.6 metres), and a second hole averaged 0.306 per cent copper and 0.0095

CAPSULE GEOLOGY

per cent molybdenum over 6.1 metres (hole 81-7, 57.9 to 64.0 metres) (Assessment Report 9456, pages A-9, A-16). Molybdenum values varied up to 0.068 per cent (Assessment Report 9456, page 3).

A chip sample taken across altered quartz-feldspar-biotite porphyry, about 300 metres northwest of the percussion drilling, assayed 0.10 per cent copper and 0.005 per cent MoS₂ over 97.2 metres (Property File - D.K. Mustard, 1969, page 28, Figure 5, trench 8).

This prospect was discovered by Texas Gulf Sulfur Company Ltd. in 1959. Various operators, including Texas Gulf, conducted geophysical, geological and soil surveys, trenching and 2572 metres of drilling in 22 holes between 1961 and 1981. The deposit was more recently explored by World Wide Minerals Ltd., with the completion of geological and soil surveys, and 467 metres of drilling in three holes between 1987 and 1990. An additional 22 holes totalling 2066 metres were drilled by Phelps Dodge Corporation of Canada Ltd. in 1991. A total of 3678 metres of diamond drilling (25 holes) and 1427 metres of percussion drilling (19 holes) has been completed between 1961 and 1991.

In 1995, with Explore B.C. Program support, Charles R. Martin owner of the property, carried out a program of geological mapping and 832.7 metres of diamond drilling in 7 holes. One hole for the first time intersected appreciable copper mineralization in a dike or apophysis of the main intrusion. Significant mineralization was also found in altered volcanic rocks near the intrusion. Most of the remaining holes intersected significant sections of mineralization slightly below economic grade (Explore B.C. Program 95/96 - M85).

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CJES Vol. 24, pp. 2521-2536 (1987)
GCNL May 14, 1987
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1996/11/08

CODED BY: GSB
REVISED BY: GSB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE103**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRANITE CREEK GYPSUM**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 54 N
LONGITUDE: 120 42 30 W
ELEVATION: 1219 Metres

NORTHING: 5483527
EASTING: 665989

LOCATION ACCURACY: Within 1 KM

COMMENTS: Gypsum deposit on the east bank of Granite Creek, 3.5 kilometres southwest of the creek's confluence with the Tulameen River and 14 kilometres west-northwest of Princeton (CANMET Report 245, Map 244).

COMMODITIES: Gypsum

MINERALS

SIGNIFICANT: Gypsum
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: B07 Bog Fe, Mn, U, Cu, Au
DIMENSION: 800 x 6 Metres
COMMENTS: Gypsum deposit.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gypsite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1913

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gypsum

31.4800

Per cent

COMMENTS: Sample of light brownish gypsite. Grade given for CaO.

REFERENCE: CANMET Report 245, page 103.

CAPSULE GEOLOGY

The Granite Creek Gypsum occurrence is on the east bank of Granite Creek, 3.5 kilometres southwest of the creek's confluence with the Tulameen River, and 14 kilometres west-northwest of Princeton.

A gypsum deposit is reported to have been traced along the east side of the Granite Creek valley for 800 metres, with an average width of 6 metres. A sample of light brownish gypsite (earthy gypsum) contained 31.48 per cent CaO, 44.32 per cent SO₃ and 22.32 per cent H₂O (Canada Bureau of Mines Report 245, page 103). This deposit is likely a precipitate of Recent age, similar to the Tulameen Gypsum showing (092HSE137). Well-rounded lumps of pure white gypsum are also found in the bed of Granite Creek.

This showing was prospected by H. Churchill between 1911 and 1913.

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GSC MEM 243, p. 132
CANMET RPT *245, pp. 98,99,103

DATE CODED: 1992/01/19
DATE REVISED: 1992/06/03

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE104**

NATIONAL MINERAL INVENTORY:

NAME(S): **I**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 19 31 N
LONGITUDE: 120 35 18 W
ELEVATION: 1250 Metres

NORTHING: 5466414
EASTING: 675236

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 1-71, on the northern edge of the T 3 claim, 2.4 kilometres south-southwest of Kennedy Lake and 15.5 kilometres southwest of Princeton (Assessment Report 3557, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Copper mineralization.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Porphyritic Volcanic
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This showing is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The T showing is on the ridge separating Whipsaw Creek and the Similkameen River, about 2.5 kilometres southwest of Kennedy Lake and 15.5 kilometres southwest of Princeton.

Disseminated copper mineralization occurs in fine-grained porphyritic volcanics and sediments, likely of the Upper Triassic Nicola Group.

Anchor Mines Ltd. drilled four holes totalling 272 metres in 1969 and 1971.

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GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE105**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKI**, KALCO

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 55 N
LONGITUDE: 120 36 17 W
ELEVATION: 975 Metres

NORTHING: 5468970
EASTING: 673963

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the west corner of the Ski 3 claim, 140 metres east of Whipsaw Creek and 13.5 kilometres southwest of Princeton (Assessment Report 2826, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite
ALTERATION: Albite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 730 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized outcrops occur over a distance of 730 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Calcareous Siltstone
Calcareous Sandstone
Conglomerate
Andesite
Andesitic Tuff
Volcanic Breccia

HOSTROCK COMMENTS: This deposit is hosted in unit 3, Bulletin 59 (Figure 2).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Ski showing occurs on the east bank of Whipsaw Creek, 13 to 13.5 kilometres southwest of Princeton.
This area between Whipsaw Creek and Kennedy Lake is underlain by calcareous siltstone and sandstone, conglomerate, andesite, andesitic tuff and volcanic breccia of the Upper Triassic Nicola Group.
Four areas of copper mineralization outcrop along the east bank of Whipsaw Creek over a distance of 730 metres. This mineralization is hosted in siltstone and sandstone, which are occasionally albite (?) altered.
Chalcopyrite occurs as sparse disseminations and blebs, sometimes associated with tightly-healed fractures. Pyrrhotite and pyrite are also present at 1 to 3 per cent, and less than 1 per cent respectively. The copper content of this mineralization is estimated to be less than 0.1 per cent (Assessment Report 2826, page 5).

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GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/16

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE106**

NATIONAL MINERAL INVENTORY: 092H7 Cu8

NAME(S): **RAY**, ARMSTRONG BLUFF, HOMESTAKE NO. 2 (L.237)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:
LATITUDE: 49 20 59 N
LONGITUDE: 120 32 55 W
ELEVATION: 853 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Armstrong Bluff showings, on the west bank of the Similkameen River and 12 kilometres south-southwest of Princeton (Assessment Report 941, Map 1).

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5469224
EASTING: 678034

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Scapolite Calcite Quartz Magnetite
ALTERATION: Biotite Orthoclase Chlorite Epidote Augite
Albite Scapolite
ALTERATION TYPE: Potassic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 300 x 120 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of mineralization.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Altered Andesite
Altered Basalt
Porphyritic Latite Dike
Porphyritic Syeno Diorite Dike
Porphyritic Syenite Dike

HOSTROCK COMMENTS: Mineralization is partially associated with dykes of the Lost Horse Intrusions; date from Bulletin 59, Figure 2.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1966
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.1800 Per cent
COMMENTS: Average grade for 261 metres of drill core from 5 holes drilled at the base of Armstrong Bluffs.
REFERENCE: Assessment Report 941, page 15.

CAPSULE GEOLOGY

The Ray prospect outcrops on a southeast-facing rock bluff along the west bank of the Similkameen River, 12 kilometres south-southwest of Princeton.

This area along the Similkameen River, in the vicinity of Smelter Lakes, is underlain by intrusive rocks of the Lost Horse Intrusions and the Smelter Lake stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. All units are unconformably overlain to the east by

CAPSULE GEOLOGY

volcanics and sediments of the Eocene Princeton Group.

The rock bluff is comprised of strongly-altered, dark, massive andesite or basalt formerly included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). These rocks are cut by dark grey to pink porphyritic syenodiorite, microsyenite and latite dykes of the Lost Horse Intrusions. Most of these dykes strike slightly west of north and dip steeply west. These dykes are up to 9 metres wide.

The extensive but uneven alteration gives the volcanics the appearance of a breccia. Veins, patches and larger masses of altered rock contain a variety of minerals, including augite, biotite, pink orthoclase, white albite, grey scapolite, chlorite, epidote, calcite, and minor quartz. Magnetite is also present, as disseminations and in fractures.

Mineralization consists of chalcopyrite and pyrite, either together or separately, as disseminations and fine seams in the altered volcanics. Stronger mineralization occurs close to one distinctive pink porphyritic latite dyke, 3 metres wide. Small pods of disseminated sulphides occur in more extensive and irregular zones of orthoclase alteration.

This mineralization is developed over a broad area, 300 metres long and at least 120 metres wide. Sampling and diamond drilling has outlined one zone, 120 metres long and 60 metres wide, that is estimated to grade 0.10 to 0.18 per cent copper (Assessment Report 941, page 2). One series of 16 chip samples, 4.0 to 9.1 metres long, averaged 0.10 per cent copper, and a second series of 9 chip samples, 4.9 to 15 metres long, averaged 0.18 per cent copper (Assessment Report 941, page 15). Five diamond-drill holes, totalling 261 metres, averaged 0.18 per cent copper (Assessment Report 941, page 15).

This prospect was trenched, sampled and diamond drilled (6 holes) in 1962 and 1963 by Copper Mountain Consolidated Ltd. Adera Mining Ltd. conducted geological, geophysical and soil surveys and trenching in 1966. Tri Valley Exploration Ltd. carried out additional trenching and 155 metres of percussion drilling in 5 holes in 1969.

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CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE107**

NATIONAL MINERAL INVENTORY:

NAME(S): **KENNEDY MOUNTAIN**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 03 N
LONGITUDE: 120 34 22 W
ELEVATION: 1158 Metres

NORTHING: 5469291
EASTING: 676275

LOCATION ACCURACY: Within 500M

COMMENTS: Pillowed andesite outcrop, 1.5 kilometres northwest of the Ingerbelle mine (092HSE004) and 12.5 kilometres southwest of Princeton (Bulletin 59, Figure 2).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Shear Vein Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkaic porphyry Cu-Au K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Pillow Andesite
Limestone
Volcanic Breccia

HOSTROCK COMMENTS: This showing is hosted in unit 4, Bulletin 59 (Figure 2).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This occurrence is situated in the Nicola belt, near its south end. GRADE: Greenschist

CAPSULE GEOLOGY

The Kennedy Mountain showing occurs on the east slope of Kennedy Mountain, 1.5 kilometres northwest of the Ingerbelle mine (092HSE004) and 12.5 kilometres southwest of Princeton.

The area between Whipsaw Creek and the Similkameen River is underlain by calcareous siltstone and sandstone, conglomerate, massive and pillowed andesite, andesitic tuff and volcanic breccia of the Upper Triassic Nicola Group. These rocks strike roughly north and dip 25 to 55 degrees west. They are cut by feldspar porphyritic dykes, possibly related to the Early Jurassic Lost Horse Intrusions, striking 025 to 050 degrees.

The showing is hosted in pillowed andesite, with lenses and interbeds of impure limestone and volcanic breccia. Mineralization consists of lenses and veins of chalcopyrite and bornite, with abundant malachite staining. These sulphides appear to be confined to narrow zones of fracturing and shearing that are interlaced with stringers of coarsely crystalline white calcite and epidote.

The showing was trenched and diamond drilled some time in the late 1960's.

BIBLIOGRAPHY

EMPR BULL *59, p. 83
GSC MAP 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1991/12/16
DATE REVISED: 1992/06/03

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE108**

NATIONAL MINERAL INVENTORY:

NAME(S): **ILE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 03 N
LONGITUDE: 120 14 02 W
ELEVATION: 1341 Metres

NORTHING: 5471990
EASTING: 700816

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of drilling (Ile 2, 4 and 6 claims), 800 metres north of Smith Creek and 11 kilometres west of Hedley (Geology, Exploration and Mining in British Columbia 1972, page 124).

COMMODITIES: Silver Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Sphalerite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Bromley Batholith

LITHOLOGY: Altered Andesite Ash Tuff
Altered Andesite Lapilli Tuff
Granodiorite
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY

YEAR: 1972

Silver

GRADE
18.0000 Grams per tonne

REFERENCE: Property File - Cukor, V. (1972).

CAPSULE GEOLOGY

The ILE showing is situated on the north bank of Smith Creek, 11.5 kilometres west of Hedley.

The showing is hosted in a sequence of andesite ash and lapilli tuff of the Upper Triassic Whistle Creek Formation (Nicola Group), several hundred metres south of granodiorite and quartz monzonite of the Early Jurassic Bromley batholith.

Two zones of mineralization have been identified. An area of fine disseminated pyrrhotite in altered volcanics contains silver values of between 3 and 18 grams per tonne (Property File - Cukor, 1972, page 17). A second zone of strongly pyritized volcanics contains some chalcopyrite and sphalerite.

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EMPR ASS RPT 2927, 3559
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR GEM 1970-387; 1971-273; 1972-124
EMPR OF 1987-10; 1988-6
EMPR PF (Cukor, V. (1972): Engineering Report on Ile and Vent Mineral Claims, in Kariba Mines Ltd. (1972): Prospectus, Vancouver Stock Exchange)
GSC MAP 568A; 888A; 889A; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 915
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 2167, pp. 59-80

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE109**

NATIONAL MINERAL INVENTORY:

NAME(S): **OX**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 07 N
LONGITUDE: 120 31 16 W
ELEVATION: 1219 Metres

NORTHING: 5460274
EASTING: 680327

LOCATION ACCURACY: Within 500M

COMMENTS: Ox 5 and 6 claims (area of stripping), 800 metres east of the confluence of the Similkameen River and Sunday Creek and 21 kilometres south of Princeton (Energy, Mines and Petroleum Resources Claim Sheet Map 092H/07E (1972); Geology, Exploration and Mining in British Columbia 1971, page 270).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Copper Mountain Intrusions

LITHOLOGY: Brecciated Volcanic
Sediment/Sedimentary
Diorite
Pyroclastic

HOSTROCK COMMENTS: Showing is hosted in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This deposit occurs in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Ox showing is situated on the east bank of the Similkameen River, opposite the mouth of Sunday Creek and 21 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group, comprising mafic augite and hornblende porphyritic pyroclastics and flows. These volcanics are intruded by small bodies and dykes of diorite related to the Early Jurassic Copper Mountain stock of the Copper Mountain Intrusions to the north.

Chalcopyrite, pyrite and magnetite are reported to occur as disseminations in brecciated volcanics (pyroclastics?), sediments and diorite.

BIBLIOGRAPHY

EMPR ASS RPT 1246, 1822
EMPR BULL 59
EMPR GEM 1969-289; 1971-270
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/04

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE110**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUBY (L.3331S)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 00 N
LONGITUDE: 120 05 17 W
ELEVATION: 815 Metres

NORTHING: 5472296
EASTING: 711405

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 5424 on the Ruby claim (Lot 3331s), 1.2 kilometres northwest of Hedley (Assessment Report 17785, Figure 4).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Arsenopyrite
ALTERATION: Garnet Diopside
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stratabound
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Stemwinder Mountain

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil
MATERIAL DATED: Conodont

Lower Jurassic

Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Limestone
Garnet Diopside Skarn
Siltstone
Argillite
Hornblende Diorite
Gabbro

HOSTROCK COMMENTS: Stemwinder Mountain Formation date from Fieldwork 1987, page 66.
Hedley Intrusions date from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

Plutonic Rocks
RELATIONSHIP: Syn-mineralization

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE:

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY

Gold

GRADE

2.3000

Grams per tonne

COMMENTS: Sample of skarn taken near collapsed adit.

REFERENCE: Assessment Report 17785, page 4, sample 5424.

CAPSULE GEOLOGY

The Ruby showing is situated on the north bank of the Similkameen River, 1.2 kilometres northwest of Hedley.

Various small stocks, dykes and sills of hornblende diorite and gabbro of the Early Jurassic Hedley Intrusions intrude thin-bedded siltstone, argillite and limestone of the Upper Triassic Stemwinder Mountain Formation (Nicola Group). Limestone beds are weakly to moderately altered to fine-grained garnet diopside skarn adjacent to the Hedley Intrusions.

The skarn zones are mineralized with disseminated pyrite, pyrrhotite and arsenopyrite. A sample of such skarn taken near a collapsed adit assayed 2.3 grams per tonne gold (Assessment Report 17785, page 4, sample 5424).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 918
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT *17785
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 889A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/12
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE111**

NATIONAL MINERAL INVENTORY:

NAME(S): **TULAMEEN**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 59 N
LONGITUDE: 120 37 59 W
ELEVATION: 732 Metres

NORTHING: 5483850
EASTING: 671436

LOCATION ACCURACY: Within 500M

COMMENTS: South end of a granodiorite stock on the east bank of the Tulameen River, 9 kilometres west-northwest of Princeton (Assessment Report 3357, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz
ALTERATION: Clay Chlorite Epidote
ALTERATION TYPE: Argillic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au L01 Subvolcanic Cu-Ag-Au (As-Sb)

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesitic Tuff
Granodiorite
Quartz Diorite
Rhyolite
Porphyritic Andesite
Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This showing is in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tulameen showing is situated on the east bank of the Tulameen River, 9 kilometres west-northwest of Princeton. A small elongate stock of coarse-grained granodiorite and quartz diorite intrudes andesitic tuff and agglomerate, with minor rhyolite and porphyritic andesite, of the Upper Triassic Nicola Group. The stock trends northward for 380 metres and is up to 100 metres wide. The volcanics show moderate to strong argillic alteration, while the stock exhibits minor chlorite and epidote alteration. Sparse chalcopyrite and pyrite occur in quartz veins and irregular shears in the intrusive and volcanics, and as disseminations in andesitic tuffs, in the vicinity of the south end of the stock.

BIBLIOGRAPHY

EMPR ASS RPT *3357, 3655, 12676
EMPR GEM 1971-272
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE112**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEV**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 33 N
LONGITUDE: 120 39 29 W
ELEVATION: 1234 Metres

NORTHING: 5462611
EASTING: 670283

LOCATION ACCURACY: Within 500M

COMMENTS: Southwesternmost zone of pyrite and chalcopyrite, 300 metres southeast of Whipsaw Creek, 3.7 kilometres north-northwest of the summit of Friday Mountain and 21 kilometres southwest of Princeton (Assessment Report 3939, Map 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Calcite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 100 Metres
COMMENTS: Two zones of quartz-calcite veins up to 100 metres wide.
STRIKE/DIP: K01 Cu skarn
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
FORMATION: Undefined Formation
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Chlorite Schist
Limestone
Calc Schist
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This showing is in the western margin of the Nicola belt.
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Nev showing outcrops along the southeast bank of Whipsaw Creek, about 21 kilometres southwest of Princeton. Two zones of fracture-controlled quartz-calcite veins occur in strongly sheared chlorite schist, limestone and calc-schist of the Upper Triassic Nicola Group. The two zones are 280 metres apart and 70 to 100 metres in width. The veins are mineralized with pyrite and traces of chalcopyrite. A stock of gabbro, 300 metres wide, intrudes dioritized andesite of the Nicola Group, about 500 metres to the south. The stock contains traces of magnetite and chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT 3939
EMPR GEM 1969-288; 1972-119
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE113**

NATIONAL MINERAL INVENTORY:

NAME(S): **JM**, HI, GOLD WEATHER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 40 N
LONGITUDE: 120 08 59 W
ELEVATION: 1798 Metres

NORTHING: 5484475
EASTING: 706462

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching, 1100 metres east of Bearpaw Lake, 14 kilometres north-northwest of Hedley (Assessment Report 15869, geology map).

COMMODITIES: Silver Gold Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Magnetite Chalcopyrite Bornite

Molybdenite Arsenopyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 200 x 2 Metres STRIKE/DIP: 090/
COMMENTS: Sulphidic fracture zone strikes west for 200 metres and is 1 to 2 metres wide.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

Nicola

Whistle Creek

Bromley Batholith

Lower Jurassic

ISOTOPIC AGE: 193 +/- 1 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Biotite Hornfels Tuff
Andesite Ash Tuff
Andesite Crystal Lithic Tuff
Andesite
Biotite Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Plutonic Rocks

METAMORPHIC TYPE: Contact

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Hornfels

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Channel

COMMODITY

GRADE

Silver

2.1000

Grams per tonne

Gold

0.6200

Grams per tonne

COMMENTS: Sample containing 15 per cent pyrrhotite and trace bornite.

REFERENCE: Assessment Report 14289, page 19, sample C6-7.

CAPSULE GEOLOGY

The JM showing is situated atop a ridge separating Bearpaw Lake to the west from the valley of McNulty Creek to the east, 14 kilometres north-northwest of Hedley.

The showing occurs in a roof pendant of Upper Triassic Nicola Group volcanics within the Early Jurassic Bromley batholith. The pendant trends northeast for 5 kilometres with widths of up to 2.5 kilometres, and is comprised of thinly-bedded andesite ash tuffs and massive to thickly-bedded andesite crystal lithic tuffs (Whistle Creek Formation?).

A 1 to 2-metre wide fracture zone strikes west for 200 metres, cutting biotite hornfelsed tuffs, just southwest of the contact with pink, medium-grained biotite granodiorite of the Bromley batholith.

CAPSULE GEOLOGY

This northwest trending intrusive-volcanic contact zone is generally enriched in sulphides. The fracture zone in particular contains abundant disseminated pyrrhotite and pyrite, minor disseminated chalcopyrite and traces of arsenopyrite and bornite. Samples taken from the zone assayed trace to 0.62 gram per tonne gold and 0.7 to 2.7 grams per tonne silver (Assessment Report 14289, page 6).

In this generally vicinity, within the northern part of the roof pendant, fine-grained andesite is reported to be mineralized with minor disseminated and stringer pyrite and magnetite, local disseminated chalcopyrite and occasional molybdenite along fractures.

BIBLIOGRAPHY

EMPR AR 1967-216; 1968-219
EMPR ASS RPT 1225, 1615, 1617, 1619, 4421, 12059, *14289, *15869
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR GEM 1970-393; 1973-137
GSC MAP 568A; 888A; 889A; 41-1989
GSC OF 2167, pp. 59-80
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE114**

NATIONAL MINERAL INVENTORY:

NAME(S): **RECO (L.1509)**, JUMPER (L.2289), CMAG

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 17 07 N
LONGITUDE: 120 32 43 W
ELEVATION: 945 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5462069
EASTING: 678509

LOCATION ACCURACY: Within 500M

COMMENTS: Shear zone above an adit on the Reco (Lot 1509s) and Jumper (Lot 2289s) claims, 140 metres east of the Similkameen River and 19 kilometres south of Princeton (Assessment Report 2846, Map 2).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite
ASSOCIATED: Calcite Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 120 x 2 Metres STRIKE/DIP: 023/80W TREND/PLUNGE:
COMMENTS: The vein hosting massive sulphides strikes 005 to 040 degrees for 120 metres and dips 80 degrees west; the vein is up to 1.8 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Andesitic Tuff
Cherty Tuff
Crystal Tuff
Lapilli Tuff

HOSTROCK COMMENTS: Hosted in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 2.9000 Grams per tonne
Gold 0.8800 Grams per tonne
Copper 0.4000 Per cent
COMMENTS: One-metre chip sample taken at the north end of the vein.
REFERENCE: Assessment Report 11617, Figure 6.

CAPSULE GEOLOGY

The Reco prospect is located on the east bank of the Similkameen River, 19 kilometres south of Princeton. The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. The Reco prospect is hosted in andesitic and cherty tuff, crystal tuff and lapilli tuff of the Nicola Group, 400 to 500 metres south of the Copper Mountain stock (Copper Mountain Intrusions). The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). These volcanics are cut by a sulphidic calcite vein in a shear zone 2 to 3 metres wide, striking 005 to 040 degrees and dipping 80 degrees northwest. The vein has been traced on surface for 120

CAPSULE GEOLOGY

metres and is 0.1 to 1.8 metres wide.

The vein contains lenses and pods of massive sulphides comprised of pyrrhotite, pyrite and minor chalcopyrite. A 0.5-metre chip sample taken across a lens of massive pyrrhotite assayed 0.89 per cent copper, 4.8 grams per tonne gold and 1.9 grams per tonne silver (Assessment Report 11617, page 7). A 1-metre chip sample taken in a pit at the north end of the vein assayed 0.4 per cent copper, 0.88 gram per tonne gold and 2.9 grams per tonne silver (Assessment Report 11617, Figure 6). Samples taken from the Reco claim during the 1940's are reported to have assayed up to 17 grams per tonne gold (Assessment Report 15854, page 21).

The previously described vein is cut by a second less continuous quartz-carbonate vein, 0.25 metre wide. This structure is hosted in a 2.5-metre wide shear zone striking north and dipping steeply west. The vein is mineralized with stringers of pyrite and traces of chalcopyrite. A sample from this vein assayed 1.3 per cent copper and 4.98 grams per tonne gold (Assessment Report 20268, page 10).

This prospect was explored as early as 1907. A 167-metre long tunnel was driven under the vein outcrops between 1907 and 1909. Various operators carried out geological, geochemical and geophysical surveys between 1968 and 1990, including most recently, Similco Mines Ltd.

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EMPR GEM 1971-269,270
EMPR PF (Targas Resources Inc. (1987): Statement of Material Facts (Prospectus), Vancouver Stock Exchange (see 092HSE029))
GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/05

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FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 925
REPORT: RGEN0100

MINFILE NUMBER: **092HSE115**

NATIONAL MINERAL INVENTORY:

NAME(S): **POLARIS**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 20 N
LONGITUDE: 120 47 59 W
ELEVATION: 1326 Metres

NORTHING: 5474869
EASTING: 659617

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching (Polaris 2 to 5 claims), 400 metres northwest of Arrastra Creek, 1.7 kilometres southwest of the creek's confluence with Badger Creek and 21.5 kilometres west-southwest of Princeton (Energy, Mines and Petroleum Resources claim sheet map 92H/07W (1968)).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Epigenetic Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:
GRADE:

CAPSULE GEOLOGY

The Polaris showing outcrops along the northwest bank of Arrastra Creek, 21.5 kilometres west-southwest of Princeton. Chalcopyrite occurs in a possible fault zone cutting Upper Triassic Nicola Group metavolcanics, near the south end of the Early Jurassic Tulameen Ultramafic Complex. The showing was explored by Anaconda American Brass Ltd. in 1968 and 1970.

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EMPR AR *1968-204,205
EMPR GEM *1970-383
EMPR OF 1988-25
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE115**

MINFILE NUMBER: **092HSE116**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOME RULE (L.1294)**, JUBILLE NO. 2 (L.814), VANCOUVER (L.1295)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 22 N
LONGITUDE: 120 32 38 W
ELEVATION: 884 Metres

NORTHING: 5469946
EASTING: 678354

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Home Rule claim (Lot 1294), 200 metres northeast of the Similkameen River and 11.5 kilometres south-southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Copper Mountain Intrusions

ISOTOPIC AGE: 197 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Porphyritic Diorite

HOSTROCK COMMENTS: This showing is hosted in the Smelter Lake stock. The isotopic age date for this stock is from Bulletin 59, Figure 2 (sheet B).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1899

COMMODITY	GRADE	
Gold	3.3000	Grams per tonne
Copper	7.5000	Per cent

COMMENTS: Copper assays range from 5 to 10 per cent.
REFERENCE: Minister of Mines Annual Report 1899, page 741.

CAPSULE GEOLOGY

The Home Rule showing outcrops along the east side of the Similkameen River, 11 to 12 kilometres south-southwest of Princeton. This showing occurs in the Early Jurassic Smelter Lake stock (Copper Mountain Intrusions), near its southwestern margin.

Mineralization consists of chalcopyrite and bornite in porphyritic diorite. Samples are reported to assay 5 to 10 per cent copper and 3.3 grams per tonne gold (Minister of Mines Annual Report 1899, page 741).

The showing was explored with a series of trenches and shafts by Vermillion Forks Mining and Development Company Ltd. between 1899 and 1908.

BIBLIOGRAPHY

EMPR AR *1899-741; 1900-898; 1903-247,249; *1908-128
EMPR BULL 59
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
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Montgomery, J.H. (1967): Petrology, Structure and Origin of the

RUN DATE: 26-Jun-2003
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ENERGY AND MINERALS DIVISION

PAGE: 927
REPORT: RGEN0100

BIBLIOGRAPHY

Copper Mountain Intrusions near Princeton, British Columbia;
unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1991/12/19
DATE REVISED: 1992/05/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE117**

NATIONAL MINERAL INVENTORY:

NAME(S): **POLARIS 16**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 38 N
LONGITUDE: 120 47 23 W
ELEVATION: 1219 Metres

NORTHING: 5475446
EASTING: 660326

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing in pyroxenite, 250 metres northwest of Arrastra Creek, 0.8 kilometre west-southwest of the creek's confluence with Badger Creek and 20.5 kilometres west-southwest of Princeton (Assessment Report 2742, Map 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Pyroxenite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Polaris 16 showing lies along the northwest bank of Arrastra Creek, 20.5 kilometres west-southwest of Princeton. Chalcopyrite is disseminated in hornblende pyroxenite in the south end of the Early Jurassic Tulameen Ultramafic Complex. The showing was drilled by Anaconda American Brass Ltd. in 1970.

BIBLIOGRAPHY

EMPR AR 1968-204,205
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
EMPR P 1992-6
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages.

DATE CODED: 1992/01/20
DATE REVISED: 1992/04/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE118**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUD 524**, BUD (NORTH ZONE)

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 55 N
LONGITUDE: 120 25 18 W
ELEVATION: 1009 Metres

NORTHING: 5480524
EASTING: 686877

LOCATION ACCURACY: Within 500M

COMMENTS: Pit in massive sulphide showing at the east end of the Bud 524 claim, 2.4 kilometres northeast of the north end of August Lake and 7 kilometres east-southeast of Princeton (Assessment Report 12736, North zone geology map).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma

DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: PIT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1984

COMMODITY	GRADE	
Silver	1.9000	Grams per tonne
Copper	0.2475	Per cent

COMMENTS: Grab sample of massive sulphide mineralization.
REFERENCE: Assessment Report 12736, Appendix, page 13.

CAPSULE GEOLOGY

The Bud 524 showing is 2.4 kilometres northeast of August Lake and 7 kilometres east-southeast of Princeton.

This area along the west flank of the Darcy Mountains is underlain to the west by volcanics and related sediments of the Upper Triassic Nicola Group and to the east by granodiorite of the Early Jurassic Bromley batholith.

A pit exposes a zone of massive pyrite with patches of chalcopyrite in granodiorite of the Bromley batholith. A grab sample of this massive sulphide mineralization contained 0.248 per cent copper, 0.005 gram per tonne gold and 1.9 grams per tonne silver (Assessment Report 12736, Appendix, page 13).

BIBLIOGRAPHY

EMPR ASS RPT *12736, 15022, 16256, 17887
EMPR EXPL 1984-190
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 930
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BIBLIOGRAPHY

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

DATE CODED: 1992/01/06
DATE REVISED: 1992/01/06

CODED BY: PSF
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE119**

NATIONAL MINERAL INVENTORY:

NAME(S): **IOTA, ISLAY B, STEM,
GREYLEDGE MINES**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos
Similkameen
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 42 N
LONGITUDE: 120 06 18 W
ELEVATION: 1494 Metres

NORTHING: 5475398
EASTING: 710055

LOCATION ACCURACY: Within 500M

COMMENTS: Main shaft, 300 metres north-northwest of the summit of Stemwinder Mountain, 4.5 kilometres northwest of Hedley (Assessment Report 2182, geology plan).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Argentite Galena Pyrite Sphalerite
ASSOCIATED: Quartz Graphite Chalcedony
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Vein
CLASSIFICATION: Epithermal Hydrothermal Epigenetic
TYPE: G07 Subaqueous hot spring Ag-Au G04 Besshi massive sulphide Cu-Zn
DIMENSION: 146 x 24 x 1 Metres STRIKE/DIP: 070/76S TREND/PLUNGE:
COMMENTS: The mineralized zone is controlled by a well-developed axial plane cleavage.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Stemwinder Mountain

DATING METHOD: Fossil
MATERIAL DATED: Conodont

LITHOLOGY: Calcareous Argillite
Limestone
Limestone Breccia
Siltstone
Brecciated Limestone

HOSTROCK COMMENTS: Stemwinder Mountain Formation is approximately 225 million years old (Geological Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

INVENTORY

ORE ZONE: OPENCUT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1947
SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	542.0000	Grams per tonne
Gold	0.6900	Grams per tonne
Lead	1.2000	Per cent

COMMENTS: Chip sample across 0.79 metre of quartz and limestone breccia from an opencut 5 metres east of a shaft.

REFERENCE: Minister of Mines Annual Report 1947, page 147.

CAPSULE GEOLOGY

The Iota occurrence is on the north slope of Stemwinder Mountain, 300 metres north-northwest of its summit, 4.5 kilometres northwest of Hedley.
Stemwinder Mountain is underlain by argillite and siltstone with thin interbedded limestone of the Upper Triassic Stemwinder Mountain Formation (Nicola Group). The unit is intruded to the northwest by granodiorite to quartz monzonite of the Early Jurassic Bromley batholith. Dykes and sills of hornblende porphyritic diorite of the Early Jurassic Hedley Intrusions occasionally cut these sediments.

CAPSULE GEOLOGY

Bedding strikes north to northeast and dips steeply east over the top of Stemwinder Mountain along the west limb of a northeast plunging syncline.

A 0.8 to 1.0-metre wide zone of brecciation and veining, in thinly-bedded calcareous argillite and limestone, strikes 070 degrees for at least 146 metres and dips 76 to 80 degrees south. Diamond drilling has traced the zone to a depth of 24 metres. The zone appears to be controlled by a well-developed axial plane cleavage.

Black, drusy chalcedonic quartz, in stringers or as a breccia matrix, is mineralized with fine-grained disseminated pyrite, argentite, galena and sphalerite. Galena is also observed to occur as coarse stringers in brecciated limestone. The quartz and wallrocks are locally limonitic. The texture and composition of this mineralization suggests it may be of epithermal origin.

Samples comprised of limestone, containing black quartz stringers and massive quartz, assayed 233 to 854 grams per tonne silver (Minister of Mines Annual report 1947, page 147). A 0.91-metre chip sample across black quartz assayed trace gold, 854 grams per tonne silver and 0.6 per cent lead, and a 0.79-metre chip sample across black quartz and limestone breccia assayed 0.69 gram per tonne gold, 542 grams per tonne silver and 1.2 per cent lead (Minister of Mines Annual Report 1947, page 147). A sample of "agate breccia" analysed 0.91 gram per tonne gold, 435.9 grams per tonne silver, 1.2 per cent zinc and 0.54 per cent copper (Assessment Reports 14287, 14753, sample 51271).

Between 1946 and 1952, the deposit was explored by 14 opencuts, 190 metres of diamond drilling in 8 holes, a 12-metre shaft, and a 130-metre long adit about 23 metres below surface workings. Sixty-eight tonnes of ore were extracted from the shaft in 1950 and 1951, and shipped to the Trail smelter, producing a total of 137 grams of gold, 36,200 grams of silver, 3.8 tonnes of lead and 0.73 tonnes of zinc (Minister of Mines Annual Reports 1950, page 115 and 1951, page 132).

BIBLIOGRAPHY

EMPR AR *1947-146,147; 1950-115; 1951-132; 1952-136
EMPR ASS RPT *2182, 2183, *14287, *14753, 15234
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
GSC MAP 568A; 888A; 889A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE120**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRM 52**, LODE

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 51 N
LONGITUDE: 120 53 28 W
ELEVATION: 1674 Metres

NORTHING: 5484900
EASTING: 652702

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site AB 5, 5.45 kilometres northwest of the summit of Lodestone Mountain and 27.5 kilometres west-northwest of Princeton (Assessment Report 2742, Map 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite
Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This showing is in the western margin of the Nicola belt.

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1970

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

0.1600

Per cent

REFERENCE: Assessment Report 2742, Map 4 (sample AB 4).

CAPSULE GEOLOGY

The FRM 52 showing lies 5.5 kilometres northwest of the summit of Lodestone Mountain and 27.5 kilometres west-northwest of Princeton. Patchy chalcopyrite mineralization occurs in hornblende clinopyroxenite in the western margin of the Early Jurassic Tulameen Ultramafic Complex, near the contact with Upper Triassic Nicola Group metavolcanics. Two grab samples, 120 metres apart, analyzed as follows (in per cent) (Assessment Report 2742, Map 4):

Sample	Copper	Chromium	Nickel
AB 4	0.160	0.0012	0.0003
AB 5	0.126	0.0005	0.0003

The showing was sampled by Fort Reliance Minerals Ltd. in 1970.

BIBLIOGRAPHY

EMPR ASS RPT *2742, 15434, 16661, 27009
EMPR EXPL 1988-B71-B81; 2002-41-50
EMPR FIELDWORK 1987, pp. 281-294
EMPR GEM 1970-382
EMPR OF 1988-25
EMPR P 1992-6
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,

RUN DATE: 26-Jun-2003
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 934
REPORT: RGEN0100

BIBLIOGRAPHY

Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages.

DATE CODED: 1992/01/21
DATE REVISED: 1992/02/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE121**

NATIONAL MINERAL INVENTORY:

NAME(S): **ENTERPRISE (L.644S)**, CMAG

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 26 N
LONGITUDE: 120 32 27 W
ELEVATION: 1091 Metres

NORTHING: 5462666
EASTING: 678813

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching on the Enterprise claim (Lot 644s), 650 metres east of the Similkameen River and 18.5 kilometres south of Princeton (Assessment Report 2846, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Biotite Carbonate Albite
ALTERATION TYPE: Potassic Carbonate Albitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 80 x 70 Metres STRIKE/DIP:
COMMENTS: This showing occurs in an 80 by 70-metre embayment of volcanics in diorite of the Copper Mountain stock. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Andesite
Diorite

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This showing is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Chip
COMMODITY: Copper GRADE: 0.1140 Per cent

COMMENTS: A ten-metre chip sample from a trench.
REFERENCE: Assessment Report 11617, Figure 5.

CAPSULE GEOLOGY

The Enterprise showing is located 650 metres east of the Similkameen River and 18.5 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

The Enterprise showing is hosted in andesite of the Nicola Group, along the southern contact with the stock. Mineralization is contained within a 70 to 80 metre wide embayment of volcanics formerly included with the Wolf Creek Formation, that projects 70 metres northwestward into diorite of the Copper Mountain stock (Copper Mountain Intrusions). The volcanics exhibit pervasive to stringer biotite-carbonate alteration, in addition to albitization.

CAPSULE GEOLOGY

Chalcopyrite occurs as disseminations and along hairline fractures in the altered volcanics. Pyrite is also present in trace amounts in areas of better copper mineralization. A 10-metre chip sample from a trench analysed 0.114 per cent copper, 0.038 gram per tonne gold and 0.4 gram per tonne silver (Assessment Report 11617, Figure 5). Ten other chip samples, 3 to 5 metres long, analysed 0.0115 to 0.139 per cent copper, 0.004 to 0.115 gram per tonne gold and 0.1 to 0.8 gram per tonne silver (Assessment Report 11617, Figure 5). This showing was first trenched and drilled (58 metres in 1 hole) by Kalco Valley Mines Ltd. in 1966. Newmont Mining Corporation of Canada Ltd. carried out geological and geophysical surveys, and 141 metres of diamond drilling in one hole in 1970 and 1971. Geological mapping and sampling were also conducted by Aquitaine Company of Canada Ltd. and Kidd Creek Mines Ltd. between 1974 and 1983.

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EMPR ASS RPT *2846, 2847, 5480, 10956, *11617, 15854
EMPR BULL 59
EMPR EXPL 1975-E69,E70
EMPR GEM 1971-269,270
EMPR PF (Targas Resources Inc. (1987): Statement of Material Facts (Prospectus), Vancouver Stock Exchange (see 092HSE029))
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/05

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE122**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAM**

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H01W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 44 N
LONGITUDE: 120 18 24 W
ELEVATION: 1728 Metres

NORTHING: 5452687
EASTING: 696214

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of the Ram 1 to 56 claims on Cool Creek, 6 kilometres northwest of the Ashnola River and 25 kilometres southwest of Hedley (Energy, Mines and Petroleum Resources claim sheet map 92H/01W, (1972)).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
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 Cretaceous	Nicola	Undefined Formation	Verde Creek Pluton

LITHOLOGY: Microdiorite
Monzonite
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Ram showing is situated in the headwaters of Cool Creek, 6 kilometres northwest of the Ashnola River and 25 kilometres southwest of Hedley.

Upper Triassic Nicola Group volcanics are intruded by microdiorite-micromonzonite stocks related to the Middle to Late Cretaceous Verde Creek pluton. These stocks are mineralized with disseminated chalcopyrite.

The showing was explored by Amax Potash Ltd. in 1971.

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GSC MAP 888A; 41-1989
GSC MEM 243
CIM Special Volume 15, Map B (1976)

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE123**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUD (SOUTH ZONE)**, BUD 527, EVERGREEN

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 25 29 N
LONGITUDE: 120 27 26 W
ELEVATION: 914 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5477781
EASTING: 684389

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 87-3, 700 metres south-southwest of the south end of August Lake and 5.5 kilometres southeast of Princeton (Assessment Report 16256, Figure 8).

COMMODITIES: Copper Molybdenum Gold Silver Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Chalcocite Sphalerite
Galena Pyrrhotite Molybdenite Bismuthinite
ASSOCIATED: Quartz Calcite Magnetite Hematite
ALTERATION: Chrysocolla Malachite Azurite Limonite Chlorite
Epidote Orthoclase Sericite

COMMENTS: Also biotite and garnet.

ALTERATION TYPE: Oxidation Propylitic Potassic Sericitic Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic Skarn
TYPE: L03 Alkalic porphyry Cu-Au K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Porphyritic Granodiorite
Tonalite
Tuff
Agglomerate
Limy Sediment/Sedimentary
Porphyry Dike
Feldspar Quartz Porphyritic Volcanic
Granite
Gabbro Dike

HOSTROCK COMMENTS: Mineralization occurs near the contact between the Nicola Group and the Bromley batholith; date from GSC Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: Syn-mineralization GRADE:
Post-mineralization

COMMENTS: This occurrence is in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Silver	8.7000	Grams per tonne
Gold	0.3300	Grams per tonne
Copper	0.1840	Per cent

COMMENTS: Average assay over a core length of 10.7 metres.
REFERENCE: Assessment Report 16256, Hole 87-3 (85.3-96.0 metres).

CAPSULE GEOLOGY

The Bud (South Zone) occurrence is located about 0.8 kilometre

CAPSULE GEOLOGY

southwest of August Lake and 5.5 kilometres southeast of Princeton.

This area along the west flank of the Darcy Mountains is underlain to the west by volcanics and related sediments of the Upper Triassic Nicola Group and to the east by granodiorite of the Early Jurassic Bromley batholith.

The prospect is underlain by fine to medium-grained tuff, agglomerate and minor limy sediments that are often altered to garnet-bearing skarns. Minor feldspar and/or quartz porphyritic volcanics are also present. These rocks are intruded from the east by fine to coarse-grained porphyritic granodiorite, locally grading to granite or tonalite. The intrusives contain at least 10 per cent quartz, with alkali feldspar being more abundant than plagioclase.

All rocks are highly fractured in places and are cut by dykes of fresh porphyry and gabbro. Areas of fracturing are most effected by alteration, exhibiting calcite, chlorite, quartz, sericite, epidote, pink orthoclase, secondary (?) biotite and secondary (?) magnetite.

Patchy copper mineralization occurs in the volcanics, porphyry dykes and intrusive rocks in the vicinity of the contact between the Nicola Group and the Bromley batholith. The volcanics and dykes are generally mineralized with minor chalcocite, chalcopyrite and bornite, with abundant chrysocolla. Pyrite, malachite, azurite, chalcopyrite, sphalerite, galena, bornite (?) and bismuthinite (?) are associated with a limonitic quartz vein and orthoclase alteration in a surface exposure of tonalite/granodiorite. A sample of this mineralization contained greater than 0.5 per cent copper, approximately 1.7 grams per tonne gold, approximately 446 grams per tonne silver, and anomalous molybdenum, lead, zinc and bismuth (Assessment Report 16256, page 10, sample 7872). A chip sample, 6.1 metres long, assayed 0.62 gram per tonne gold, 3.8 grams per tonne silver and 1.11 per cent copper (Assessment Report 12736, South zone geology map, sample 4126).

An angled drill hole collared 100 metres west-northwest of the area of surface mineralization intersected 11.6 metres of intercalated fine-grained light green volcanic (tuff?) and unaltered fine to medium-grained intrusive, containing quartz stringers and calcite, hematite and pyrite along fractures. This section graded 0.184 per cent copper, 0.33 gram per tonne gold and 8.7 grams per tonne silver over 10.7 metres (Assessment Report 16256, Appendix 2, Hole 87-3, 85.3-96.0 metres). A lower section of fine to medium-grained tonalite/granodiorite exhibiting chlorite, epidote and orthoclase alteration, graded 0.149 per cent copper, 0.121 gram per tonne gold and 3.2 grams per tonne silver over 4.6 metres (106.7-111.3 metres). Mineralization in this zone consists of quartz stringers with minor chalcopyrite and pyrrhotite. A few molybdenite blebs are also noted.

This prospect was first trenched in 1980. Pacific Seadrift Resources Ltd. conducted prospecting, sampling and soil surveys between 1983 and 1986. G. & V. Explorations Ltd. carried out geological and geophysical surveys, and 212 metres of diamond drilling in three holes in 1986 and 1987. The deposit was explored by Gold Brick Resources Inc., with the completion of soil and geophysical surveys in 1988 and 1989.

Big I Developments Ltd. and Golden Kootenay Resources Inc. drilled the area in 1997. A mineralized skarn-porphyry zone returned values of up to 0.24 per cent copper and 0.4 grams per tonne gold (GCNL #121(June 24), 1997).

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EMPR EXPL 1984-190
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #10, 1992; #95(May 16), #121(June 24), 1997

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE124**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDROP**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 08 N
LONGITUDE: 120 37 37 W
ELEVATION: 1216 Metres

NORTHING: 5467468
EASTING: 672395

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 89-1, 530 metres north of the confluence of
Fourteen Mile and Whipsaw creeks, 16 kilometres southwest of
Princeton (Assessment Report 20313, Figure 2).

COMMODITIES: Zinc Copper Lead Gold Silver

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite
ASSOCIATED: Calcite Mariposite
ALTERATION: Silica Chlorite
ALTERATION TYPE: Silicific'n Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 2 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Vein-hosted mineralization strikes west and dips steeply south.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Feldspar Porphyritic Andesite
Volcanic Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This deposit is in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 0.1450 Grams per tonne
Copper 0.7700 Per cent
Zinc 8.8500 Per cent
COMMENTS: Average grade over 1.83 metres.
REFERENCE: Assessment Report 20313, page 1 (hole 89-1).

CAPSULE GEOLOGY

The Goldrop occurrence is 500 metres north of the confluence of Fourteen Mile and Whipsaw creeks, 16 kilometres southwest of Princeton.

The area is underlain by mafic to felsic volcanics and minor argillite of the Upper Triassic Nicola Group. These rocks are overlain by intermediate hornblende porphyritic flows of the Eocene Princeton Group at higher elevations on either side of Whipsaw Creek.

This occurrence is hosted in feldspar porphyritic andesite with minor volcanic breccia of the Nicola Group. The andesite occasionally contains zones of intense calcite veining, up to several metres wide. Individual zones are comprised of numerous narrow calcite veins (up to 0.5 metre), accompanied by minor silicification and chloritization. Mariposite is also present.

The zones of calcite veining are mineralized with massive pyrite and sphalerite, and minor chalcopyrite. This mineralization strikes west and dips steeply south. Diamond drilling has encountered such mineralization over widths of 0.5 to 2 metres. Drill core from one hole averaged 0.145 gram per tonne gold, 0.77 per cent copper and

CAPSULE GEOLOGY

8.85 per cent zinc over 1.83 metres (Assessment Report 20313, page 1, hole 89-1). A second hole analysed 5.59 grams per tonne gold, 0.40 per cent copper and 7.63 per cent zinc over 0.50 metres (Assessment Report 17619, page 5, hole 88-2).

A total of 345 tonnes grading 12.9 grams per tonne gold, 130.0 grams per tonne silver, 0.003 per cent copper, 0.27 per cent lead and 0.10 per cent zinc was mined in 1973 and 1974. M. Shewchuk drilled four holes totalling 581 metres between 1988 and 1990.

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EMPR ASS RPT 5959, *17619, *20313, *21507
EMPR EXPL 1990, p. 54
EMPR GEM 1971-272; 1973-24; 1974-25,115; 1975-E70,71
EMPR INF CIRC 1991-1, pp. 57,58
EMPR PF (Anonymous (undated): 1 to 9000 scale map of claims
with drill holes)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/17

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE125**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHIP**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 21 N
LONGITUDE: 120 32 31 W
ELEVATION: 920 Metres

NORTHING: 5471772
EASTING: 678436

LOCATION ACCURACY: Within 500M

COMMENTS: Trench with soil profile on Whip 15 claim, 700 metres northeast of the Similkameen River and 9.5 kilometres south-southwest of Princeton (Assessment Report 3523, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 400 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Mineralization occurs intermittently over a north-south distance of 400 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Lost Horse Intrusions
ISOTOPIC AGE: 195 +/- 8 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			
Lower Jurassic			Copper Mountain Intrusions

LITHOLOGY: Diorite
Porphyritic Monzonite

HOSTROCK COMMENTS: Isotopic age date is for the Lost Horse Intrusions (Bulletin 59, Figure 2 (sheet B)).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Whip prospect is 800 to 1200 metres north of the west end of Smelter Lakes and 9.5 kilometres south-southwest of Princeton.

This area along the Similkameen River, in the vicinity of Smelter Lakes, is underlain by intrusive rocks of the Lost Horse Intrusions and the Smelter Lake stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. All units are unconformably overlain by volcanics and sediments of the Eocene Princeton Group.

An inlier of intrusive rocks, surrounded by basalt and hornblende andesite of the Princeton Group, occurs just northwest of Smelter Lakes. Most of the inlier is comprised of diorite and porphyritic monzonite of the Lost Horse Intrusions. The southwestern portion of the inlier consists of diorite of the Smelter Lake stock.

Disseminated chalcopyrite and pyrite occur intermittently in Lost Horse rocks over a north-south distance of about 400 metres. Chalcopyrite is also present along shears containing quartz-carbonate stringers in the northern part.

This prospect was explored by Newmont Mining Corporation of Canada Ltd. in 1971 and 1972. The company completed geological and soil surveys, 670 metres of trenching and 339 metres of diamond drilling in two holes.

BIBLIOGRAPHY

EMPR ASS RPT *3523
EMPR BULL 59

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 943
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1972-121
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp.
633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the
Copper Mountain Intrusions near Princeton, British Columbia;
unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE126**

NATIONAL MINERAL INVENTORY:

NAME(S): **NIGHTHAWK**, TULAMEEN

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 12 N
LONGITUDE: 120 38 12 W
ELEVATION: 716 Metres

NORTHING: 5484243
EASTING: 671162

LOCATION ACCURACY: Within 500M

COMMENTS: Northernmost of two areas of chalcopyrite mineralization on the west bank of the Tulameen River, 9.5 kilometres west-northwest of Princeton (Assessment Report 3905, Map 1).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Amygdaloidal Andesite
Granodiorite
Quartz Diorite
Andesitic Tuff
Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This showing is in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Nighthawk showing occurs on the west bank of the Tulameen River, 9.5 kilometres west-northwest of Princeton.

A stock of fine to medium-grained granodiorite and quartz diorite intrudes fine-grained amygdaloidal andesite with minor andesitic tuff and agglomerate of the Upper Triassic Nicola Group. The stock trends northwest along the Tulameen River for at least 300 metres. A similar stock hosts the Tulameen showing (092HSE111) across the river to the south.

The andesitic rocks are extensively chloritized near the intrusion. Minor epidote is also present. The granodiorite shows weak epidote and chlorite alteration.

Pyrite is the most common sulphide, and is concentrated in and around the intrusion as disseminations and in massive veins and shears. Chalcopyrite occurs along shears, fractures and in quartz veins in the altered andesite near the stock. Minor chalcopyrite is also found in quartz veins cutting granodiorite. Sparse molybdenite is disseminated in andesitic tuff just east of the intrusion.

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EMPR ASS RPT *3655, *3905, 12676
EMPR GEM 1971-272; 1972-122
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE127**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAVEN MOUNTAIN, STAR, BOB,
GRACE, GOLDEN FLEECE, OWL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 28 33 N
LONGITUDE: 120 16 20 W
ELEVATION: 1585 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5483931
EASTING: 697597

LOCATION ACCURACY: Within 500M

COMMENTS: Area of shafts and trenches on the Star 6 and Bob 5 claims, 0.8 kilometre west of the summit of Raven Mountain, 3.0 kilometres north-northwest of the confluence between Steven Creek and a major south flowing tributary, 18 kilometres east-northeast of Princeton (Assessment Report 2328, Map 3).

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Magnetite
ASSOCIATED: Quartz
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Siliceous Granite
Siliceous Granodiorite
Andesite
Tuff
Argillite

HOSTROCK COMMENTS: Hosted in a roof pendant of volcanics and sediments of the Nicola Group in the northern margin of the Bromley batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel

INVENTORY

ORE ZONE: SHAFT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1934
SAMPLE TYPE: Grab

COMMODITY	GRADE
Lead	21.0000 Per cent
Zinc	5.0000 Per cent

COMMENTS: Selected grab sample of stronger mineralized quartz from the Golden Fleece shaft.
REFERENCE: Minister of Mines Annual Report 1934, page D23.

CAPSULE GEOLOGY

This prospect is located on the west flank of Raven Mountain, a northwest-trending ridge between Steven Creek and its southward flowing tributary, 18 kilometres east-northeast of Princeton. Raven Mountain is underlain by a roof pendant of intermediate to mafic volcanics of the eastern facies of the Upper Triassic Nicola Group. This roof pendant continues northwest between Steven Creek and its tributary for 5 kilometres, within the northern margin of the Early Jurassic Bromley batholith. The southern end of the pendant, in the vicinity of Raven Mountain, is comprised of andesite, with minor tuff and argillite.

CAPSULE GEOLOGY

These rocks strike slightly west of north and are steeply dipping. The surrounding intrusives of the Bromley batholith consist of grey, coarse-grained, siliceous granite and granodiorite. The granite is oxidized, altered and mineralized with abundant magnetite along the western margin of the roof pendant.

Galena and sphalerite are exposed in a series of shafts, trenches and outcrops in an area extending north along the west side of Raven Mountain for up to 1400 metres. Other trenches to the west and east contain only pyrite. This mineralization is in part contained in quartz veins that are conformable to the enclosing volcanics and sediments. Samples assayed 1.4 to 6.9 grams per tonne gold and 103 to 1234 grams per tonne silver (Minister of Mines Annual Report 1934, page D23). A selected sample of quartz with stronger mineralization assayed 21 per cent lead and 5 per cent zinc (Minister of Mines Annual Report 1934, page D23).

The prospect was initially explored by a number of trenches, shafts and adits in 1934 and 1935. Adco Silver Mines Ltd. completed a magnetometer survey in 1970. Coynex Development Ltd. conducted additional magnetometer surveying, in conjunction with geological mapping, soil sampling and stripping in 1972.

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EMPR ASS RPT 2328, *4080
EMPR GEM 1970-387; 1972-123,124
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE128**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRM 73 (99)**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 02 N
LONGITUDE: 120 49 10 W
ELEVATION: 1774 Metres

NORTHING: 5477977
EASTING: 658096

LOCATION ACCURACY: Within 500M

COMMENTS: Trench 1, on the FRM 73 claim, between Newton and Badger creeks, 3.5 kilometres south-southeast of the summit of Lodestone Mountain and 22 kilometres west-southwest of Princeton (Assessment Report 2742, Map 6).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 30 x 4 Metres
COMMENTS: Longest zone of chalcopyrite.

M05 Alaskan-type Pt±Os±Rh±Ir
STRIKE/DIP: 360/ TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite
Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1970

COMMODITY
Copper

GRADE
0.5000 Per cent

COMMENTS: Maximum copper assay.
REFERENCE: Assessment Report 2742, page 8.

CAPSULE GEOLOGY

The FRM 73 (99) showing outcrops along the crest of the ridge separating Newton and Badger creeks, 3.5 kilometres south-southeast of the summit of Lodestone Mountain and 22 kilometres west-southwest of Princeton.

Four zones of chalcopyrite are hosted in hornblende clinopyroxenite in the western margin of the Early Jurassic Tulameen Ultramafic Complex, near the contact with Upper Triassic Nicola Group metavolcanics. The zones trend north to northwest over lengths of up to 30 metres. They appear to be confined to fracture zones of similar strike. The three largest zones are 4 to 6 metres wide. Assays of up to 0.5 per cent copper and 0.04 per cent nickel are reported (Assessment Report 2742, page 8). The showing was trenched and sampled by Fort Reliance Minerals Ltd. in 1970.

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EMPR EXPL 1988-B71-B81
EMPR FIELDWORK 1987, pp. 281-294
EMPR GEM 1970-382
EMPR OF 1988-25
EMPR P 1992-6

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 948
REPORT: RGEN0100

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Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,
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University, 415 pages.

DATE CODED: 1992/01/21
DATE REVISED: 1992/06/03

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE129**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRM 92**, LODE

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 05 N
LONGITUDE: 120 48 03 W
ELEVATION: 1704 Metres

NORTHING: 5478109
EASTING: 659442

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized zone in Trench 2, on the FRM 92 claim, between Newton and Badger creeks, 4.15 kilometres southeast of the summit of Lodestone Mountain and 21 kilometres west-southwest of Princeton (Assessment Report 2742, Map 6).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 46 x 8 Metres
COMMENTS: A zone of chalcopyrite mineralization.

STRIKE/DIP: M05 Alaskan-type Pt±Os±Rh±Ir
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Hornblende Clinopyroxenite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Copper

YEAR: 1970

GRADE: 0.5000 Per cent

COMMENTS: Maximum copper assay.
REFERENCE: Assessment Report 2472, page 8.

CAPSULE GEOLOGY

The FRM 93 showing is between Newton and Badger creeks, 4.15 kilometres southeast of the summit of Lodestone Mountain and 21 kilometres west-southwest of Princeton. The FRM 73(99) copper showing (092HSE128) lies 1.4 kilometres to the west.

A zone of chalcopyrite occurs in hornblende clinopyroxenite of the Early Jurassic Tulameen Ultramafic Complex. The zone trends west-northwest for about 46 metres and is 8 metres wide. Assays of up to 0.5 per cent copper and 0.04 per cent nickel are reported (Assessment Report 2742, page 8).

The showing was trenched and sampled by Fort Reliance Minerals Ltd. in 1970.

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EMPR FIELDWORK 1987, pp. 281-294
EMPR GEM 1970-382
EMPR OF 1988-25
EMPR P 1992-6
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 950
REPORT: RGEN0100

BIBLIOGRAPHY

Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,
Yale District, British Columbia, unpublished Ph.D. thesis, Queen's
University, 415 pages.

DATE CODED: 1992/01/21
DATE REVISED: 1992/01/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE130**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE'S NEST**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 22 32 N
LONGITUDE: 120 02 58 W
ELEVATION: 1128 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5473393
EASTING: 714170

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of tunnel 3700L, 1.1 kilometres west-northwest of the summit of Nickel Plate Mountain and 2.5 kilometres northeast of Hedley (Property File - J.S. Vincent, 1986, Figure 3).

COMMODITIES: Gold Copper Zinc Silver Cobalt

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Arsenopyrite Chalcopyrite Sphalerite
Electrum Hedleyite Cobaltite
ASSOCIATED: Garnet Wollastonite
ALTERATION: Garnet Wollastonite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Vein Disseminated Massive
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Hedley	
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Limestone
Dioritic Sill
Skarn
Tuff
Siliceous Sediment/Sedimentary
Dioritic Dike

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 4.3900 Grams per tonne
COMMENTS: Sample over a core length of 5.24 metres.
REFERENCE: Property File - J.S. Vincent, 1986, page 8.

CAPSULE GEOLOGY

The Eagle's Nest prospect is situated about 1 kilometre west-northwest of the summit of Nickel Plate Mountain and 2.5 kilometres northeast of Hedley. The area just northwest of Nickel Plate Mountain is underlain by siltstone and limestone of the Upper Triassic Hedley Formation (Nicola Group). The sediments dip 30 degrees west, and are extensively intruded by sills and dykes of hornblende porphyritic diorite of the Early Jurassic Hedley Intrusions. The deposit appears to be hosted in the same gently westward dipping zone of skarn mineralization as the Nickle Plate mine (092HSE 038) and the Mascot Fraction (092HSE036) to the east. The skarn is occasionally banded, commonly grey to green to white in colour, and

CAPSULE GEOLOGY

contains variable amounts of garnet and minor wollastonite. It is sometimes accompanied by beds of limestone, siliceous sediments and tuffs.

Mineralization consists of pyrrhotite, pyrite, arsenopyrite, chalcopyrite, sphalerite, electrum, hedleyite (a gold telluride) and cobaltite. These sulphides are closely associated with dioritic dykes and sills, and form irregular bands, streaks, stringers and disseminations within the skarn. Gold is distributed somewhat erratically. Pyrrhotite-rich sections may be barren, yet arsenopyrite is usually accompanied by gold. Barren-looking skarn can have a significant gold content if hedleyite is present. A hole drilled in 1946 intersected 4.39 grams of gold per tonne over 5.24 metres (Property File - J.S. Vincent, 1986, page 8). Two holes drilled in 1988 encountered sections 0.90 to 3.05 metres in length assaying 1.30 to 4.11 grams per tonne gold (George Cross News Letter No. 236, 1988).

Hedley Mascot Gold Mines Ltd., former operator of the nearby Mascot Fraction, explored this deposit between 1936 and 1946. The company completed 400 metres of underground diamond drilling in 1946. Agio Resources Corporation drilled six holes underground totalling 611 metres in 1983. Corona Corporation, current operator of the Nickel Plate mine, carried out additional underground drilling in 1988 (664 metres) and in 1989.

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EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (Starr, C.C. (1926): Report on Preliminary Examination of Mining Claims, Hedley Camp; Map of Hedley Camp with Geology and claims, 1926 (in 092HSE062); Vincent, J.S. (1986): A Report on the Eagle's Nest Property, Hedley, British Columbia for Agio Resource Corporation; Austro-Can Explorations Ltd. (1972): Prospectus, Vancouver Stock Exchange (see 082ENW048))
GSC MAP 2A; 568A; 888A; 41-1989
GSC MEM 2; 243
GSC OF 2167, pp. 59-80
GCNL #161,*#236, 1988
N MINER Feb. 27, 1989

DATE CODED: 1992/02/28
DATE REVISED: 1992/06/03

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE131**

NATIONAL MINERAL INVENTORY:

NAME(S): **PRINCETON**, PYRO, ASA 1-5,
PYRO 1-4, CLAYBURN INDUSTRIES

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 29 46 N

LONGITUDE: 120 37 26 W

ELEVATION: 1158 Metres

NORTHING: 5485322

EASTING: 672054

LOCATION ACCURACY: Within 500M

COMMENTS: Pyro group, 1.2 kilometres northeast of the Tulameen River and 9.0 kilometres northwest of Princeton (Open File 1988-19, Figure 47).

COMMODITIES: Pyrophyllite

MINERALS

SIGNIFICANT: Pyrophyllite

ASSOCIATED: Quartz Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic
Pyrophyllite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Pyrophyllite is periodically mined along a logging road 1.2 kilometres northeast of the Tulameen River and 9.0 kilometres northwest of Princeton.

The pyrophyllite is hosted in volcanics of the Upper Triassic Nicola Group. The occurrence appears to be related to a major fault zone. The ore is a mixture of quartz and pyrophyllite with scattered grains of pyrite. Shears and fracture faces are filled with quartz and fine-grained powdery pyrophyllite. A grab sample of the ore taken from the centre of stripping, where the rock is more light grey-white coloured and surrounded by brown-stained material, contained 80.96 per cent silica, 13.24 per cent alumina and 0.13 per cent iron (Minister of Mines Annual Report 1959, page 184).

Since 1972, pyrophyllite from this property has been used by Clayburn Refractories Limited for refractory products manufacturing at the company's ceramics plant in Abbotsford at a rate of several hundred tonnes a year. Reserves are reported to be sufficient for 20 years at current production rates (B. Warner, personal communication, 1991). The material is stockpiled on the mine site and in Princeton and is shipped to the Abbotsford plant whenever there is a demand for it.

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EMPR GEM 1971-469; 1973-551,552
EMPR INF CIRC 1996-1, p. 10; 1997-1, p. 12; 1998-1, p. 13
EMPR OF *1988-19, pp. 89,91,93; 1994-1
EMPR PF (Clayburn Industries Inc. (1975): 1 to 2400 scale location survey plan of mineral claims)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1996/11/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE131**

MINFILE NUMBER: **092HSE132**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAS**, TAT

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 46 N
LONGITUDE: 120 26 59 W
ELEVATION: 1783 Metres

NORTHING: 5461651
EASTING: 685479

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Tas claim group, 3.5 kilometres southwest of Willis Creek,
20 kilometres south-southeast of Princeton (Energy, Mines and
Petroleum Resources claim sheet map 092H/01W (1975)).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: D03 Volcanic redbed Cu
L01 Subvolcanic Cu-Ag-Au (As-Sb)

L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic

Augite Hornblende Porphyritic Pyroclastic
Augite Hornblende Porphyritic Flow

HOSTROCK COMMENTS: This showing occurs in the eastern facies of the Nicola Group
(Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

COMMENTS: The deposit is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1973

SAMPLE TYPE: Rock

COMMODITY

GRADE

Copper

0.0700

Per cent

REFERENCE: Assessment Report 4806, page 6.

CAPSULE GEOLOGY

The Tas showing is located about 3.5 kilometres southwest of Willis Creek and 20 kilometres south-southeast of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows.

Finely disseminated chalcopyrite occurs in an outcrop of Nicola Group volcanics, near a lineament that may represent a fault. A sample of this mineralization assayed 0.07 per cent copper (Assessment Report 4806, page 6).

BIBLIOGRAPHY

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EMPR GEM 1973-133,134
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/09

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE133**

NATIONAL MINERAL INVENTORY:

NAME(S): **DENISE**, DEB

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 36 N
LONGITUDE: 120 25 03 W
ELEVATION: 1097 Metres

NORTHING: 5474389
EASTING: 687389

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of skarn zone, 1.2 kilometres south-southwest of the west end of Lorne Lake, 10 kilometres southeast of Princeton (Assessment Report 4727, Figure 5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Epidote Garnet Magnetite Chlorite Calcite
ALTERATION TYPE: Skarn Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Skarn Epigenetic
TYPE: K01 Cu skarn
DIMENSION: 640 x 550 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: A zone of skarn alteration with sulphide mineralization.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Plagioclase Pyroxene Porphyritic Andesite
Cherty Andesite
Rhyolite
Granodiorite
Skarn

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Denise prospect is located 1 to 1.5 kilometres south of the west end of Lorne Lake and 10 kilometres southeast of Princeton.

The area around Lorne Lake is mostly underlain by granodiorite of the Early Jurassic Bromley batholith. Various volcanics and sediments of the Upper Triassic Nicola Group and the Middle to Upper Cretaceous Spences Bridge Group lie south and west of the lake. These units are unconformably overlain by volcanics and volcaniclastics of the Eocene Princeton Group.

Skarn outcrops over an area 640 metre long and up to 550 metres wide, between Bromley granodiorite to the east and Nicola Group volcanics to the west. The volcanics consist primarily of plagioclase and pyroxene porphyritic andesite, with minor "cherty" andesite and rhyolite. The skarn zone is comprised of epidote, garnet, magnetite, chlorite and calcite.

Mineralization consists of chalcopyrite and pyrite, in veinlets, blebs and disseminations. This sulphide mineralization also occurs in the surrounding country rock with less intensity.

The prospect was explored by Geo-Dyne Resources Ltd. between 1971 and 1973.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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BIBLIOGRAPHY

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Group)
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE134**

NATIONAL MINERAL INVENTORY:

NAME(S): **GD, AU, FITZ**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 26 52 N
LONGITUDE: 120 41 58 W
ELEVATION: 1524 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5479779
EASTING: 666748

LOCATION ACCURACY: Within 500M

COMMENTS: Adit at the northwest end of a logging road, 1.5 kilometres northeast of Granite Creek and 13.5 kilometres west-southwest of Princeton (Assessment Report 15317, Figure 3).

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Tetrahedrite Gold
ASSOCIATED: Quartz
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir L04 Porphyry Cu ± Mo ± Au
L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 1 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: A mineralized quartz vein is hosted in a shear zone striking west-northwest.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Tulameen Ultramafic Complex
Lower Jurassic			

LITHOLOGY: Agglomerate
Gabbro
Limestone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This showing is in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Channel
COMMODITY GRADE
Silver 6.5000 Grams per tonne
Gold 4.0100 Grams per tonne
Copper 0.0800 Per cent

COMMENTS: Sample from a shear zone taken over a width of 1 metre.
REFERENCE: Assessment Report 15317, page 6.

CAPSULE GEOLOGY

The GD showing is 1.5 kilometres northeast of Granite Creek and 13.5 kilometres west-southwest of Princeton.

A small stock of fine to medium-grained gabbro intrudes a sequence of agglomerates with interbedded limestone and argillite of the Upper Triassic Nicola Group. This intrusive is possibly related to the Early Jurassic Tulameen Ultramafic Complex.

The stock is cut by a shear zone striking west-northwest. The zone is up to 6 metres wide and contains a quartz vein 0.05 to 1.2 metres wide of similar orientation. The vein is mineralized with pyrite and minor chalcopyrite, tetrahedrite and malachite. Native gold is reported to be associated with the sulphides. A channel sample from the shear zone taken in an adit across a width of 1.0 metre assayed 4.01 grams per tonne gold, 6.5 grams per tonne silver

CAPSULE GEOLOGY

and 0.08 per cent copper (Assessment Report 15317, page 6).
A sample from a quartz vein outcropping about 480 metres
east-northeast of the adit assayed 2.15 grams per tonne gold and 1.9
grams per tonne silver (Assessment Report 15317, page 9).

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EMPR ASS RPT 5043, *15317
EMPR GEM 1974-116,117
EMPR P 1992-6
EMPR PF (*Borovic, I. (1987): Report on the Geological, Geochemical
and Geophysical Exploration of the AU Property, in Hector
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GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE135**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAM**, ANIKA

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 06 N
LONGITUDE: 120 40 41 W
ELEVATION: 1554 Metres

NORTHING: 5474701
EASTING: 668456

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 8067, 0.9 kilometre southwest of Lamont (Nine Mile) Creek, 8.25 kilometres west-northwest of the creek's confluence with Whipsaw Creek and 13.5 kilometres southwest of Princeton (Assessment Report 5339, Map 9).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite
ALTERATION: Limonite Epidote Carbonate Saussurite Chlorite
ALTERATION TYPE: Oxidation Propylitic Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesitic Flow
Andesitic Agglomerate
Diorite
Intrusive Breccia
Dacitic Tuff
Dacitic Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This showing is in the Nicola belt, near its south end. GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1974
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.0118 Per cent
COMMENTS: Sample of intrusive diorite breccia with chalcopyrite.
REFERENCE: Assessment Report 5339, page 65 (sample 8067).

CAPSULE GEOLOGY

The Lam showing is at the headwaters of Lamont (Nine Mile) Creek, about 8 kilometres west-northwest of the creek's confluence with Whipsaw Creek and 13.5 kilometres southwest of Princeton. A small elliptical plug of diorite intrudes andesitic flows and agglomerates with minor dacitic tuffs and flows, of the Upper Triassic Nicola Group. The diorite plug is 600 metres long and up to 260 metres wide. These rocks exhibit weak and erratic epidote and carbonate alteration. Some saussuritization of feldspars and chloritization of host rocks has occurred along fractures. Pyrite is the most common sulphide, occurring primarily along fractures with limonite, but also disseminated, together with minor pyrrhotite, in the volcanics. Chalcopyrite forms blebs and fine disseminations replacing mafic minerals in the gabbroic matrix of an intrusive breccia in the diorite plug, and isolated grains on altered fracture planes in the surrounding amygdaloidal and porphyritic andesite. Chalcopyrite

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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CAPSULE GEOLOGY

is erratically distributed through the area and is of very low grade (less than 0.1 per cent). A sample of intrusive diorite breccia with chalcopyrite contained 0.0118 per cent copper and nil molybdenum (Assessment Report 5338, page 65, sample 8067).

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EMPR GEM 1974-116
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE136**

NATIONAL MINERAL INVENTORY:

NAME(S): **WEL**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 30 N
LONGITUDE: 120 53 49 W
ELEVATION: 1545 Metres

NORTHING: 5471271
EASTING: 652659

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 8456, 750 metres northwest of Wells Lake, 2.7 kilometres northeast of the Tulameen River and 29 kilometres west-southwest of Princeton (Assessment Report 5564, Map 9).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1000 x 550 Metres STRIKE/DIP: 325/ TREND/PLUNGE:
COMMENTS: A zone of copper-molybdenum mineralization.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Biotite Granodiorite

HOSTROCK COMMENTS: The Eagle Plutonic Complex is Late Jurassic to Early Cretaceous in age (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Amphibolite

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1974
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Copper	0.8900 Per cent
Molybdenum	0.0245 Per cent

COMMENTS: Sample of quartz vein with pyrite, chalcopyrite and molybdenite.
REFERENCE: Assessment Report 5564, page 16 (sample 8456).

CAPSULE GEOLOGY

The Wel showing outcrops west and northwest of Wells Lake, about 29 kilometres west-southwest of Princeton.

This area in the vicinity of Wells Lake is underlain by biotite granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex.

A zone of copper-molybdenum mineralization, 550 metres wide, trends 145 degrees for at least 1000 metres, roughly paralleling the regional foliation of the area. The zone contains numerous quartz veins mineralized with pyrite and chalcopyrite, and sporadic molybdenite. Intersecting pyrite-chalcopyrite-bearing veins are noted to strike in three distinct directions. Chalcopyrite also occurs as disseminations and as blebs along fractures in the enclosing granodiorite. A sample from a quartz vein with pyrite, chalcopyrite and molybdenite analysed 0.89 per cent copper and 0.0245 per cent molybdenum (Assessment Report 5564, page 16, sample 8456).

BIBLIOGRAPHY

EMPR ASS RPT *5564, 5992
EMPR EXPL 1976-E81

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 962
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1974-114
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/23

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE137**

NATIONAL MINERAL INVENTORY:

NAME(S): **TULAMEEN GYPSUM**, NANCY

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E 092H10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 58 N
LONGITUDE: 120 39 12 W
ELEVATION: 762 Metres

NORTHING: 5485626
EASTING: 669911

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the Nancy claim near the Kettle River railway, on the northeast bank of the Tulameen River, about 1.6 kilometres downstream from Granite Creek (Minister of Mines Annual Report 1923, page 188).

COMMODITIES: Gypsum

MINERALS

SIGNIFICANT: Gypsum
ASSOCIATED: Clay
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Massive Unconsolidated
CLASSIFICATION: Evaporite Industrial Min.
TYPE: B07 Bog Fe, Mn, U, Cu, Au
SHAPE: Bladed
DIMENSION: 120 x 30 x 2 Metres
COMMENTS: Dimensions given for the largest deposit.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Recent

Unnamed/Unknown Group

Unnamed/Unknown Formation

LITHOLOGY: Boulder Clay
Gravel
Talus

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tulameen Gypsum occurrence outcrops along the northeast bank of the Tulameen River, in the vicinity of the Princeton-Tulameen road and the Kettle Valley railway, about 1.6 kilometres downstream from Granite Creek.

The showing is comprised of a number of small, discontinuous deposits of powdery or solid gypsum. The gypsum is deposited on boulder clay, gravel or slide rock as a precipitate of Recent age. Some of the material is quite pure, while some is mixed with clay and gravel. Trenching on the various deposits has encountered thicknesses of 1.2 to 3.0 metres. The largest deposit covers an area 120 metres long and 30 metres wide, with a thickness of about 1.8 metres.

A few tonnes of gypsum were shipped to a cement plant in Princeton in 1913.

BIBLIOGRAPHY

EMPR AR *1913-240; 1915-249; *1923-188
GSC MAP 888A; 889A; 1386A; 41-1989
GSC MEM 243, p. 132
CANMET RPT *714, pp. 70,71

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/19

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE138**

NATIONAL MINERAL INVENTORY:

NAME(S): **HED, GOLD, GOLD HILL,
GOLD MINE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 21 18 N
LONGITUDE: 120 08 59 W
ELEVATION: 1225 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5470828
EASTING: 706978

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 76-1 on the south side of the Similkameen River,
about 5.3 kilometres west of Hedley, between Whistle and Henri creeks
(Assessment Report 6060, geology map).

COMMODITIES: Gold Zinc

MINERALS

SIGNIFICANT: Pyrite Sphalerite Arsenopyrite
ASSOCIATED: Carbonate Quartz
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 55 x 15 Metres STRIKE/DIP: 158/90 TREND/PLUNGE:
COMMENTS: Carbonate-quartz breccia vein strikes 158 degrees for 55 metres and
dips vertically.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Andesitic Basaltic Tuff
Chert
Volcanic Breccia
Porphyritic Diorite Dike
Ash Tuff
Lapilli Tuff

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Plutonic Rocks

INVENTORY

ORE ZONE: GOSSAN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1976
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 3.4000 Grams per tonne
COMMENTS: Average grade over 0.6 metre.
REFERENCE: Assessment Report 6060, page 17, hole 1-76 (16.8 to 17.4 metres).

CAPSULE GEOLOGY

The Hed prospect is on the south side of the Similkameen River, about 5.3 kilometres west of Hedley.
The deposit is underlain by rocks from the Whistle Creek Formation, which is divisible into three stratigraphic sequences, with the oldest being well-bedded massive tuffs of andesitic to basaltic composition. Higher in the unit, ash tuffs with minor lapilli tuffs and volcanic breccias predominate.
A carbonate-quartz breccia vein cuts argillite, tuff and chert in the lower Whistle Creek Formation. Fine-grained to coarse porphyritic diorite dykes of the Hedley Intrusive suite crosscut the

CAPSULE GEOLOGY

strata and locally contain disseminated pyrite and arsenopyrite. The vein strikes 158 degrees, dips vertically and is up to 15 metres wide (core length). Diamond drilling has traced the vein over a strike length of 55 metres. The vein is comprised of graphitic argillite clasts in a matrix of carbonate and quartz.

The breccia commonly contains 1 to 5 per cent disseminated pyrite, with occasional massive pyrite sections up to 15 centimetres in width. Minor black sphalerite occurs in areas with 3 to 20 per cent coarse pyrite. Gold values encountered in drilling varied up to 3.4 grams per tonne over 0.6 metre (Assessment Report 6060, page 17, hole 1-76, 16.8 to 17.4 metres). A grab sample of leached gossan developed over the vein assayed 70.15 grams per tonne gold (Assessment Report 6060, page 17).

The deposit was discovered by Canadian Occidental Petroleum Ltd. in 1976. The company completed soil and geological surveys, and drilled three holes totalling 244 metres.

BIBLIOGRAPHY

EMPR ASS RPT *6060, 10018, 10882, 13988, 16427, *17966, 19351
EMPR EXPL 1976-E83; 1977-E128; 1982-178
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-25
GSC MAP 568A; 888A; 41-1989
GSC MEM 2; 243
GSC OF 2167, pp. 59-80
GSC SUM RPT 1929, pp. 198A-252A
CJES Vol. 9, pp. 1632-1639 (1972)

DATE CODED: 1985/07/24
DATE REVISED: 1992/04/22

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE139**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALLENBY TAILINGS**, ABO

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 22 N
LONGITUDE: 120 31 34 W
ELEVATION: 741 Metres

NORTHING: 5477398
EASTING: 679401

LOCATION ACCURACY: Within 500M

COMMENTS: Mine waste dump on district Lot 2941s, 500 metres southeast of the Similkameen River and 4 kilometres south-southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Tailings.
ALTERATION TYPE: Oxidation Leaching
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Unknown
TYPE: T01 Tailings
DIMENSION: 450 x 200 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Tailings dump.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Tailings

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

CAPSULE GEOLOGY

The Allenby Tailings prospect is on district Lot 2941s, 500 metres southeast of the Similkameen River and 4 kilometres south-southwest of Princeton.

This deposit consists of an old tailings dump from the nearby Allenby mill, which processed copper ores originating from the Similco mine (092HSE001), up to 1957. The dump covers an area 450 metres long and up to 200 metres wide.

Abacus Industries Ltd. processed about 2000 cubic metres of tailings with a pilot mill in 1977 and 1978, in an attempt to recover gold and copper. The company also conducted research on other possible uses for the tailings.

BIBLIOGRAPHY

EMPR EXPL 1977-E126; 1978-E143
GSC MAP 888A, 1386A, 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/25

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE140**

NATIONAL MINERAL INVENTORY:

NAME(S): **CEE**, A, B

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 07 N
LONGITUDE: 120 23 04 W
ELEVATION: 768 Metres

NORTHING: 5480987
EASTING: 689561

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 76-1, 250 metres south of the Similkameen River,
2.2 kilometres east of Basely Creek and 9.5 kilometres east of
Princeton (Assessment Report 6309, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite	Bornite	Chalcocite
ALTERATION:	Orthoclase	Sericite	Malachite	Goethite
ALTERATION TYPE:	Potassic		Sericitic	Oxidation
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER:	Stockwork	Disseminated	Shear
CLASSIFICATION:	Porphyry	Hydrothermal	Epigenetic
TYPE:	L04 Porphyry Cu ± Mo ± Au		
DIMENSION:	600 x 400 Metres		STRIKE/DIP:
COMMENTS:	Area of intermittent copper mineralization.		
			TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith
ISOTOPIC AGE:	193 +/- 1 Ma		
DATING METHOD:	Uranium/Lead		
MATERIAL DATED:	Zircon		

LITHOLOGY: Granite
Granodiorite
Andesite
Andesite Porphyry

HOSTROCK COMMENTS: Isotopic age date for the Bromley batholith is from Geological Survey
of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT:	Intermontane	PHYSIOGRAPHIC AREA:	Thompson Plateau
TERRANE:	Plutonic Rocks	Quesnel	

CAPSULE GEOLOGY

The Cee prospect lies on the south side of the Similkameen valley, 2 kilometres east of Basely Creek and 9.5 kilometres east of Princeton.

This area on the north flank of the Darcy Mountains is primarily underlain by intrusive rocks of the Early Jurassic Bromley batholith, with minor volcanics and sediments of the Upper Triassic Nicola Group.

Veinlets and disseminations of chalcopyrite occur in coarse-grained granite and granodiorite near the contact with dyke-like masses of andesite and andesite porphyry of the Nicola Group. The chalcopyrite is sometimes localized along shear zones. Mineralized granite exhibits orthoclase and sericite alteration. Pyrite, bornite and chalcocite are present in minor amounts. Chalcopyrite is replaced by malachite or goethite in a few instances.

Trenching and diamond drilling up to 1976 indicates this copper mineralization occurs intermittently in an area 600 metres long and 400 metres wide.

BIBLIOGRAPHY

EMPR ASS RPT 3676, *3902, 6309
EMPR GEM 1972-123; 1977-E127
GSC MAP 569A; 888A; 889A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 968
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 24, pp. 2521-2536 (1987)
Chevron File

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 969
REPORT: RGEN0100

MINFILE NUMBER: **092HSE141**

NATIONAL MINERAL INVENTORY:

NAME(S): **RC**, LODE

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 22 N
LONGITUDE: 120 51 18 W
ELEVATION: 1490 Metres

NORTHING: 5484079
EASTING: 655342

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of a magnetometer survey, 1.1 kilometres northeast of Olivine Creek, 3.15 kilometres north-northwest of the summit of Lodestone Mountain and 25 kilometres west-northwest of Princeton (Assessment Report 1566, Map 3).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Magnetite Pyrite Pyrrhotite Chalcopyrite Bornite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Olivine Pyroxenite
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The RC showing outcrops in the headwaters of Olivine Creek, 25 kilometres west-northwest of Princeton. Magnetite, with minor pyrite, pyrrhotite, chalcopyrite and bornite occur in olivine pyroxenite and gabbro of the Early Jurassic Tulameen Ultramafic Complex. Bethex Explorations and Bethlehem Copper Corporation completed a magnetometer survey and drilled two holes totalling 183 metres in 1968 and 1970.

BIBLIOGRAPHY

EMPR AR 1968-205
EMPR ASS RPT *1566, 11888, 12506, 15434, 16661, 17819, 18675, 27009
EMPR EXPL 1988-B71-B81
EMPR FIELDWORK 1987, pp. 281-294
EMPR GEM 1970-383
EMPR OF 1988-25
EMPR P 1992-6
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)
Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex, Yale District, British Columbia, unpublished Ph.D. thesis, Queen's University, 415 pages.

DATE CODED: 1985/07/24
DATE REVISED: 1992/01/21

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE141**

MINFILE NUMBER: **092HSE142**

NATIONAL MINERAL INVENTORY:

NAME(S): **LODE 1**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 10 N
LONGITUDE: 120 53 02 W
ELEVATION: 1710 Metres

NORTHING: 5483649
EASTING: 653260

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site AT 210, 4.25 kilometres northwest of the summit of Lodestone Mountain and 27 kilometres west-northwest of Princeton (Assessment Report 11888, Figure 5).

COMMODITIES: Copper Iron

MINERALS

SIGNIFICANT: Magnetite Pyrite Chalcopyrite
ALTERATION: Carbonate Chlorite
ALTERATION TYPE: Carbonate Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Pyroxenite
Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
METAMORPHIC TYPE: Regional
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE:

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.0430 Per cent
Iron 20.5300 Per cent

REFERENCE: Assessment Report 11888, Appendix 1 (sample AT 210).

CAPSULE GEOLOGY

The Lode 1 showing is 4.25 kilometres northwest of the summit of Lodestone Mountain and 27 kilometres west-northwest of Princeton. A rusty shear zone cuts pyroxenite of the Early Jurassic Tulameen Ultramafic Complex, at the western contact with Upper Triassic Nicola Group metavolcanics. The pyroxenite is carbonatized and exhibits chlorite-rich layers. The pyroxenite contains disseminated magnetite and minor pyrite and chalcopyrite. A sample assayed 20.53 per cent iron and 0.043 per cent copper (Assessment Report 11888, Appendix 1, sample AT 210). The showing was sampled by Lodestone Mining Corporation in 1983.

BIBLIOGRAPHY

EMPR ASS RPT *11888, 27009
EMPR EXPL 1988-B71-B81; 2002-41-50
EMPR FIELDWORK 1987, pp. 281-294
EMPR OF 1988-25
EMPR P 1992-6
GSC MAP 46A; 888A; 1386A; 41-1989
GSC MEM 26; 243
GSC P 85-1A, pp. 349-358
CJES Vol. 6, pp. 399-425 (1969); Vol. 24, pp. 2521-2536 (1987)

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RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

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BIBLIOGRAPHY

Findlay, D.C. (1963): Petrology of the Tulameen Ultramafic Complex,
Yale District, British Columbia, unpublished Ph.D. thesis, Queen's
University, 415 pages.

DATE CODED: 1992/01/21
DATE REVISED: 1992/04/23

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE143**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORMA**, EVA, ASH,
OAK, JILL

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 24 N
LONGITUDE: 120 34 40 W
ELEVATION: 1274 Metres

NORTHING: 5464370
EASTING: 676069

LOCATION ACCURACY: Within 500M

COMMENTS: Trench 3, 450 metres west of Highway 3 and 17.5 kilometres south-southwest of Princeton (Assessment Report 6635, geology map).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Calcite Quartz
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 8 x 4 Metres STRIKE/DIP:
COMMENTS: Mineralized andesite is exposed in a trench over an 8 by 4 metre area.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Porphyritic Andesite
Altered Andesite

HOSTROCK COMMENTS: The showing occurs in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: This occurrence is in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Norma showing is situated about 0.4 kilometre west of Highway 3 and 17.5 kilometres south of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These volcanics are faulted against the Early Jurassic Copper Mountain stock (Copper Mountain Intrusions) to the east and overlain by Eocene Princeton Group volcanics to the west in the immediate vicinity of the showing.

Five trenches, occurring over a north-south distance of 400 metres, expose mostly dark grey to black, variably sheared augite porphyritic andesite. The strongest shearing strikes 030 degrees and dips 65 degrees northwest. This rock is cut by calcite and quartz stringers and veins up to 15 centimetres wide. Pyrite occurs locally as stringers and as disseminations in quartz veins. The andesite is altered to a very fine-grained, apple green to light grey rock in one of the trenches over an 8 by 4 metre area (trench 3). This silicified material contains disseminated pyrite and pyrrhotite, with minor chalcopyrite.

The showing was explored by various operators between 1967 and 1977, including most recently Gilford Resources Ltd. This work involved various geophysical, geochemical and geological surveys, 630 metres of trenching and 651 metres of diamond drilling in 6 holes.

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EMPR ASS RPT *6635
EMPR BULL 59
EMPR GEM 1970-385,386; 1971-271

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
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EMPR PF (Gilford Resources Ltd. (1977): Prospectus, Vancouver Stock
Exchange (see 092HSE080))
EMR MP CORPFILE (Copper Mountain Consolidated Ltd.)
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp.
633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #206, 1977

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE144**

NATIONAL MINERAL INVENTORY:

NAME(S): **HEDLEY TAILINGS**, CANDORADO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Open Pit

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 48 N
LONGITUDE: 120 04 33 W
ELEVATION: 503 Metres

NORTHING: 5470107
EASTING: 712379

LOCATION ACCURACY: Within 500M

COMMENTS: Lower tailings pile (pile 4), along the Similkameen River just south of Highway 3, 1 kilometre south of Hedley (Assessment Report 15714).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Sulphide Pyrite

COMMENTS: Tailings.

ALTERATION: Sulphide Pyrite

ALTERATION TYPE: Oxidation Leaching

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Unknown

TYPE: T01 Tailings

SHAPE: Regular

COMMENTS: Tailings piles.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Hedley

IGNEOUS/METAMORPHIC/OTHER

Hedley Intrusions

LITHOLOGY: Tailings

HOSTROCK COMMENTS: Tailings from the Nickel Plate mine (092HSE038).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: PILE 3

REPORT ON: Y

CATEGORY: Probable
QUANTITY: 555145 Tonnes

YEAR: 1992

COMMODITY: Gold GRADE: 1.2060 Grams per tonne

COMMENTS: Indicated reserves. Pile 3 is in the permitting stage for production.

REFERENCE: Candorado Mines Ltd., personal communication, 1992.

CAPSULE GEOLOGY

Gold-bearing skarn in the Hedley camp is hosted in Upper Triassic Nicola Group rocks and is genetically related to the Early Jurassic Hedley Intrusions, a suite of subalkalic, calcalkaline dioritic intrusions. A series of facies changes recognized within the Nicola succession is related to deposition across a fracture-controlled basin margin; it is economically important as the gold mineralization in the Hedley district is lithologically, stratigraphically and structurally controlled. See Nickel Plate (092HSE038) for detailed regional and property geology.

The Candorado occurrence consists of two mill tailings piles from the historic Nickel Plate mine (092HSE038). The "old" (pile 3) and "new" (pile 4) tailings piles are located within Lot 2900 at the old Nickel Plate mill site along the Similkameen River. Pile 3 contains indicated reserves of 555,145 tonnes grading 1.206 grams per tonne gold, and pile 4 contains indicated reserves of 969,690 tonnes grading 1.522 grams per tonne gold. The tailings also contain lesser quantities of silver. A total of 1,524,835 tonnes of tailings grading 1.405 grams per tonne is available for processing (Assessment Report 15714). Pile 4 has now been mined out; Pile 3 is in the permitting stage for production (Candorado Mines Ltd., 1992, personal communication).

CAPSULE GEOLOGY

The tailings are comprised of oxidized and leached sulphidic sludge and slime. A potentially feasible means of processing the material appears to be in heap leaching pelletized tailings. Preliminary metallurgical tests of the tailings (cyanide agitation and agglomeration and short column leach tests) were performed (Assessment Report 15714).

In 1988 test production began; approximately 45,355 tonnes of agglomerated material were placed on leach pads (George Cross News Letter #179, 1988). Over 368,282 tonnes of tailings were mined, agglomerated and stacked on the leach pad in 1990. These tailings contain an average of 0.803 gram per tonne gold (George Cross News Letter #225, 1990).

Measured geological (proven) reserves at Candorado are 890,000 tonnes grading 1.37 grams per tonne gold (Open File 1992-1).

Candorado Operating Company Limited operated the Mascot Gold tailings project at a designed rate of 36,000 tonnes per month. The project closed later in the fall of 1995 (Information Circular 1995-9, page 10).

BIBLIOGRAPHY

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EMPR ENG INSP Annual Report 1989
EMPR GEM 1974-119
EMPR MAP 65 (1989)
EMPR MINING 1988
EMPR OF 1987-10; 1988-6; 1992-1; 1994-1
EMPR P 1989-3
EMPR PF (*Ash, W. (1986): Report of the Hedley Tailings Project;
see Nickel Plate (092HSE038) for detailed bibliography)
GSC BULL 172
GSC MAP 568A; 888A; 889A; 41-1989
GSC MEM 2; 243
GCNL #179, 1988; #6(Jan.10), 1989; #225(Nov.21), 1990
V STOCKWATCH July 17, 1989
WWW http://www.infomine.com/index/properties/HEDLEY_TAILINGS.html

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/02

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE145**

NATIONAL MINERAL INVENTORY:

NAME(S): **PUNCH BOWL WEST**, PUNCH BOWL FAULT, KCM,
 KCM WEST

MINING DIVISION: Similkameen

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H07W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 51 N
 LONGITUDE: 120 59 13 W
 ELEVATION: 1951 Metres

NORTHING: 5460625
 EASTING: 646406

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the surface trace of a mineralized fault, 460 metres west
 of Punch Bowl Lake and 40 kilometres southwest of Princeton
 (Assessment Report 16279, geology map).

COMMODITIES: Silver Zinc Lead Gold Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Sphalerite Chalcopyrite Galena
 ASSOCIATED: Quartz Ankerite Siderite
 ALTERATION: Silica Mariposite
 ALTERATION TYPE: Silicific'n
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
 CLASSIFICATION: Epithermal Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I02 Intrusion-related Au pyrrhotite veins
 DIMENSION: 200 x 1 Metres STRIKE/DIP: /65W TREND/PLUNGE:
 COMMENTS: Quartz-ankerite vein.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Ladner	Dewdney Creek	

LITHOLOGY: Sandstone
 Diorite
 Siltstone
 Tuffaceous Argillite
 Lapilli Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
 TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1987
 SAMPLE TYPE: Chip
 COMMODITY GRADE
 Silver 28.0000 Grams per tonne
 Gold 0.1800 Grams per tonne
 Zinc 0.1120 Per cent
 COMMENTS: Chip sample taken across 3 metres of sheared sandstone.
 REFERENCE: Property File - D.G. Cardinal, 1987, pages 12, 13.

ORE ZONE: VEIN REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1987
 SAMPLE TYPE: Chip
 COMMODITY GRADE
 Silver 100.0000 Grams per tonne
 Gold 0.1900 Grams per tonne
 Copper 0.0118 Per cent
 Lead 0.1700 Per cent
 Zinc 0.0600 Per cent
 COMMENTS: Silver grade is greater than 100 grams per tonne.
 Chip sample taken over a width of 0.40 metre.
 REFERENCE: Assessment Report 16279, page 6.

CAPSULE GEOLOGY

The Punch Bowl West showing is situated on a north-trending

CAPSULE GEOLOGY

ridge, about 500 metres west of Punch Bowl Lake and 40 kilometres southwest of Princeton.

The ridge is comprised of a thick section of sandstone, with lesser siltstone, tuffaceous argillite and lapilli tuff of the Early to Middle Jurassic Dewdney Creek Formation (Ladner Group). The beds strike north and dip 60 to 70 degrees west.

A west-striking shear zone is exposed in a gully that cuts into the east flank of the ridge, southwest of the lake. Sandstone, siltstone and argillite horizons are intermittently altered and mineralized with disseminated sulphides over a vertical distance of up to 60 metres. The beds are partly altered and replaced with silica, mariposite and siderite, suggesting an epithermal origin (Assessment Report 15146). Mineralization consists of abundant arsenopyrite, with minor sphalerite, pyrite, galena and chalcopyrite. Six grab samples assayed 0.080 to 0.300 gram per tonne gold and 0.8 to 6.0 grams per tonne silver (Assessment Report 14693, page 8). A 3.0-metre chip sample taken across sheared sandstone returned 0.112 per cent zinc, greater than 0.100 per cent arsenic, 28.0 grams per tonne silver and 0.180 gram per tonne gold (Property File - D.G. Cardinal, 1987, pages 12, 13).

A second showing occurs 250 metres northwest, near the crest of the ridge, 460 metres west of Punch Bowl Lake. Here, a section of sandstone of the Dewdney Creek Formation is faulted against a plug of medium to coarse-grained diorite. The fault strikes northwest and dips 65 degrees southwest. It is likely a splay off the previously described west-striking shear.

The fault contains a quartz-ankerite vein, 0.30 metre wide, that has been traced along strike for 200 metres. The vein contains irregular blebs, streaks and disseminations of pyrite, chalcopyrite, galena, sphalerite and arsenopyrite. A chip sample, 0.4 metre long, taken across the vein, contained 0.190 gram per tonne gold, greater than 100 grams per tonne silver, 0.0118 per cent copper, 0.17 per cent lead and 0.06 per cent zinc (Assessment Report 16279, page 6). A second sample analysed 0.624 gram per tonne gold, 0.406 gram per tonne silver, 0.044 per cent copper, 0.097 per cent lead, 0.36 per cent zinc and 0.013 per cent arsenic (Geological Fieldwork 1991, page 61, sample RS90C-10E).

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- EMPR ASS RPT 14693, *15146, 15212, *16279
- EMPR EXPL 1986-C204-C205
- EMPR FIELDWORK *1991, pp. 57-61
- EMPR PF (*Cardinal, D.G. (1987): Preliminary Geological Evaluation Report on the Punch Bowl Claim Group, in Locke Rich Minerals Ltd. (1988): Prospectus, Vancouver Stock Exchange)
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 243
- GSC P 85-1A, pp. 349-358; 86-1B, pp. 749-756
- CJES Vol. 23, pp. 1022-1041 (1986)

DATE CODED: 1992/01/24
DATE REVISED: 1992/01/24

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE146**

NATIONAL MINERAL INVENTORY:

NAME(S): **VERMILION BLUFFS**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 41 N
LONGITUDE: 120 33 29 W
ELEVATION: 732 Metres

NORTHING: 5479762
EASTING: 677006

LOCATION ACCURACY: Within 500M

COMMENTS: Agate showing No. 2 on the northeast side of the Tulameen River, 3 kilometres west-southwest of Princeton (Bulletin of the Lapidary Rock and Mineral Society of British Columbia, May 1959, sketch map of Princeton area).

COMMODITIES: Agate Gemstones

MINERALS

SIGNIFICANT: Agate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Undefined Formation	

LITHOLOGY: Andesite
Basalt
Agate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel
PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Agate is hosted in andesite and basalt of the Eocene Princeton Group, on both banks of the Tulameen River, 3 kilometres west-southwest of Princeton. The agate is sometimes bluish in colour. Farther west, on the northeast side of the river, agate occurs in seams with white plume.

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GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 72-53, pp. 18-20; 85-1A, pp. 349-358
Bulletin of the Lapidary Rock and Mineral Society of B.C., *May, 1959
Western Homes and Living, Oct., 1961

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE147**

NATIONAL MINERAL INVENTORY:

NAME(S): **AGATE BLUFFS**, AGATE MOUNTAIN, WILBERT HILLS

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 09 N
LONGITUDE: 120 25 01 W
ELEVATION: 1189 Metres

NORTHING: 5473557
EASTING: 687458

LOCATION ACCURACY: Within 500M

COMMENTS: Talus slope on the northwest corner of Agate Mountain (Wilbert Hills), just below a forestry look-out station, 10.5 kilometres southeast of Princeton (Property File - J.W. McCammon, 1953).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Undefined Formation	

LITHOLOGY: Basalt
Andesite
Agate
Talus
Breccia
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Agate Bluffs showing is situated on the northwest corner of Agate Mountain (Wilbert Hills), 10.5 kilometres southeast of Princeton.

Agate Mountain is comprised of a resistant capping of Eocene Princeton Group volcanics, resting on volcanics of the Upper Triassic Nicola Group and granodiorite of the Early Jurassic Bromley batholith. The Princeton Group rocks consist mostly of basalt and andesite with minor breccia and tuff.

Agate is found in pieces, several centimetres to 0.6 metre in diameter, scattered through talus just below the forestry look-out station, between elevations of 1040 and 1340 metres.

The agate is yellow to brown and green in colour, and translucent to opaque. Most of it is not well banded, but some of it resembles agatized wood. The stone is frequently badly fractured and thus not suitable for cutting and polishing, although some of the larger chunks would yield suitable lapidary material.

BIBLIOGRAPHY

EMPR IND MINFILE (*McCammon, J.W. (1953): Agate at Agate Bluffs, Princeton)
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 72-53, pp. 18-20; 85-1A, pp. 349-358
Bulletin of the Lapidary Rock and Mineral Society of B.C., Aug. 1958, May 1959
Western Homes and Living, Oct., 1961

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/20

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE148**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASHNOLA VALLEY RHODONITE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H01E
BC MAP:

MINING DIVISION: Osoyoos
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 08 00 N
LONGITUDE: 120 03 04 W
ELEVATION: 150 Metres

NORTHING: 5446466
EASTING: 715099

LOCATION ACCURACY: Within 1 KM

COMMENTS: Rhodonite showing in the Ashnola River Valley near the confluence with Ewart Creek, about 26 kilometres south of Hedley (Geological Survey of Canada Paper 72-53, page 58).

COMMODITIES: Rhodonite Gemstones

MINERALS

SIGNIFICANT: Rhodonite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Industrial Min.
TYPE: Q02 Rhodonite

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Apex Mountain	Undefined Formation	

LITHOLOGY: Meta Sediment/Sedimentary
Meta Volcanic

HOSTROCK COMMENTS: The Apex Mountain Complex is Ordovician to Triassic in age (Geological Survey of Canada Paper 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Okanagan
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

Rhodonite is reported to occur as float and in place in the Ashnola River Valley near the confluence with Ewart Creek, about 26 kilometres south of Hedley. The location of this showing is uncertain.

Several rhodonite deposits (Soft, 092HSE187 and Pinky, 082ESW208), occur farther down the valley, hosted in the Ordovician to Triassic Apex Mountain Complex (formerly the Independence, Bradshaw, Old Tom and Shoemaker formations). A 500-metre wide band of metasediments and volcanics of this unit extends west-southwest across Ewart Creek, within 500 metres of the Ashnola River. This band is likely the source of the rhodonite.

BIBLIOGRAPHY

GSC MAP 888A; 41-1989
GSC MEM 243
GSC P 72-53, p. 58

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE149**

NATIONAL MINERAL INVENTORY:

NAME(S): **LEDLEY LIMESTONE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:
LATITUDE: 49 21 14 N
LONGITUDE: 120 04 07 W
ELEVATION: 732 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Quarry on the west face of Nickel Plate Mountain (CANMET Report 811, page 192).

Open Pit

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

NORTHING: 5470931
EASTING: 712872

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica
MINERALIZATION AGE: Upper Triassic
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Conodonts

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
DIMENSION: 9
COMMENTS: Limestone dips west.

Stratabound
Syngenetic

Massive
Industrial Min.

Metres

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	
Lower Jurassic			Hedley Intrusions
Middle Jurassic			Cahill Creek Pluton

LITHOLOGY: Limestone
Siltstone
Argillite
Granodiorite
Chert
Dioritic Sill
Siliceous Limestone

HOSTROCK COMMENTS: Hedley Formation is approximately 225 million years old (Geological Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: QUARRY

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY

YEAR: 1944

Limestone
COMMODITY GRADE
52.4300 Per cent
COMMENTS: Sample taken across a limestone bed over a thickness of 9 metres.
Grade given for calcium oxide.

REFERENCE: CANMET Report 811, page 202, sample 58.

CAPSULE GEOLOGY

The 45 to 60-metre thick Sunnyside limestone of the Upper Triassic Hedley Formation (Nicola Group) outcrops in an arcuate manner on the west, south and east slopes of Nickel Plate Mountain, just east of Hedley. This unit is enclosed within a westward dipping sequence of argillites, siltstone and impure limestones intruded by dioritic sills of the Early Jurassic Hedley Intrusions and to the south by granodiorite of the Middle Jurassic Cahill pluton.

The Sunnyside limestone member is composed mostly of thin to thick-bedded, light bluish grey, medium-grained limestone that is frequently siliceous and contaminated by chert. A quarry on the west face of Nickel Plate Mountain, just above the granodiorite contact,

CAPSULE GEOLOGY

exposes a 9-metre thick bed of purer limestone underlain by impure limestone containing numerous sills and overlain by siliceous limestone with chert nodules. A chip sample of the purer bed contained 52.43 per cent CaO, 1.37 per cent MgO, 2.00 per cent SiO₂, 0.29 per cent Al₂O₃, 0.29 per cent Fe₂O₃ and 0.01 per cent sulphur over a thickness of 9 metres (Canada Bureau of Mines Report 811, page 202, Sample 58).

Between 1926 and 1937, limestone was quarried 150 metres up the west face of Nickel Plate Mountain to supply lime for the mill at the Nickel Plate gold mine (092HSE038). Approximately 2385 tonnes of limestone were quarried during this time.

BIBLIOGRAPHY

EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80, 275-277
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 2A; 568A; 888A; 889A; 41-1989
GSC MEM 243, p. 13
GSC OF 2167, pp. 59-80
GSC P 85-1A, pp. 349-358
CANMET RPT *811, Part 5, pp. 192,193,202

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE150**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHIPSAW CREEK SHALE**

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H07E
 BC MAP:
 LATITUDE: 49 22 49 N
 LONGITUDE: 120 33 48 W
 ELEVATION: 850 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Centre of shale outcrop along Highway 3, 1.4 kilometres north of Whipsaw Creek and 9.5 kilometres southwest of Princeton (Open File 1987-19).

MINING DIVISION: Similkameen
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5472586
 EASTING: 676855

COMMODITIES: Shale

MINERALS

SIGNIFICANT: Chlorite Illite Quartz
 ASSOCIATED: Mica Feldspar
 MINERALIZATION AGE: Eocene
 ISOTOPIC AGE: DATING METHOD: Fossil MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Massive Stratiform Stratabound
 CLASSIFICATION: Sedimentary Industrial Min.
 TYPE: B06 Fireclay R01 Cement shale
 E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
	ISOTOPIC AGE: 49.2 +/- 2 Ma		
	DATING METHOD: Potassium/Argon		
	MATERIAL DATED: Biotite		

LITHOLOGY: Shale
 Sandstone

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel Overlap Assemblage
 PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Whipsaw Creek Shale showing outcrops intermittently along Highway 3, 0.7 to 2.6 kilometres north of Whipsaw Creek and 8 to 10 kilometres southwest of Princeton.
 The showing is hosted in the Eocene Allenby Formation (Princeton Group), within a unit of grey to brown, locally carbonaceous shale, with minor thin sandstone beds, known informally as the Vermillion Bluff shale (Open File 1987-19).
 Analyses by x-ray diffraction of fine fractions indicate abundant chlorite, minor illite and quartz and trace feldspar, while a similar analysis of coarse fractions (silt and coarser particles) indicate the presence of chlorite, mica, quartz and feldspar (CANMET Technical Bulletin 54, pages 63, 64). Firing characteristics are as follows (CANMET Technical Bulletin 54, page 59):

Shrinkage (per cent)	Absorption	Colour	Hardness (per cent)	Cone
0.8	18.4	Light brown	Fairly soft	04
1.8	18.4	Light brown	Fairly soft	03
4.3	12.2	Brown	Fairly hard	01
4.5	7.7	Brown	Hard	02

The firing range for this material is short. The shale may be used in the manufacture of common brick, tile and facebrick.

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EMPR BULL *30, p. 59
 EMPR FIELDWORK 1986, pp. 247-254
 EMPR OF 1987-19
 EMPR P 1983-3

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 984
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CANMET TECHNICAL BULLETIN *54, pp. 59,63,64 (1964)
Placer Dome File
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1992/02/06

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

on Bromley Creek to the southwest.

A railway cut exposes a bentonite seam, 4.3 metres thick, overlain and underlain by 0.3-metre thick seams of lignite. The bentonite seam is comprised of the following: a bed of yellow clay 0.9 to 1.2 metres thick, overlain by a thin seam of lignite, followed by 2.1 to 2.4 metres of yellow-green clay. The section is capped by 0.9 metre of brownish clay. The beds strike 089 degrees and dip 20 degrees south. The bentonite outcrops at a slightly higher elevation about 460 metres to the east, along the south wall of the railway cut. Diamond drilling to the southeast, on Lot 2049, encountered bentonite seam thicknesses of between 3 and 3.4 metres. A sample of bentonite analyzed as follows (in per cent) (CANMET Report 626, page 14):

SiO ₂	68.60
Al ₂ O ₃	12.10
Fe ₂ O ₃	2.00
FeO	0.32
CaO	1.84
MgO	1.84
TiO ₂	0.14
H ₃ PO ₄	0.17
Na ₂ O	0.50
K ₂ O	0.23
S	nil
H ₂ SO ₄	0.61
CO ₂	0.17
C	0.08
H ₂ O (105 C)	7.71
H ₂ O (>105 C)	3.24

A 1.1-metre thick coal seam (Gem seam) occurs near the west end of the bentonite outcrops. The coal is exposed in the mine, below the railway grade, and along the railway cut above. It appears to underlie the thick bentonite section exposed to the east. The seam dips 15 degrees southwest and contains 0.86 metre of clean coal. Underground workings have followed the seam downdip for 60 metres and along strike for 180 metres. The coal is overlain by sandstone and underlain by carbonaceous shale and bentonite.

The underlying bentonite bed is 1.5 metres thick and comprised of calcium-rich montmorillonite. The bed strikes 126 degrees, dips 6 degrees south, and is underlain by pebble conglomerate. Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on a sample from a freshly exposed river cut are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
C86-345C	4.1	36.7	12.4	6.2	40.6

Princeton-B.C. Colliery Company Ltd. and various other operators mined 771 tonnes of bentonite between 1926 to 1944 (Bulletin 30, page 34). Seven holes totalling 466 metres were drilled for bentonite in 1952 by Princeton Properties Ltd.

The Gem coal seam was first developed in 1921 by the Princeton Coal and Land Company Ltd., operator of the nearby Princeton Colliery (092HSE089) to the northeast. The company produced a small amount of coal in 1922. The mine was reopened and operated briefly during 1929 by Gem Domestic Coal Company Ltd. and the company produced 547 tonnes of coal.

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 987
REPORT: RGEN0100

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of Alberta

DATE CODED: 1985/07/24
DATE REVISED: 1992/02/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE152**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER MOUNTAIN PEGMATITE** SIMILKAMEEN FELDSPAR

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 18 40 N
LONGITUDE: 120 33 08 W
ELEVATION: 945 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5464924
EASTING: 677911

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate area of sampling on the west side of the Similkameen River, 16.5 kilometres south of Princeton (Geological Fieldwork 1988).

COMMODITIES: Feldspar

MINERALS

SIGNIFICANT: K-Feldspar Albite
ASSOCIATED: Calcite Muscovite
COMMENTS: Iron oxides.

MINERALIZATION AGE: Jurassic
ISOTOPIC AGE: 193 +/- 7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Monzonite

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Pegmatite Industrial Min.
TYPE: O04 Feldspar-quartz pegmatite

SHAPE: Regular
DIMENSION: 2000 x 1200 Metres
COMMENTS: A body of pegmatite occurs over a 1.2 by 2 kilometre area in the core of the Copper Mountain stock. Isotopic age date is from Bulletin 59, page 43.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Pegmatite

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Contact

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE:

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Copper Mountain pegmatite showing is located on the Similkameen River, 16 to 17.5 kilometres south of Princeton. Coarse-grained pegmatite occurs in an oval-shaped intrusive body measuring 1200 by 2000 metres, on both sides of the Similkameen River. This body comprises the core of the Early Jurassic Copper Mountain stock (Copper Mountain Intrusions).

Ten grab samples selected from fresh-looking, coarse-grained (greater than 5 millimetres), orange to white perthosite pegmatite, collected from outcrops west of the Similkameen River, were analyzed with the following results:

Major Oxides	Range (Weight Per Cent)
SiO2	61.70 - 64.70
Al2O3	19.35 - 20.98
Fe2O3	0.21 - 1.19
CaO	0.18 - 1.93
Na2O	4.54 - 8.49
K2O	2.80 - 9.94

These results indicate the rock is potentially suitable as a source of feldspar and on this basis a 20-kilogram sample was sent to CANMET for beneficiation to further assess its potential. Results are summarized below:

CAPSULE GEOLOGY

Magnetic Separation Mesh	Weight Per Cent
-10 + 100 (magnetic)	2.0
-10 + 100 (nonmagnetic)	86.1
-100	11.9

The nonmagnetic fraction comprised 86 per cent of the sample, with a product size acceptable to industry. Consequently, a floatation test to reduce mica-iron levels followed with the following results:

Flotation Test Product	Weight Per Cent
Slimes	13.9
Mica-iron concentrate	0.4
Feldspar concentrate	18.2
Tailings	67.5

Approximately 80 per cent of the sample reported as slimes or tailings and only 18 per cent was recovered in the feldspar concentrate. The feldspar concentrate was passed over the magnetic separator and was then analyzed with the following results:

Major Oxides	Feldspar Concentrate Weight Per Cent	Nonmagnetic Concentrate Weight Per Cent
SiO ₂	61.70	61.40
Al ₂ O ₃	18.60	18.80
Fe ₂ O ₃	0.31	0.34
CaO	0.52	0.50
Na ₂ O	6.71	6.84
K ₂ O	6.14	5.99

Although the original samples are high in alumina (up to 20.98 per cent), beneficiation tests could not reduce the iron content below 0.31 per cent with liberation less than 100 mesh.

Coarse-grained (up to 3 millimetres) albite and potassium feldspar appears quite altered in thin section. Albite grains and iron oxides are much finer grained than the feldspars but do not appear to be intergrown. Accessory minerals include calcite and muscovite.

Chemical analyses of grab samples collected from the core of the Copper Mountain stock indicate the rock is potentially a source of feldspathic material suitable to glass and ceramic manufacturers. However, beneficiation tests indicate a low recovery rate of non-magnetic feldspar concentrate and an unacceptably high iron content in the final product. It is concluded that the stock has poor potential for the production of feldspathic materials meeting industry requirements.

Daren Resources acquired the property in 1995.

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DATE CODED: 1985/07/24
 DATE REVISED: 1989/04/03

CODED BY: GSB
 REVISED BY: GWW

FIELD CHECK: N
 FIELD CHECK: Y

MINFILE NUMBER: **092HSE153**

NATIONAL MINERAL INVENTORY:

NAME(S): IT, NO. 1 BRECCIA, CU,
LUCKY BILL, BRECCIA 2

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H01W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 05 15 N
LONGITUDE: 120 20 48 W
ELEVATION: 1981 Metres

NORTHING: 5440574
EASTING: 693722

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of unit 7A on south side of a road, 1.8 kilometres west of the Ashnola River, 3 kilometres southwest of McBride Creek and 36 kilometres southwest of Hedley (Assessment Report 17716, Figure 14).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide
ALTERATION: Limonite Clay Silica
ALTERATION TYPE: Oxidation Argillic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Pipe
CLASSIFICATION: Diatreme Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 370 x 150 Metres STRIKE/DIP: TREND/PLUNGE: 360/
COMMENTS: Diatreme breccias in a 150-metre wide fracture zone striking north for 370 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Undefined Formation	

LITHOLOGY: Intrusive Breccia
Feldspar Amphibole Porphyritic Andesite
Quartz Feldspar Porphyritic Rhyolite

HOSTROCK COMMENTS: Rhyolite and andesite mapped as subvolcanic equivalents of the Middle to Upper Cretaceous Spences Bridge Group (GSC Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: BRECCIA REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1972
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.3900 Per cent
COMMENTS: A sample from the south end of a breccia zone.
REFERENCE: Assessment Report 4377, Map 2.

CAPSULE GEOLOGY

The IT showing is located on the west side of the Ashnola River Valley, about 3 kilometres southwest of McBride Creek and 36 kilometres southwest of Hedley.

The area lying west of the Ashnola River, in the vicinity of McBride Creek is underlain by Middle to Late Cretaceous felsic intrusions that may be subvolcanic equivalents of the Spences Bridge Group.

Outcrops in the immediate vicinity of the showing consist of dark grey feldspar amphibole porphyritic andesite, which is underlain by quartz-feldspar-mica porphyritic rhyolite. The units are cut by a diatreme or intrusive breccia containing fragments of rhyolite and andesite. The diatreme consists of a series of subsidiary pipe-like breccia zones up to 50 metres long and 25 metres wide within a 150-metre wide zone of fracturing that strikes north for 370 metres.

This breccia is one of three diatremes occurring along a broad northeasterly oriented arc. The two others are situated 2.2 kilometres northeast (CU, 092HSE189) and 1.3 kilometres west-

CAPSULE GEOLOGY

southwest of this deposit.

The diatreme is argillic altered and weakly silicified. The surrounding andesite is fractured, silicified and strongly clay altered. The limonitic and porous nature of the breccias indicates extensive oxidation and leaching of sulphides. A rock sample taken near the south end of the deposit analysed 0.39 per cent copper (Assessment Report 4377, Map 2).

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GSC MEM 243

DATE CODED: 1985/07/24
DATE REVISED: 1991/11/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE154**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRADSHAW**, HEDLEY STAR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 27 N
LONGITUDE: 120 01 08 W
ELEVATION: 823 Metres

NORTHING: 5464063
EASTING: 716759

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 3761E on the north-trending ridge separating the Similkameen River from Bradshaw Creek, 1 kilometre east of the river and 8.5 kilometres southeast of Hedley (Assessment Report 14522, Map 7).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Igneous-contact
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u> Paleozoic-Mesozoic Middle Jurassic	<u>GROUP</u> Apex Mountain	<u>FORMATION</u> Undefined Formation	<u>IGNEOUS/METAMORPHIC/OTHER</u> Cahill Creek Pluton
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ISOTOPIC AGE: 168 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Cherty Argillite
Andesitic Ash Tuff
Granodiorite Dike

HOSTROCK COMMENTS: Cahill Creek date from Fieldwork 1989, page 274; Apex Mountain Complex is Ordovician to Triassic (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 13.8000 Grams per tonne
Gold 2.0600 Grams per tonne
Copper 1.0000 Per cent

COMMENTS: A sample of chert and quartz near a granodiorite dyke.
REFERENCE: Assessment Report 14522, page 7, sample 3761E.

CAPSULE GEOLOGY

The area is underlain by rocks of the Ordovician to Triassic Apex Mountain Complex. They are represented by a highly deformed package of cherts, argillites, tuffaceous siltstones, greenstones and minor limestones that were originally subdivided into the Independence, Bradshaw, Old Tom and Shoemaker formations. The Apex Mountain Complex rocks are intruded by granodiorite and granite of the Middle Jurassic Cahill Creek pluton. Locally, the rocks are comprised mainly of cherty argillite and andesitic ash tuff, which are intruded by granodiorite dykes. A siliceous sample of chert and quartz, taken close to one of these dykes, analysed 2.06 grams per tonne gold, 13.8 grams per tonne silver, greater than 1 per cent copper and greater than 1 per cent arsenic (Assessment Report 14522, page 7, sample 3761E).

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DATE CODED: 1986/02/03
DATE REVISED: 1988/03/18

CODED BY: AFW
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE155**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAHILL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 02 N
LONGITUDE: 120 00 45 W
ELEVATION: 1521 Metres

NORTHING: 5472572
EASTING: 716887

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site R83503, on east bank of Sunset Creek, 5 kilometres northeast of the Similkameen River and 4.5 kilometres east-northeast of Hedley (Assessment Report 14969, geology map).

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Arsenopyrite Chalcopyrite Sphalerite
ASSOCIATED: Quartz Carbonate
ALTERATION: Garnet Diopside Wollastonite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Massive Disseminated
CLASSIFICATION: Hydrothermal Skarn Epigenetic
TYPE: K04 Au skarn
COMMENTS: Mineralization is hosted in a number of north-striking, steeply-dipping shear zones distributed over an east-west distance of 500 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Andesitic Crystal Lithic Tuff
Siliceous Ash Tuff
Clastic Sediment/Sedimentary
Skarn
Diorite Sill
Diorite Dike
Gabbro Dike
Porphyritic Diorite Sill

HOSTROCK COMMENTS: Hedley Intrusions age date from Geological Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 3.5700 Grams per tonne
COMMENTS: Average grade over 2.7 metres.

REFERENCE: Property File - M.R. Sanford, 1987, p.22 (hole BM 86-1, 15.6-18.3 m.).

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Rock
COMMODITY: Silver GRADE: 15.4000 Grams per tonne
Copper GRADE: 0.4088 Per cent

COMMENTS: Sample of a shear zone in green tuff mineralized with massive to disseminated pyrite, pyrrhotite and chalcopyrite.

REFERENCE: Assessment Report 14969, sample R83523.

CAPSULE GEOLOGY

The Cahill prospect occurs between Cahill and Sunset creeks, 4.5 to 5 kilometres east-northeast of Hedley.

The area between Cahill Creek and its south-flowing tributary, Sunset Creek, is underlain by massive andesitic crystal lithic ash tuff and siliceous ash tuff of the Upper Triassic Whistle Creek Formation (Nicola Group). These rocks are intruded by diorite and gabbro dykes and sills of the Early Jurassic Hedley Intrusions.

Up to a dozen shear zones striking 345 to 010 degrees and dipping 70 to 90 degrees are exposed in various old trenches and adits over an east-west distance of about 500 metres, between the two creeks, jut northeast of their confluence. The zones are up to 1 metre wide and cut fine-grained, well-bedded, ash tuff and crystal lithic tuff, sometimes near or adjacent to diorite and gabbro dykes.

The zones contain massive to disseminated pyrrhotite, pyrite and chalcopyrite, sometimes in a quartz-carbonate gangue. Sphalerite is also evident in one of the shear zones. A sample from a shear zone containing massive to disseminated pyrite, pyrrhotite and chalcopyrite in green tuff contained 0.115 gram per tonne gold, 15.4 grams per tonne silver and 0.409 per cent copper (Assessment Report 14969, sample R83523).

Diamond drilling encountered hornfelsed and variably skarn-altered lithic tuffs and clastic sediments intruded by sills and dykes of porphyritic diorite. In a few instances, the original host units are totally replaced by a garnet-diopside-wollastonite skarn. These rocks are mineralized with pyrrhotite, pyrite, arsenopyrite and minor chalcopyrite. The zones of intense skarn alteration tend to be free of sulphides. One section of drill core assayed 3.57 grams per tonne gold over 2.7 metres (15.6-18.3 metres), and a second section assayed 8.50 grams per tonne gold over 0.91 metre (40.2-41.1 metres) (Property File - M.R. Sanford, 1987, page 22, hole BM86-1). The gold appears to be associated with arsenopyrite.

The property was extensively explored by Consolidated Sea Gold Corporation in 1986. The company completed geological, geophysical and soil surveys, trenching, sampling and 1259 metres of diamond drilling in 9 holes.

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GSC MAP 568A; 888A; 41-1989
GSC MEM 2; 243
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/20
DATE REVISED: 1991/11/21

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE156**

NATIONAL MINERAL INVENTORY:

NAME(S): **HEDLEY NORTH**, CAHILL SKARN, NORTH CORRALL,
SOUTH CORRALL

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

LATITUDE: 49 20 58 N
LONGITUDE: 120 02 16 W
ELEVATION: 1320 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5470524
EASTING: 715130

LOCATION ACCURACY: Within 500M

COMMENTS: Adit A, 750 metres north of Redtop Gulch, 1.8 kilometres northeast of Highway 3 and 3 kilometres east-southeast of Hedley (Assessment Report 16400, Figure 4).

COMMODITIES: Gold

Silver

Copper

Zinc

Lead

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite Arsenopyrite Galena
ALTERATION: Garnet Carbonate Epidote Clay Calcite
COMMENTS: Calcsilicate.
ALTERATION TYPE: Skarn Propylitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated
CLASSIFICATION: Hydrothermal Skarn Epigenetic
TYPE: K04 Au skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Hedley	
DATING METHOD: Fossil			
MATERIAL DATED: Conodont			
Middle Jurassic			Cahill Creek Pluton
ISOTOPIC AGE: 168 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			
Lower Jurassic			Hedley Intrusions
ISOTOPIC AGE: 199 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Argillite
Siltstone
Limestone
Chert
Breccia
Garnetite Skarn
Hornblende Porphyry Sill
Plagioclase Porphyritic Andesite Sill
Granodiorite
Conglomerate

HOSTROCK COMMENTS: Cahill Creek pluton date from Fieldwork 1989, page 274. Hedley Formation dated at 225 Ma (Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional
PLUTONIC BELT: Plutonic Rocks
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Syn-mineralization
Post-mineralization
GRADE:

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Chip
 COMMODITY

YEAR: 1987

COMMODITY	GRADE	
Silver	5.2000	Grams per tonne
Gold	0.1200	Grams per tonne
Copper	0.1856	Per cent

COMMENTS: Sample across a 0.60-metre wide zone of carbonate-clay-epidote alteration in South Corral trench.

REFERENCE: Assessment Report 16400, Figure 9, sample 473.

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Chip
 COMMODITY

YEAR: 1986

COMMODITY	GRADE	
Silver	2.5000	Grams per tonne
Gold	16.8500	Grams per tonne
Copper	0.0050	Per cent
Zinc	0.0111	Per cent

COMMENTS: Chip sample across 2 metres.

REFERENCE: Assessment Report 14879, assay certificate (sample HR 70).

CAPSULE GEOLOGY

The Hedley North prospect outcrops in the headwaters of Redtop Gulch, 2 kilometres northeast of Highway 3 and 3 to 3.5 kilometres east-southeast of Hedley.

The area north of Redtop Gulch is underlain mostly by siltstone, argillite, limestone and lesser chert and conglomerate of the Upper Triassic Hedley Formation (Nicola Group). The sediments are flanked to the southeast, in the immediate vicinity of the creek, by granodiorite of the Middle Jurassic Cahill Creek pluton. Early Jurassic Hedley Intrusions, occurring as hornblende porphyry sills, intrude the sediments.

An adit, 17 metres long, explores an outcrop of rusty-weathering breccia comprised of Hedley Formation plagioclase porphyritic andesite and lesser argillite fragments. The breccia contains a thin horizon of argillite-limestone-chert interbeds, which strikes north and dips moderately west. The breccia is mineralized with disseminated to fracture-controlled pyrrhotite. Four chip samples taken across the 2 metre width of the adit assayed 0.004 to 16.85 grams per tonne gold (Assessment Report 14879, page 14, samples HR 69 to 73). Sample HR 70 assayed 16.85 grams per tonne gold, 2.5 grams per tonne silver, 0.011 per cent zinc and 0.005 per cent copper (Assessment Report 14879, assay certificate). A possible continuation of this zone of mineralization occurs 350 metres to the south, where limestone is intruded by a plagioclase porphyritic andesite dyke or sill. A sample of the andesite, with trace to 1 per cent pyrrhotite, assayed 7.78 grams per tonne gold and 4.6 grams per tonne silver (Assessment Report 14879, assay certificate, sample HR 76).

Trenching north, east and southeast of the adit encountered Hedley Formation siltstone, argillite, chert and minor thin limestone beds. Bedding strikes northeast with varying dips ranging from 20 to 50 degrees northwest. Hornblende porphyry sills crosscut the stratigraphy and are exposed in most of the trenches. The sediments exhibit weak skarn alteration in the form of calcsilicate skarn and skarned chert, and contain pyrrhotite, pyrite, chalcopyrite, arsenopyrite and galena, with low gold values.

Low precious metal values with elevated base metal values were encountered in the Corral zone, 300 metres east of the adit. A sample from the North Corral trench, consisting of garnetite skarn, with garnets up to 4 millimetres across and hosting disseminations and blebs of pyrrhotite, chalcopyrite and galena in a calcite gangue, assayed trace gold, 1.9 grams per tonne silver, 0.093 per cent copper and 0.107 per cent zinc (Assessment Report 16400, Figure 8, sample 463). A sample taken across a 0.60-metre wide carbonate-clay-epidote alteration zone in the adjacent South Corral trench assayed 0.12 gram per tonne gold, 5.2 grams per tonne silver, 0.186 per cent copper and 36.17 per cent iron (Assessment Report 16400, Figure 9, sample 473).

An area of skarn alteration occurs in the Cahill zone, 500 metres southeast of the adit. A sample taken across 5 metres of light grey, fine-grained chert, with 1 to 5 per cent disseminated and patchy blebs of pyrrhotite, chalcopyrite and pyrite, assayed less than 0.005 gram per tonne gold, 1.1 grams per tonne silver and 0.008 per cent copper (Assessment Report 16400, Figure 10, sample 491).

The prospect was initially explored by Zurich Energy Corporation

CAPSULE GEOLOGY

in 1982. Avenue Resources completed an extensive program of geological, geochemical and geophysical surveys and 244 metres of trenching in 1987.

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CIM Trans Vol. 44, pp. 524-590 (1941); Vol. 48, pp. 27-68
CJES Vol. 9, pp. 1632-1639 (1972)
V STOCKWATCH June 9, 1987

DATE CODED: 1987/02/21
DATE REVISED: 1988/03/22

CODED BY: AFW
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 999
REPORT: RGEN0100

MINFILE NUMBER: **092HSE157**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASIN COAL**, COALMONT COLLIERY, BLAKEBURN STRIP MINE,
MULLIN'S STRIP MINE, MOUNT CARBON COLLIERY, TULAMEEN COAL,
COLUMBIA COAL, B.C. COAL, PACIFIC WEST

STATUS: Past Producer Open Pit Underground MINING DIVISION: Similkameen
REGIONS: British Columbia
NTS MAP: 092H07E 092H07W 092H10W UTM ZONE: 10 (NAD 83)
BC MAP:
LATITUDE: 49 29 21 N NORTHING: 5484260
LONGITUDE: 120 45 15 W EASTING: 662645
ELEVATION: 1250 Metres

LOCATION ACCURACY: Within 500M
COMMENTS: Portal of upper tunnel of Coalmont Collieries No. 4 mine, 350 metres northeast of Blakeburn Creek, 2.1 kilometres northwest of the confluence of this creek with Granite Creek, and 18 kilometres west-northwest of Princeton (Geological Survey of Canada Paper 52-19, Figure 2).

COMMODITIES: Coal Bentonite

MINERALS

SIGNIFICANT: Coal Montmorillonite
COMMENTS: Calcium-rich montmorillonite.
ASSOCIATED: Clay Quartz Kaolinite Siderite Orthoclase
ALTERATION: Montmorillonite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Eocene
ISOTOPIC AGE: DATING METHOD: Fossil MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel Hydrothermal Industrial Min.
TYPE: A04 Bituminous coal E06 Bentonite
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 5000 x 970 x 21 Metres STRIKE/DIP: 146/24E TREND/PLUNGE:
COMMENTS: Main seam is on the southwest limb of a syncline which preserves the Tulameen Basin.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.0 +/- 1.7 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Amphibole		

LITHOLOGY: Shale
Mudstone
Sandstone
Siltstone
Coal
Bentonite
Pebble Conglomerate
Andesitic Volcanic
Clay
Ash

HOSTROCK COMMENTS: Isotopic age date is for the Cedar dacite (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Overlap Assemblage
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: HVol Bituminous
COMMENTS: Rank is high-volatile bituminous B and C.

INVENTORY

ORE ZONE: TULAMEEN

REPORT ON: Y

CATEGORY: Measured YEAR: 1997
QUANTITY: 21000000 Tonnes
COMMODITY Coal GRADE 100.0000 Per cent

COMMENTS: Pacific West Coal Limited, 1997.
REFERENCE: Information Circular 1999-1, page 12.

ORE ZONE: PIT

REPORT ON: Y

CATEGORY: Measured YEAR: 1978
QUANTITY: 27890510 Tonnes
COMMODITY Coal GRADE 100.0000 Per cent

COMMENTS: Open pit reserves (measured) with strip ratios of between 2:1 and 3:1.
REFERENCE: Coal Assessment Report 200, page 22.

CAPSULE GEOLOGY

The various underground workings of the Coalmont Colliery occur along the northeast bank of Blakeburn Creek, 1 to 3.5 kilometres northwest of Granite Creek, and 16.5 to 18.5 kilometres west-northwest of Princeton. The colliery is comprised of five mines, identified from southeast to northwest as the Nos. 1, 2, 3, 4 and 5 mines.

Coalmont Colliery is situated along the southwestern margin of the Tulameen Basin, a structural basin comprised of a northwest-striking syncline that preserves a sequence of sedimentary rocks, with lesser intercalated volcanics, of the Eocene Allenby Formation (Princeton Group), up to 840 metres thick. The sequence rests unconformably on a basement of Upper Triassic Nicola Group metamorphosed volcanics and sediments. The syncline doubly plunges towards the centre of the basin. In the northwest, the fold is open with both limbs dipping approximately 45 degrees. In the southeast, the fold is asymmetric with the dips being approximately 45 degrees and 20 degrees on the northeast and southwest limbs, respectively. The basin is bounded by high-angle faults and is dissected by additional high-angle northwest to northeast striking faults.

The mines are hosted in a coal-bearing shale member approximately 130 to 200 metres thick, underlain by up to 120 metres of sandstone, siltstone and andesitic volcanics, and overlain by 580 to 700 metres of sandstone and pebble conglomerate with interbeds of shale, ash and coal in the lower sections. The member consists of up to 30 metres of coal interbedded with shale, bentonite (ash) and sandstone. The coal occurs in the lower 80 metres of the member in a zone of mostly dirty coal and shale with lesser clean coal, averaging 21 metres thick, and ranging up to 37 metres in thickness. At least three major seams of cleaner coal are present in this coal zone. The aggregate coal thickness of the zone decreases to the north.

The underground workings at Coalmont Colliery are developed mostly in the Main seam, the uppermost seam in the coal zone. It strikes 146 degrees over most of its length and dips 18 to 30 degrees northeast, generally flattening with depth. To the southeast, in the Nos. 1, 2 and 3 mines the seam strikes approximately 168 degrees. It has been traced downdip in the No. 4 mine, the deepest of the five mines, for 970 metres. The five mines followed the seam over a total strike length of 2700 metres. Trenching and drilling northwest of the No. 5 mine indicates the enclosing coal zone continues for another 2300 metres, giving a total strike length of 5000 metres. The deposit is displaced vertically 150 metres along a northeast striking fault that separates the Nos. 1, 2 and 3 mines from the No. 4 mine. A dyke is reported to follow this fault zone. A second fault, with a vertical displacement of 45 metres, separates the Nos. 4 and 5 mines.

The Main seam is 2.3 to 3.7 metres thick. In the Nos. 1, 2 and 3 mines, the seam is overlain by up to 0.3 metre of bentonite followed by 2.7 to 4.3 metres of dirty coal, and underlain by about 24 metres of interbedded dirty coal, clay and shale. To the northwest, in the No. 4 mine, it is overlain by up to 0.9 metre of bentonite.

A second seam of coal, separated from the overlying Main seam by 0.5 metre of intercalated sandstone and coal, was mined in a limited way in the No. 4 mine. The seam is 2.1 metres thick, but the amount of mineable coal it contained was restricted to one or two small areas.

A third seam, 2.3 to 2.4 metres thick, lies 14.5 metres below the floor of the Main seam.

Northwest of the underground mines, the upper part of the coal zone contains a section 15 to 21 metres thick, comprised of beds up

CAPSULE GEOLOGY

to 1 metre thick of clean to dirty coal and numerous thin rock partings. The section is in part equivalent to the cleaner coal mined in the underground workings. The rock partings consist of mudstone, coaly mudstone and bentonite. A seam of soft, light grey to cream-coloured bentonite up to 1 metre thick, occurs near the top of the coal interval, and is likely equivalent to the bentonite seam overlying the Main seam in the underground mines to the southeast. Dips over this portion of the coal zone range from 28 degrees in the south to 45 degrees to the north.

Open pit coal reserves (measured) are estimated at 7,418,280 tonnes, 9,240,230 tonnes and 11,232,000 tonnes, with strip ratios of 2.0:1, 2.5:1 and 3.0:1 respectively (Coal Assessment Report 200, page 22). This reserve estimate, totalling 27,890,510 tonnes, is for the 15 to 21-metre thick coal section lying northwest of the underground mines, over a strike length of 1500 metres and dip length of between 220 and 285 metres. A preliminary pit design suggests 10 million tonnes of raw coal can be extracted at an overall stripping ratio of 2.82 to 1 (Coal Assessment Report 200, page 23).

The coal is agglomerating but of generally poor coking quality and is high-volatile bituminous B and C in rank. Freshly exposed, the coal is black with a bright luster, and is commonly banded. The bright luster is attributed to its high vitrinite and low inertinite content. Nodules of bright clear amber (resinite) are widely scattered throughout the coal. Mineral matter consists primarily of quartz and kaolinite, with occasional siderite, orthoclase and sepiolite. Reflection measurements on the vitrinite (mean random reflection) in a 20-metre section exposed at the Blakeburn strip mine, ranged from 0.79 to 0.94 per cent, showing a general increase downward (Geological Survey of Canada Paper 72-39, pages 7 to 9). Five samples analyzed as follows (in per cent):

	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
Moisture	7.9	6.00	5.30	5.7	3.9
Volatile matter	-	26.60	30.10	31.3	31.7
Fixed carbon	-	54.20	57.00	46.3	40.9
Ash	10.3	13.20	7.60	16.7	23.5
Sulphur	-	0.40	0.30	0.4	0.5
Calorific value (B.T.U.'s per pound)	11450	11470	11780	11030	10100
Ash Fusion Temp.	1226 Celsius	-	-	-	-

Sample 1 is a bulk sample from either the No. 3 or No. 4 mines (Bulletin 14, page 20). Samples 2 and 3 are grab (?) samples from the Nos. 3 and 4 mines, respectively (Bulletin 14, page 16). Sample 4 is a channel sample taken along the bottom 2.4 metres of the 24-metre thick coal zone exposed at the Blakeburn strip mine (Minister of Mines Annual Report 1954, page 235), and sample 5 is a chip sample taken across the same exposure over a stratigraphic thickness of 19.8 metres, (A.H. Lindley, 1962, pages 11, 12). Nine additional samples from the strip mine contained 2.41 to 5.09 per cent moisture, 21.38 to 34.42 per cent volatile matter, 39.98 to 63.11 per cent fixed carbon and 8.23 to 29.38 per cent ash (Geological Survey of Canada Paper 72-39, page 11). Samples from holes drilled northwest of the mines contained 36.54 to 41.17 per cent raw ash and 6640 to 7540 British Thermal Units per pound (air dry basis) (Coal Assessment Report 200, page 18, holes T-77-1 to T-77-5).

The deposit was initially explored by the B.C. Coal and Coke Company between 1908 and 1910. Columbia Coal and Coke Company (formerly B.C. Coal and Coke) continued development and eventually commenced production in 1912 with the opening of the No. 1 mine (nos. 2 and 4 tunnels). Coalmont Collieries Ltd. (formerly Columbia Coal and Coke) took over operations in 1914, opening up the No. 2 mine (nos. 2 and 6 tunnels) just west of the abandoned No. 1 mine in the same year. The No. 2 mine continued producing until 1923, and was replaced by the adjacent No. 3 mine to the west. This mine operated continuously between 1920 and 1935. Coalmont Collieries also operated the No. 4 mine (1924-1939) and the No. 5 mine (1936-1940), located successively farther northwest. Production from the deeper parts of the mines was limited by the squeezing of underground workings associated in part with the swelling action of bentonite seams. Total underground production amounted to 2,166,701 tonnes. Mullin's Strip Mine Ltd. produced an additional 148,268 tonnes at the Blakeburn strip mine between 1954 and 1957. This operation mined the 24-metre thick coal zone, situated between outcrop and the old workings of the No. 3 mine, in order to fuel Granby Consolidated Mining, Smelting and Power Company's steam-electric power station near Princeton. Total production between 1912 and 1957 is 2,314,970 tonnes.

Various operators explored the deposit for additional coal

CAPSULE GEOLOGY

reserves between 1960 and 1982, including, Cyprus Anvil Mining Corporation between 1976 and 1982. The company conducted topographic, geological and geophysical surveys, trenching, bulk sampling and 1479 metres of diamond drilling in 12 holes. This work was focused on defining the northwestern extension of the mined coal measures.

A number of potentially economic bentonite seams up to 2 metres thick occur in the coal zone, which is correlated with the bentonite-bearing Vermillion Bluffs shale of the Princeton Basin (Open File 1987-19). Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on two samples from a bentonite bed, 1 to 2 metres thick, in the upper part of the coal zone are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
T77-12	12.2	56.1	2.8	0.1	n.d.
OP-79-1	21.2	32.6	2.0	0.0	n.d.

Sample T77-12 is from a drill hole and sample OP-79-1 is from the Blakeburn strip mine. A sample from a bed of bentonite overlying the Main seam in the No. 1 mine analyzed as follows (in per cent) (Geological Survey of Canada Memoir 47, page 52):

SiO ₂	56.33
Al ₂ O ₃	28.36
Fe ₂ O ₃	1.37
CaO	1.60
MgO	0.73
TiO ₂	0.40
Alkalies	2.00
H ₂ O	9.56
Total	100.55

This bentonite is strongly coloured by organic matter, and is exceedingly plastic, but has a high air shrinkage at 11.8 per cent. Firing characteristics are as follows (Geological Survey of Canada Memoir 47, page 52):

Cone	Fire shrinkage (per cent)	Absorption (per cent)
010	<1	2.5
05	nil	0.0
1	nil	0.0

The clay cracks and warps during burning, but burns to a hard, cream-coloured body at cone 010. It is vitrified but not viscous at cone 20. A second sample of calcareous clay (bentonite?) from the No. 1 mine had an average air shrinkage of 8.3 per cent and an average tensile strength of 150 pounds per square inch (Geological Survey of Canada Memoir 47, page 51).

Pacific West Coal Limited drilled, prepared a site for a 10,000-tonne bulk sample and conducted an environmental study in 1997 and 1998. They propose to mine 100,000 tonnes per year of high-volatile C to B bituminous coal.

Compliance Energy Corp. made a production decision based on a feasibility study completed in 2002 (Press Release, September 17, 2002). The project is a joint venture between Compliance Coal Corp. and Nissho Iwai Coal Development (Canada) Ltd.. Plans include trucking selectively mined coal to a wash plant at the Similco mine site (MINFILE 092HSE001).

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 1926-407-409; 1927-441-444; 1928-477-481; 1929-406,468-471;
 1930-320,*339-354,401-403; 1931-131,180,222-224; 1932-230,
 268,269; 1933-279,332,333; 1934-G4,G27,G28; 1935-G4,G24;
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Times-Colonist Newspaper, February 14, 1993

DATE CODED: 1987/05/06
DATE REVISED: 1992/02/23

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE158**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEER VALLEY SHALE**

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092H07E
 BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 56 N
 LONGITUDE: 120 27 43 W
 ELEVATION: 689 Metres

NORTHING: 5484161
 EASTING: 683832

LOCATION ACCURACY: Within 500M

COMMENTS: Princeton Group outcrop, 180 metres east-northeast of the confluence of Allison (One Mile) and Deer Valley creeks, 4 kilometres northeast of Princeton (Dolmage Campbell Consultants, 1963).

COMMODITIES: Shale

MINERALS

SIGNIFICANT: Shale
 MINERALIZATION AGE: Eocene
 ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
 CLASSIFICATION: Sedimentary
 TYPE: B06 Fireclay

Massive
 Industrial Min.

E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Allenby

IGNEOUS/METAMORPHIC/OTHER

ISOTOPIC AGE: 49.2 +/- 2 Ma
 DATING METHOD: Potassium/Argon
 MATERIAL DATED: Biotite

LITHOLOGY: Shale
 Sandstone
 Siltstone

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Shale is exposed in a railway cut between the United Empire Colliery (092HSE218) and an old cement plant on Allison (One Mile) Creek (092HSE169), about 4 kilometres northeast of Princeton.

The deposit is situated at the eastern margin of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation. The bed is hosted in a sequence of white-weathering sandstone, minor siltstone and rare shale, known informally as the Hardwick sandstone, in the Allenby Formation (Princeton Group) (Open File 1987-19). The strata dips south in the railway cut.

The shale is moderately soft and cracks badly on drying, after being mixed with water to form a plastic mass. Air shrinkage is quite high, at 13.6 per cent (Geological Survey of Canada Memoir 65, page 24). The stickiness and excessive air shrinkage of the shale (clay) is reduced after preheating to 300 degrees Celsius. The firing characteristics of the preheated clay are as follows (Geological Survey of Canada Memoir 65, page 24):

Cone	Fire shrinkage (per cent)	Absorption (per cent)	Colour
010	1	17.10	Dark pink
05	3.3	10.2	Dark pink
1	7	6.10	Dark brown

The material is steel hard at cone 1 and nearly so at cone 010.

Firing characteristics of a mixture of 75 per cent calcined clay and 25 per cent raw clay are as follows (Geological Survey of Canada Memoir 65, page 26):

CAPSULE GEOLOGY

Cone	Fire shrinkage	Absorption
010	1.85	16.58
05	2.4	11.76
1	6.6	4.92

The clay burned to a salmon colour up to cone 010, and a dark red colour from cone 05 to 1. It was nearly steel hard at cone 010 and completely so at cone 05. This material is not considered to be a fireclay. It may be used for red brick, but if used alone it has to be preheated.

The upper part of the shale bed is reported to have been utilized for making common brick, after mixing with surface soil, some time before 1915. The brick was however found to be rather porous (Geological Survey of Canada Memoir 65, page 22) .

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DATE CODED: 1992/02/13
DATE REVISED: 1992/06/04

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE159**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEWTON CREEK PLATINUM**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 23 N
LONGITUDE: 120 48 08 W
ELEVATION: 1622 Metres

NORTHING: 5478662
EASTING: 659325

LOCATION ACCURACY: Within 500M

COMMENTS: Sulphide showing in Newton Creek, 21 kilometres west-southwest of Princeton (Open File 1988-25).

COMMODITIES: Platinum Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Magmatic
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Tulameen Ultramafic Complex

LITHOLOGY: Greenstone Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1934
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Platinum	8.6000 Grams per tonne

COMMENTS: Selected sample of copper sulphide.

REFERENCE: Geological Survey of Canada Economic Geology Report No. 13, page 93.

CAPSULE GEOLOGY

The Newton Creek Platinum showing occurs on Newton Creek, 21 kilometres west-southwest of Princeton.

A greenstone dyke, approximately 18 metres wide, possibly related to the Early Jurassic Tulameen Ultramafic Complex, is mineralized with copper sulphide (chalcopyrite?) veins over about 0.3 metre. A sample of the sulphide assayed 8.6 grams of platinum per tonne (Geological Survey of Canada Economic Geology Report No. 13, page 93).

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DATE CODED: 1992/02/28
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE160**

NATIONAL MINERAL INVENTORY:

NAME(S): **TULAMEEN BENTONITE (L.987)**

MINING DIVISION: Similkameen

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H07E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 33 N
 LONGITUDE: 120 34 05 W
 ELEVATION: 823 Metres

NORTHING: 5479492
 EASTING: 676289

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site B5 in a freshly exposed roadcut on Lot 987, 500 metres southwest of the Tulameen River and 4.5 kilometres west-southwest of Princeton (Open File 1987-19).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
 COMMENTS: Calcium-rich montmorillonite.
 ALTERATION: Montmorillonite
 ALTERATION TYPE: Argillic
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
 CLASSIFICATION: Sedimentary Epigenetic Hydrothermal Industrial Min.
 TYPE: E06 Bentonite
 SHAPE: Tabular
 DIMENSION: 2 Metres STRIKE/DIP: 126/26S TREND/PLUNGE:
 COMMENTS: Single bentonite seam.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
	ISOTOPIC AGE: 49.2 +/- 2 Ma		
	DATING METHOD: Potassium/Argon		
	MATERIAL DATED: Biotite		

LITHOLOGY: Shale
 Carbonaceous Shale
 Bentonite

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel Overlap Assemblage
 METAMORPHIC TYPE: Regional RELATIONSHIP:
 PHYSIOGRAPHIC AREA: Thompson Plateau
 GRADE: Zeolite

CAPSULE GEOLOGY

The Tulameen Bentonite showing outcrops in a freshly exposed roadcut on Lot 987, 500 metres southwest of the Tulameen River and 4.5 kilometres west-southwest of Princeton.

The deposit is situated near the western margin of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The showing is hosted in a sequence of shale and carbonaceous shale, known informally as the Vermillion Bluffs shale, in the Allenby Formation (Princeton Group) (Open File 1987-19). The deposit consists of a 1 to 2-metre thick bentonite seam comprised of calcium-rich montmorillonite. The bed strikes 126 degrees and dips 26 degrees southwest.

Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on one sample are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
C86-370	15.6	51.3	0.1	1.4	63.7

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1008
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1986, pp. 247-254
EMPR OF *1987-19
EMPR P 1983-3
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/08

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE161**

NATIONAL MINERAL INVENTORY: 092H7 Bnt

NAME(S): **COPPER MOUNTAIN RAILWAY, BUD**

MINING DIVISION: Similkameen

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H07E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 33 N
 LONGITUDE: 120 31 57 W
 ELEVATION: 853 Metres

NORTHING: 5475870
 EASTING: 678988

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site B8 in a freshly exposed pit on the abandoned Copper Mountain railway grade, 5.5 kilometres south-southwest of Princeton (Open File 1987-19).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
 COMMENTS: Sodium-rich montmorillonite.
 ALTERATION: Montmorillonite
 ALTERATION TYPE: Zeolitic
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
 CLASSIFICATION: Sedimentary Epigenetic Hydrothermal Industrial Min.
 TYPE: E06 Bentonite
 SHAPE: Tabular
 DIMENSION:
 COMMENTS: Sedimentary beds. STRIKE/DIP: 068/21S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
	ISOTOPIC AGE: 49.2 +/- 2 Ma		
	DATING METHOD: Potassium/Argon		
	MATERIAL DATED: Biotite		

LITHOLOGY: Shale
 Tuff
 Bentonite
 Bentonite Siltstone
 Sandstone
 Carbonaceous Shale

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cascade Mountains
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Zeolite

CAPSULE GEOLOGY

This showing is on the abandoned Copper Mountain railway grade, 5.5 kilometres south-southwest of Princeton.

The deposit is situated near the eastern margin of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The showing is hosted in a shale member in the upper part of the Allenby Formation (Princeton Group), known informally as the Ashnola shale (Open File 1987-19). A pit on the east side of the railway exposes a 4.9-metre thick section of bentonitic siltstone, shale and bentonite, overlain by 1 metre of fine sandstone and underlain by 1 metre of carbonaceous shale. The beds strike 068 degrees and dip 21 degrees southeast.

The bentonitic horizons contain sodium-rich montmorillonite. Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on two samples of bentonitic siltstone and shale are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1010
REPORT: RGEN0100

CAPSULE GEOLOGY

C86-348A	6.7	11.3	1.3	22.3	68.5
C86-348B	6.2	8.9	1.5	23.5	40.5

The area is held as the Bud claims by Western Industrial
Clay Products Ltd. A 6000 to 7000-tonne bulk sample was taken in
1998.

BIBLIOGRAPHY

EMPR BULL 30, p. 34
EMPR FIELDWORK *1986, pp. 247-254
EMPR OF *1987-19
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/07

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE162**

NATIONAL MINERAL INVENTORY: 092H7 Bnt

NAME(S): **SIMILKAMEEN BENTONITE DEC**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 55 N
LONGITUDE: 120 32 21 W
ELEVATION: 783 Metres

NORTHING: 5474681
EASTING: 678542

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole CDH No. 2, 400 metres east of the Similkameen River and 7 kilometres south-southwest of Princeton (Assessment Report 4528, Map 2).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
COMMENTS: Calcium-rich montmorillonite.
ALTERATION: Montmorillonite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Epigenetic Hydrothermal Industrial Min.
TYPE: E06 Bentonite
SHAPE: Tabular
DIMENSION: 9 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Single bentonite zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Shale
Sandstone
Sandy Bentonite

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
Overlap Assemblage
RELATIONSHIP: Syn-mineralization GRADE: Zeolite

CAPSULE GEOLOGY

The Similkameen Bentonite prospect is 400 metres east of the Similkameen River, 7 kilometres south-southwest of Princeton. The deposit is situated near the eastern margin of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation. The bentonite is hosted in a shale member in the upper part of the Allenby Formation (Princeton Group), known informally as the Ashnola shale (Open File 1987-19). The bentonite contains several thin sandstone beds in surface exposures. Drilling encountered a zone of sandy bentonite, 9 metres thick, at shallow depth. Two samples collected from drill holes averaged as follows (in per cent) (Paper 1983-3, page 20):

SiO2	70.20
Al2O3	13.78
Fe2O3 + FeO	3.59
MgO	1.84
CaO	2.03
Na2O	<0.30
K2O	0.20
TiO2	0.197

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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ENERGY AND MINERALS DIVISION

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CAPSULE GEOLOGY

MnO 0.017
P2O5 0.036
H2O (105 C) 8.00
H2O (>105 C) 10.00

This prospect was geologically mapped and drilled (3 holes) by Benpel Industries Ltd. in 1973.

BIBLIOGRAPHY

EMPR ASS RPT *4528
EMPR FIELDWORK 1986, pp. 247-254
EMPR OF 1987-19
EMPR P *1983-3, pp. 19-21
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/07

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE163**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASHNOLA BENTONITE**

MINING DIVISION: Similkameen

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H07E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 49 N
 LONGITUDE: 120 32 27 W
 ELEVATION: 728 Metres

NORTHING: 5472639
 EASTING: 678488

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site B10, at the freshly exposed cliffs on the east bank of the Similkameen River at Ashnola Bend, 9 kilometres south-southwest of Princeton (Open File 1987-19).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
 COMMENTS: Sodium-rich montmorillonite.
 ALTERATION: Montmorillonite
 ALTERATION TYPE: Argillic
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
 CLASSIFICATION: Sedimentary Epigenetic Hydrothermal Industrial Min.
 TYPE: E06 Bentonite
 SHAPE: Tabular
 DIMENSION: 20 Metres STRIKE/DIP: 035/12E TREND/PLUNGE:
 COMMENTS: Deposit is comprised of a 20-metre thick section of siltstone, bentonitic siltstone and bentonite.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
ISOTOPIC AGE: 49.2 +/- 2 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			

LITHOLOGY: Siltstone
 Shale
 Bentonite
 Bentonite Siltstone

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel Overlap Assemblage
 METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Zeolite

CAPSULE GEOLOGY

The Ashnola Bentonite showing outcrops along the east bank of the Similkameen River at Ashnola Bend, 9 kilometres south-southwest of Princeton.

The deposit is situated near the eastern margin of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The showing is hosted in a shale member in the upper part of the Allenby Formation (Princeton Group), known informally as the Ashnola shale (Open File 1987-19). The deposit consists of a 20-metre thick section of siltstone, bentonitic siltstone and bentonite, exposed along the bank of the Similkameen River. The beds strike 035 degrees and dip 12 degrees southeast.

Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on two samples are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
C86-349A	6.5	16.0	1.0	24.3	35.4
C86-349B	8.0	10.5	1.1	28.8	48.2

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1014
REPORT: RGEN0100

CAPSULE GEOLOGY

Both samples were taken from a 15-metre high bank of bentonitic siltstone with sodium-rich montmorillonite.

BIBLIOGRAPHY

EMPR FIELDWORK *1986, pp. 247-254
EMPR OF *1987-19
EMPR P 1983-3
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/07

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE164**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASP CREEK, TULAMEEN BRIDGE, BEE,
BEE (ALLENBY)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 27 45 N
LONGITUDE: 120 31 25 W
ELEVATION: 671 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5481820
EASTING: 679438

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site Z3, on the west bank of Asp Creek, 550 metres northwest of the creek's confluence with the Tulameen River, on the northern outskirts of the town of Princeton (Open File 1987-19).

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Clinoptilolite
ASSOCIATED: Sanidine Plagioclase Quartz Biotite
ALTERATION: Clinoptilolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.
TYPE: D01 Open-system zeolites
SHAPE: Tabular
DIMENSION: 1000 x 7 Metres STRIKE/DIP: 080/21S TREND/PLUNGE:
COMMENTS: Bedding attitude for a section exposed along Asp Creek.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Rhyolite Crystal Vitric Tuff
Zeolite
Sandstone
Carbonaceous Shale
Ash
Vitric Crystal Tuff

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Syn-mineralization
GRADE: Zeolite

CAPSULE GEOLOGY

The Asp Creek zeolite showing outcrops along the northern outskirts of the town of Princeton, between Asp Creek and the Tulameen River bridge, over a distance of 1 kilometre.

The deposit occurs near the centre of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

Zeolite mineralization is contained in a zeolitized, waterlain rhyolite crystal-vitric tuff in the lower part of the Allenby Formation (Princeton Group), known informally as the Asp Creek ash. The tuff consists of bedded white ash, with intercalations of vitric-crystal tuff. A cliff exposure on the west bank of Asp Creek exhibits a section of zeolitized tuff, 7.3 metres thick, overlain by fine-grained sandstone and underlain by carbonaceous shale. The sequence strikes 078 to 080 degrees for an exposed length of 1000 metres and dips 21 to 23 degrees south.

Zeolite mineralization consists of clinoptilolite, which is accompanied by sanidine, plagioclase, quartz and biotite.

CAPSULE GEOLOGY

Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on two samples are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
Z2	2.5	12.6	8.4	37.9	75.7
Z3	2.2	17.2	8.6	52.7	95.2

Sample Z2 is a grab sample from a roadcut along the Princeton-Tulameen highway, at the northwest end of the Tulameen River bridge, while sample Z3 is a composite chip sample across the 7.3-metre thick cliff exposure on Asp Creek.

Western Industrial Clay Products Inc. took a 20 to 30-tonne bulk sample for testing in 1998.

BIBLIOGRAPHY

EMPR FIELDWORK *1986, pp. 247-254
EMPR OF *1987-19
EMPR P 1983-3
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
GCNL #197, 1991

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/05

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE165**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGHWAY 3**, STIK, PRINCETON ZEOLITE,
CANMIN, CAN MIN

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 37 N
LONGITUDE: 120 33 13 W
ELEVATION: 850 Metres

NORTHING: 5477796
EASTING: 677392

LOCATION ACCURACY: Within 500M
COMMENTS: Sample site Z4, along Highway 3, 4.5 kilometres southwest of
Princeton (Open File 1987-19).

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Clinoptilolite
ASSOCIATED: Plagioclase K-Feldspar Quartz Montmorillonite Muscovite
Biotite Cristobalite Sanidine
ALTERATION: Clinoptilolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.
TYPE: D01 Open-system zeolites
SHAPE: Tabular
DIMENSION: 900 x 20 Metres STRIKE/DIP: 100/30S TREND/PLUNGE:
COMMENTS: Zeolitic horizon trends west for 900 metres on the north limb of
the Tailings Syncline. Bedding attitude given for a section exposed
in a roadcut.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Rhyolite Crystal Vitric Tuff
Vitric Crystal Tuff
Rhyolite Breccia
Rhyolite Lapilli Tuff
Lithic Tuff
Zeolite

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982,
page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
Overlap Assemblage
RELATIONSHIP: Syn-mineralization
GRADE: Zeolite

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: Y
CATEGORY: Indicated YEAR: 2000
QUANTITY: 236000 Tonnes
COMMODITY: Zeolite GRADE: 100.0000 Per cent
COMMENTS: Based on 9 drill holes.
REFERENCE: Canadian Mining Company Ltd. Website March 2000.

ORE ZONE: BRECCIA REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Chip
COMMODITY: Zeolite GRADE: 50.0000 Per cent
COMMENTS: Chip sample across a 2-metre thick bed of rhyolite breccia.
REFERENCE: Geological Fieldwork 1988, page 513.

CAPSULE GEOLOGY

The Highway 3 zeolite showing outcrops along Highway 3, 4.5 kilometres southwest of Princeton.

This occurrence is situated near the centre of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

Zeolite mineralization is contained in a zeolitized, waterlain rhyolite crystal-vitric tuff in the upper part of the Allenby Formation (Princeton Group), known informally as the Tailings ash. The roadcut on the northwest side of the highway exposes a bed of fine rhyolite breccia (lapilli tuff), 2 metres thick, underlain by 1 metre of lithic tuff and overlain by 17 metres of montmorillonite-bearing vitric-crystal tuff. The beds strike 100 degrees and dip 30 degrees south. This zeolitized horizon continues west of the highway for 900 metres, along the northern flank of the west-trending Tailings Syncline.

Zeolite mineralization consists of clinoptilolite, which is accompanied by plagioclase, potassium feldspar, quartz, montmorillonite, muscovite, biotite, cristobalite and sanadine. The rhyolite breccia contains 50 per cent zeolite, while the overlying vitric-crystal tuff contains less than 40 per cent zeolite (Fieldwork 1986, page 249; Fieldwork 1988, page 513). Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on one grab sample are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC Z4
0.6	10.8	33.9	37.5	100.3	

The deposit was sampled by Hillside Energy Corporation in 1988.

Canadian Mining Company Ltd. drilled 9 holes and indicated reserves of 236,000 (Canadian Mining Website) in March 2000.

BIBLIOGRAPHY

EMPR ASS RPT 17195, 18543
EMPR FIELDWORK 1983, p. 212; *1986, pp. 247-254; *1988, pp. 511-514
EMPR OF *1987-19
EMPR P 1983-3
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
WWW <http://www.canadianmining.com>

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/06

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE166**

NATIONAL MINERAL INVENTORY:

NAME(S): **BROMLEY VALE ZEOLITE** STIK, ZEO,
PRINCETON ZEOLITE

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 25 18 N
LONGITUDE: 120 35 42 W
ELEVATION: 942 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5477113
EASTING: 674410

COMMENTS: Sample site Z6, on the north bank of Bromley Creek, 750 metres southwest of the creek's confluence with White Creek and 7.5 kilometres southwest of Princeton (Open File 1987-19).

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Clinoptilolite
ASSOCIATED: Plagioclase K-Feldspar Quartz Montmorillonite Biotite
Cristobalite Sanidine
ALTERATION: Clinoptilolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.
TYPE: D01 Open-system zeolites
SHAPE: Tabular
DIMENSION: 400 x 22 Metres STRIKE/DIP: 165/30E TREND/PLUNGE:
COMMENTS: Zeolitic beds outcrop along the west limb of the Tailings Syncline. Bedding attitude given for a section of rhyolite breccia exposed on the north bank of Bromley Creek.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Rhyolite Crystal Vitric Tuff
Vitric Crystal Tuff
Rhyolite Breccia
Rhyolite Lapilli Tuff
Zeolite
Shale
Sandstone

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Syn-mineralization
GRADE: Zeolite

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: Y
CATEGORY: Inferred YEAR: 2000
QUANTITY: 710300 Tonnes
COMMODITY: Zeolite GRADE: 100.0000 Per cent
COMMENTS: Based on 14 drill holes.
REFERENCE: Canadian Mining Company Ltd. Website March 2000.

MINFILE NUMBER: **092HSE167**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAILINGS TEPHRA**

MINING DIVISION: Similkameen

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 07 N
LONGITUDE: 120 31 17 W
ELEVATION: 823 Metres

NORTHING: 5476946
EASTING: 679759

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site Z7, along the abandoned Copper Mountain railway, 1 kilometre southeast of the Similkameen River and 4 kilometres south of Princeton (Open File 1987-19).

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Clinoptilolite
ASSOCIATED: Plagioclase K-Feldspar Quartz Clay Biotite
Cristobalite Sanidine
ALTERATION: Clinoptilolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.
TYPE: D01 Open-system zeolites
SHAPE: Tabular
DIMENSION: 1650 x 14 Metres STRIKE/DIP: 096/30N TREND/PLUNGE:
COMMENTS: Zeolitic beds outcrop along the south limb of the Tailings Syncline. Bedding attitude given for the section exposed along the Copper Mountain railway.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Rhyolite Crystal Vitric Tuff
Vitric Rhyolite Tuff
Vitric Crystal Tuff
Zeolite

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel Overlap Assemblage
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Zeolite

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Chip

COMMODITY: Zeolite GRADE: 67.0000 Per cent

COMMENTS: Clinoptilolite content of fourteen chip samples taken across a section on the Copper Mountain railway varied between 56 and 77 per cent.

REFERENCE: Geological Fieldwork 1988, page 513.

ORE ZONE: ROADCUT REPORT ON: Y

CATEGORY: Inferred YEAR: 1991
QUANTITY: 54000 Tonnes

COMMODITY: Zeolite GRADE: 100.0000 Per cent

COMMENTS: Reserves estimated over a strike length of 70 metres. Grade not given.

REFERENCE: Assessment Report 21325, page 5.

CAPSULE GEOLOGY

The Tailings Tephra zeolite prospect outcrops on the abandoned Copper Mountain railway, 1 kilometre southeast of the Similkameen River and 4 kilometres south of Princeton.

The deposit is situated near the eastern margin of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

Zeolite mineralization is contained in a zeolitized, waterlain, rhyolite crystal-vitric tuff in the upper part of the Allenby Formation (Princeton Group), known informally as the Tailings ash. A roadcut along the southeast side of the railway exposes a section of vitric-crystal tuff, 3 to 4 metres thick, overlain by at least 6 metres of mainly vitric rhyolite tuff. The beds strike 087 to 105 degrees and dip 20 to 40 degrees north. The upper and lower contacts of this zeolitized horizon are not exposed in the section. The deposit is estimated to contain inferred reserves of 54,000 tonnes over a southeasterly strike extension of 70 metres (Assessment Report 21235, page 5). The horizon continues west for 1650 metres, across the Similkameen River, along the south flank of the west-trending Tailings syncline.

Zeolite alteration is in the form of clinoptilolite, which is accompanied by plagioclase, potassium feldspar, quartz, clay, biotite, cristobalite and sanadine. Fourteen chip samples taken across the section contained between 56 and 77 per cent clinoptilolite (Geological Fieldwork 1988, page 513). Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on two samples are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
Z7	1.5	27.2	31.1	32.9	102.8
TA9	3.0	32.5	29.8	22.5	101.0

Both samples were taken along the railway exposure. Sample Z7 is a grab sample, while sample TA9 is a composite chip sample.

BIBLIOGRAPHY

EMPR ASS RPT *21325
EMPR FIELDWORK *1986, pp. 247-254; *1988, pp. 511-514
EMPR OF *1987-19
EMPR P 1983-3
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/05

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE168**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUNDAY CREEK, SUN, PRINCETON ZEOLITE,**
PRINCETON, CANMARK ZEOLITE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H02E 092H07E
BC MAP:
LATITUDE: 49 14 55 N
LONGITUDE: 120 35 03 W
ELEVATION: 1231 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Sample site Z9 on Highway 3, 24 kilometres south-southwest of
Princeton (Open File 1987-19).

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5457902
EASTING: 675811

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Clinoptilolite
ASSOCIATED: Cristobalite Sanidine Plagioclase Quartz Biotite
ALTERATION: Clinoptilolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.
TYPE: D01 Open-system zeolites
SHAPE: Tabular
MODIFIER: Folded
DIMENSION: 1300 x 500 x 30 Metres STRIKE/DIP:
COMMENTS: Zeolitic horizon on the west limb of the Kennedy Lake Syncline. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Vitric Crystal Lapilli Tuff
Zeolite
Sandstone
Pebble Boulder Conglomerate
Rhyolite

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
Overlap Assemblage
RELATIONSHIP: Syn-mineralization
GRADE: Zeolite

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Inferred YEAR: 1995
QUANTITY: 38600000 Tonnes
COMMODITY: Zeolite GRADE: 100.0000 Per cent
COMMENTS: Probable reserves of zeolite with an average grade of CEC 116 (Cation Exchange Capacity).
REFERENCE: Corporate Profile, Canmark International Resources Inc., 1995.

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Indicated YEAR: 1995
QUANTITY: 4400000 Tonnes
COMMODITY: Zeolite GRADE: 100.0000 Per cent
COMMENTS: Measured reserves of zeolite with an average grade of CEC 116 (Cation Exchange Capacity).
REFERENCE: Corporate Profile, Canmark International Resources Inc., 1995.

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
 CATEGORY: Measured YEAR: 1995
 QUANTITY: 3500000 Tonnes
 COMMODITY: Zeolite GRADE: 100.0000 Per cent
 COMMENTS: Proven reserves with an average grade of zeolite of CEC 116 (Cation Exchange Capacity).
 REFERENCE: Corporate Profile, Canmark International Resources Inc., 1995.

CAPSULE GEOLOGY

The Sunday Creek zeolite showing outcrops along Sunday Creek and Highway 3, about 24 kilometres south-southwest of Princeton.

The deposit lies near the south end of the Princeton Basin, a northerly striking fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The showing consists of a zeolitized, waterlain rhyolite crystal-vitric lapilli tuff in the basal 100 metres of the Allenby Formation (Princeton Group). The tuff outcrops over a distance of 500 metres along the west side of Highway 3, in a 5-metre high roadcut south of Sunday Creek. Several exposures also occur in Sunday Creek just east of the highway. One of these exposures, 100 metres east of the highway, is comprised of a section of zeolitized tuff, at least 30 metres thick, overlain by sandstone and underlain by volcanic pebble to cobble conglomerate. This sequence is folded into a gently north-plunging syncline. The tuff outcrops along the west flank of the syncline over a total strike length of 1300 metres.

Zeolite mineralization consists of clinoptilolite, together with cristobalite, sanadine, plagioclase, quartz and biotite. Exchangeable cation analyses and cation exchange capacity (CEC) in milli-equivalents per 100 grams on two samples are as follows (Open File 1987-19):

Sample	Magnesium	Calcium	Potassium	Sodium	CEC
Z8	5.5	34.3	16.1	11.8	75.6
Z9	6.7	31.9	18.6	4.7	62.7

Sample Z8 is a grab sample from the roadcut along Highway 3, while sample Z9 is a composite chip sample taken across the 30-metre thick section of tuff on Sunday Creek, 100 metres east of Highway 3.

Canmark International Resources Inc. is stripping overburden preparatory to mining a 10,000-tonne bulk sample for market development in the Lower Mainland. The zeolite is a high quality clinoptilolite variety. Canmark has signed a contract with Sun-Ray Resources Ltd. to supply 2000 tonnes of zeolite with an option for an additional 3000 tonnes within a year (Information Circular 1995-9, page 19).

The company has completed a drilling and exploration program which resulted in an increase in reserves of zeolite. Proven reserves are 3.5 million tonnes; measured reserves are 4.4 million tonnes and probable reserves are 38.6 million tonnes. The measured reserve life is currently planned on the basis of a 10 year mine life and at full production. The reserves occur in a 10-15 metre thick zone. The average grade of zeolite is CEC 116 (Cation Exchange Capacity) and core assay grades range 95-135 CEC range. Results from assays indicate a consistent, strong and clean ore (Corporate Profile, Canmark International Resources Inc., 1995).

In 1996, Canmark mined a 10,000-tonne bulk sample from the deposit.

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 EMPR ASS RPT *23457
 EMPR FIELDWORK *1986, pp. 247-254
 EMPR OF *1987-19
 EMPR P 1983-3
 EMPR PF (1994 Exploration Programme on the Sun Group of Claims by Phoenix Engineering Ltd. - July 17, 1994; 1994 Exploration Programme and Test Pit Development Plan by Phoenix Engineering Ltd. - March 14, 1994)
 GSC MAP 888A; 1386A; 41-1989
 GSC MEM 243
 GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1025
REPORT: RGEN0100

BIBLIOGRAPHY

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

DATE CODED: 1987/04/25
DATE REVISED: 1992/02/05

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE169**

NATIONAL MINERAL INVENTORY:

NAME(S): **B.C. PORTLAND CEMENT**, ONE MILE CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H08W

BC MAP:

LATITUDE: 49 28 48 N

LONGITUDE: 120 28 29 W

ELEVATION: 732 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Largest limestone exposure in an andesite bluff, 300 metres east-northeast of the ruins of an old cement plant, and 300 metres southeast of the confluence of Allison and Deer Valley creeks (Property File - Dolmage Campbell Consultants, 1963).

UTM ZONE: 10 (NAD 83)

NORTHING: 5483882

EASTING: 682915

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

ASSOCIATED: Silica

MINERALIZATION AGE: Upper Triassic

DEPOSIT

CHARACTER: Stratabound

Massive

CLASSIFICATION: Sedimentary

Industrial Min.

TYPE: R09 Limestone

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Siliceous Limestone
Andesitic Tuff
Andesitic Flow
Andesitic Breccia

HOSTROCK COMMENTS: This deposit is in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1945

SAMPLE TYPE: Grab

COMMODITY

GRADE

Limestone

88.0000

Per cent

COMMENTS: Grade given for CaCO₃.

REFERENCE: Canada Bureau of Mines Report 811, page 192.

CAPSULE GEOLOGY

Limestone was once quarried on the east side of Allison Creek (One Mile Creek), approximately 4 kilometres northeast of Princeton.

Several narrow bands and lenses of siliceous, bluish grey limestone interbedded with andesitic tuffs, flows and breccias of the Upper Triassic Nicola Group are exposed in a 30-metre high bluff. The purest material is reported to analyze 88.0 per cent CaCO₃, 1.3 per cent MgCO₃, 9.5 per cent insolubles and 1.4 per cent Al₂O₃+Fe₂O₃ (Canada Bureau of Mines Report 811, page 192). The limestone was also reported to grade between 93 and 98 per cent CaCO₃ (Minister of Mines Annual Report 1913, page 242).

British Columbia Portland Cement Company quarried limestone for a few months in 1913 after completion of a cement plant nearby in 1912. Operations ceased by 1914, owing to difficulties encountered in quarrying the narrow limestone bodies.

BIBLIOGRAPHY

EMPR AR 1910-132; 1911-186; 1912-28; *1913-27,241; 1914-29; 1915-235;

1916-31

EMPR PF (*Dolmage Campbell Consultants (1963): 1 to 2400 scale map of

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1027
REPORT: RGEN0100

BIBLIOGRAPHY

geology (see 092HSE078))
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CANMET RPT *811, Part 5, p. 192
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1990/04/29
DATE REVISED: 1992/01/11

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE170**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROANY CREEK**, GRANITE CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 45 N
LONGITUDE: 120 39 48 W
ELEVATION: 975 Metres

NORTHING: 5483349
EASTING: 669257

LOCATION ACCURACY: Within 500M

COMMENTS: Eastern lake bed on district Lot 1197, 3.2 kilometres southeast of Granite Creek and 11 kilometres west-northwest of Princeton.

COMMODITIES: Marl

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Clay
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: B07 Bog Fe, Mn, U, Cu, Au
SHAPE: Bladed
DIMENSION: 183 x 37 x 2 Metres
COMMENTS: Flat-lying layer; dimensions given for eastern lake bed.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Recent	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Marl
Clay
Sand
Talus

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: EASTERN LAKE BED

REPORT ON: Y

CATEGORY: Measured
QUANTITY: 17000 Tonnes

YEAR: 1945

COMMODITY: Marl GRADE
100.0000 Per cent

COMMENTS: Reserves for a 183 by 37 metre area to a depth of 2.0 metres.
REFERENCE: Industrial Mineral File - Hodley, 1945.

ORE ZONE: WESTERN LAKE BED

REPORT ON: Y

CATEGORY: Measured
QUANTITY: 32100 Tonnes

YEAR: 1945

COMMODITY: Marl GRADE
100.0000 Per cent

COMMENTS: Reserves for a 9671 square metre area to a depth of 2.6 metres.
REFERENCE: Industrial Mineral File - Hodley, 1945, page 3.

CAPSULE GEOLOGY

Marl occurs in two dry lake beds in the valley of Roany Creek, 2.5 to 3.2 kilometres southeast of Granite Creek, 11 kilometres west-northwest of Princeton.

The two lake beds are 213 and 488 metres in length respectively, with a separation of approximately 520 metres. Marl occupies the top 1.8 to 2.8 metres of the lake beds. The marl grades rapidly downward into yellowish clay, sometimes accompanied by up to 0.3 metre of sandy material at or near the contact.

The marl is pale coloured and granular, with abundant small shells and shell fragments. In the eastern lake bed it is moist and saturated in the lower 0.3 to 0.6 metre, just above the clay layer, while in the western lake bed the material tends to be drier. The

CAPSULE GEOLOGY

marl is contaminated by boulders and talus material near the margins of the lake beds. Four samples collected by auger drilling analyzed as follows (in per cent) (M.S. Hedley, 1945, page 5):

Sample	Depth (m)	CaO	CaCO ₃	MgO
414H	0-2.8	50.2	89.6	0.7
415H	0-1.8	49.6	88.5	0.6
416H	0-1.5	47.0	83.9	0.8
418H	0-2.9	46.4	82.8	0.9

The eastern lake bed contains 17,000 tonnes of marl over a 183 by 37 metre area down to an average depth of 2.0 metres, while the western lake bed contains 32,100 tonnes of marl over 9671 square metres down to an average depth of 2.6 metres (Industrial Mineral File - Hodley, 1945, page 3).

This marl was mined by various operators for agricultural markets in the Fraser Valley between 1946 and 1948. A total of 1113 tonnes was produced.

BIBLIOGRAPHY

EMPR AR 1946-206,207; 1947-219; 1948-190
EMPR ASS RPT 12330
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
PERS COMM *Hedley, M.S. (1945): Report on Marl Deposit Near Princeton

DATE CODED: 1990/04/27
DATE REVISED: 1992/04/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE171**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAIRLEY KAOLINITE**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 26 N
LONGITUDE: 120 33 34 W
ELEVATION: 725 Metres

NORTHING: 5471885
EASTING: 677160

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of "Upper Volcanic Formation", along the west bank of the Similkameen River, 10 kilometres southwest of Princeton (Open File 1987-19).

COMMODITIES: Kaolinite

MINERALS

SIGNIFICANT: Kaolinite
ASSOCIATED: Dolomite Quartz
ALTERATION: Kaolinite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: B05 Residual kaolin
SHAPE: Tabular
DIMENSION: 250 x 10 Metres
COMMENTS: Rhyolite ash and lapilli tuff horizon.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Rhyolite Lapilli Tuff
Rhyolite Ash
Shale

HOSTROCK COMMENTS: Isotopic age date is for the Princeton ash (Geological Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
Quesnel
RELATIONSHIP: GRADE: Zeolite

CAPSULE GEOLOGY

At the Fairley Kaolinite showing, a 10-metre thick layer of massive white rhyolite ash and lapilli tuff of the upper volcanic member of the Eocene Allenby Formation (Princeton Group) outcrops for 250 metres along the west bank of the Similkameen River, 10 kilometres southwest of Princeton.

The rhyolite is in part altered to kaolinite. Heating tests on a single sample showed a very low pyrometric cone equivalent (PCE). This suggests that alkalis are present, and that the material is not suitable for making refractory bricks. Analysis using x-ray diffractograms show only dolomite and quartz as impurities.

BIBLIOGRAPHY

EMPR FIELDWORK 1986, pp. 247-254
EMPR OF 1987-19
EMPR P 1983-3
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1990/11/30
DATE REVISED: 1992/02/07

CODED BY: PBR
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE172**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAMB 1**

MINING DIVISION: Osoyoos
Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5460046
EASTING: 704734

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

LATITUDE: 49 15 32 N
LONGITUDE: 120 11 10 W
ELEVATION: 1768 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site L-84, 13.5 kilometres southwest of Hedley, 12 kilometres west of the Similkameen River (Assessment Report 12427, claim and sample location maps).

COMMODITIES: Silver Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Cretaceous

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Feldspar Andesite Ash Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Rock

COMMODITY

GRADE

Silver

2.5000

Grams per tonne

Copper

0.1488

Per cent

REFERENCE: Assessment Report 12427, page 4, sample L-84.

CAPSULE GEOLOGY

The Lamb 1 showing occurs 13.5 kilometres southwest of Hedley, 12 kilometres east of the Similkameen River.

An outcrop of feldspar crystal andesite ash tuff of the Middle to Upper Cretaceous Spences Bridge Group is locally replaced with a siliceous matrix containing chalcopyrite. A rock sample contained 2.5 grams per tonne silver and 0.1488 per cent copper (Assessment Report 12427, page 4, sample L-84).

BIBLIOGRAPHY

EMPR ASS RPT 12427
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989

DATE CODED: 1991/10/28
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE173**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROGER 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 15 12 N
LONGITUDE: 120 13 13 W

NORTHING: 5459337
EASTING: 702271

ELEVATION: 1649 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Anomaly G, 0.7 kilometre west of Pettigrew Creek and 30.5 kilometres southwest of Hedley (Assessment Report 12464, sheets 2 and 6).

COMMODITIES: Zinc Silver Copper

MINERALS

SIGNIFICANT: Unknown
ALTERATION: Garnet Pyrite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn K02 Pb-Zn skarn
DIMENSION: 40 x 8 Metres
COMMENTS: The largest of two skarn zones. STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	

DATING METHOD: Fossil
MATERIAL DATED: Conodont

LITHOLOGY: Siliceous Argillite
Limestone
Tuff
Tuffaceous Argillite
Garnet Skarn
Mafic Sill
Mafic Dike

HOSTROCK COMMENTS: Hedley Formation is approximately 225 million years old (Geological Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Syn-mineralization
GRADE:

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 9.1000 Grams per tonne
Copper 0.1200 Per cent
Zinc 0.7400 Per cent

COMMENTS: Sample of metasomatically altered tuffaceous argillite next to skarn zone.

REFERENCE: Assessment Report 13819, page 8.

CAPSULE GEOLOGY

The Roger 2 showing is located 0.7 kilometre west of Pettigrew Creek, 30.5 kilometres southwest of Hedley.
The showing occurs in variably pyritic siliceous argillite with minor interbedded tuff and limestone of the Upper Triassic Hedley Formation (Nicola Group). These beds strike north, dip about 80 degrees east, and are cut by north-striking mafic sills or dykes containing up to 5 per cent disseminated pyrite.
Two zones of garnet skarn, up to 40 metres long and 8 metres wide, occur in limestone along the contact with the mafic dykes. Sampling has indicated this skarn to be anomalous in zinc and silver.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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CAPSULE GEOLOGY

A sample of calcium silicate rock rich in iron garnet analysed 1.18 per cent zinc, 3.5 grams per tonne silver and 0.06 per cent copper, and a second sample of metasomatically altered tuffaceous argillite taken adjacent to a zone of skarn alteration analysed 0.74 per cent zinc, 9.1 grams per tonne silver and 0.12 per cent copper (Assessment Report 13819, page 8).

BIBLIOGRAPHY

EMPR ASS RPT 12464; *13819;
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1991/10/27
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE174**

NATIONAL MINERAL INVENTORY:

NAME(S): **WP, TARGET 4**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 02 N
LONGITUDE: 120 12 20 W
ELEVATION: 1280 Metres

NORTHING: 5468330
EASTING: 703011

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site 88-20 on the WP 4 claim, 650 metres northwest of Whistle Creek and 9.5 kilometres west-southwest of Hedley (Assessment Report 18453, Figure 4).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Tetrahedrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 4 Metres STRIKE/DIP: 360/90 TREND/PLUNGE:
COMMENTS: Mineralization is hosted in a 4.5-metre wide, north-trending stockwork breccia that dips vertically.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	

LITHOLOGY: Argillite
Tuffaceous Siltstone
Andesite Ash Tuff
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 2.1000 Grams per tonne
Gold 0.7200 Grams per tonne

COMMENTS: A 1-metre chip sample across the showing.
REFERENCE: Assessment Report 18453, Figure 4, sample 88-20.

CAPSULE GEOLOGY

The WP showing is situated northwest of Whistle Creek, 9.5 kilometres west-southwest of the town of Hedley. Andesitic ash tuff and tuffaceous siltstone of the Upper Triassic Whistle Creek Formation (Nicola Group) underlie an extensive region encompassing the drainage area of Whistle Creek. A quartz stockwork breccia hosted in well-indurated black to grey argillite/siltstone is exposed along a roadcut 650 metres northwest of Whistle Creek. The 4.5-metre wide zone strikes north and dips vertically. The zone is comprised of a 2-metre wide central core of angular argillite fragments in a quartz matrix, surrounded by a peripheral zone of weak to moderate quartz stockwork veining. The quartz matrix contains minor fine-grained pyrite in rusty boxworks. A chip sample taken over 1 metre analysed 0.720 gram per tonne gold and 2.1 grams per tonne silver (sample 88-20), and a grab sample analysed 0.050 gram per tonne gold and 5.9 grams per tonne silver (sample 88-26) (Assessment Report 18453, Figure 4). Northpoint Resources Ltd. drilled the property in 1997. A 3-metre sludge sample assayed 960 grams per tonne silver and 0.2 per cent copper (GCNL #192(Oct.6), 1997).

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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BIBLIOGRAPHY

EMPR ASS RPT *18453; 19413
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC OF 2167, pp. 59-80
GCNL #162(Aug.22), #186(Sept.26), #192(Oct.6), 1997

DATE CODED: 1991/10/30
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE175**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLITZ**, MOUNTAIN VIEW, SKYLINE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 17 N
LONGITUDE: 120 08 38 W
ELEVATION: 1612 Metres

NORTHING: 5465256
EASTING: 707613

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site R83519 at an old trench on Lot 3804S, 7.5 kilometres southwest of Hedley (Assessment Report 15441, Figure 2.2).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Chalcopyrite
ALTERATION: Quartz
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Discordant Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	

DATING METHOD: Fossil
MATERIAL DATED: Conodont

LITHOLOGY: Argillite
Limestone
Tuff
Chert
Breccia
Siliceous Argillite

HOSTROCK COMMENTS: Stemwinder Mountain Formation is approximately 225 million years old (Geological Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Rock
COMMODITY GRADE
Gold 3.5300 Grams per tonne

COMMENTS: Sample from an old trench on Lot 3804s.
REFERENCE: Assessment Report 15441, page 7, sample R83519.

CAPSULE GEOLOGY

The Blitz showing occurs 4.7 kilometres southeast of Whistle Creek, 7.5 kilometres southwest of Hedley.

Thinly-bedded black argillite, with minor interbedded limestone, tuff and cherts of the Upper Triassic Stemwinder Mountain Formation (Nicola Group) outcrops atop a north-trending ridge between Pettigrew Creek to the west and various tributaries of the Similkameen River to the east. These sediments are locally veined and flooded with quartz.

Pyrite, arsenopyrite and chalcopyrite occur in zones of silicification and quartz flooding. Anomalous gold values were obtained from siliceous argillite containing disseminated pyrite and arsenopyrite, exposed in several old trenches dating back to the 1930s. Samples R83519 and R83518 analysed 3.53 and 2.69 grams per tonne gold respectively (Assessment Report 15441, page 7).

BIBLIOGRAPHY

EMPR ASS RPT 11688; *15441; *16275
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
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REPORT: RGEN0100

BIBLIOGRAPHY

EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 889A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1991/10/30
DATE REVISED: 1991/10/31

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE176**

NATIONAL MINERAL INVENTORY:

NAME(S): **WINDY 2**

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 10 N
LONGITUDE: 120 07 20 W

NORTHING: 5468805
EASTING: 709055

ELEVATION: 1402 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Skarn zone in roadcut, 4 kilometres southwest of Hedley (Assessment Report 13310, Map 3).

COMMODITIES: Lead

Copper

MINERALS

SIGNIFICANT: Galena Chalcopyrite Sulphide
ALTERATION: Tremolite Actinolite Diopside Epidote
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stratabound
CLASSIFICATION: Skarn Epigenetic
TYPE: K02 Pb-Zn skarn K01 Cu skarn
DIMENSION: 100 x 25 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Area of skarn.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	
Middle Jurassic			Cahill Creek Pluton

DATING METHOD: Fossil
MATERIAL DATED: Conodont

ISOTOPIIC AGE: 168 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

Cahill Creek Pluton

LITHOLOGY: Limestone
Skarn
Siliceous Argillite
Calcareous Argillite
Argillite
Siltstone
Granodiorite

HOSTROCK COMMENTS: Cahill Creek pluton date from Fieldwork 1989, page 274. Stemwinder Mountain Formation is approximately 225 Ma (Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE:

CAPSULE GEOLOGY

An elongate mass of medium-grained biotite granodiorite of the Middle Jurassic Cahill Creek pluton extends northwest from the main intrusive body into argillite, siltstone and limestone of the Upper Triassic Hedley and Stemwinder Mountain formations (Nicola Group).

A roadcut along the southwest flank of the granodiorite body, 4 kilometres southwest of Hedley, exposes skarn in fine-grained dark grey limestone of the Stemwinder Mountain Formation over a 100 by 25 metre area. Siliceous and calcareous argillites of the same formation occur in the same roadcut to the southeast.

The skarn is porphyritic and contains phenocrysts of tremolite, actinolite, diopside and epidote up to 3 millimetres long. Traces of galena and chalcopyrite are present, in addition to traces of other sulphides.

BIBLIOGRAPHY

EMPR ASS RPT 11855, 11993, *13310, 18549, 19341
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EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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PAGE: 1039
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Thumper Resources Corp. (1989): Statement of Material Facts
(Prospectus), Vancouver Stock Exchange, pp. 1-12)
GSC MAP 568A; 888A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/04
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE177**

NATIONAL MINERAL INVENTORY: 092H8 Au7

NAME(S): **BANBURY PORPHYRY**, BANBURY GOLD, 87,
86

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 35 N
LONGITUDE: 120 07 32 W
ELEVATION: 750 Metres

NORTHING: 5471420
EASTING: 708713

LOCATION ACCURACY: Within 500M

COMMENTS: Trench Tr-87-1 in the 87 zone, 3.5 kilometres due west of Hedley on the south bank of the Similkameen River (Assessment Report 17631, location map).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Pyrrhotite Chalcopyrite Gold
ASSOCIATED: Quartz Carbonate
ALTERATION: Garnet Pyroxene
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Porphyry Hydrothermal Epigenetic Skarn
TYPE: L02 Porphyry-related Au K04 Au skarn
SHAPE: Tabular
DIMENSION: 185 x 150 x 30 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The 87 zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	
Lower Jurassic			Hedley Intrusions

DATING METHOD: Fossil
MATERIAL DATED: Conodont
ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Diorite
Argillite
Limestone
Siltstone
Conglomerate
Andesitic Tuff
Hornblende Diorite

HOSTROCK COMMENTS: Stemwinder Mountain Formation is 225 Ma (Fieldwork 1987, page 66).
Hedley Intrusions date from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Pre-mineralization GRADE: Hornfels

INVENTORY

ORE ZONE: 87

REPORT ON: N

CATEGORY: Inferred
QUANTITY: 2080000 Tonnes
COMMODITY

YEAR: 1988

Gold

GRADE
1.3300 Grams per tonne

COMMENTS: Inferred reserves.

REFERENCE: Assessment Report 17631, page 11.

INVENTORY

ORE ZONE: 86 REPORT ON: N
 CATEGORY: Inferred YEAR: 1988
 QUANTITY: 1530000 Tonnes
 COMMODITY: Gold GRADE: 1.9000 Grams per tonne
 COMMENTS: Inferred reserves.
 REFERENCE: Assessment Report 17631, page 11.

ORE ZONE: BANBURY REPORT ON: Y
 CATEGORY: Inferred YEAR: 1988
 QUANTITY: 3610000 Tonnes
 COMMODITY: Gold GRADE: 1.5700 Grams per tonne
 COMMENTS: Total inferred reserves for the 86 and 87 zones.
 REFERENCE: Assessment Report 17631, page 11.

CAPSULE GEOLOGY

The Banbury Porphyry prospect occurs on the south bank of the Similkameen River, just west of Henri Creek, 3.5 to 4 kilometres west of Hedley. Gold-bearing veins and shear zones of the Banbury prospect (092HSE046) outcrop to the south.

In the area, north-striking, steeply-dipping sediments and volcanics of the Upper Triassic Stenwinder Mountain and Whistle Creek formations (Nicola Group) are cut by leucocratic quartz diorite and gabbro/diorite sills, dykes and stocks of the Early Jurassic Hedley Intrusions.

The Banbury stock (Hedley Intrusions), an elongate west-trending body, 400 metres wide by 1.5 kilometres long, interfingers with limestone, siltstone, argillite, conglomerate and andesitic tuff, marked by a hornfelsed contact aureole. The stock is composed of the following two phases: a medium to coarse-grained dark green hornblende diorite occurring along the southern margin, and a medium to fine-grained light grey quartz diorite along the northern margin. The quartz diorite is locally intensely skarn altered with coarse garnet and clinopyroxene.

Low-grade, near-surface, porphyry-type gold mineralization is hosted in diorite of the Banbury stock and in argillite and minor limestone of the Stenwinder Mountain Formation, adjacent to the stock's northern contact. This mineralization is contained in two zones, the 86 and 87 zones. The 86 zone is comprised of 3 steeply southeast-dipping, roughly tabular, en echelon bodies straddling the diorite-sediment contact. Two of the bodies are in quartz diorite, and the third occurs in sediments. The 86 zone has a composite strike length of 100 metres, a composite dip length of 250 metres and an overall thickness of 50 metres.

The 87 zone is a roughly tabular body in quartz diorite that is subparallel to the diorite-sediment contact. The zone's subvertical footwall lies 40 to 90 metres from the sediments. The body has a strike length of 185 metres, dip length of 150 metres and a 30 metre thickness.

Gold mineralization occurs in a quartz-carbonate stockwork and in slightly altered quartz diorite in the two zones. Minor pyrite and pyrrhotite and traces of arsenopyrite and chalcopyrite are associated with gold values. Several small nuggets and flakes of native gold have been observed in the 86 zone. Inferred reserves are as follows (Assessment Report 17631, page 11):

	Tonnes	Au (g/t)
86 Zone	1,530,000	1.90
87 Zone	2,080,000	1.33
Total	3,610,000	1.57

This deposit was discovered in 1986, while exploring for gold-bearing skarn zones adjacent to the Banbury stock, similar to that hosting the producing Nickel Plate mine (092HSE038), 7 kilometres to the east. Noranda Inc. drilled a total of 2753 metres in 12 holes during 1986 and 1987 while optioning the property from Banbury Gold Mines Ltd.

BIBLIOGRAPHY

EMPR ASS RPT *16746, *17631
 EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
 EMPR OF 1987-10; 1988-6
 EMR MIN BULL MR 223 B.C. 120
 GSC MAP 568A; 888A; 889A; 41-1989
 GSC OF 2167, pp. 59-80

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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REPORT: RGEN0100

BIBLIOGRAPHY

GCNL #109,#123,#218, 1986; #187, 1987
N MINER April 4, 1988
V STOCKWATCH June 23, July 7, Aug. 25, Sept. 29, 1987

DATE CODED: 1991/11/05
DATE REVISED: 1991/11/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE178**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARY 1**, SATURDAY (L. 2043)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 52 N
LONGITUDE: 120 06 14 W
ELEVATION: 716 Metres

NORTHING: 5472005
EASTING: 710266

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site R83572 along a roadcut on the north bank of the Similkameen River, 2 kilometres west-northwest of Hedley (Assessment Report 15864, Map 1B).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Arsenopyrite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: STRIKE/DIP: 050/80N TREND/PLUNGE:
COMMENTS: Mineralization is contained in a single quartz-calcite vein, 0.4 metre wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	

DATING METHOD: Fossil
MATERIAL DATED: Conodont

LITHOLOGY: Argillite
Biotite Feldspar Porphyry Dike
Andesite Porphyry Dike

HOSTROCK COMMENTS: Stemwinder Mountain Formation is approximately 225 million years old (Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 2.5000 Grams per tonne
Gold 6.0000 Grams per tonne
REFERENCE: Assessment Report 15864, Appendix A, sample R83572.

CAPSULE GEOLOGY

The Mary 1 showing is located along a roadcut on the north bank of the Similkameen River, 2 kilometres west-northwest of Hedley.

The showing consists of a quartz-calcite vein, 0.4 metre wide, mineralized with arsenopyrite, in black argillite of the Upper Triassic Stemwinder Mountain Formation (Nicola Group). The vein strikes 050 degrees, dips 80 degrees northwest and is associated with an adjacent late-stage, altered biotite feldspar porphyry dyke of similar strike. A rock sample analysed 6 grams per tonne gold, 2.5 grams per tonne silver and 1.71 per cent arsenic (Assessment Report 15864, Appendix A, sample R83572).

A green andesite porphyry dyke in Stemwinder Mountain Formation argillite outcrops on Highway 3, 350 metres south of the above vein, and strikes north-northeast for 76 metres. A sample of altered argillite adjacent to the dyke assayed 1.1 grams per tonne gold (Assessment Report 12905, sample 1).

BIBLIOGRAPHY

EMPR ASS RPT 12834, *12905, *15864

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1044
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR PF (*Kirby Energy Inc. (1989): Prospectus)
GSC MAP 568A; 888A; 889A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/06
DATE REVISED: 1991/11/12

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE179**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAN**, FRANKLIN NO. 1 (L.3882S), FRANKLIN NO. 2 (L.3883S),
OMEGA NO. 1 (L.3884S)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 22 56 N
LONGITUDE: 120 07 22 W
ELEVATION: 1073 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5473928
EASTING: 708819

LOCATION ACCURACY: Within 500M

COMMENTS: Adit at sample site R83581, adjacent to Chuchuwayha Indian Reserve 2,
4.2 kilometres northwest of Hedley (Assessment Report 15864, Map
1-A).

COMMODITIES: Silver

Zinc

Lead

Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 800 x 550 Metres
COMMENTS: Alteration zone.

STRIKE/DIP:

TREND/PLUNGE: 360/

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	
	DATING METHOD: Fossil		
	MATERIAL DATED: Conodont		
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Bromley Batholith
Lower Jurassic			Hedley Intrusions

LITHOLOGY: Argillaceous Limestone
Argillite
Siliceous Tuff
Limestone
Andesite Crystal Lithic Tuff
Andesite Ash Tuff
Limestone Boulder Conglomerate
Hornblende Biotite Quartz Diorite
Porphyritic Diorite Sill
Porphyritic Diorite Dike

HOSTROCK COMMENTS: Stemwinder Mountain Formation is approximately 225 million years old
(Geological Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock

YEAR: 1986

COMMODITY	GRADE	
Silver	16.5000	Grams per tonne
Lead	0.9978	Per cent
Zinc	3.0883	Per cent

COMMENTS: Sample of quartz with galena, sphalerite and pyrite from a shaft just
inside the Indian reserve.

REFERENCE: Assessment Report 15864, Appendix A, sample R83587.

MINFILE NUMBER: **092HSE180**

NATIONAL MINERAL INVENTORY: 092H8 Au6

NAME(S): **CRACKERJACK (L.3278)**, O.I.C. (L.3276)

STATUS: Prospect

Underground

MINING DIVISION: Osoyoos

REGIONS: British Columbia

NTS MAP: 092H08E

BC MAP:

LATITUDE: 49 22 00 N

LONGITUDE: 120 04 20 W

ELEVATION: 795 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit 1, 300 metres northwest of Hedley Creek, 0.8 kilometre north-northeast of Hedley (Assessment Report 17784, Figure 3).

UTM ZONE: 10 (NAD 83)

NORTHING: 5472341

EASTING: 712555

COMMODITIES: Gold

Silver

Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Pyrrhotite Chalcopyrite

ASSOCIATED: Quartz Calcite

ALTERATION: Garnet Diopside Epidote Silica

ALTERATION TYPE: Skarn Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

Massive

Vein

Shear

CLASSIFICATION: Skarn

Hydrothermal

Epigenetic

TYPE: K04 Au skarn

COMMENTS: Two mineralized skarn zones in limestone trend north. Mineralized shear zones in the Stemwinder stock strike northeast and dip shallowly to moderately west.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Stemwinder Mountain

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil

MATERIAL DATED: Conodont

Lower Jurassic

ISOTOPIC AGE: 199 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

Hedley Intrusions

LITHOLOGY:

Limestone

Garnet Diopside Epidote Skarn

Hornblende Diorite

Gabbro

Siltstone

Argillite

Quartzite

Chert

HOSTROCK COMMENTS:

Stemwinder Mountain Formation is 225 Ma (Fieldwork 1987, page 66).
Hedley Intrusions date from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

Plutonic Rocks

RELATIONSHIP: Syn-mineralization

GRADE:

INVENTORY

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

160.0000

Grams per tonne

Gold

7.2000

Grams per tonne

COMMENTS: A 50-centimetre chip sample taken across a shear zone in adit 3.

REFERENCE: Assessment Report 17784, page 6, sample 5408.

MINFILE NUMBER: **092HSE181**

NATIONAL MINERAL INVENTORY:

NAME(S): **BILLY GOAT NO. 1 (L.1864S)**, BILLY GOAT NO. 2 (L.1865S)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 05 N
LONGITUDE: 120 04 57 W
ELEVATION: 701 Metres

NORTHING: 5474319
EASTING: 711731

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site BG 04 on the west side of Hedley Creek, 2.5 kilometres north-northwest of Hedley (Assessment Report 17783, Figure 3).

COMMODITIES: Silver Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Sphalerite
ALTERATION: Epidote Silica
ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Shear
CLASSIFICATION: Skarn Epigenetic
TYPE: K01 Cu skarn K02 Pb-Zn skarn
DIMENSION: 20 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Skarn zones are mineralized over widths of up to 20 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Stemwinder Mountain	

DATING METHOD: Fossil
MATERIAL DATED: Conodont

Lower Jurassic Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Limestone
Siliceous Epidote Skarn
Argillite
Quartzite
Hornblende Diorite

HOSTROCK COMMENTS: Stemwinder Mountain Formation is 225 Ma (Fieldwork 1987, page 66). Hedley Intrusions date from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 1.6200 Grams per tonne
Zinc 0.1600 Per cent

COMMENTS: Sample of skarn on the west side of Hedley Creek.
REFERENCE: Assessment Report 17783, Appendix, sample BG04.

CAPSULE GEOLOGY

The various mineralized outcrops of the Billy Goat showing occur on both banks of Hedley Creek, 2.5 to 3 kilometres north-northwest of Hedley.

Mineralization occurs along the southwest flank of the Aberdeen stock, a body of medium-grained hornblende diorite of the Early Jurassic Hedley Intrusions. This stock intrudes limestone with lesser interbedded argillite and quartzite of the Upper Triassic Stemwinder Mountain Formation (Nicola Group). The limestone is commonly light green and silicified (skarned?). These metasediments strike southeast and dip moderately southwest within a band

CAPSULE GEOLOGY

outcropping along the west side of the creek. East of the creek, the metasediments occur as small remnants within the Aberdeen stock.

Mineralization is hosted in fine-grained siliceous skarn zones containing epidote, close to the Aberdeen stock. The zones are usually sheared and are mineralized with semimassive to massive clots of pyrite and pyrrhotite, with lesser chalcopyrite and sphalerite, over widths of up to 20 metres. One rock sample analysed 3.4 grams per tonne silver and 0.072 per cent copper, and a second analysed 1.62 grams per tonne silver and 0.16 per cent zinc (Assessment Report 17783, Appendix, samples BG01, BG04)

BIBLIOGRAPHY

EMPR ASS RPT *17783
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
GSC MAP 568A; 888A; 889A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/13
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE182**

NATIONAL MINERAL INVENTORY:

NAME(S): **HEDLEY CHIEF**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 09 N
LONGITUDE: 120 06 10 W
ELEVATION: 1303 Metres

NORTHING: 5474385
EASTING: 710255

LOCATION ACCURACY: Within 500M

COMMENTS: Area of stripping on the west side of Winkler Creek, 3.5 kilometres northwest of Hedley (Minister of Mines Annual Report 1916, page D5).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Arsenopyrite

COMMENTS: Trace chalcopyrite and arsenopyrite.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Skarn

Epigenetic

TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Stemwinder Mountain

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil

MATERIAL DATED: Conodont

LITHOLOGY: Siltstone
Argillite
Limestone
Skarn
Diorite Sill
Gabbro Sill

HOSTROCK COMMENTS: Stemwinder Mountain Formation is approximately 225 million years old (Geological Fieldwork 1987, page 66).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Hedley Chief showing is situated on the west side of Winkler Creek, 3.5 kilometres northwest of Hedley.

This area on the south side of Stemwinder Mountain is underlain by argillite, siltstone and limestone of the Upper Triassic Stemwinder Mountain Formation (Nicola Group). These sediments are intruded by diorite and gabbro sills and dykes of the Early Jurassic Hedley Intrusions.

Some stripping carried out by Hedley Chief Mines near the creek in 1936 exposed some pyrite and pyrrhotite, with traces of chalcopyrite and arsenopyrite, in "green silicate rocks" (skarn?).

BIBLIOGRAPHY

EMPR AR 1936-D5
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
GSC MAP 568A; 888A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/13
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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE183**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLIMAX (L.2665)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 08 N
LONGITUDE: 120 02 35 W

NORTHING: 5472670
EASTING: 714662

ELEVATION: 1646 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Climax claim (Lot 2665), 2.5 kilometres east-northeast of Hedley (NTS map sheet 092H/08).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown

COMMENTS: Iron oxide.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic Hydrothermal

TYPE: E03 Carbonate-hosted disseminated Au-Ag

DIMENSION: 18 x 1 Metres

COMMENTS: A 0.76-metre wide "seam" of iron oxide in a tunnel.

K04 Au skarn

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

DATING METHOD: Fossil

MATERIAL DATED: Conodont

Hedley

Lower Jurassic

ISOTOPIC AGE: 199 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

Hedley Intrusions

LITHOLOGY: Siltstone

Limestone

Hornblende Porphyritic Diorite

HOSTROCK COMMENTS: Hedley Formation is 225 Ma (Fieldwork 1987, page 66).
Hedley Intrusions date from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TUNNEL

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1901

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

29.0000

Grams per tonne

COMMENTS: Average assay for samples taken from first 12 metres in tunnel.

REFERENCE: Minister of Mines Annual Report 1901, page 1164.

CAPSULE GEOLOGY

The Climax occurrence is situated 2.5 kilometres east-northeast of Hedley.

This Crown-granted claim is underlain by siltstone and limestone of the Upper Triassic Hedley Formation (Nicola Group), and hornblende porphyritic diorite of the Toronto stock (Early Jurassic Hedley Intrusions).

A 0.76-metre thick "seam" of iron oxide occurs 53 metres down a cliff face. A tunnel was driven into the cliff along the seam over a length of 18 metres. Analyses of the seam over the first 12 metres are reported to average 29 grams per tonne gold (Minister of Mines Annual Report 1901, page 1164).

BIBLIOGRAPHY

EMPR AR 1900-883; 1901-1164; 1906-254; 1941-59

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GEOLOGICAL SURVEY BRANCH
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BIBLIOGRAPHY

EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR GEM 1970-393
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/21
DATE REVISED: 1992/05/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE184**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER CLIFF**, COPPER CLEFT (L.1877)

MINING DIVISION: Osoyoos

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 19 N
LONGITUDE: 120 02 26 W
ELEVATION: 1737 Metres

NORTHING: 5473017
EASTING: 714830

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Copper Cleft claim (Lot 1877) on the west slope of Nickel Plate Mountain, 2.8 kilometres northeast of Hedley (NTS map sheet 092H/08 (Edition 2)).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Sulphide

COMMENTS: Copper sulphides.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Layered Massive
CLASSIFICATION: Epigenetic Hydrothermal

DIMENSION:

STRIKE/DIP: /45W

TREND/PLUNGE:

COMMENTS: Sulphide layers up to 8 centimetres thick strike northeast and dip 45 degrees northwest.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Hedley	

DATING METHOD: Fossil
MATERIAL DATED: Conodont

Lower Jurassic

Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Siltstone
Limestone
Hornblende Porphyritic Diorite Dike

HOSTROCK COMMENTS: Hedley Formation is 225 Ma (Fieldwork 1987, page 66).
Hedley Intrusions date from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1901

COMMODITY	GRADE	
Silver	96.0000	Grams per tonne
Gold	4.1100	Grams per tonne
Copper	1.6000	Per cent

REFERENCE: Minister of Mines Annual Report 1901, page 1164.

CAPSULE GEOLOGY

The Copper Cliff (Copper Cleft) showing is situated on the west slope of Nickel Plate Mountain, near its summit, 2.8 kilometres northeast of Hedley.

This Crown-granted claim is underlain by siltstone and limestone of the Upper Triassic Hedley Formation. These sediments are intruded by hornblende porphyritic diorite dykes of the Early Jurassic Hedley Intrusions.

This showing consists of a large outcrop of pyrrhotite and copper sulphides ("copper pyrites"), occurring at the base of a 60 metre bluff. Mineralization is bedded, occurring in layers up to 8 centimetres thick that strike northeast and dip 45 degrees west, parallel to the slope. Sulphide layers vary in composition, with those in the upper part of the showing tending to be richer in copper

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CAPSULE GEOLOGY

sulphide and those in the lower part being richer in pyrrhotite. A representative sample assayed 4.11 grams per tonne gold, 96 grams per tonne silver and 1.6 per cent copper (Minister of Mines Annual Report 1901, page 1164).

BIBLIOGRAPHY

EMPR AR 1899-742; 1900-883; 1901-1164; 1902-304; 1941-59
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR GEM 1970-393
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC MEM 2; 243
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/22
DATE REVISED: 1992/04/22

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE185**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMMING BIRD (L.900S)**, SNOWFLAKE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Osoyoos

LATITUDE: 49 23 03 N
LONGITUDE: 120 02 02 W
ELEVATION: 1966 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5474394
EASTING: 715261

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Humming Bird claim (Lot 900s) on the southwest slope of Lookout Mountain, 4 kilometres northeast of Hedley (NTS map sheet 092H/08 (Edition 2)).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Gold
ASSOCIATED: Quartz
ALTERATION: Silica
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins I01 Au-quartz veins
DIMENSION: 60 x 13 x 1 Metres STRIKE/DIP: 153/ TREND/PLUNGE:
COMMENTS: The mineralized vein strikes 153 degrees for 60 metres and has been traced over a vertical distance of 13 metres. The vein is 0.20 to 0.36 metre wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Andesite Ash Tuff
Tuffaceous Siltstone
Argillite
Limestone
Diorite
Hornblende Porphyritic Diorite Dike

HOSTROCK COMMENTS: Hedley Intrusions date from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1901
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 7.0000 Grams per tonne
COMMENTS: Samples averaged 5 to 7 grams per tonne gold.
REFERENCE: Minister of Mines Annual Report 1901, page 1163.

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1923
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 18.6000 Grams per tonne
COMMENTS: Assay is for gold equivalent for combined gold and silver.
REFERENCE: Minister of Mines Annual Report 1923, page 186.

CAPSULE GEOLOGY

The Humming Bird showing occurs along the west side of Lookout

CAPSULE GEOLOGY

Mountain, near its summit, about 4 kilometres northeast of Hedley.

The northwest and southwest slopes of Lookout Mountain are primarily underlain by andesite ash tuff and tuffaceous siltstone of the Upper Triassic Whistle Creek Formation (Nicola Group). These rocks are intruded by hornblende porphyritic diorite dykes of the Early Jurassic Hedley Intrusions.

Arsenopyrite and pyrite occur disseminated in a "fine-grained igneous rock" (tuff?). Samples of the mineralization are reported to average 5 to 7 grams per tonne gold (Minister of Mines Annual Report 1901, page 1163). High copper values are also reported.

The showing was trenched, tunnelled and diamond drilled (610 metres) between 1901 and 1906.

A narrow quartz vein occurs in the immediate vicinity of the above showing, likely on the Lookout claim (Lot 899s). The vein is primarily hosted in argillite. In one instance, the vein occurs along the contact between diorite and limestone. The vein strikes 153 degrees and is 0.2 to 0.36 metre wide. Trenching and tunnelling has traced the vein over a strike length of 60 metres and a vertical depth of 13 metres. It is displaced at depth by a crossfault.

The vein is mineralized with disseminated pyrite and arsenopyrite, both extensively oxidized. Samples are reported to contain 18.6 to 66.3 grams per tonne gold equivalent for combined gold and silver (Minister of Mines Annual Report 1923, page 186). Free gold occurs in the silicified and pyritized limestone near the vein.

This occurrence was explored with a series of opencuts and shafts, and one 33-metre long adit between 1923 and 1931.

BIBLIOGRAPHY

- EMPR AR *1901-1163; 1905-190; 1906-166; 1911-292; *1923-186;
*1931-134
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
GSC MAP 568A; 888A; 41-1989
GSC MEM 2, p. 203; 243
GSC OF 2167, pp. 59-80

DATE CODED: 1991/11/22
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CODED BY: PSF
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE186**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARATHON**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 00 N
LONGITUDE: 120 15 53 W
ELEVATION: 957 Metres

NORTHING: 5475521
EASTING: 698447

LOCATION ACCURACY: Within 500M

COMMENTS: Opencut, 5.5 metres long, on the south side of the Similkameen River, opposite a bend in the river, 14.5 kilometres northwest of Hedley (Property File - M.S. Hedley, 1936).

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz Hematite
ALTERATION: Sericite Calcite Epidote
ALTERATION TYPE: Sericitic Carbonate Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 500 x 1 Metres
COMMENTS: Zone of shearing. STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Granodiorite
Porphyritic Rhyolite Dike
Quartz Monzonite

HOSTROCK COMMENTS: Date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks

CAPSULE GEOLOGY

The Marathon showing is situated on the south side of the Similkameen River, opposite a bend in the river, 14.5 kilometres northwest of Hedley. This region south of the Similkameen River is underlain by granodiorite to quartz monzonite of the Early Jurassic Bromley batholith.

The showing is hosted in a quartz orthoclase porphyritic rhyolite dyke, 5 metres wide, which strikes roughly north and dips steeply west. A zone of shearing, containing sericite, calcite and epidote, occurs in the east wall of the dyke. The zone is 0.6 to 1.5 metres wide and has been traced sporadically in surface and underground workings over a strike length of approximately 500 metres.

The zone is mineralized with rare and erratically distributed stringers and grains of sulphides, including pyrite, chalcopyrite, galena and an unknown fine-grained silvery sulphide (arsenopyrite?). The mineralization is accompanied by some granular quartz and a little manganese staining. Three samples taken from an opencut contained traces of gold and silver (Property File - M.S. Hedley, 1936).

A number of vertically dipping stringers, up to 10 centimetres wide, cut granodiorite, about 0.4 kilometre to the west. The stringers strike 155 degrees and consist of hematite, quartz and minor chalcopyrite. The granodiorite also contains bands and masses of epidote up to 0.6 metre across, some 200 metres farther west. The bands trend 155 degrees and contain small amounts of hematite and traces of chalcopyrite and quartz.

The various showings were explored by an adit 4.6 metres long,

CAPSULE GEOLOGY

and several opencuts and areas of stripping between 1934 and 1936.

BIBLIOGRAPHY

EMPR AR 1934-D21; 1936-D5
EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6
EMPR P 1989-3, pp. 19-35
EMPR PF (*Hedley, M.S. (1936): Special Report on the Marathon
Property)
GSC MAP 568A; 888A; 41-1989
GSC MEM 243
GSC OF 2167, pp. 59-80
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

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MINFILE NUMBER: **092HSE187**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOFT**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H01E
BC MAP:

Open Pit

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 42 N
LONGITUDE: 120 00 22 W
ELEVATION: 732 Metres

NORTHING: 5453449
EASTING: 718110

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on Red Bridge Creek, 500 metres northwest of the Ashnola River and 19 kilometres south-southeast of Hedley (L. Faggetter, personal communication, 1991).

COMMODITIES: Rhodonite

Gemstones

MINERALS

SIGNIFICANT: Rhodonite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic
TYPE: Q02 Rhodonite
COMMENTS: Three variably dipping pod-like veins up to 0.6 metre thick.

Discordant

Hydrothermal

Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Apex Mountain

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Chert
Steatite

HOSTROCK COMMENTS: The Apex Mountain Complex is Ordovician to Triassic in age (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Okanagan
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

The Soft rhodonite showing is situated on Red Bridge Creek, 500 metres northwest of the Ashnola River and 19 kilometres south-southeast of Hedley.

Three variably dipping veins of rhodonite occur in a 90-metre cliff adjacent to the creek, within green chert of the Ordovician to Triassic Apex Mountain Complex. The veins pinch and swell, varying between 0.15 and 0.6 metre in width. Steatite ("soapstone") is reported to be associated with the veins.

Up to a hundred kilograms of rhodonite have been removed by L. Faggetter between 1989 and 1991.

BIBLIOGRAPHY

GSC MAP 888A; 41-1989
GSC MEM 243
*Faggetter, L., personal communication, 1991
Milford, J.C., (1984): Geology of the Apex Mountain Group, North and East of the Similkameen River, South Central British Columbia, unpublished M.Sc. thesis, University of British Columbia

DATE CODED: 1991/11/27
DATE REVISED: 1992/04/28

CODED BY: PSF
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE187**

MINFILE NUMBER: **092HSE188**

NATIONAL MINERAL INVENTORY:

NAME(S): **WOOD GRAIN**

MINING DIVISION: Osoyoos

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H01E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 43 N
LONGITUDE: 120 01 18 W
ELEVATION: 1018 Metres

NORTHING: 5453435
EASTING: 716976

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Wood Grain claim on the south side of Red Bridge Creek, 1.5 kilometres west-northwest of its confluence with the Ashnola River and 19 kilometres south-southeast of Hedley (Energy, Mines and Petroleum Resources claim sheet map 092H/01E (1991)).

COMMODITIES: Opal Gemstones

MINERALS

SIGNIFICANT: Opal
ASSOCIATED: Bentonite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Stratabound
CLASSIFICATION: Replacement Sedimentary Industrial Min.
TYPE: Q08 Sediment-hosted opal
DIMENSION: 6 x 1 Metres STRIKE/DIP:
COMMENTS: Three petrified ("opalized") logs up to 5.5 metres long and 0.5 metre wide.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Eocene Princeton Undefined Formation

LITHOLOGY: Bentonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Overlap Assemblage Quesnel

INVENTORY

ORE ZONE: SHOWING REPORT ON: Y
CATEGORY: Inferred YEAR: 1991
QUANTITY: 1 Tonnes
COMMODITY Gemstones GRADE 100.0000 Per cent
COMMENTS: Inferred reserves estimated at 500 kilograms.
REFERENCE: L. Faggetter, personal communication, 1991.

CAPSULE GEOLOGY

The Wood Grain petrified wood showing is located on the south side of Red Bridge Creek, 1.5 kilometres west-northwest of the creek's confluence with the Ashnola River and 19 kilometres south-southeast of Hedley.

Petrified wood occurs in bentonite of the Eocene Princeton Group?. The showing consists of three petrified logs up to 5.5 metres long and 0.5 metre wide that have been "opalized". The rounded nature of the logs and the lack of branches suggests the logs were tumbled before being deposited. The three logs are estimated to contain approximately 500 kilograms of petrified wood (L. Faggetter, personal communication, 1991).

The showing was prospected and sampled by L. Faggetter between 1989 and 1991.

BIBLIOGRAPHY

GSC MAP 888A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1062
REPORT: RGEN0100

BIBLIOGRAPHY

*Faggetter, L., personal communication, 1991

DATE CODED: 1991/11/27
DATE REVISED: 1992/04/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE189**

NATIONAL MINERAL INVENTORY:

NAME(S): **CU, IT, NO. 2 BRECCIA,
LUCKY BILL, BRECCIA 1**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H01W
BC MAP:

MINING DIVISION: Osoyoos

LATITUDE: 49 06 02 N
LONGITUDE: 120 19 27 W
ELEVATION: 1554 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5442083
EASTING: 695313

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of unit 5b adjacent to drill hole 79-1, 0.5 kilometre northwest of the Ashnola River, 1.3 kilometres south of McBride Creek and 34 kilometres southwest of Hedley (Assessment Report 17716, Figure 14).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Malachite Chalcocite Cuprite Copper Pyrite

ASSOCIATED: Limonite Quartz

ALTERATION: Limonite Clay Malachite Cuprite

ALTERATION TYPE: Oxidation Argillic Leaching

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Pipe Disseminated Stockwork

CLASSIFICATION: Diatreme Epigenetic

TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)

SHAPE: Cylindrical

DIMENSION: 150 x 100 x 90 Metres STRIKE/DIP: 360/

COMMENTS: Mineralization is hosted in an elliptical north-trending breccia pipe 150 metres long and up to 90 metres wide on surface. Drilling indicates mineralization continues to at least 100 metres depth. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE: Cretaceous GROUP: Spences Bridge FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Pipe
Breccia
Quartz Feldspar Porphyritic Rhyolite
Feldspar Amphibole Porphyritic Andesite

HOSTROCK COMMENTS: Rhyolite mapped as a subvolcanic equivalent of the Middle to Upper Cretaceous Spences Bridge Group (GSC Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: PIPE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988

SAMPLE TYPE: Drill Core

COMMODITY: Copper GRADE: 0.1500 Per cent

COMMENTS: Average copper assay over 135 metres (5 to 140 metres).

REFERENCE: Assessment Report 17716, page 14, Hole 79-1.

CAPSULE GEOLOGY

The CU prospect occurs on the west side of the Ashnola River Valley, about 1.3 kilometres south of McBride Creek and 34 kilometres southwest of Hedley.

The area lying west of the Ashnola River, in the vicinity of McBride Creek, is underlain by Middle to Late Cretaceous felsic intrusions that may be subvolcanic equivalents of the Spences Bridge Group.

The occurrence is hosted in a quartz-feldspar-mica porphyritic rhyolite, exhibiting an aphanitic white to purple to dark grey matrix. The unit is overlain to the south by a dark grey feldspar amphibole porphyritic andesite. The rhyolite is cut by a

CAPSULE GEOLOGY

breccia pipe (diatreme) containing angular to subangular fragments of rhyolite up to several metres in diameter in a matrix of limonite and fine rock fragments. The diatreme outcrops over an elliptical area trending north for 150 metres and up to 90 metres wide.

This breccia is one of three diatremes occurring along a broad northeasterly oriented arc. The two others are situated 2.2 kilometres (IT, 092HSE153) and 3.4 kilometres southwest of this occurrence.

Hydrothermal alteration is intensive, but confined to the occurrence. Rhyolite fragments within the breccia pipe are strongly argillically altered, while the rhyolite country rock is fractured but unaltered. The limonitic and porous nature of the breccia indicates that extensive oxidation and leaching of sulphides has occurred. Voids between breccia fragments are often lined with drusy quartz in addition to limonite.

Mineralization comprises secondary copper minerals with traces of primary (hypogene) sulphides occurring interstitially to the breccia fragments. These minerals include malachite, chalcocite, cuprite, native copper and minor remnant pyrite and chalcopyrite. Diamond drilling to vertical depths of 100 metres indicates these minerals also occur in fractures in the rhyolite wallrock. A chip sample taken over 15 metres of strongly malachite-stained breccia assayed 0.19 per cent copper (Assessment Report 4377, page 11). One angled drill hole averaged 0.15 per cent copper over 135 metres (Assessment Report 17716, page 14, hole 79-1, 5-140 metres). Resampling of drill core suggests higher gold values (up to 1.2 grams per tonne) are associated with intense argillic alteration and not with higher copper grades. A negative association between silver and copper is also evident. One resampled section analysed 0.68 gram per tonne gold, 5.8 grams per tonne silver and 0.10 per cent copper over 6.1 metres (Assessment Report 17716, page 15, hole 79-1, 67.1-73.2 metres). A second sample of core assayed 0.39 gram per tonne gold, 1.5 grams per tonne silver and 0.16 per cent copper over 9.8 metres (Property File - M. Renning, 1987, assay certificate, hole 79-1, 31.7-41.5 metres).

This deposit was first explored by Mineral Mountain Mining Company in 1972. Ashnola Mining Company Ltd. carried out geological mapping, geophysical surveying, soil sampling and 586 metres of diamond drilling in 3 holes during 1979. The deposit was reassessed by Murtec Resources Ltd. in 1987 and 1988 for precious metals in addition to copper.

BIBLIOGRAPHY

EMPR ASS RPT 4377, *7549, *17716
EMPR EXPL 1979-140
EMPR GEM 1972-99
EMPR PF (*Renning, M. (1987): Ashnola River Gold Discovery)
GSC MAP 888A; 41-1989
GSC MEM 243
GCNL #97,*#101, 1977; #118, 1979

DATE CODED: 1991/11/28
DATE REVISED: 1992/04/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE190**

NATIONAL MINERAL INVENTORY:

NAME(S): **COOL CREEK**, MAC CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H01W
BC MAP:

MINING DIVISION: Osoyoos

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 08 10 N
LONGITUDE: 120 19 07 W
ELEVATION: 1832 Metres

NORTHING: 5446049
EASTING: 695578

LOCATION ACCURACY: Within 500M

COMMENTS: Located on sample site 131, 1.5 kilometres northwest of the Ashnola River, 2.7 kilometres northeast of McBride Creek and 30 kilometres southwest of Hedley (Assessment Report 13370, Figure 2).

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous	Spences Bridge	Undefined Formation	

LITHOLOGY: Feldspar Porphyritic Rhyolite
Felsic Intrusive

HOSTROCK COMMENTS: Rhyolite mapped as a subvolcanic equivalent of the Middle to Upper Cretaceous Spences Bridge Group (GSC Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Rock	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	12.0000 Grams per tonne

COMMENTS: Rock sample of rhyolite from the headwaters of Mac Creek.
REFERENCE: Assessment Report 13370, page 19, sample GOP-0131.

CAPSULE GEOLOGY

The Cool Creek showing is located at the headwaters of Mac Creek, 1.5 kilometres northwest of the Ashnola River and 2.7 kilometres northeast of McBride Creek.

An extensive area lying northwest of the Ashnola River, between McBride and Cool creeks is underlain by Middle to Late Cretaceous felsic intrusions that may be subvolcanic equivalents of the Spences Bridge Group.

This area at the headwaters of Mac Creek is underlain by grey-weathering feldspar porphyritic rhyolite. A rock sample of this rhyolite taken in 1984 contained 12 grams per tonne silver (Assessment Report 13370, page 19, sample GOP-0131).

BIBLIOGRAPHY

EMPR ASS RPT 12610, *13370
GSC MAP 888A; 41-1989
GSC MEM 243

DATE CODED: 1991/11/28
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE191**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN CROWN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H02E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 09 12 N
LONGITUDE: 120 35 10 W
ELEVATION: 1036 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5447307
EASTING: 676008

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the east bank of the Similkameen River, just south of its confluence with the Pasayten River (Minister of Mines Annual Report 1901, page 1174). The location is somewhat uncertain.

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Bornite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)

G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Schistose Meta Sediment/Sedimentary
Schistose Meta Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: This deposit occurs in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1901

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

2.0000

Per cent

COMMENTS: Average grade of quartz-bearing material in adit dump.

REFERENCE: Minister of Mines Annual Report 1901, page 1174.

CAPSULE GEOLOGY

The Golden Crown showing is located on the east bank of the Similkameen River, just south of its confluence with the Pasayten River and 34 kilometres south-southwest of Princeton.

This area is underlain by schistose metasediments and metavolcanics derived from the Upper Triassic Nicola Group. These units generally strike northwest, roughly paralleling the contact with the Late Jurassic to Early Cretaceous Eagle Plutonic Complex to the west.

A 21-metre long adit, driven mostly through overburden and broken or loose rock, encountered quartz mineralized with bornite. A considerable amount of this material was removed from the adit. The vein from which this material originated was reported not to be visible in the face of the adit. Sorted ore at the adit dump averaged about 2 per cent copper (Minister of Mines Annual Report 1901, page 1174). High values in gold and silver are also reported.

This showing was explored by Bonnevier and Pouwels in 1901.

BIBLIOGRAPHY

EMPR AR *1901-1174
EMPR ASS RPT 2807, 21491
GSC BULL 238
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1067
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1991/12/03
DATE REVISED: 1992/06/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1068
REPORT: RGEN0100

MINFILE NUMBER: **092HSE192**

NATIONAL MINERAL INVENTORY:

NAME(S): Y, Y 2, Y 15

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 04 N
LONGITUDE: 120 29 15 W
ELEVATION: 1615 Metres

NORTHING: 5462114
EASTING: 682713

LOCATION ACCURACY: Within 500M

COMMENTS: Grid point 85 South, 10 West (site of trench), at the headwaters of Wolfe Creek, 4.5 kilometres east of the Similkameen River and 19.5 kilometres south of Princeton (Assessment Report 3188, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite

COMMENTS: Trace chalcopyrite.

ALTERATION: Silica Chlorite

ALTERATION TYPE: Silicific'n Chloritic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Breccia

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) G04 Besshi massive sulphide Cu-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Crystal Tuff
Tuffaceous Argillite

HOSTROCK COMMENTS: The showing occurs in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

COMMENTS: This deposit is in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Y showing is located 4.5 kilometres east of the Similkameen River and 19.5 kilometres south-southeast of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows.

Volcanic breccia, crystal tuff and tuffaceous argillite of the Nicola Group are exposed in an old trench at the headwaters of Wolfe Creek. A large portion of the volcanics are silicified. Chloritization of mafic phenocrysts is also evident. The altered volcanics contain 2 to 5 per cent disseminated pyrrhotite and pyrite, with traces of chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT 3187, *3188
EMPR BULL 59
EMPR GEM 1971-275
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1991/12/04
DATE REVISED: 1992/06/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE192**

MINFILE NUMBER: **092HSE193**

NATIONAL MINERAL INVENTORY:

NAME(S): **Y 46**, Y

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 43 N
LONGITUDE: 120 28 04 W
ELEVATION: 1585 Metres

NORTHING: 5463366
EASTING: 684107

LOCATION ACCURACY: Within 500M

COMMENTS: Grid point 70 South, 48 East (site of outcrops), at the headwaters of Wolfe Creek, 5.5 kilometres east of the Similkameen River and 18.5 kilometres south-southeast of Princeton (Assessment Report 3188, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
COMMENTS: Trace chalcopyrite.
ALTERATION: Chlorite Feldspar
ALTERATION TYPE: Chloritic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) G04 Besshi massive sulphide Cu-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Altered Volcanic

HOSTROCK COMMENTS: This showing is situated in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
COMMENTS: The deposit occurs in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Y 46 showing is located 5.5 kilometres east of the Similkameen River and 18.5 kilometres south-southeast of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows.

Mineralized outcrops of Nicola Group volcanics are exposed at the headwaters of Wolfe Creek. The volcanics exhibit chloritic and "feldspathic" (potassic?) alteration and contain 1 to 2 per cent pyrite, with traces of chalcopyrite. Similarly mineralized and altered outcrops occur 1 kilometre west-southwest of this showing at grid coordinates 70 South, 16 East (Assessment Report 3188).

BIBLIOGRAPHY

EMPR ASS RPT 3187, 3188
EMPR BULL 59
EMPR GEM 1971-275
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1991/12/04
DATE REVISED: 1991/12/04

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE194**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELK NO. 1 FRACTION (L.7786)**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 24 N
LONGITUDE: 120 32 48 W
ELEVATION: 945 Metres

NORTHING: 5462590
EASTING: 678391

LOCATION ACCURACY: Within 500M

COMMENTS: Area of potassium feldspar veins at the southwest corner of the Elk No. 1 claim (Lot 7786), 200 metres east of the Similkameen River and 18.5 kilometres south of Princeton (Assessment Report 2846, Map 2).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Malachite Bornite
ASSOCIATED: K-Feldspar Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkaline porphyry Cu-Au
DIMENSION: 60 x 30 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: A series of mineralized veinlets occur over a 30 by 60-metre area.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Diorite
Volcanic

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence lies in the Nicola belt, near its south end.

CAPSULE GEOLOGY

The Elk No. 1 showing is located 200 metres east of the Similkameen River and 18.5 kilometres south of Princeton. The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. A number of potassium feldspar veinlets occur in a 30 by 60 metre area in diorite of the Copper Mountain stock (Copper Mountain Intrusions), about 80 metres north of its contact with Nicola Group volcanics. The veinlets are discontinuous, varying up to 12 metres in length, and 8 centimetres in width. This veining is of relatively low density, with one veinlet occurring roughly every 4.6 metres. The veinlets are comprised mostly of pink potassium feldspar (orthoclase). Wider veinlets also contain smoky quartz. The veins are mineralized with malachite and bornite. These veins are similar to "red potash feldspar pegmatite" veins carrying bornite and chalcocopyrite that are noted to occur frequently in the Copper Mountain stock (Bulletin 59). The showing was mapped by Newmont Mining Corporation of Canada Ltd. in 1970 and 1971.

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EMPR AR 1968-214
EMPR ASS RPT *2846, 2847, 15854
EMPR BULL 59, pp. 78,79

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1071
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR EXPL 1975-E69,E70
EMPR GEM 1971-269,270
GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171, p. 25; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp.
633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the
Copper Mountain Intrusions near Princeton, British Columbia;
unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1991/12/07
DATE REVISED: 1992/05/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE195**

NATIONAL MINERAL INVENTORY:

NAME(S): **ILK, FRIDAY CREEK, PAT 1,
MULDOON**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

LATITUDE: 49 17 38 N
LONGITUDE: 120 33 20 W
ELEVATION: 1067 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5463002
EASTING: 677731

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of trenching and sampling, 400 metres west of the Similkameen River and 18.5 kilometres south of Princeton (Property File - D.F. Hamelin, 1960).

COMMODITIES: Copper Gold Silver Palladium

MINERALS

SIGNIFICANT: Bornite Pyrite
ASSOCIATED: Carbonate
ALTERATION: Malachite
ALTERATION TYPE: Oxidation Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Pegmatite Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: 180 x 60 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized faults and pegmatite veins occur in an area 60 metres wide, trending north-northwest for 180 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Diorite
Pegmatite
Syenite
Volcanic

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane Quesnel PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Plutonic Rocks
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1960
SAMPLE TYPE: Chip
COMMODITY: Copper GRADE Per cent
Copper 2.1600

COMMENTS: This 6.1-metre long chip sample was taken across an irregular zone of bornite-bearing pegmatite veins.
REFERENCE: Property File - D.F. Hamelin, 1960.

CAPSULE GEOLOGY

The Ilk showing is 400 metres west of the Similkameen River and 18.5 kilometres south of Princeton. The Friday Creek prospect (092HSE033) is 800 metres north-northwest of this showing. The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions. The occurrence lies about 600 metres northeast of the Boundary fault. This steeply-

CAPSULE GEOLOGY

dipping normal fault downdrops overlying Eocene volcanics and sediments of the Princeton Group to the west against Nicola Group rocks and the Copper Mountain stock (Copper Mountain Intrusions).

The showing consists of several steeply-dipping faults, striking northeast to northwest, in diorite of the Copper Mountain stock. Veins of pink pegmatite/syenite are also present and tend to be associated with the faults. Mineralization is contained in a 60 by 180 metre area trending north-northwest, roughly paralleling the contact with Nicola Group volcanics, 60 to 90 metres to the west.

The faults contain malachite and pyrite and the pegmatite veins are mineralized with bornite. A chip sample, 6.1 metres long, taken across an irregular zone of pegmatite veins with bornite, assayed 2.16 per cent copper (Property File - D.F. Hamelin, 1960). A second chip sample, 3 meters long, taken along a fault containing malachite and pyrite, assayed 0.35 per cent copper (D.F. Hamelin, 1960). A grab sample of bornite-rich material taken from a narrow vein assayed 28.06 per cent copper, 18.5 grams per tonne gold, 213 grams per tonne silver, trace palladium and nil platinum (Minister of Mines Annual Report 1960, page 57). A second grab sample from a carbonate-rich zone in diorite assayed 64.5 grams per tonne palladium (D.F. Hamelin, 1960).

This occurrence was trenched and soil sampled by Phelps Dodge Corporation in 1958. Friday Creek Development Company Ltd. sampled the showing in 1960 and Hanna Mining Company conducted geological mapping and an induced polarization survey in 1965.

BIBLIOGRAPHY

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- EMPR AR 1958-30,31; 1960-56,57; 1965-161; 1966-245; 1968-214
- EMPR ASS RPT 751
- EMPR BULL 59, pp. 78,79
- EMPR PF (*Hamelin, D.F. (1960): 1:2400 scale map of trenches and sample sites for Friday Creek Development Co. Ltd. (see 092HSE033))
- EMR MP CORPFILE (Friday Creek Development Co. Ltd., Samson Mines Ltd., Copper Basin Mines Ltd.)
- GSC BULL 239, pp. 140,141
- GSC MAP 300A; 888A; 1386A; 41-1989
- GSC MEM 171, p. 25; 243
- GSC P 85-1A, pp. 349-358
- CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
- CJES Vol. 24, pp. 2521-2536 (1987)
- Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1991/12/08
DATE REVISED: 1992/06/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE196**

NATIONAL MINERAL INVENTORY:

NAME(S): **NO. 67 FRACTION (L.59S)**, NO. 68 FRACTION (L.60S)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 22 N
LONGITUDE: 120 32 46 W
ELEVATION: 823 Metres

NORTHING: 5464383
EASTING: 678373

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the east bank of the Similkameen River, on the No. 67 Fraction claim (Lot 59s), 17 kilometres south-southwest of Princeton (Geological Survey of Canada Map 300A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkaic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Pegmatite
Syenite

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The No. 67 showing is situated on the east bank of the Similkameen River, 17 kilometres south-southwest of Princeton.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

This occurrence consists of a high-grade bornite showing in pegmatite and syenite of the Copper Mountain stock (Copper Mountain Intrusions). A hole drilled to a depth of 30 metres encountered a narrow section of bornite mineralization.

This showing was initially explored by an adit some time before 1934. Copper Mountain Mines Ltd. drilled one hole in 1960. Newmont Exploration of Canada Ltd. completed soil and geophysical surveys over the showing in 1987.

BIBLIOGRAPHY

EMPR ASS RPT 16745
EMPR BULL 59
EMPR PF (*Collishaw, R. (1960): Letter to J.M. Carr, page 3 (see 092HSE080))
GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia;

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1075
REPORT: RGEN0100

BIBLIOGRAPHY

unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1991/12/08
DATE REVISED: 1992/05/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE197**

NATIONAL MINERAL INVENTORY:

NAME(S): **INDEPENDENCE (L.2017S)**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 51 N
LONGITUDE: 120 31 41 W
ELEVATION: 1222 Metres

NORTHING: 5465321
EASTING: 679656

LOCATION ACCURACY: Within 500M

COMMENTS: South end of trench TR-1 on the Independence claim (Lot 2017s), 800 metres southeast of the Similkameen River and 16 kilometres south of Princeton (Assessment Report 2792, Map 5).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
COMMENTS: Mineralization is contained in dykes striking northeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Copper Mountain Intrusions

ISOTOPIC AGE: 193 +/- 7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Monzonite

LITHOLOGY: Syeno Diorite
Biotite Syeno Gabbro
K-Feldspar Porphyry Dike

HOSTROCK COMMENTS: Isotopic age date for the Copper Mountain stock is from Bulletin 59, page 43.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks Quesnel
PHYSIOGRAPHIC AREA: Thompson Plateau
COMMENTS: This occurrence is situated in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: TRENCH
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Copper
GRADE: 0.1625 Per cent
YEAR: 1970
COMMENTS: Grab sample of dyke taken near the south end of trench TR-1.
REFERENCE: Assessment Report 2792, page 6.

CAPSULE GEOLOGY

The Independence showing is 800 metres southeast of the Similkameen River, 16 kilometres south of Princeton. The Idaho showing (092HSE096) lies 550 metres southwest of this occurrence.

The area is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by diorite and monzonite, locally pyroxenite and gabbro, of the Early Jurassic Copper Mountain and Lost Horse intrusions.

This Crown-granted claim is underlain mostly by syenodiorite of the Copper Mountain stock (Copper Mountain Intrusions). A trench exposes jointed syenodiorite cut by mylonitic zones, just west of the contact with biotite syenogabbro. Potassium feldspar porphyry dykes, 1.3 to 15 centimetres wide, occur in some of the northeast striking joints.

The dykes contain chalcopyrite and malachite as thin, short fracture fillings. The fractures generally trend west and dip

CAPSULE GEOLOGY

steeply north. A grab sample from one of these dykes near the south end of trench TR-1 assayed 0.163 per cent copper (Assessment Report 2792, page 6).

Cumont Mines Ltd. conducted trenching and geological, soil and magnetometer surveys over this showing in 1966 and 1970.

BIBLIOGRAPHY

EMPR AR 1917-453
EMPR ASS RPT 838, *2792
EMPR BULL 59
GSC BULL 239, pp. 140,141
GSC MAP 300A; 888A; 1386A; 41-1989
GSC MEM 171; 243
GSC P 85-1A, pp. 349-358
CIM BULL Vol. 44, No. 469, pp. 317-324 (1951); Vol. 61, No. 673, pp. 633-636 (1968)
CJES Vol. 24, pp. 2521-2536 (1987)
Montgomery, J.H. (1967): Petrology, Structure and Origin of the Copper Mountain Intrusions near Princeton, British Columbia; unpublished Ph.D. thesis, University of British Columbia

DATE CODED: 1991/12/09
DATE REVISED: 1991/12/09

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE198**

NATIONAL MINERAL INVENTORY: 092H8 Cu3

NAME(S): **BORNITE**, SHAMROCK

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 34 N
LONGITUDE: 120 23 51 W
ELEVATION: 1128 Metres

NORTHING: 5483641
EASTING: 688522

LOCATION ACCURACY: Within 500M

COMMENTS: Gossanous copper showing 120 metres down the steep east slope of Holmes Mountain, 1.8 kilometres north of the Similkameen River and 9 kilometres east-northeast of Princeton (Minister of Mines Annual Report 1915, page 243).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 900 x 23 Metres
COMMENTS: Mineralized dyke.

STRIKE/DIP: 360/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Dioritic Quartz Porphyry Dike
Andesite
Basalt
Sediment/Sedimentary
Quartz Porphyry Dike
Pulaskite Dike

HOSTROCK COMMENTS: Date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bornite prospect is located on the east slope of Holmes Mountain, which forms the steep west bank of Hayes Creek, 9 kilometres east-northeast of Princeton.

The region north of the Similkameen River is underlain to the east by intrusive rocks of the Early Jurassic Bromley batholith, and to the west by volcanics and minor sediments of the Upper Triassic Nicola Group.

The east slope of Holmes mountain is underlain by andesites, basalts and minor sediments of the Nicola Group, near the western margin of the Bromley batholith. The contact between the Nicola Group rocks and the Bromley batholith generally trends north-northwest along Hayes Creek. The volcanics are cut by pulaskite and quartz porphyry dykes that are likely related to the Bromley batholith.

Copper mineralization is hosted in one of these dykes, a dioritic quartz porphyry dyke, about 23 metres wide. The dyke strikes north for at least 900 metres, and contains disseminated chalcopyrite and pyrite.

This prospect was explored by two trenches and one adit between 1908 and 1915.

BIBLIOGRAPHY

EMPR AR 1908-129; 1915-243; 1919-171

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1079
REPORT: RGEN0100

BIBLIOGRAPHY

EMR MP CORPFILE (Southern Lights Resources Ltd.)
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243, p. 91
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/01/08
DATE REVISED: 1992/01/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE199**

NATIONAL MINERAL INVENTORY: 092H8 Cu3

NAME(S): **ELAINE**, SHAMROCK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 07 N
LONGITUDE: 120 23 30 W
ELEVATION: 1006 Metres

NORTHING: 5482822
EASTING: 688974

LOCATION ACCURACY: Within 500M

COMMENTS: Old workings on the Elaine 6 claim, on the southeast slope of Holmes Mountain, 1.2 kilometres northeast of the Similkameen River and 9 kilometres east-northeast of Princeton (Assessment Report 3395, Map 6).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 5 Metres
COMMENTS: Width of sulphide mineralization.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic
Lower Jurassic

GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Andesite
Basalt
Granodiorite

HOSTROCK COMMENTS: Mineralized zone is at the contact between the Nicola Group volcanics and the Bromley batholith; date from GSC Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Copper

YEAR: 1971

GRADE: 5.0000 Per cent

COMMENTS: Copper assayed greater than 5 per cent.
REFERENCE: Assessment Report 3395, page 4.

CAPSULE GEOLOGY

The Elaine showing is located on the southeast slope of Holmes Mountain, 1.2 kilometres northeast of the Similkameen River and 9 kilometres east-northeast of Princeton.

The region north of the Similkameen River is underlain to the east by intrusive rocks of the Early Jurassic Bromley batholith, and to the west by volcanics and minor sediments of the Upper Triassic Nicola Group.

Sulphide mineralization occurs over a width of 5 metres in a cliff face at the contact between andesites and basalts of the Nicola Group and granodiorite of the Bromley batholith. Mineralization consists of chalcopyrite and pyrite, with abundant malachite staining. A grab sample assayed trace silver and greater than 5 per cent copper (Assessment Report 3395, page 4).

This showing was initially explored between 1908 and 1919.

RUN DATE: 26-Jun-2003
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GEOLOGICAL SURVEY BRANCH
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CAPSULE GEOLOGY

Abella Resources Inc. conducted limited prospecting and sampling in 1971.

BIBLIOGRAPHY

EMPR AR 1908-129; 1915-241-243; 1919-171,172
EMPR ASS RPT *3395
EMR MP CORPFILE (Southern Lights Resources Ltd.)
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243, p. 91
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107
CJES Vol. 24, pp. 2521-2536 (1987)
Placer Dome File

DATE CODED: 1992/01/08
DATE REVISED: 1992/04/25

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE200**

NATIONAL MINERAL INVENTORY:

NAME(S): **G.H. 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 58 N
LONGITUDE: 120 17 29 W
ELEVATION: 920 Metres

NORTHING: 5480947
EASTING: 696315

LOCATION ACCURACY: Within 500M

COMMENTS: Southernmost of two closely-spaced copper showings on the G.H. 2 claim, 200 metres northwest of Steven Creek and 16 kilometres east of Princeton (Assessment Report 4373, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Copper mineralization.
ASSOCIATED: Hematite
ALTERATION: Epidote Silica
ALTERATION TYPE: Epidote Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Diorite
Felsic Dike
Mafic Dike

HOSTROCK COMMENTS: Date is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

At the G.H. 2 showing, three areas of copper mineralization occur on the west bank of Steven Creek, 1.15 to 1.6 kilometres north of the Similkameen River and 16 kilometres east of Princeton. The mineralization is hosted in leucocratic quartz diorite of the Early Jurassic Bromley batholith. The quartz diorite is fractured and faulted, and exhibits epidote and silica alteration. A few felsic and mafic dykes intrude the quartz diorite. Minor hematite occurs along fractures and faults.

BIBLIOGRAPHY

EMPR ASS RPT *4373
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/01/09
DATE REVISED: 1992/06/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE201**

NATIONAL MINERAL INVENTORY:

NAME(S): **G.H. 6**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 43 N
LONGITUDE: 120 17 57 W
ELEVATION: 884 Metres

NORTHING: 5480464
EASTING: 695768

LOCATION ACCURACY: Within 500M

COMMENTS: Copper showing on the G.H. 6 claim, 230 metres north of Nine Mile Creek Indian Reserve 4 and 15.5 kilometres east of Princeton (Assessment Report 4373, Map 1).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Copper mineralization.
ASSOCIATED: Hematite
ALTERATION: Epidote
ALTERATION TYPE: Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Quartz Diorite
Felsic Dike
Mafic Dike

HOSTROCK COMMENTS: Date is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The G.H. 6 showing is located on the steep north bank of the Similkameen River, about 230 metres north of Nine Mile Creek Indian Reserve 4 and 15.5 kilometres east of Princeton.

Copper mineralization occurs in leucocratic quartz diorite of the Early Jurassic Bromley batholith. The quartz diorite is fractured, faulted, and intruded by a few felsic and mafic dykes. Epidote is the most common alteration mineral. Minor hematite occurs along fractures and faults.

BIBLIOGRAPHY

EMPR ASS RPT *4373
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/01/09
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE202**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAVIS**, WOLFE CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 57 N
LONGITUDE: 120 18 27 W
ELEVATION: 610 Metres

NORTHING: 5479022
EASTING: 695214

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the south bank of Wolfe Creek, about 400 metres southwest of Highway 3 (formerly the V.V. & E. railway grade), 15 kilometres east-southeast of Princeton (Minister of Mines Annual Report 1908, page 131).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Silica
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1 Metres STRIKE/DIP: 360/65E TREND/PLUNGE:
COMMENTS: Mineralization is hosted in fractures, which parallel dykes striking north and dipping 60 to 70 degrees east.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic			Bromley Batholith

ISOTOPIC AGE: 193 +/- 1 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Diorite
Quartz Porphyry Dike
Granite Porphyry Dike

HOSTROCK COMMENTS: Date for the Bromley batholith is from Geological Survey of Canada Paper 91-2, page 92.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Davis showing is located on the north slope of Vermillion Mountain, which forms the steep south bank of Wolfe Creek near its confluence with the Similkameen River, 15 kilometres east-southeast of Princeton.

A series of quartz porphyry and granite porphyry dykes intrude diorite of the Early Jurassic Bromley batholith, 1 kilometre east of Wolfe Lake. The parallel dykes strike north, dip 60 to 70 degrees east and are 30 metres apart. The diorite is overlain by tuff and volcanic breccia of the Eocene Princeton Group farther up the valley side.

The diorite is cut by north-striking fractures in the vicinity of the dykes. These fractures contain malachite, chalcopyrite and pyrite in a siliceous gangue. Assays indicate the presence of gold and silver (Minister of Mines Annual Report 1908, page 131). This mineralization occurs in several lenticular zones over widths of a few centimetres to 1.2 metres.

The showing was explored by stripping, trenching and tunnelling in 1908 and 1923.

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EMPR AR *1908-131; *1923-188
GSC MAP 569A; 888A; 1386A; 41-1989
GSC MEM 243

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BIBLIOGRAPHY

GSC P 85-1A, pp. 349-358; 91-2, pp. 87-107

DATE CODED: 1992/01/10
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE203**

NATIONAL MINERAL INVENTORY:

NAME(S): **G.E.**, GRANBY ZONE, TNT

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 10 N
LONGITUDE: 120 27 30 W
ELEVATION: 948 Metres

NORTHING: 5484602
EASTING: 684079

LOCATION ACCURACY: Within 500M

COMMENTS: Area of percussion holes, 1.5 kilometres east-northeast of the confluence of Deer Valley and Allison (One Mile) creeks, on the northwest slope of Mount Miner, 5 kilometres northeast of Princeton (Property File - V.A. Preto, 1974, Figure 2).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite
ASSOCIATED: Magnetite
ALTERATION: Malachite Azurite Saussurite
ALTERATION TYPE: Oxidation Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 90 x 76 x 30 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The northeasternmost zone of copper mineralization.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Pyroxene Microdiorite
Andesitic Tuff
Andesitic Flow
Andesitic Breccia
Limestone
Felsite

HOSTROCK COMMENTS: This deposit occurs in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
COMMENTS: This occurrence is in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: NORTHEAST REPORT ON: Y
CATEGORY: Inferred YEAR: 1974
QUANTITY: 540000 Tonnes
COMMODITY: Copper GRADE: 0.2700 Per cent
COMMENTS: Copper grade is estimated to be between 0.25 and 0.30 per cent. Reserves are postulated on dimensions of area drilled.
REFERENCE: Property File - S. Holland, 1974.

CAPSULE GEOLOGY

The G.E. prospect is located on the northwest slope of Mount Miner (Baldy Mountain, Allison Mountain), 5 kilometres northeast of Princeton.

The area in the vicinity of Mount Miner is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by small dioritic bodies that may be coeval with the volcanics. A fault striking northeast along Dear Valley Creek (Dear Valley fault) juxtaposes the volcanics against coal-bearing sandstones and shales of the Eocene Princeton Group to the northwest.

Copper oxide-sulphide mineralization occurs over an area 500 metres long and 500 metres wide, underlain mostly by pyroxene

CAPSULE GEOLOGY

microdiorite. Andesitic tuffs, flows and breccias, with minor limestone and felsite outcrop to the south, near the summit of Mount Miner.

The strongest zone of mineralization is in the northeastern portion of the 500 by 500 metre area of copper oxides and sulphides. Here, chalcopyrite and pyrite occur as disseminations and fracture fillings in medium-grained, magnetic, saussuritized microdiorite. Malachite accompanies these sulphides on surface exposures. Minor magnetite and bornite are also reported. Trenching and drilling suggests that 540,000 tonnes of ore grading 0.25 to 0.30 per cent copper are contained in a 30-metre wide zone trending northwest for 90 metres, to a depth of 76 metres (Property File - S. Holland, 1974). The best intersection averaged 0.27 per cent copper over 71 metres (Property File - V.A. Preto, 1974, Figure 5, hole DDH 73-4). This zone narrows to the northwest but remains untested to the southeast.

Weaker mineralization is found in two zones of intensely broken, altered and deeply oxidized Nicola Group volcanics in the southern part of the area of copper sulphides and oxides. These fault zones are situated 90 to 240 metres southwest of the zone of microdiorite-hosted mineralization. They strike northwest for up to 500 metres and are 50 to 100 metres wide. Mineralization consists of malachite and azurite. Rock sampling has encountered gold values of up to 0.805 gram per tonne (Assessment Report 17715, page 1).

A few scattered copper occurrences in microdiorite are exposed in trenches in the northwestern part of the mineralized area.

This prospect was discovered by Granby Mining Company Ltd. in 1951 while exploring for the source of mineralized slide debris to the west (Regal, 092HSE078). Various operators conducted geological, geophysical and soil surveys, stripping and trenching between 1951 and 1990. Granby Mining completed 1792 metres of percussion drilling in 41 holes in 1965, and Bethlehem Copper Corporation drilled two holes in 1973. The property was most recently explored by Mingold Resources Inc. between 1987 and 1990, which conducted soil and rock sampling.

BIBLIOGRAPHY

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EMPR ASS RPT 251, 488, 1721, 7477, 9634, 10379, *10565, *17715, 19043, 20221
EMPR EXPL 1982-179
EMPR GEM 1969-353; 1970-388; 1971-275; *1974-117,118
EMPR PF (*Dolmage Campbell Consultants (1963): 1 to 2400 scale map of geology, trenches and drill holes (see 092HSE078); Bethlehem Copper Corporation (1973): location and general geology map; *Preto, V.A. (1974): Summary Report on Part of the G.E. Group, with 1 to 2400 scale map of geology, trenches and drill holes, and five 1 to 600 scale cross sections of drilling; *Holland, S.S. (1974): memorandum to Dr. J.T. Fyles regarding G.E. claims; *Anonymous (undated): 1 to 2400 scale plan of tape and compass survey of Granby trenches)
GSC MAP 569A; 888A; 1386A; 41-1989
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL #153(Aug.10), 2000

DATE CODED: 1992/01/11
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE204**

NATIONAL MINERAL INVENTORY:

NAME(S): **MINER**, G.E. 47, G.E. 110

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 35 N
LONGITUDE: 120 28 27 W
ELEVATION: 808 Metres

NORTHING: 5483482
EASTING: 682968

LOCATION ACCURACY: Within 500M

COMMENTS: Area of closely-spaced trenches with copper mineralization, 650 metres south-southeast of the confluence of Allison (One Mile) and Deer Valley creeks, on the west slope of Mount Miner, 3.5 kilometres northeast of Princeton (Property File - Dolmage Campbell Consultants, 1963).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite Copper

ASSOCIATED: Hematite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 180 x 150 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The area of mineralization encountered in trenching and diamond drilling.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Augite Porphyritic Andesite
Andesitic Tuff
Andesitic Flow
Andesitic Breccia

HOSTROCK COMMENTS: This occurrence is hosted in the eastern facies of the Nicola Group (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

COMMENTS: This occurrence is in the Nicola belt, near its south end.

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Rock

COMMODITY

GRADE

Copper

0.2950

Per cent

REFERENCE: Assessment Report 9634, copper geochemistry map.

CAPSULE GEOLOGY

The Miner showing is about 0.7 kilometre south-southeast of the confluence of Allison (One Mile) and Deer Valley creeks, 3.5 kilometres northeast of Princeton.

The area in the vicinity of Mount Miner (Baldy Mountain, Allison Mountain) is underlain by the eastern facies of the Upper Triassic Nicola Group consisting of mafic augite and hornblende porphyritic pyroclastics and flows. These rocks are intruded by small dioritic bodies that may be coeval with the volcanics. A fault striking northeast along Deer Valley Creek (Deer Valley fault) juxtaposes the volcanics against coal-bearing sandstones and shales of the Eocene Princeton Group to the northwest.

This showing is primarily hosted in a reddish augite porphyritic andesite that may be of intrusive origin. Some mineralization is also hosted in the surrounding andesitic tuffs, flows and breccias. Trenching and diamond drilling has encountered sporadic copper mineralization over an area 180 metres long and 150 metres wide.

CAPSULE GEOLOGY

Mineralization consists of sparsely disseminated chalcopyrite, pyrite and bornite. Minor chalcocite is also present. Native copper was encountered in two drill holes (holes 4 and 7). Disseminated specular hematite is fairly common. Two rock samples contained 0.295 and 0.215 per cent copper (Assessment Report 9634, copper geochemistry map).

Climax Copper Mines Ltd. excavated a number of trenches and drilled four holes in 1963. Some rock sampling was conducted by K.W. Livingstone in 1980 and 1982.

BIBLIOGRAPHY

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EMPR ASS RPT 9634, 10379
EMPR EXPL 1982-179
EMPR GEM 1974-117
EMPR PF (*Dolmage Campbell Consultants (1963): 1 to 2400 scale map of geology, trenches and drill holes (see 092HSE078); Bethlehem Copper Corporation (1973): location and general geology map (see 092HSE078))
GSC MAP 569A; 888A; 1386A; 41-1989
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/01/11
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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE205**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHIP 1**, WHIP

MINING DIVISION: Similkameen

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H07W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 44 N
 LONGITUDE: 120 47 27 W
 ELEVATION: 1689 Metres

NORTHING: 5460807
 EASTING: 660674

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on Corral (Forty-one Mile) Creek, 1.3 kilometres northwest of the creek's confluence with Whipsaw Creek (Assessment Report 8005, Figure 3).

COMMODITIES: Lead Zinc Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: 1 Metres STRIKE/DIP: 020/ TREND/PLUNGE:
 COMMENTS: Quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Gneissic Biotite Quartz Diorite
 Meta Volcanic

HOSTROCK COMMENTS: The Eagle Plutonic Complex is Late Jurassic to Early Cretaceous (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Plutonic Rocks
 METAMORPHIC TYPE: Regional RELATIONSHIP:
 COMMENTS: In the eastern margin of the Eagle Plutonic Complex. GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1979
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Silver	374.0000 Grams per tonne
Gold	7.5000 Grams per tonne
Copper	0.6940 Per cent
Lead	19.3000 Per cent
Zinc	11.4000 Per cent

COMMENTS: Chip sample taken across a width of 13 centimetres.
 REFERENCE: Assessment Report 8005, page 5.

CAPSULE GEOLOGY

The Whip 1 showing is located on Corral (Forty-one Mile) Creek, 1.3 kilometres northwest of the creek's confluence with Whipsaw Creek, and 28 kilometres southwest of Princeton.

The showing is hosted in medium to coarse-grained, variably gneissic, biotite quartz diorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex, about 2.5 kilometres west of metamorphosed volcanics of the Upper Triassic Nicola Group.

A quartz vein containing galena, sphalerite and pyrite is exposed over a length of 1 metre in the bank of Corral Creek. The vein strikes 020 degrees. A high-grade section of mineralization, 17 centimetres thick, occurs along the footwall of the vein. The wallrocks are silicified up to 30 centimetres from the vein. Minor

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1091
REPORT: RGEN0100

CAPSULE GEOLOGY

fine-grained galena, sphalerite and pyrite accompanies this silicification. A sample assayed 7.5 grams per tonne gold, 374 grams per tonne silver, 0.694 per cent copper, 19.3 per cent lead and 11.4 per cent zinc over a width of 13 centimetres (Assessment Report 8005, page 5).

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EMPR ASS RPT *8005, 9129
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1992/01/12
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE206**

NATIONAL MINERAL INVENTORY:

NAME(S): **T.G.S.**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 57 N
LONGITUDE: 120 44 46 W
ELEVATION: 1610 Metres

NORTHING: 5461305
EASTING: 663915

LOCATION ACCURACY: Within 500M

COMMENTS: Zinc-copper breccia zone, 1.2 kilometres north-northwest of the confluence of Forty-five Mile and Whipsaw creeks, 26 kilometres southwest of Princeton (Assessment Report 2802, Map 3).

COMMODITIES: Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Quartz Sericite
ALTERATION TYPE: Silicific'n Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: G04 Besshi massive sulphide Cu-Zn
DIMENSION:

STRIKE/DIP: 360/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gneiss
Schist
Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: This showing is in the western margin of the Nicola belt.

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Amphibolite

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1969

SAMPLE TYPE: Chip

COMMODITY GRADE

Copper 0.1900 Per cent

COMMENTS: Chip sample taken across a feldspar porphyry dyke over a width of 6.7 metres.

REFERENCE: Property File - D.K. Mustard, 1969, page 28 (trench 1).

CAPSULE GEOLOGY

The T.G.S. showing is 1.2 kilometres north-northwest of the confluence of Forty-five Mile and Whipsaw creeks, 26 kilometres southwest of Princeton. The BZ prospect (092HSE207) is 550 metres to the south.

The region at the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by metamorphosed volcanics and sediments of the Upper Triassic Nicola Group. The contact between the two units trends north-northwest.

A zone of brecciation and mineralization occurs between two closely-spaced fault planes, striking north, in gneiss and schist of the Nicola Group. This deposit is one of several occurrences (Metestoffer, 092HSE097 and BZ, 092HSE207) hosted in the same fault zone, which strikes north for at least 1.4 kilometres.

The breccia is mineralized with pyrite, sphalerite and chalcopyrite. Pyrite and chalcopyrite occur in the quartz matrix, while most of the sphalerite is in breccia fragments. One sample studied by thin section is estimated to contain 13 per cent pyrite, 6

CAPSULE GEOLOGY

per cent sphalerite and 0.5 per cent chalcopyrite (Assessment Report 2802, Appendix 2). The breccia fragments are silicified and sericitized. A chip sample taken across an adjacent feldspar porphyry dyke assayed 0.19 per cent copper over 6.7 metres (Property File - D.K. Mustard, 1969, page 28, trench 1).

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EMPR ASS RPT *2802, 10849, 17923
EMPR GEM 1970-384
EMPR PF (*Mustard, D.K. (1969): 1968 Property Examination, Whipsaw Creek Property (see 092HSE102))
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL May 14, 1987

DATE CODED: 1992/01/16
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE207**

NATIONAL MINERAL INVENTORY:

NAME(S): **BZ**, MAE, BRECCIA ZONE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 39 N
LONGITUDE: 120 44 44 W
ELEVATION: 1608 Metres

NORTHING: 5460750
EASTING: 663971

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 87-5, 600 metres north-northwest of the confluence of Forty-five Mile and Whipsaw creeks, 26.5 kilometres southwest of Princeton (Assessment Report 17923, Figure 4).

COMMODITIES: Zinc Copper Silver Gold Molybdenum
 Lead

MINERALS

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

DEPOSIT

CHARACTER: Breccia Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: G04 Besshi massive sulphide Cu-Zn
DIMENSION: 160 x 98 Metres STRIKE/DIP: 360/ TREND/PLUNGE:
COMMENTS: Area of known mineralization.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Chlorite Schist
 Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Amphibolite
COMMENTS: This deposit is in the western margin of the Nicola belt.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 75.9000 Grams per tonne
Gold 2.4900 Grams per tonne
Copper 0.3900 Per cent
Zinc 3.3900 Per cent
COMMENTS: Average grade over 4.0 metres.
REFERENCE: Assessment Report 17923, Appendix 2 (hole 87-5, 111.8-115.8 metres).

CAPSULE GEOLOGY

The BZ prospect is 600 metres north-northwest of the confluence of Forty-five Mile and Whipsaw creeks, 26.5 kilometres southwest of Princeton. The T.G.S. showing (092HSE206) is 550 metres to the north.

The region at the headwaters of Whipsaw Creek is underlain to the west by intrusive and metamorphic rocks of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex and to the east by metamorphosed volcanics and sediments of the Upper Triassic Nicola Group. The contact between the two units trends north-northwest.

A zone of highly oxidized and leached breccia trends northward up the north bank of Whipsaw Creek in chlorite schist and gneiss of the Nicola Group. The zone is 30 metres or more in width. This deposit is one of several occurrences (Metestoffer, 092HSE097 and T.G.S., 092HSE206) hosted in the same fault zone, which strikes north for at least 1.4 kilometres.

CAPSULE GEOLOGY

Sphalerite, chalcocopyrite and molybdenite occur in limonitic boxworks in the breccia zone and in the flanking strongly pyritized, fractured and silicified rocks. This mineralization is exposed over a width of 98 metres at the north end of the zone. Drilling encountered pyrite with minor sphalerite and chalcocopyrite, and traces of galena in quartz and lesser quartz-carbonate veinlets in an area extending southward for 160 metres. A series of chip samples taken along a trench traversing the north end of the zone averaged 0.17 gram per tonne gold, 9.36 grams per tonne silver, 0.06 per cent copper, 0.03 per cent zinc and 0.002 per cent molybdenum over 91 metres (Assessment Report 4170, page 10). One drill hole graded 2.49 grams per tonne gold, 75.9 grams per tonne silver, 0.39 per cent copper and 3.39 per cent zinc over 4.0 metres (Assessment Report 17923, Appendix 2, hole 87-5, 111.8-115.8 metres).

This prospect was discovered in 1972 by Whipsaw Mines Ltd. after trenching a soil anomaly. World Wide Minerals Ltd. drilled 15 holes totalling 1309.5 metres in 1987 and 1988.

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EMPR ASS RPT *4170, 5024, 5491, 10849, 14048, *17923, 18069
EMPR GEM 1970-384; 1972-118; 1974-114,115
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CJES Vol. 24, pp. 2521-2536 (1987)
GCNL May 14, 1987

DATE CODED: 1992/01/16
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE208**

NATIONAL MINERAL INVENTORY: 092H7 Bnt

NAME(S): **EAST BENTONITE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:
LATTITUDE: 49 26 58 N
LONGITUDE: 120 30 05 W
ELEVATION: 704 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Bentonite outcrop, 150 metres southeast of the Princeton-Copper Mountain road, 0.6 kilometre southeast of the town of Princeton and the Similkameen River (Paper 1983-3, Figure 2).

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5480422
EASTING: 681096

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Clay
ALTERATION: Clay
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: E06 Bentonite
SHAPE: Tabular
DIMENSION: 6 Metres
COMMENTS: Bentonite bed dips gently south.

Massive
Epigenetic

Hydrothermal

Industrial Min.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Tuffaceous Arkosic Wacke
Bentonite
Clay

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
PHYSIOGRAPHIC AREA: Thompson Plateau
Quesnel

CAPSULE GEOLOGY

A bentonite seam outcrops 150 metres southeast of the Princeton-Copper Mountain road, 0.6 kilometre southeast of the Similkameen River, about 0.5 kilometre east of the Princeton Bentonite deposit (092HSE151).

The seam is hosted in tuffaceous, arkosic wacke of the Eocene Allenby Formation (Princeton Group). The bed is 1.8 metres thick and composed of light yellow clay. The deposit dips gently south.

A short adit was excavated some time prior to 1924.

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EMPR BULL *30, pp. 33-35
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GSC MEM 243
GSC P 85-1A, pp. 349-358
CANMET RPT *626, pp. 7-10

DATE CODED: 1992/02/08
DATE REVISED: 1992/04/14

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE209**

NATIONAL MINERAL INVENTORY:

NAME(S): **PRINCETON (TULAMEEN COAL)**, TULAMEEN VALLEY COAL, LIND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 29 N
LONGITUDE: 120 31 37 W
ELEVATION: 658 Metres

NORTHING: 5481318
EASTING: 679212

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of the Princeton-Tulameen mine, 500 metres west of the mouth of Asp (China) Creek, 200 metres northwest of the Tulameen River on the northern outskirts of the town of Princeton (Geological Survey of Canada Paper 52-12, Figure 1B).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Clay
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A03 Sub-bituminous coal

SHAPE: Tabular

DIMENSION: 900 x 550 x 3 Metres

STRIKE/DIP: 070/18S

TREND/PLUNGE:

COMMENTS: Single coal seam dipping 16 to 20 degrees southeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Eocene

Princeton

Allenby

ISOTOPIC AGE: 49.2 +/- 2 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY:

Shale
Sandstone
Coal
Rhyolite Tephra
Shaly Coal
Bentonite

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Overlap Assemblage

Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE: Sub-Bituminous

COMMENTS: Rank is sub-bituminous B to sub-bituminous A.

CAPSULE GEOLOGY

The Princeton-Tulameen Coal mine is situated on the north side of the Tulameen River, west of Asp (China) Creek, on the northern outskirts of the town of Princeton.

This mine occurs at the centre of the Princeton Basin, a northerly-trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp Creek and the Tulameen River. South of Princeton are two major east striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin the strata dips approximately 50 degrees east. In the southern part of the basin, two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping faults. The main faults are the Asp Creek fault and the Boundary fault.

The Princeton-Tulameen coal deposit is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton

CAPSULE GEOLOGY

Group). The mine is developed in the Princeton-Black-Blue Flame coal zone, the stratigraphically lowest and thickest of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. Its thickness varies from 1.6 to 19.2 metres with approximately 9.1 metres of coal. The coal occurs in bands 7 centimetres to 5.5 metres thick with interbeds of shaly coal, bentonite, sandstone and shale separating the individual seams. The partings and beds associated with the coal change thickness and stratigraphic position laterally, making correlation difficult. Coal quality also varies laterally. The Princeton-Black-Blue Flame coal zone was also mined at the Princeton Colliery (092HSE089), Tulameen Collieries (092HSE210), the Pleasant Valley Nos. 2 and 4 mines (092HSE211), the Black mine (092HSE212) and the Blue Flame Colliery (092HSE216).

The coal seam at this mine strikes approximately 070 degrees and dips 16 to 20 degrees southeast. Underground workings have traced the seam downdip for 550 metres and along strike for 900 metres. The deposit is 2.1 to 3.2 metres thick. A representative seam section measured in the lower workings of the mine contained 2.91 metres of coal with five thin clay partings, three of which were 6 millimetres thick, and two of which were 13 millimetres thick (Minister of Mines Annual Report 1944, page 122).

The coal is non-coking in character and ranges in rank from sub-bituminous B to sub-bituminous A. A sample of mine-run coal analyzed as follows (in per cent) (Bulletin 14, page 19):

Moisture	14.9
Volatile matter	29.5
Fixed carbon	47.6
Ash	8.0
Sulphur	0.2
Calorific value	9810

(B.T.U.'s per pound)

Four additional samples analysed 12.1 to 16.2 per cent moisture, 25.2 to 31.3 per cent volatile matter, 41.7 to 48.8 per cent fixed carbon, 5.0 to 22.8 per cent ash, 0.30 to 0.41 per cent sulphur and 7780 to 10360 British Thermal Units per pound (Bulletin 41, page 19).

Coal was initially mined by Oscar Lind in 1935. The deposit was subsequently operated by Tulameen Valley Coal Company (1936) and Princeton-Tulameen Coal Company (1937-1944). The mine was abandoned in 1944 due to squeezing of the lower underground workings. A total of 175,189 tonnes of coal was mined.

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121; 1943-91,117,118; *1944-88,122
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EMPR COAL ASS RPT 180, 184, 186, 187, 188, 189, 190, 193, 839
EMPR INF CIRC 1989-22, pp. 14,19
EMPR OF 1987-19; 1992-1
EMPR P *1983-3; 1986-3, pp. 28-29
GSC MAP 888A; 1386A; 41-1989
GSC MEM 59, pp. 110,111; 69, pp. 254-262; *243, p. 125
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of Alberta

DATE CODED: 1992/02/09
DATE REVISED: 1992/05/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE210**

NATIONAL MINERAL INVENTORY:

NAME(S): **TULAMEEN COLLIERIES**, TULAMEEN COAL MINES, TULAMEEN VALLEY COAL,
NO. 1 MINE, NO. 2 MINE, NO. 3 MINE,
HEWITT PROSPECT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:
LATITUDE: 49 27 04 N
LONGITUDE: 120 32 18 W
ELEVATION: 671 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Portal of No. 2 mine, 200 metres southwest of the Tulameen River on Lot 248, just southwest of Princeton (Geological Survey of Canada Paper 52-12, Figure 1B).

Underground
MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5480519
EASTING: 678412

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Clay
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:
DATING METHOD: Fossil
MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: A03 Sub-bituminous coal
SHAPE: Tabular
DIMENSION: 840 x 800 x 3 Metres
COMMENTS: This coal seam strikes 005 to 020 degrees and dips 8 to 15 degrees east.

Massive
Fossil Fuel
A04 Bituminous coal
STRIKE/DIP: 012/11E
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Shale
Clay
Sandstone
Coal
Rhyolite Tephra
Shaly Coal
Bentonite

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: Rank ranges from sub-bituminous A to high-volatile bituminous C.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Post-mineralization
GRADE: Sub-Bituminous

CAPSULE GEOLOGY

The various underground workings of the Tulameen Collieries occupy an area bounded to the east and south by the Tulameen River, adjacent to the town of Princeton. This area covers all of district Lot 248 and the extreme east end of the adjoining district Lot 1133.

The deposit is in the centre of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton are two major east-striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin the strata dips approximately 50 degrees east. In the southern part of the basin two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping faults. The main

CAPSULE GEOLOGY

faults are the Asp Creek fault and the Boundary fault. The Tulameen Collieries are hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). The mine is developed in the Princeton-Black-Blue Flame coal zone, the stratigraphically lowest and thickest of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. Its thickness varies from 1.6 to 19.2 metres, with approximately 9.1 metres of coal. The coal occurs in bands 7 centimetres to 5.5 metres thick, with interbeds of shaly coal, bentonite, sandstone, and shale separating the individual seams. The partings and beds associated with the coal change thickness and stratigraphic position laterally, making correlation difficult. Coal quality also varies laterally. The Princeton-Black-Blue Flame coal zone was also mined at Princeton Collieries (092HSE089), Princeton-Tulameen mine (092HSE209), the Pleasant Valley Nos. 2 and 4 mines (092HSE211), the Black mine (092HSE212) and the Blue Flame Colliery (092HSE216).

The coal seam at the Tulameen Collieries strikes 005 to 020 degrees and dips 8 to 15 degrees east. The dip steepens with depth. Three underground mines, the Nos. 1, 2 and 3 mines, have traced the seam downdip for 800 metres and along strike for 840 metres. The mineable coal is 2.1 to 3.4 metres thick and contains five thin clay partings. It is overlain by a fairly competent shale and underlain by a sequence of dirty coal, shale and clay, 4.0 to 4.9 metres thick, similar to other mines in the eastern part of the Princeton-Black-Blue Flame coal zone (092HSE089, 209).

The coal is non-coking in character and has a rank of sub-bituminous A to high-volatile bituminous C. Three samples from the No. 1 mine analyzed as follows (Bulletin 14, page 16, 20):

	Sample 1 (per cent)	Sample 2 (per cent)	Sample 3 (per cent)
Moisture	15.50	15.90	19.7
Volatile matter	30.60	29.90	-
Fixed carbon	49.20	49.70	-
Ash	4.70	4.50	9.5
Sulphur	0.30	0.33	-
Calorific value (B.T.U.'s per pound)	10540	10540	9360

Ash Fusion Temp. - - 1159 C

Sample 1 is from the lower bench, while sample 2 is from the top bench. Sample 3 is a bulk sample. Three additional samples from the No. 2 mine analysed 56.37 to 56.50 per cent volatile matter, 21.76 to 39.73 per cent fixed carbon, 3.77 to 4.90 per cent ash, 0.34 to 0.65 per cent sulphur, and 12,100 to 12,630 British Thermal Units per pound (Geological Survey of Canada Memoir 243, pages 116, 117, samples 3, 4 and 5).

The deposit was mined in the northeast in two adjacent mines, the Nos. 1 and 2 mines, by C. Hunter (1924), Tulameen Valley Coal Company (1925-1928), Tulameen Coal Mines Ltd. (1929-1934) and Tulameen Collieries Ltd. (1935, 1936). The mines were abandoned in 1936 because of excessive inflow of groundwater in the No. 2 mine. The No. 3 mine was opened to the southwest by Tulameen Collieries in 1941. This mine was eventually connected with the No. 2 mine, to recover coal left in pillars. Small amounts of coal were also recovered from pillars near surface in the Nos. 1 and 2 mines during this time. Production ceased in 1946. A total of 498,442 tonnes of coal was produced between 1924 and 1946.

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EMPR BULL *14, pp. 16,20

EMPR COAL ASS RPT 180, 184, 186, 187, 188, 189, 190, 193, 839

EMPR INF CIRC 1989-22, pp. 14,19

EMPR OF 1987-19

EMPR P *1983-3; 1986-3, pp. 28-29

GSC MAP 888A; 1386A; 41-1989

GSC MEM 59, pp. 110,111; 69, pp. 254-262; *243, pp. 116,117,124,125

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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1101
REPORT: RGEN0100

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of Alberta

DATE CODED: 1992/02/09
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE211**

NATIONAL MINERAL INVENTORY:

NAME(S): **PLEASANT VALLEY COAL**, PLEASANT VALLEY COLLIERY, TULAMEEN COLLIERIES,
NO. 1 MINE, NO. 2 MINE, NO. 4 MINE,
R. SCHULLI, R.R. WILSON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:
LATITUDE: 49 26 30 N
LONGITUDE: 120 32 52 W
ELEVATION: 671 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Portal of Pleasant Valley No. 2 mine, 50 metres southeast of the
Tulameen River on Lot 232, about 3 kilometres southwest of Princeton
(Geological Survey of Canada Paper 52-12, Figure 1B).

Underground
MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5479447
EASTING: 677762

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Clay
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:
DATING METHOD: Fossil
MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: A03 Sub-bituminous coal
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 2100 x 740 x 2 Metres
COMMENTS: The No. 2 seam; attitude given for the No. 2 seam in the No. 4 mine.

Massive
Fossil Fuel
STRIKE/DIP: 050/18S
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Sandstone
Shale
Coal
Clay
Rhyolite Tephra
Shaly Coal
Bentonite

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: Rank ranges from sub-bituminous C to sub-bituminous A.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Post-mineralization
GRADE: Sub-Bituminous

CAPSULE GEOLOGY

The old workings of the three Pleasant Valley Coal mines (Nos. 1, 2 and 4 mines) occur over a 2-kilometre stretch along the south bank of the Tulameen River, 2.5 to 4.5 kilometres southwest of Princeton. The mines are in district Lots 232, 982 and 985.

This coal deposit lies in the centre of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton are two major east-striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin the strata dips approximately 50 degrees east. In the southern part of the basin two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly-dipping faults. The main

CAPSULE GEOLOGY

faults are the Asp Creek fault and the Boundary fault.

This colliery is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). Two of the mines (Nos. 2 and 4 mines) are developed in the Princeton-Black-Blue Flame coal zone, the stratigraphically lowest and thickest of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. Its thickness varies from 1.6 to 19.2 metres with approximately 9.1 metres of coal. The coal occurs in bands 7 centimetres to 5.5 metres thick, with interbeds of shaly coal, bentonite, sandstone and shale separating the individual seams. The Princeton-Black-Blue Flame coal zone was also mined at the Princeton Colliery (092HSE089), the Princeton-Tulameen mine (092HSE209), Tulameen Collieries (092HSE210), the Black mine (092HSE212) and the Blue Flame Colliery (092HSE216).

The overlying Pleasant Valley-Jackson coal zone was mined at the Pleasant Valley No. 1 mine, and the Taylor Burson (092HSE213) and Jackson (092HSE214) mines in the Bromley Vale area. It is best represented in the Bromley Vale area where it consists of two to three seams of variable thickness (approximately 1.8 metres of coal in total) in a 30-metre stratigraphic interval.

The seam developed in the Pleasant Valley Nos. 2 and 4 mines (No. 2 seam) strikes 050 degrees in the No. 4 mine, to the east, but then swings northwest to strike 110 degrees in the No. 2 mine, to the west. Dips range from 12 to 25 degrees south. The seam has been traced downdip in the two mines for 740 metres and along strike for 2100 metres. The deposit is displaced by four northerly striking faults in the No. 2 mine to the west. The seam is 0.9 to 1.8 metres thick, and tends to be thicker to the east in the No. 4 mine. Here, the seam is 1.73 to 1.83 metres thick and includes five clay bands totalling 10 to 18 centimetres in thickness (Minister of Mines Annual Report 1950, page 264). It is overlain by a competent shale and underlain by clay or sandstone.

The seam mined in the No. 1 mine (No. 1 seam) is stratigraphically 184 to 195 metres above the No. 2 seam, and strikes approximately 050 degrees, similar to the coal in the No. 4 mine below. The deposit dips 12 to 20 degrees south. The seam was mined over a dip length of 350 metres and a strike length of 700 metres. Clean coal occurs over a thickness of 0.9 to 1.4 metres. It is overlain by a fairly competent shale and underlain by interbedded dirty coal, shale and clay.

The coal is non-coking in character and ranges in rank from sub-bituminous C to sub-bituminous A. Two samples analyzed as follows:

	Sample 1 (per cent)	Sample 2 (per cent)
Moisture	22.9	16.6
Volatile matter	-	30.6
Fixed carbon	-	41.9
Ash	13.3	10.9
Sulphur	-	0.7
Calorific value (B.T.U.'s per pound)	8110	9825
Ash Fusion Temp.	1145 Celsius	-

Sample 1 is a bulk sample from either the No. 1 or No. 2 mines (Bulletin 14, page 20). Sample 2 is a grab (?) sample taken from the No. 4 mine (Minister of Mines Annual Report 1949, page 300).

This colliery was opened up by Pleasant Valley Coal Mining Company Ltd., with the development of the No. 1 mine in 1928 and the No. 2 mine in 1929. The No. 1 mine was closed 1933. The company continued to produce coal from the No. 2 mine until 1937. The two mines produced 82,037 tonnes of coal between 1928 and 1937. Tulameen Collieries Ltd. opened up the No. 4 mine in 1947, after abandoning its operations across the Tulameen River in 1946 (Tulameen Collieries, 092HSE210). The company mined 99,821 tonnes of coal between 1947 and 1950. Total production from the three mines is 181,857 tonnes.

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 EMPR INF CIRC 1989-22, pp. 14,19
 EMPR OF 1987-19

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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1104
REPORT: RGEN0100

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CIM Trans. Vol. L, pp. 665-676 (1947)
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Hills, L.V. (1965): Palynology and Age of Early Tertiary Basins,
Interior of British Columbia, unpublished Ph.D. thesis, University
of Alberta

DATE CODED: 1992/02/10
DATE REVISED: 1992/02/18

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE212**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK, BLACK MINE, GRANBY STRIP MINE,
FRED MANNIX, GLOVER TRUST, INLAND COLLIERIES,
PRINCETON COAL**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:
LATITUDE: 49 25 45 N
LONGITUDE: 120 36 12 W
ELEVATION: 978 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Mine workings in the east part of district Lot 87, 150 metres southeast of White Creek and 7 kilometres west-southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

Open Pit Underground

MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5477928
EASTING: 673779

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Bentonite
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:
DATING METHOD: Fossil
MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A03 Sub-bituminous coal
SHAPE: Tabular
DIMENSION: 270 x 90 x 15 Metres STRIKE/DIP: 024/51E TREND/PLUNGE:
COMMENTS: A 15-metre thick coal zone contains 3 seams up to 5 metres thick.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Shale
Sandstone
Coal
Bentonite
Rhyolite Tephra
Shaly Coal

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel PHYSIOGRAPHIC AREA: Thompson Plateau
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Sub-Bituminous
COMMENTS: Rank ranges from lignite A to sub-bituminous C.

INVENTORY

ORE ZONE: PIT REPORT ON: Y

CATEGORY: Inferred YEAR: 1975
QUANTITY: 730000 Tonnes
COMMODITY GRADE
Coal 100.0000 Per cent

COMMENTS: Possible open pit coal reserves at deeper levels beneath the indicated reserves, over a strike length of 1680 metres.

REFERENCE: Coal Assessment Report 180, pages 6-23.

ORE ZONE: PIT REPORT ON: Y

CATEGORY: Indicated YEAR: 1975
QUANTITY: 2270000 Tonnes
COMMODITY GRADE
Coal 100.0000 Per cent

COMMENTS: Probable open pit reserves beneath and adjoining the pit, over a strike length of 1680 metres.

REFERENCE: Coal Assessment Report 180, pages 6-22.

CAPSULE GEOLOGY

The Black mine is situated on the east part of district Lot 87, 150 metres southeast of White Creek and 7 kilometres west-southwest of Princeton.

The mine occurs near the western margin of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton are two major east-striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin, the strata dips approximately 50 degrees east. In the southern part of the basin two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping faults. The main faults are the Asp Creek fault and the Boundary fault.

This coal deposit is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). The mine is developed in the Princeton-Black-Blue Flame coal zone, the stratigraphically lowest and thickest of four coal-bearing zones in a 530-metre section in the Allenby Formation. Its thickness varies from 1.6 to 19.2 metres with approximately 9.1 metres of coal. The coal occurs in bands 7 centimetres to 5.5 metres thick, with interbeds of shaly coal, bentonite, sandstone, and shale separating the individual seams. The Princeton-Black-Blue Flame coal zone was also mined at the Princeton Colliery (092HSE089), the Princeton-Tulameen mine (092HSE209), Tulameen Collieries (092HSE210), the Pleasant Valley Nos. 2 and 4 mines (092HSE211) and the Blue Flame Colliery (092HSE216).

The deposit at the Black mine strikes 024 degrees and dips 50 to 52 degrees east. The coal has been mined over a dip length of 90 metres and a strike length of 270 metres. Three coal seams, 2.7 to 5.2 metres thick, are contained in a stratigraphic section 15.2 metres thick. A total of 12.0 metres of clean coal is present in this interval. The seams are separated by 0.7 to 1.9 metres of bentonite or dirty coal. A few bands of bentonite, sandstone or dirty coal, up to 0.29 metre thick, occur in individual seams. The deposit is overlain by a competent shale and underlain by a 14.5-metre thick section of dirty coal with minor bentonite and a few thin seams of clean coal. Indicated (probable) and inferred (possible) reserves are estimated at 2.27 million and 0.73 million tonnes respectively over a strike length of 1680 metres (Coal Assessment Report 180, pages 6-22, 6-23).

The coal is non-coking in character and has a rank of lignite A to sub-bituminous C. Two channel samples taken across a true stratigraphic thickness of 14.8 metres in the uppermost part of the coal zone analyzed as follows (Coal Assessment Report 183, pages 3, 4):

	Sample 1 (per cent)	Sample 2 (per cent)
Moisture	24.88	24.69
Ash	35.33	21.12
Calorific value (dry) (B.T.U.'s per pound)	6630	8001

Sample 1 includes waste, while sample 2 excludes 3 metres of waste (mostly bentonite and low grade coal), with numerous thinner rock partings included.

This deposit was mined underground intermittently by various operators between 1929 and 1943. The deposit was then operated as a strip mine between 1947 and 1951 by Granby Mining (1947), Fred Mannix and Company Ltd. (1948-1949) and R.B. Savage (1950-1951). Total coal production is 44,791 tonnes.

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1941-121; 1942-119; *1943-91,119; 1944-123; *1947-238,258;
*1948-204,225; 1949-278,301; 1950-244,265; 1951-249,279,280
EMPR COAL ASS RPT *180, *183, 184, 186, 187, 188, 189, 190, 193,
839
EMPR INF CIRC 1989-22, pp. 14,19
EMPR OF 1987-19
EMPR P *1983-3; 1986-3, pp. 28,29
GSC MAP 888A; 1386A; 41-1989
GSC MEM 59, pp. 110,111; 69, pp. 254-262; *243, p. 126
GSC P *52-12; 85-1A, pp. 349-358; 89-4, p. 43

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1107
REPORT: RGEN0100

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of Alberta

DATE CODED: 1992/02/10
DATE REVISED: 1992/03/05

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE213**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAYLOR BURSON COAL**, TAYLOR NO. 1 MINE, TAYLOR PROSPECT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 36 N
LONGITUDE: 120 35 39 W
ELEVATION: 945 Metres

NORTHING: 5479523
EASTING: 674394

LOCATION ACCURACY: Within 500M

COMMENTS: Taylor No. 1 mine adit on the west-central part of district Lot 88, 1.4 kilometres southwest of the Tulameen River and 6 kilometres west-southwest of Princeton (Open File 1987-19)

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: A03 Sub-bituminous coal
SHAPE: Tabular
DIMENSION: 160 x 75 x 1 Metres
COMMENTS: Single coal seam.

Massive
Fossil Fuel

STRIKE/DIP: 048/55S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Eocene
ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

GROUP: Princeton
FORMATION: Allenby

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Shale
Sandstone
Coal
Rhyolite Tephra

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Taylor Burson Coal mine is located on the west-central part of district Lot 88, 1.4 kilometres southwest of the Tulameen River and 6 kilometres west-southwest of Princeton.

This coal deposit occurs along the western margin of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton are two major east-striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin, the strata dips approximately 50 degrees east. In the southern part of the basin, two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping faults. The main faults are the Asp Creek fault and the Boundary fault.

The deposit is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). The mine is developed in the Pleasant Valley-Jackson coal zone, one of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. This zone was also mined at the Pleasant Valley No. 1 mine (092HSE211), and the Jackson mine (092HSE214). It is best represented in the Bromley Vale area where it consists of two to

CAPSULE GEOLOGY

three seams of variable thickness (approximately 1.8 metres of coal in total) in a 30-metre stratigraphic interval.

The coal-bearing strata at the Taylor Burson mine strikes 048 degrees and dip 55 degrees southeast. The seam has been traced downdip in the underground mine for 75 metres and along strike for 160 metres. The mined seam is 1.2 metres thick, and contains several thin partings of shale and dirty coal. A total of 0.94 metre of clean coal are present in this seam (Geological Survey of Canada Paper 52-12, Figure 2). The deposit is overlain by dirty coal with minor interbedded shale and underlain by sandstone.

This colliery was operated by Taylor Burson Coal Company Ltd. between 1946 and 1948. The company produced 6212 tonnes of coal during this time.

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of Alberta

DATE CODED: 1992/02/11
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE214**

NATIONAL MINERAL INVENTORY:

NAME(S): **JACKSON NO. 1**, JACKSON NO. 1 MINE, TAYLOR BURSON COAL,
BRITISH LANDS, JACKSON, JACKSON PROSPECT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 26 16 N
LONGITUDE: 120 35 54 W
ELEVATION: 929 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5478896
EASTING: 674111

LOCATION ACCURACY: Within 500M

COMMENTS: Jackson No. 1 mine adit in the southwestern corner of district Lot 88, 2.0 kilometres southwest of the Tulameen River and 6.5 kilometres west-southwest of Princeton (Open File 1987-19).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Clay Bentonite
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A03 Sub-bituminous coal

SHAPE: Tabular

DIMENSION: 390 x 70 x 2 Metres

STRIKE/DIP: 022/52E

TREND/PLUNGE:

COMMENTS: Single coal seam dips 50 to 55 degrees southeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Allenby

IGNEOUS/METAMORPHIC/OTHER

ISOTOPIC AGE: 49.2 +/- 2 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY:

Shale
Sandstone
Clay
Coal
Bentonite
Rhyolite Tephra

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Overlap Assemblage

Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE: Sub-Bituminous

COMMENTS: Rank is sub-bituminous B.

CAPSULE GEOLOGY

The Jackson No. 1 mine is situated in the southwestern corner of district Lot 88, 2.0 kilometres southwest of the Tulameen River and 6.5 kilometres west-southwest of Princeton.

This coal deposit occurs along the western margin of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton are two major east-striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin, the strata dips approximately 50 degrees east. In the southern part of the basin, two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping faults. The main faults are the Asp Creek fault and the Boundary fault.

The deposit is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick,

CAPSULE GEOLOGY

comprising the Eocene Allenby Formation (Princeton Group). The mine is developed in the Pleasant Valley-Jackson coal zone, one of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. This zone was also mined at the Pleasant Valley No. 1 mine (092HSE211), and the Taylor Burson Coal mine (092HSE213). It is best represented in the Bromley Vale area where it consists of two to three seams of variable thickness (approximately 1.8 metres of coal in total) in a 30-metre stratigraphic interval.

The deposit at the Jackson No. 1 mine strikes 022 degrees and dips 50 to 55 degrees southeast. Underground workings have followed the seam down dip for up to 70 metres and along strike for 390 metres. The mined seam is 2.2 to 2.4 metres thick, and includes four clay and shale partings, 1.2 to 7.6 centimetres thick, and one band of bentonite, 12.7 centimetres thick (Minister of Mines Annual Report 1950, page 264). The deposit is overlain by shale and underlain by sandstone. A second undeveloped coal seam lies 12 metres stratigraphically below. This seam is 1.3 to 1.4 metres thick and contains a 3.8-centimetre thick shale band and a 19-centimetre thick bentonite seam.

The coal is non-coking in character and has a rank of sub-bituminous B. A sample from the face of the main level analyzed as follows (in per cent) (Minister of Mines Annual Report 1949, page 301):

Moisture	21.2
Volatile matter	31.7
Fixed carbon	38.2
Ash	8.9
Sulphur	0.7
Calorific value	8910

(B.T.U.'s per pound)

Princeton Coal and Land Company first explored this deposit in 1923. It was initially mined by British Lands Ltd. during 1944 and 1945, after its rediscovery by C. Jackson in 1941. Taylor Burson Coal Company Ltd. reopened the mine in 1948 after closing its previous mine to the north (Taylor Burson Coal, 092HSE213) in the same year. The company abandoned this mine in 1951. A total of 12,334 tonnes of coal was produced between 1944 and 1951.

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- EMPR COAL ASS RPT 180, 181, 184, 186, 187, 188, 189, 190, 193, 839
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- GSC MAP 888A; 1386A; 41-1989
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- GSC P *52-12; 85-1A, pp. 349-358; 89-4, p. 43
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FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). The mines are developed in the upper two of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. The No. 1 mine lies in the Gem-Bromley Vale zone, the lower of the two zones mined at Bromley Creek. This zone was also mined at the Gem mine (092HSE151), to the northeast. The No. 2 mine is developed in the overlying Golden Glow zone.

The deposit in the No. 1 mine strikes approximately 178 degrees and dips 20 to 37 degrees east, averaging about 25 to 27 degrees. Dips appear to shallow with depth. The seam has been traced in the mine along strike for 1440 metres and downdip for 430 metres. Minor faulting is evident in the underground workings. The deposit is 3.7 to 4.9 metres thick and contains at least 18 bands of bentonite, clay, shale and dirty coal up to 0.29 metre thick. Cleaner coal is contained in the lower 1.5 to 2.0 metres, from which all mine production originated.

The coal seam in the No. 2 mine is 2.0 metres thick and dips approximately 20 degrees east. It was mined over a strike length of 290 metres and a dip length of up to 100 metres.

The coal is non-coking in character and has a rank of sub-bituminous B. Two samples from the No. 1 mine analyzed as follows:

	Sample 1 (per cent)	Sample 2 (per cent)
Moisture	12.8	13.9
Volatile matter	31.68	28.3
Fixed carbon	47.44	44.1
Ash	8.08	13.7
Sulphur	-	0.63
Calorific value	-	8560

(B.T.U.'s per pound)

Sample 1 is a grab (?) sample (Minister of Mines Annual Report 1932, page 142), and Sample 2 is a sample of mine-run coal (Bulletin 14, page 19). Four additional samples from the No. 1 mine contained 14.8 to 17.6 per cent moisture, 27.0 to 31.9 per cent volatile matter, 37.4 to 49.4 per cent fixed carbon, 6.0 to 17.3 per cent ash, 0.44 to 0.64 per cent sulphur, and 7400 to 9424 British Thermal Units per pound (Bulletin 14, page 19).

The No. 1 mine was operated by Bromley Vale Collieries Ltd., (1932-1933), Cascade Coal Company Ltd. (1934), Diamond Black Collieries Ltd. (1935-1936) and Granby Mining, Smelting and Power Company Ltd. (1937-1943). Production ceased in 1943, after excessive squeezing was encountered in the deeper workings, partly as a result of the expansion of bentonite seams associated with the coal. The No. 2 mine, situated above the southeastern workings of the No. 1 mine, was operated briefly by Granby in 1940 and 1941. Total production between 1932 and 1943 amounted to 462,083 tonnes. Most of this coal was used to fuel Granby's steam-electric power station near Princeton.

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CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE216**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE FLAME COLLIERY, BLUE FLAME NO. 1, BLUE FLAME NO. 2, BLUE FLAME NO. 3, LYNDEN COAL, TAYLOR BURSON COAL**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 22 29 N
LONGITUDE: 120 34 41 W
ELEVATION: 956 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5471934
EASTING: 675806

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of the Blue Flame No. 2 mine in the northwest corner of district Lot 148, 0.7 kilometre north-northwest of the confluence of Whipsaw and Lamont creeks, and 11 kilometres southwest of Princeton (Open File 1987-19).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Clay Pyrite
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A03 Sub-bituminous coal
SHAPE: Tabular
MODIFIER: Faulted Folded
DIMENSION: 1800 x 460 x 3 Metres
COMMENTS: Single coal zone dips 7 to 16 degrees north.

STRIKE/DIP: 095/12N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Shale
Rhyolite Tephra
Sandstone
Coal
Shaly Coal
Clay
Bentonite

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The various underground workings of the Blue Flame Colliery extend from the northeast bank of Lamont (Nine-mile) Creek eastward, along the northern parts of district Lots 962 and 148, to within 200 metres of Highway 3. The colliery comprised three mines, identified from west to east as the Nos. 1, 2 and 3 (Prospect) mines. The mines are 10 to 11 kilometres southwest of Princeton.

This coal deposit occurs near the southern margin of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton are two major east-striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin, the strata dips approximately 50 degrees east. In the southern part of the basin, two north to northwest-plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping

CAPSULE GEOLOGY

faults. The main faults are the Asp Creek fault and the Boundary fault.

The Blue Flame Colliery is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). The mine is developed in the Princeton-Black-Blue Flame coal zone, the stratigraphically lowest and thickest of four significant coal-bearing zones in a 530-metre section in the Allenby Formation. Its thickness varies from 1.6 to 19.2 metres with about 9.1 metres of coal. The coal occurs in bands 7 centimetres to 5.5 metres thick with interbeds of shaly coal, bentonite, sandstone and shale separating the individual seams. The partings and beds associated with the coal change thickness and stratigraphic position laterally, making correlation difficult. Coal quality also varies laterally. The Princeton-Black-Blue Flame coal zone was also mined at the Princeton Colliery (092HSE089), Princeton-Tulameen mine (092HSE209), Tulameen Collieries (092HSE210), the Pleasant Valley Nos. 2 and 4 mines (092HSE211) and the Black mine (092HSE212).

The coal-bearing zone at the Blue Flame Colliery strikes 075 to 110 degrees, striking approximately 095 degrees over most of its length, and dips 7 to 16 degrees north. The deposit has been mined over a total strike length of 1800 metres, and has been traced downdip in the No. 1 mine for up to 460 metres. Minor faulting is evident in the Nos. 2 and 3 mines. The zone is gently folded about a northwest-plunging anticline in the No. 2 mine.

The coal zone is 7.3 to 10.7 metres thick, and appears to thicken to the east. Numerous bands of clay, shale and dirty coal up to 0.57 metre thick are present in this zone. Mining was therefore limited to a section of cleaner coal, with only a few thin rock and clay bands, in the central 1.8 to 3.0 metres of the zone. A few irregular nodules of pyrite are reported to occur in the coal in the No. 1 mine (Minister of Mines Annual Report 1928, page 483).

The Blue Flame No. 1 mine was opened up and operated by Lynden Coal Company Ltd. during 1927 and 1928. Subsequent operators included Blue Flame Coal Company Ltd. (1929-1931), Blue Flame Collieries Ltd. (1932), and Wilson Mining and Investment Company Ltd. (1933-1937). The mine was reopened by Taylor Burson Coal Company Ltd. in 1951 in order to recover coal left in pillars, after abandoning its previous mine to the north (Jackson No. 1 mine, 092HSE214). With the completion of pillar recovery in 1953, the company opened up the adjacent Blue Flame No. 2 mine to the east in the same year. The operation was taken over by Blue Flame Colliery Ltd. in 1957. After abandoning the No. 2 mine in the same year, the company opened up the Blue Flame No. 3 mine near the Hope-Princeton Highway in 1958. Production ceased in 1961. Total production between 1928 and 1961 amounted to 193,531 tonnes of coal.

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- EMPR COAL ASS RPT 180, 184, 186, 187, 188, 189, 190, 193, 839
- EMPR INF CIRC 1989-22, pp. 14,19
- EMPR OF 1987-19
- EMPR P *1983-3; 1986-3, pp. 28,29
- GSC MAP 888A; 1386A; 41-1989
- GSC MEM 59, pp. 110,111; 69, pp. 254-262; 243, pp. 126,127
- GSC P *52-12; 85-1A, pp. 349-358; 89-4, p. 43
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DATE CODED: 1992/02/12
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE217**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASHINGTON COAL**, WILSON COAL

STATUS: Developed Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

LATITUDE: 49 27 46 N

LONGITUDE: 120 30 44 W

ELEVATION: 640 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the north bank of the Tulameen River, beneath the Princeton-Tulameen road, 70 metres southwest-west of the north end of the Tulameen River bridge in the town of Princeton (Minister of Mines Annual Report 1929, page 477; Geological Survey of Canada Paper 52-12, Figure 2D).

UTM ZONE: 10 (NAD 83)

NORTHING: 5481878

EASTING: 680262

COMMODITIES: Coal

Clay

MINERALS

SIGNIFICANT: Coal Clay

MINERALIZATION AGE: Eocene

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound

Massive

CLASSIFICATION: Sedimentary

Fossil Fuel

Industrial Min.

TYPE: A03 Sub-bituminous coal

B06

Fireclay

E07 Sedimentary kaolin

SHAPE: Tabular

DIMENSION: 137 x 2

Metres

STRIKE/DIP: 090/15S

TREND/PLUNGE:

COMMENTS: Single coal seam.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Allenby

IGNEOUS/METAMORPHIC/OTHER

ISOTOPIC AGE: 49.2 +/- 2 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY:

Shale

Sandstone

Coal

Clay

Conglomerate

Rhyolite Tephra

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Ashington Coal mine is situated on the north bank of the Tulameen River, 70 metres southwest of the north end of the Tulameen River bridge in the town of Princeton.

This coal deposit occurs near the centre of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The southern area, in which this occurrence lies, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping faults. The main faults are the Asp Creek fault and the Boundary fault.

The Ashington mine is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group).

The coal seam at the Ashington mine strikes approximately 090 degrees and dips 15 degrees south. The seam is 1.8 metres thick and contains thin bands of shale and dirty coal. Underground workings followed the coal westward for 137 metres.

The deposit is overlain by a bed of clay, 6 metres thick, which

CAPSULE GEOLOGY

is in turn overlain by sandstone and conglomerate. The overlying clay is greyish white, very fine grained, brittle, and has a conchoidal fracture. A sample of the clay shows a very low shrinkage of 0.6 per cent during air drying. Firing characteristics are as follows (Geological Survey of Canada Memoir 47, page 53):

Cone	Fire shrinkage (per cent)	Absorption (per cent)
010	2.4	32.50
03	13.6	5.10
1	15.7	0.70

The deposit was tunnelled and drilled by Ashington Coal Company Ltd. in 1929 and 1930. The company produced 22 tonnes of coal, while exploring this deposit.

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE218**

NATIONAL MINERAL INVENTORY:

NAME(S): **UNITED EMPIRE COLLIERY**, RED TRIANGLE COAL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 12 N
LONGITUDE: 120 28 28 W
ELEVATION: 730 Metres

NORTHING: 5484624
EASTING: 682910

LOCATION ACCURACY: Within 500M

COMMENTS: Area of underground coal workings, 0.6 kilometre north-northeast of the confluence of Allison (One Mile) and Deer Valley creeks, 4.5 kilometres northeast of Princeton (Dolmage Campbell Consultants, 1963).

COMMODITIES: Coal Clay

MINERALS

SIGNIFICANT: Coal Clay
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A03 Sub-bituminous coal
E07 Sedimentary kaolin

Industrial Min. B06 Fireclay

SHAPE: Tabular
DIMENSION: 460 x 76 x 1 Metres
COMMENTS: The lower of two coal seams.

STRIKE/DIP: 360/52E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Eocene Princeton
ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

FORMATION
Allenby

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Sandstone
Rhyolite Tephra
Shale
Coal
Clay

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The underground workings of the United Empire Colliery are about 0.6 kilometre north-northeast of the confluence of Allison (One Mile) and Deer Valley creeks, 4.5 kilometres northeast of Princeton.

This coal deposit is situated at the eastern faulted margin of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The northern area, in which the deposit occurs, consists of a gently folded, homoclinal panel which is tilted east. Dips commonly range from 15 to 25 degrees east and flatten to the east. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly dipping faults. The main faults are the Asp Creek fault and the Boundary fault.

The United Empire Colliery is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). Locally, the coal-bearing strata strikes roughly north and dips 45 to 60 degrees west. Production originated from two seams separated by 14.0 metres of sandstone, with minor clay, shale and coal. The upper seam is 2.7 metres thick and contains a 15-centimetre thick band of clay. The lower seam is 1.1 to 1.2 metres thick, including a 10-centimetre thick rock band, and is underlain by 2.1 metres of mixed coal and clay. The lower seam has been traced from surface and

CAPSULE GEOLOGY

underground workings over a strike length of 450 metres and a vertical elevation of 76 metres.

A bed of dark brownish grey clay, 15 to 61 centimetres thick, overlies either the upper or lower coal seams. The clay is smooth and plastic, and contains scattered particles of carbonaceous matter. A sample of clay absorbed 29 per cent water and shrank by 9.3 per cent while drying in air (Geological Survey of Canada Memoir 65, page 22). The average tensile strength when air dried was 96 pounds per square inch. The clay burns buff at lower cones, but changes to brown at higher ones. Other firing characteristics are as follows (Geological Survey of Canada Memoir 65, page 22):

Cone	Fire shrinkage (per cent)	Absorption (per cent)
010	1.7	16.76
05	4.1	13.25
1	6.3	9.04
3	7.4	7.85
5	7.4	3.2
9	-	0.9
15	Nearly fused	

The material is not considered a fireclay, but it burns to a good colour, suitable for pressed brick and can be dry pressed.

The colliery was initially developed by United Empire Mining Company between 1908 and 1911. Production commenced in 1912 and continued to 1914. The mine was reactivated by Red Triangle Coal Company in 1932 in order to extract coal left in pillars. The coal was found to be of inferior quality and production was therefore halted in 1933. Total production between 1912 and 1933 amounted to 2531 tonnes. Most of this coal was used in the nearby cement plant of British Columbia Portland Cement Company (092HSE169) in 1913 and 1914.

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FIELD CHECK: N
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MINFILE NUMBER: **092HSE219**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN GLOW**, HAIGH'S PROSPECT

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 31 N
LONGITUDE: 120 35 21 W
ELEVATION: 884 Metres

NORTHING: 5477528
EASTING: 674820

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of the Golden Glow mine on the west end of district Lot 406, 300 metres west-northwest of the confluence of Bromley and White creeks, and 7 kilometres southwest of Princeton (Geological Survey of Canada Paper 52-12, Figure 2D).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: A03 Sub-bituminous coal
SHAPE: Tabular
DIMENSION: 140 x 3 Metres
COMMENTS: Single coal seam.

Massive
Fossil Fuel

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Sandstone
Shale
Rhyolite Tephra
Coal

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Golden Glow mine is on the west end of district lot 406, 300 metres west-northwest of the confluence of Bromley and White creeks, and 7 kilometres southwest of Princeton.

This coal deposit lies near the western margin of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation. The seam is part of the Golden Glow coal zone, one of four significant coal-bearing zones in a 530-metre section in the Allenby Formation (Princeton Group). This zone was also mined at the Bromley Vale No. 2 mine (092HSE215).

The seam at the Golden Glow mine is approximately 2.5 metres thick. The limited amount of development work conducted on the seam suggested it was too dirty to exploit (Geological Survey of Canada Paper 52-12, page 20). The underground workings had followed the seam for 140 metres.

Golden Glow Coal Mining Company explored the deposit in 1937 and 1938.

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE220**

NATIONAL MINERAL INVENTORY:

NAME(S): **BURR PROSPECT (L.292)**, TAYLOR BURSON COAL PROSPECT

STATUS: Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

LATITUDE: 49 24 45 N

LONGITUDE: 120 32 55 W

ELEVATION: 701 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of adit in the southeast corner of district Lot 292, on the west bank of the Similkameen River and 5.5 kilometres southwest of Princeton (Geological Survey of Canada Paper 52-12, Figure 2D, prospect 2).

UTM ZONE: 10 (NAD 83)

NORTHING: 5476203

EASTING: 677807

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal

ASSOCIATED: Clay Bentonite

MINERALIZATION AGE: Eocene

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound

Massive

CLASSIFICATION: Sedimentary

Fossil Fuel

TYPE: A03 Sub-bituminous coal

SHAPE: Tabular

DIMENSION: 30 x 2

Metres

STRIKE/DIP: 170/20W

TREND/PLUNGE:

COMMENTS: Single coal seam.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Eocene

Princeton

Allenby

ISOTOPIC AGE: 49.2 +/- 2 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Shale

Sandstone

Rhyolite Tephra

Coal

Clay

Bentonite

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Burr Prospect occurs in the southeast corner of district Lot 292, on the west bank of the Similkameen River and 5.5 kilometres southwest of Princeton.

This coal deposit is situated in the south-central part of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The deposit may correlate with the Pleasant Valley-Jackson coal zone, one of four significant coal-bearing zones in a 530-metre section in the Allenby Formation (Princeton Group) (Geological Survey of Canada Paper 52-12, page 22).

An adit exposes a seam of coal, 2.0 metres thick, with seven partings of shale, clay and bentonite up to 6 centimetres thick, and one band of dirty coal, 48 centimetres thick. The seam contains 86 centimetres of clean coal (Geological Survey of Canada Paper 52-12, Figure 2, prospect 2). It strikes 170 degrees and dips about 20 degrees west. Underground workings have followed the seam downdip for about 30 metres.

The deposit was explored by E. Burr in 1945.

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FIELD CHECK: N

MINFILE NUMBER: **092HSE221**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHINA CREEK COAL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 49 N
LONGITUDE: 120 31 28 W
ELEVATION: 668 Metres

NORTHING: 5481941
EASTING: 679373

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on Asp (China) Creek, 650 metres northwest of the creek's confluence with the Tulameen River, just north of Princeton (Geological Survey of Canada Paper 52-12, Figure 2D, prospect 6).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Bentonite Clay
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A03 Sub-bituminous coal
DIMENSION: 1 Metres
COMMENTS: A single coal seam strikes northeast and dips southeast.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Eocene
GROUP: Princeton
ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

FORMATION: Allenby

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Shale
Sandstone
Rhyolite Tephra
Coal
Bentonite
Clay

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The China Creek showing is on Asp (China) Creek, 650 metres northwest of the creek's confluence with the Tulameen River, just north of Princeton.

This coal deposit occurs near the centre of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The deposit appears to lie 107 metres stratigraphically below the Princeton-Black-Blue Flame coal zone, the stratigraphically lowest and thickest of four significant coal-bearing zones in a 530-metre section in the Allenby Formation (Princeton Group) (Geological Survey of Canada Paper 52-12, page 23).

A 4.9-metre thick coal-bearing section, with interbedded shale, clay and bentonite, is exposed along the creek's south bank. The section strikes northeast and dips southeast. It contains about 1.8 metres of mostly dirty coal, concentrated near its base. One coal seam, 1.3 metres thick, contains three thin bentonite partings and one 19-centimetre thick band of dirty coal. The seam is comprised of 91 centimetres of clean coal (Geological Survey of Canada Paper 52-12, Figure 2, prospect 6).

The deposit was explored by a short adit some time before 1947.

RUN DATE: 26-Jun-2003
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FIELD CHECK: N
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MINFILE NUMBER: **092HSE222**

NATIONAL MINERAL INVENTORY:

NAME(S): **SIMILKAMEEN COAL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:
LATTITUDE: 49 24 21 N
LONGITUDE: 120 32 28 W
ELEVATION: 689 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Stratigraphic section on the west bank of the Similkameen River, 6 kilometres southwest of Princeton (Geological Survey of Canada Paper 52-12, Figure 2D, measured section 7).

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5475479
EASTING: 678375

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Bentonite
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:
DATING METHOD: Fossil
MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: A03 Sub-bituminous coal
DIMENSION: 1 Metres
COMMENTS: Deposit consists of two coal seams, each about 1 metre thick.

Massive
Fossil Fuel

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Shale
Sandstone
Rhyolite Tephra
Sandy Shale
Coal
Shaly Coal
Bentonite
Clay

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
Quesnel
PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Similkameen Coal prospect is on the west bank of the Similkameen River, 6 kilometres southwest of Princeton. This coal deposit is situated in the south-central part of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation. The deposit may correlate with the Pleasant Valley-Jackson coal zone, one of four significant coal-bearing zones in a 530-metre section in the Allenby Formation (Princeton Group) (Geological Survey of Canada Paper 52-12, page 22). A coal seam, 1.3 metres thick, is exposed in the river bank. The seam contains one thin bentonite band and 1.19 metres of clean coal (Geological Survey of Canada Paper 52-12, Figure 2, section 7). It is overlain by 1.8 metres of bentonite and underlain by 0.5 metre of clay or shale. A second seam occurs in an adit 130 metres southwest of the river bank exposure. The seam is up to 1.22 metres thick and is overlain by sandy shale and underlain by shaly coal (Paper 1983-3, Figure 13B, section 6).

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE223**

NATIONAL MINERAL INVENTORY:

NAME(S): **SIMILKAMEEN COAL 2**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 13 N
LONGITUDE: 120 32 55 W
ELEVATION: 738 Metres

NORTHING: 5473362
EASTING: 677899

LOCATION ACCURACY: Within 500M

COMMENTS: Stratigraphic section on the west bank of the Similkameen River, 8 kilometres southwest of Princeton (Paper 83-3, Figure 13A, section 3).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: A03 Sub-bituminous coal
DIMENSION: 1 Metres
COMMENTS: Single coal seam.

Massive
Fossil Fuel

STRIKE/DIP: 174/16W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Sandstone
Shale
Rhyolite Tephra
Coal
Coal Shale

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Similkameen Coal 2 showing is on the west bank of the Similkameen River, 8 kilometres southwest of Princeton.

This coal occurrence is near the southeastern margin of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

A coal seam, up to 1.22 metres thick, is exposed 100 metres west of the river. The seam strikes 174 degrees and dips 16 degrees west. It is overlain by sandstone and coaly shale and underlain by sandstone and shale.

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DATE CODED: 1992/02/18
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE224**

NATIONAL MINERAL INVENTORY:

NAME(S): **FREEMAN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 33 N
LONGITUDE: 120 31 56 W
ELEVATION: 671 Metres

NORTHING: 5477723
EASTING: 678947

LOCATION ACCURACY: Within 500M

COMMENTS: Stratigraphic section on the northwest bank of the Similkameen River, 4 kilometres southwest of Princeton (Paper 83-3, Figure 13A, section 13).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ASSOCIATED: Bentonite
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel

TYPE: A03 Sub-bituminous coal
DIMENSION: 17 Metres

STRIKE/DIP: 095/20S

TREND/PLUNGE:

COMMENTS: A single coal zone, 17 metres thick, contains 8 seams up to 2 metres thick.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	
ISOTOPIC AGE:	49.2 +/- 2 Ma		
DATING METHOD:	Potassium/Argon		
MATERIAL DATED:	Biotite		

LITHOLOGY: Shale
Sandy Shale
Coal
Shaly Coal
Sandstone
Bentonite
Rhyolite Tephra

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Freeman prospect is on the northwest bank of the Similkameen River, 4 kilometres southwest of Princeton.

This coal prospect is in the south-central part of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The deposit is 150 metres stratigraphically above the Golden Glow coal zone, one of four significant coal-bearing zones in a 530-metre section in the Allenby Formation (Princeton Group) (Paper 83-3, Figure 12).

The river bank exposes a coal-bearing section, 17.0 metres thick, striking 095 degrees and dipping 20 degrees south. The section contains up to 9.11 metres of clean coal in eight seams 15 to 213 centimetres thick (Paper 83-3, Figure 13B). Four of them have a maximum thickness of at least 106 centimetres. The seams are interbedded with shale, and lesser sandy shale, shaly coal and sandstone.

An adit, located across the river to the east, exposes a 1.7-metre thick section of mostly shaly coal with 34 centimetres of clean coal at its base. The section is overlain by sandstone and underlain by bentonite.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1131
REPORT: RGEN0100

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DATE CODED: 1992/02/18
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REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE224**

MINFILE NUMBER: **092HSE225**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACKMORE BOREHOLE NO. 2**, BOREHOLE 6

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 21 N
LONGITUDE: 120 31 25 W
ELEVATION: 655 Metres

NORTHING: 5479226
EASTING: 679523

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of Blackmore borehole No. 2 (borehole 6), on the northwest bank of the Similkameen River, 2 kilometres southwest of Princeton (Geological Survey of Canada Paper 52-12, Figure 1A).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: A03 Sub-bituminous coal
DIMENSION: 3 Metres
COMMENTS: Thickness given for the lower of two coal zones.

Massive
Fossil Fuel

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Shale
Sandstone
Rhyolite Tephra
Sandy Shale
Coal

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A borehole was drilled in the early 1900's on the northwest bank of the Similkameen River, 2 kilometres southwest of Princeton.

The Blackmore Borehole No. 2 prospect is near the centre of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The drill hole intersected the upper two of four significant coal-bearing zones in a 530-metre section in the Allenby Formation (Princeton Group). The Gem-Bromley Vale zone, the lower of the two zones, was encountered at a vertical depth of 206.2 metres. The zone consists of a coal seam with a true thickness of 3.05 metres, including a band of dark shale, 15 centimetres thick. The seam is overlain by shale and sandy shale and underlain by shale. The aggregate thickness of clean coal is 2.90 metres (Paper 83-3, Figure 13B). This zone was mined at Bromley Vale Collieries (092HSE215) to the southwest, and the Gem mine (092HSE151), to the northeast.

The overlying Golden Glow zone was encountered at a vertical depth of 69.2 metres. The zone comprises a single seam of clean coal, 2.36 metres thick, overlain by shale, and underlain by sandstone (Paper 83-3, Figure 13B). The Golden Glow zone was also mined at Bromley Vale Collieries.

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of Alberta

DATE CODED: 1992/02/19
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CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE226**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER MOUNTAIN COAL**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 38 N
LONGITUDE: 120 30 55 W
ELEVATION: 707 Metres

NORTHING: 5479771
EASTING: 680110

LOCATION ACCURACY: Within 500M

COMMENTS: Stratigraphic section along the old Copper Mountain railway, 1.5 kilometres south-southwest of Princeton (Paper 83-3, Figure 13A, section 15).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel

TYPE: A03 Sub-bituminous coal

DIMENSION: 2 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Deposit consists of 2 coal seams, each 2 metres thick.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Allenby	

ISOTOPIC AGE: 49.2 +/- 2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Conglomerate
Bentonite
Sandstone
Coal
Shale
Rhyolite Tephra

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Copper Mountain Coal occurrence outcrops along the old Copper Mountain railway, 1.5 kilometres south-southwest of Princeton.

The coal prospect is in the south-central part of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The deposit is up to 35 metres stratigraphically below the Golden Glow coal zone, one of four significant coal-bearing zones in a 530-metre section in the Allenby Formation (Princeton Group) (Paper 83-3, Figure 13B).

The railway cut exposes a seam of clean coal, up to 2.13 metres thick, overlain by 0.48 metre of bentonite and underlain by 1.5 metres of conglomerate (Paper 83-3, Figure 13B, section 15).

A second coal seam in sandstone occurs along the railway, 350 metres to the north. The seam is up to 1.80 metres thick, including a thin band of shale, and contains up to 152 centimetres of clean coal (Paper 83-3, Figure 13B, section 16).

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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1135
REPORT: RGEN0100

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Interior of British Columbia, unpublished Ph.D. thesis, University
of Alberta

DATE CODED: 1992/02/19
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE227**

NATIONAL MINERAL INVENTORY:

NAME(S): **BETHLEHEM COAL**, PRINCETON COAL

STATUS: Developed Prospect

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 36 N

LONGITUDE: 120 34 49 W

ELEVATION: 930 Metres

NORTHING: 5473998

EASTING: 675579

LOCATION ACCURACY: Within 500M

COMMENTS: Collar of drill hole 71-7, on the west shore of Tracey Lake, 2.3 kilometres west of the Similkameen River and 9 kilometres southwest of Princeton (Coal Assessment Report 191, sheet N 11).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal

MINERALIZATION AGE: Eocene

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel

TYPE: A03 Sub-bituminous coal

SHAPE: Tabular

MODIFIER: Faulted

DIMENSION: 1300 x 200 x 9 Metres

STRIKE/DIP: 045/23W

TREND/PLUNGE:

COMMENTS: Single coal seam.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Allenby

IGNEOUS/METAMORPHIC/OTHER

ISOTOPIC AGE: 49.2 +/- 2 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY:

Shale

Mudstone

Siltstone

Sandstone

Coal

Rhyolite Tephra

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Overlap Assemblage

Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE: HVol Bituminous

COMMENTS: Rank is high-volatile bituminous C.

INVENTORY

ORE ZONE: SEAM

REPORT ON: Y

CATEGORY: Unclassified

YEAR: 1976

QUANTITY: 90000000 Tonnes

COMMODITY

GRADE

Coal

100.0000

Per cent

COMMENTS: Estimate of thermal coal.

REFERENCE: Canadian Mines Handbook 1976-1977, page 43.

CAPSULE GEOLOGY

The Bethlehem Coal occurrence is about 2.5 kilometres west of the Similkameen River and 8 to 9 kilometres southwest of Princeton. The prospect underlies parts of district Lots 965, 966 and 967.

This coal deposit occurs in the south-central part of the Princeton Basin, a northerly trending half-graben superimposed on volcanics and sediments of the Upper Triassic Nicola Group. The basin is separated into a northern and southern area by the gentle, northwest-striking Rainbow Lake anticline. The southern area, in which this deposit occurs, is a structural depression with beds dipping 10 to 20 degrees south near Princeton, and gently east between Asp (China) Creek and the Tulameen River. South of Princeton

CAPSULE GEOLOGY

are two major east-striking asymmetric anticlines with gentle to moderate southerly dips continuing to the south. On the western margin of the basin, the strata dips approximately 50 degrees east. In the southern part of the basin, two north to northwest plunging anticlines are present. The basin is bounded and cut in places by a number of approximately north to northeast-striking, westerly-dipping faults. The main faults are the Asp Creek fault and the Boundary fault.

The deposit is hosted in a sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Eocene Allenby Formation (Princeton Group). This coal seam is the stratigraphically highest of seven coal seams/coal zones in the Allenby Formation (Paper 83-3, Figure 12). The sedimentary sequence overlying the seam consists primarily of light to dark grey shales, mudstones and siltstones.

The seam strikes approximately 045 degrees and dips 20 to 25 degrees northwest. Coal thicknesses range from 7.0 to 14.9 metres and average 8.8 metres (Coal Assessment Report 180, page 6-23). The deposit has been traced by diamond drilling over a strike length of 1300 metres, and downdip for up to 200 metres. It is truncated along its southeast flank by a fault striking north-northeast. Minor displacement has also occurred along several northwest-striking faults. Seven vertically drilled holes encountered the seam at depths of between 120 to 326 metres. The deposit is estimated to contain 90 million tonnes of thermal coal (Canadian Mines Handbook 1976-1977, page 43).

Analytical results indicate that the quality of the coal deteriorates from the base to the top of the seam and from south to north over the area drilled. The coal is non-coking in character and high-volatile bituminous C in rank (A.S.T.M. classification). Average ash and calorific values for the bottom 3.7 metres of the seam are as follows (Coal Assessment Report 191, page 3):

Drill hole	Interval (metres)	Ash content (per cent)	Calorific value (B.T.U./pound)
71-1	3.66	13.5	10385
71-5	3.66	18.5	10010
71-6	3.66	14.9	10375
71-7	3.66	15.7	10185
71-9	1.65	21.0	10210
71-11	3.66	24.5	8550
71-12	3.66	30.2	8220

Ranges for volatile matter, fixed carbon and sulphur values from the bottom 3.7 metres of the seam are as follows (in per cent) (Coal Assessment Report 180, page 6-23):

Volatile matter	33.3 to 34.4
Fixed carbon	40.5 to 42.6
Sulphur	0.75 to 0.83

The deposit was drilled by Bethlehem Copper Corporation in 1971. The company drilled 3003 metres in 12 holes, eight of which intersected the seam.

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DATE CODED: 1992/02/19
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FIELD CHECK: N
 FIELD CHECK: N

MINFILE NUMBER: **092HSE228**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAYES AND VITTONI**, DELPATRO AND HAYES

STATUS: Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E 092H10E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 59 N

LONGITUDE: 120 43 02 W

ELEVATION: 1141 Metres

NORTHING: 5485514

EASTING: 665285

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of southernmost adit (No. 1 adit), 1.4 kilometres northwest of the confluence of Granite and Holmes creeks, 15.5 kilometres west-northwest of Princeton (Coal Assessment Report 200, Figure 3, sheet 2).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal

ASSOCIATED: Clay

MINERALIZATION AGE: Eocene

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fossil

DEPOSIT

CHARACTER: Stratabound

Massive

CLASSIFICATION: Sedimentary

Fossil Fuel

TYPE: A03 Sub-bituminous coal

DIMENSION: 2

Metres

STRIKE/DIP: 113/52S

TREND/PLUNGE: /

COMMENTS: Six coal seams are present, with thicknesses of up to 1.7 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Allenby

IGNEOUS/METAMORPHIC/OTHER

ISOTOPIC AGE: 49.0 +/- 1.7 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Amphibole

LITHOLOGY: Siltstone

Shale

Coal

Sandstone

Andesitic Volcanic

Pebble Conglomerate

Ash

HOSTROCK COMMENTS: Date is for the Cedar dacite (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Hayes and Vittoni coal prospect outcrops 300 metres southwest of Holmes Creek, 1.4 kilometres northwest of the creek's confluence with Granite Creek and 15.5 kilometres west-northwest of Princeton.

The deposit occurs in the southern part of the Tulameen Basin, along its northeastern margin. This structural basin is comprised of a northwest-striking syncline that preserves a sequence of sedimentary rocks with lesser intercalated volcanics of the Eocene Allenby Formation (Princeton Group), up to 840 metres thick. The sequence rests unconformably on a basement of Upper Triassic Nicola Group metamorphosed volcanics and sediments. In the southern part of the basin, the syncline is asymmetric with the dips being approximately 45 degrees and 20 degrees on the northeast and southwest limbs, respectively.

The prospect is hosted in a coal-bearing shale member, approximately 130 to 200 metres thick, underlain by up to 120 metres of sandstone, siltstone and andesitic volcanics, and overlain by 580 to 700 metres of sandstone and pebble conglomerate, with interbeds of shale, ash and coal in the lower sections.

Three adits totalling 49 metres in length and three trenches expose six seams of coal interbedded with clay and shale, and minor sandstone. The beds strike 111 to 115 degrees and dip 45 to 60 degrees south. The best section occurs in the No. 1 adit, which

CAPSULE GEOLOGY

contains 0.81 metre of coal, overlain by 0.30 metre of dirty coal and rock, followed by 1.68 metres of coal (Minister of Mines Annual Report 1946, page 241). The various other seams are 0.9 to 1.2 metres thick.

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of Alberta

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CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE229**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHAMPION CREEK PLACER**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 38 N
LONGITUDE: 120 55 02 W
ELEVATION: 1231 Metres

NORTHING: 5480741
EASTING: 650925

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the broad valley of Champion Creek, 9 kilometres south-southeast of the creek's confluence with the Tulameen River and 29 kilometres west of Princeton (Geological Survey of Canada Memoir 26, page 135).

COMMODITIES: Gold Platinum

MINERALS

SIGNIFICANT: Gold Platinum
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Champion Creek is a north-flowing tributary of the Tulameen River, some 9 kilometres long, situated about 59 kilometres west of Princeton.

The creek is characterized by a narrow rock-walled canyon near its mouth, which gives way upstream to a broader flaring valley. Deep gravels occur along the upper portion of the creek in the broad valley. These gravels are reported to contain gold and platinum. Virtually no gravels are present in the canyon below.

The creek was explored as early as 1885.

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GSC P 85-1A, pp. 349-358

DATE CODED: 1992/02/25
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE230**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRANITE CREEK PLACER**

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092H07E 092H10E
 BC MAP:

Open Pit Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 24 N
 LONGITUDE: 120 43 33 W
 ELEVATION: 975 Metres

NORTHING: 5480709
 EASTING: 664806

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of Lambert's hydraulic lease on Granite Creek, 1.1 kilometres southeast of the creek's confluence with Newton Creek and 15.5 kilometres west of Princeton (Minister of Mines Annual Report 1915, map following page 240).

COMMODITIES: Gold Platinum Osmium Iridium Rhodium
 Palladium Chromium Copper

MINERALS

SIGNIFICANT: Gold Platinum Osmiridium
 ASSOCIATED: Quartz Chromite
 MINERALIZATION AGE: Recent

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>
Recent	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Gravel
 Clay

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Granite Creek flows northeast from Granite and Kettle mountains into the Tulameen River near Coalmont, over a distance of some 27 kilometres.

The lower part of creek cuts through a narrow rock-walled canyon that extends from its mouth upstream for about 6 kilometres to its confluence with Newton Creek. Farther upstream, the creek occupies a broad valley floor that continues southwest to Granite and Kettle mountains.

The canyon contains shallow gravels varying from 0.6 to 2.4 metres thick, while the upper valley is covered with gravels of much greater thickness. Gold and platinum-bearing sections are generally found to occur on bedrock. These pay gravels are well indurated and cemented by a stiff clay.

Gold to platinum ratios range from 4:1 to 1:1, and average 2:1 to 3:1 (Assessment Report 12230, page 4). The proportion of platinum increases upstream towards Newton Creek. Gold nuggets are coarse and rough, and frequently weighed 160 to 250 grams (Geological Survey of Canada Summary Report 1909, page 111). One nugget obtained near the junction with Blakeburn Creek (north fork of Granite Creek), appeared to be made up of a number of smaller nuggets grown together. Some coarse nuggets found in the lower part of the creek contained a large amount of white quartz (Geological Survey of Canada Summary Report 1909, page 113). Platinum occurs in smaller, silver-coloured nodules, generally not exceeding 16 grams in size, that are usually rounded and pitted with holes. A sample of platinum concentrate, with grains of foreign matter removed, analyzed as follows (in per cent) (Geological Survey of Canada Memoir 26, page 137):

	Magnetic fraction	Non-magnetic fraction	Total
Platinum	78.43	68.19	72.07
Palladium	0.09	0.26	0.19
Rhodium	1.70	3.10	2.57
Iridium	1.04	1.21	1.14

CAPSULE GEOLOGY

Copper	3.89	3.09	3.39
Iron	9.78	7.87	8.59
Osmiridium	3.77	14.62	10.51
Gangue (chromite)	1.27	1.95	1.69
Totals	99.97	100.29	100.15

Total gold production between 1885 and 1945 is estimated at 824,500 grams. Most of this production occurred between 1885 and 1890 from gravels in the canyon. A section of the canyon, 6.0 kilometres in length, averaged 9000 grams of gold per 30 metres length during this five year period (Minister of Mines Annual Report 1926, pages 230, 231). Old channels preserved in a few benches higher up on the valley sides were mined at several locations by tunnelling (e.g. Pogue claim (1885-1895), Swan lease (1933-1934)). The Pogue deposit produced 93 to 160 grams of gold for every 2.4 metres tunnelled (Minister of Mines Annual Report 1895, page 708). Production from the Swan lease, which covered an abandoned channel between Granite Creek and the Tulameen River, is reported to have averaged 2.4 grams of gold per cubic metre (Minister of Mines Annual Report 1933, page 174). During a four month period in 1934, 5368 grams of gold and 547 grams of platinum were produced from 196 square metres of bedrock exposed in drifts on the Swan lease (Minister of Mines Annual Report 1934, page D23). The deeper gravels above Newton Creek were largely ignored until Lambert and Stewart began to hydraulically mine a section of the creek just above the mouth of Newton Creek in 1907. Exploration at Lambert's lease in 1932 indicated a grade of 10 grams per cubic metre (Minister of Mines Annual Report 1932, page 141). Mining on this part of the creek continued periodically up to 1932. Only minor prospecting and production has occurred on the creek since 1934, generally within 1.2 kilometres of its mouth.

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DATE CODED: 1992/02/25
 DATE REVISED: / /

CODED BY: PSF
 REVISED BY:

FIELD CHECK: N
 FIELD CHECK: N

MINFILE NUMBER: **092HSE231**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAMONT CREEK PLACER**, NINE-MILE CREEK PLACER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 15 N
LONGITUDE: 120 38 02 W
ELEVATION: 1128 Metres

NORTHING: 5473226
EASTING: 671709

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of surface trace of Lamont (Nine-mile) Creek, 6.3 kilometres west of the Similkameen River and 12 kilometres southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Recent
GROUP: Unnamed/Unknown Group

FORMATION: Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Lamont (Nine-mile) Creek is a southeast-flowing tributary of Whipsaw Creek, about 9 kilometres long, 11 to 13 kilometres southwest of Princeton.

The creek occupies a fairly broad and open valley extending southeast from a divide separating it from Granite Creek to the west. Placer deposits were mined in this valley in the early 1900's, and are now reported to be largely exhausted (Geological Survey of Canada Summary Report 1922, page 118A). The Similkameen Placer Syndicate held a lease on the creek in 1925.

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DATE CODED: 1992/02/26
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE232**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEWTON CREEK PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07W 092H07E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 51 N
LONGITUDE: 120 46 48 W
ELEVATION: 1433 Metres

NORTHING: 5479573
EASTING: 660911

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of surface trace of Newton Creek, 4 kilometres southwest of the creek's confluence with Granite Creek and 19 kilometres west-southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Gold Platinum

MINERALS

SIGNIFICANT: Gold Platinum
ASSOCIATED: Quartz
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Newton Creek flows east to northeast, over a distance of about 11 kilometres, into Granite Creek, west of Princeton.

The lower half of the creek cuts through a narrow steep-sided valley while the upper half flows over a broader, more open valley floor.

Gold and platinum were produced from gravels in this creek between 1890 and 1893. The gold to platinum ratios are reported to be 1:1 (Geological Survey of Canada Memoir 171, page 113). The gold is similar to that found in Granite Creek (092HSE230), being coarse and rough. Some of the larger nuggets contained quartz (Minister of Mines Annual Reports 1890, 1933). Total gold production is estimated at 6500 grams.

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DATE CODED: 1992/02/26
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CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE233**

NATIONAL MINERAL INVENTORY:

NAME(S): **SIMILKAMEEN RIVER PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E 092H08W
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 47 N
LONGITUDE: 120 31 26 W
ELEVATION: 646 Metres

NORTHING: 5480028
EASTING: 679476

LOCATION ACCURACY: Within 500M

COMMENTS: Section of the Similkameen River dredged in 1947 and 1948, about 1.6 kilometres southwest of Princeton, near the old Granby steam-electric power plant (Minister of Mines Annual Report 1948, page 180).

COMMODITIES: Gold Platinum Silver

MINERALS

SIGNIFICANT: Gold Platinum
ASSOCIATED: Magnetite
MINERALIZATION AGE: Recent

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>
Recent	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Gravel
Black Sand

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1948
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE
1.4300 Grams per tonne
COMMENTS: Average grade of gold equivalent per cubic metre for combined gold and platinum to a depth of 9 metres.
REFERENCE: Western Miner, November, 1948.

CAPSULE GEOLOGY

The Similkameen River flows northward for 60 kilometres from the Cascade Mountains to Princeton, where it abruptly changes course and continues southeast for 83 kilometres before crossing into the United States.

The lower part of the river, between Princeton and Hedley, flows in a broad valley flanked on either side by gravel terraces comprised of reworked glacial material. The upper part of the river runs through a wide valley between Princeton and Whipsaw Creek, containing deep gravels in most places. Farther upstream, this valley gives way to a steep canyon that continues to the Pasayten River.

Placer deposits have been worked at intervals for some 48 kilometres along the river. Most recorded production and exploration has occurred along a stretch extending upstream from Princeton for 14 kilometres and continuing downstream past Princeton for 8 kilometres.

The alluvial gravels worked along the river yielded black sands containing fine platinum, in addition to gold. The ratio of gold to platinum recovered from these gravels is 4:1 (Geological Survey of Canada Memoir 243, page 59). Gold is reported to occur as "coarse scales", mixed with a considerable proportion of platinum in similar-sized particles, at one point 5.5 kilometres above Princeton (Geological Survey of Canada Report of Progress 1877-1878, page 156B). One of the larger gold nuggets found on the river weighed 160 grams (Minister of Mines Annual Report 1885, page 495). Precious metals in the gravels below Princeton occur in local, patchy

CAPSULE GEOLOGY

concentrations, making them largely uneconomic for the early placer miners. One of the richer deposits occurred in an elevated bench at Princeton, and consisted of 1.5 to 1.8 metres of cemented gravel on a sand bed. Gravels tested on a bench 5 metres above the river, just below Princeton, averaged 1.83 grams of gold and 0.12 gram of platinum per cubic metre (Geological Survey of Canada Economic Geology Report No. 13, page 94). Farther downstream, a hole drilled to 9 metres depth averaged 1.43 grams per cubic metre of gold equivalent for combined gold and platinum (Western Miner, November, 1948). Several shafts, 1.8 to 2.7 metres deep, sunk on a gravel bench near Bromley Creek, gave "colours" of gold and platinum. Higher values were found at bedrock in this bench (Minister of Mines Annual Report 1926, page 233).

Gold was first discovered on the Similkameen River below Princeton in 1853. The river was extensively worked, largely by individual placer miners, over a 40-kilometre stretch, between 1860 and 1900. One operation in particular, 6.5 kilometres upstream from Princeton, mined 600 cubic metres of gravel in 1895, containing 1.2 grams of gold per cubic metre and a considerable amount of platinum (Minister of Mines Annual Report 1895, page 708). Since 1900, only minor production has been recorded, largely from dredging operations in the vicinity of Princeton. One dredge operated by A.R. Watkins and Sons, 3 kilometres south of Princeton, produced 1400 grams of gold over a two month period in 1941 (Minister of Mines Annual Report 1949, page 228). Shortly afterwards, Cam Roy Mining produced 4320 grams of gold and 824 grams of platinum from about 6000 cubic metres of gravel at the same location in 1941 (Minister of Mines Annual Report 1949, page 228). Atkinson Dredging Company Ltd. also operated a dragline dredge on the Similkameen River between 1947 and 1950. The dredge first mined a 1.6-kilometre stretch, 1.5 kilometres south of Princeton, during 1947 and 1948. Subsequent dredging was conducted on a section beginning 300 metres east of the confluence with the Tulameen River and continuing east for 5 kilometres, between 1948 and 1950. This operation recovered 50,045 grams of gold, 6221 grams of silver and 10,637 grams of platinum from 433,932 cubic metres in 1948 and 1949 (Minister of Mines Annual Report 1949, page 229). No production has been recorded since the ceasing of dredging operations in 1950. Total gold production between 1885 and 1950 is estimated at 229,200 grams. Recorded platinum and silver production is 14,900 and 6200 grams respectively.

Only minor prospecting has occurred since the 1950's. Some exploration work was conducted just south of Princeton and near the mouth of Whipsaw Creek between 1958 and 1969. More recently, gold and platinum were discovered during the early 1980's on the Rosch Ranch, on the east side of the Similkameen River, 7 kilometres south-southwest of Princeton. Work by Kettle River Resources Ltd. and G.F.L. Technologies has outlined a channel, 2 metres below surface, with coarse gold and platinum (Assessment Report 16128, page 5).

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DATE CODED: 1992/02/26
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE234**

NATIONAL MINERAL INVENTORY:

NAME(S): **BROMLEY CREEK**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 19 N
LONGITUDE: 120 34 07 W
ELEVATION: 847 Metres

NORTHING: 5477205
EASTING: 676323

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of a portion of Bromley Creek flowing through an area of gravel terraces, 2 kilometres northwest of the Similkameen River and 5.5 kilometres southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Bromley Creek is a west-flowing tributary of the Similkameen River, about 10 kilometres long, situated southwest of Princeton. The lower half of the creek, in the vicinity of Highway 3, flows through an area of gravel terraces that may represent a southerly trending abandoned channel of the Tulameen River, lying between the Similkameen River and the present Tulameen River. Various shafts sunk over an area extending northward from the lower part of Bromley Creek to the Tulameen River are reported to have encountered "colours" of gold and platinum. The creek itself contains "light, porous colours of gold in a surface residue" (Minister of Mines Annual Report 1926, page 233). The creek and the surrounding area were first explored by Tulameen Gold and Platinum Recovery Company Ltd. between 1926 and 1928. Key Diversified Mining Corporation completed a magnetometer survey over the area in 1987.

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DATE CODED: 1992/02/26
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CODED BY: PSF
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE235**

NATIONAL MINERAL INVENTORY:

NAME(S): **TULAMEEN RIVER, RUBY**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E 092H10E 092H10W
BC MAP:

Open Pit Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 37 N
LONGITUDE: 120 37 46 W
ELEVATION: 707 Metres

NORTHING: 5483179
EASTING: 671719

LOCATION ACCURACY: Within 500M

COMMENTS: Ruby placer lease on the Tulameen River, about 6.5 kilometres below Coalmont and 9 kilometres west-northwest of Princeton (Minister of Mines Annual Report 1926, page 230).

COMMODITIES: Gold Platinum Iridium Palladium Rhodium
 Osmium Ruthenium

MINERALS

SIGNIFICANT: Gold Platinum
ASSOCIATED: Quartz Chromite Magnetite Olivine
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Recent Unnamed/Unknown Group Unnamed/Unknown Formation

LITHOLOGY: Gravel
 Black Sand

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: RUBY REPORT ON: Y

CATEGORY: Measured YEAR: 1929
QUANTITY: 268000 Tonnes
COMMODITY GRADE
Gold 1.3800 Grams per tonne

COMMENTS: Quantity is cubic metres.
Commodity is gold equivalent for combined gold and platinum.

REFERENCE: Property File - N.C. Stines, 1929, page 6.

CAPSULE GEOLOGY

The Tulameen River flows northward for 30 kilometres from the Cascade Mountains to Grasshopper Mountain, where it changes course and continues eastward for 10 kilometres to the town of Tulameen. The river then flows southeast for 25 kilometres before entering the Similkameen River at Princeton.

The upper part of the river runs through a wide valley extending from its headwaters in Paradise Valley southward to Champion Creek. The river continues through a narrow rock-walled canyon between Grasshopper and Olivine mountains to the mouth of Olivine (Slate) Creek. Here, a broad valley floor with deep gravel deposits opens up and continues past the towns of Tulameen and Coalmont to a point 2 kilometres below Granite Creek. The river then cuts through a canyon, where extensive gravel deposits are relatively scarce. About 5 kilometres west of Princeton, the river enters a broad valley and flows over a gravel bed with gravel benches on either side, extending to the Similkameen River.

Gold and platinum deposits have been found over the lower 40 kilometres of the river. Most recorded production and exploration has occurred along two stretches. The upper stretch begins about 2 kilometres west of Tulameen and continues up the river for 12 kilometres to the mouth of Champion Creek. The lower stretch begins at Coalmont, just above the mouth of Granite Creek, and continues southeast for 19 kilometres to Princeton. See Tulameen River Placer

CAPSULE GEOLOGY

(092HNE199) for a detailed review of the upper section.

Metals found along the Tulameen River tend to occur in old sinuous channels buried deep below glacial gravels, which contain only spotty values. Gold occurs in rough, angular or slightly flattened and rarely well-flattened nuggets. Some of the nuggets contain abundant white quartz. Platinum forms small rounded grains of uniform size. They are smaller than the gold nuggets and are commonly pitted. Larger platinum nuggets often have a coating or included crystals of cumulate chromite, sometimes with intergrown magnetite and inclusions of olivine (CIM Bulletin, June, 1976). The gravels worked along the river also yielded black sands containing fine platinum, in addition to gold. The ratio of gold to platinum recovered in this part of the river is about 4:1, but decreases upstream (Geological Survey of Canada Memoir 243, page 59).

Black sands produced by a dragline 4 kilometres above Princeton assayed 251 grams gold per tonne and 40.1 grams platinum per tonne (Minister of Mines Annual Report 1925, page 216). Farther upstream, about 3 kilometres below Coalmont, a sample of panned black sand assayed 27 grams gold per tonne and 21 grams platinum per tonne (Minister of Mines Annual Report 1929, page 281). A series of shafts and pits at this location below Coalmont encountered gravels averaging 1.1 grams of gold equivalent per cubic metre for combined gold and platinum (Minister of Mines Annual Report 1929, page 281). Similar workings at Petersen Flat, 5 kilometres west of Princeton averaged 1.2 grams of gold equivalent per cubic metre for combined gold and platinum (Minister of Mines Annual Report 1924, page 176). Measured geological reserves on the Ruby lease, 6 kilometres below Coalmont, are 268,000 cubic metres grading 1.38 grams of gold equivalent per cubic metre for combined gold and platinum (Property File - N.C. Stines, 1929, page 6). Bulk sampling in the immediate vicinity produced 77.8 grams of coarse gold from 15.3 cubic metres of gravel (Property File - R.B. Stokes, 1980, page 1). Two samples of platinum from the Ruby lease analyzed as follows (in per cent) (Minister of Mines Annual Report 1930, page 212; N.C. Stines, 1929, pages 43, 44):

Gold	0.58	3.54
Platinum	68.74	60.37
Palladium	0.31	-
Iridium	2.22	15.99
Osmium	-	6.81
Rhodium	0.48	6.06
Ruthenium	-	7.23
Insoluble metals (osmiridium, etc.)	8.1	-

Production of placer gold was first reported in 1877, and may have commenced as early as 1860. By 1887, most of the shallower gravel deposits mined along the Tulameen River were reported to be exhausted (Minister of Mines Annual Report 1887, page 278). High platinum prices during the mid to late-1920's prompted a revival of placer mining along both the upper and lower sections of the river. Three prominent operations, located 3 (Guest lease) and 6 (Ruby lease) kilometres below Coalmont and 4 kilometres above Princeton (National Holdings Ltd.), were active between 1924 and 1929 on the lower part of the river. Production from the Ruby lease for 1926 amounted to 778 grams of gold and 280 grams of platinum (Minister of Mines Annual Report 1926, page 230). Minor production occurred during the 1940's and 1950's, largely within 5 kilometres of Princeton. This activity was centred 3 kilometres west of Princeton, where for example, R. Haigh recovered 1534 grams of gold and 420 grams of platinum from 760 cubic metres of gravel in 1941 (Minister of Mines Annual Report 1941, page 92). The adjacent Ashley deposit produced 900 dollars in gold and platinum weekly in 1941 from a paystreak up to 0.9 metre thick, comprised of well-bedded, partly cemented gravels, overlain by 3 metres of glacial material (Geological Survey of Canada Memoir 243, page 59). Gold production for the entire river between 1885 and 1945 is estimated at 297,000 grams. See Tulameen River Placer (092HNE199) for yearly production figures.

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GSC PROG RPT 1877-1878, p. 156B
GSC SUM RPT 1908-64; 1909-111,113; 1910-111,112; 1918-29B;
1923-89A,90A
CANADIAN MINERALOGIST Vol. 12, pp. 21-25 (1973); Vol. 28, pp. 503-535
(1990)
CANMET IR 73-29; *74-49
CIM BULL *June, 1976, pp. 111-119
CIM Trans. Vol. 13, pp. 309-324 (1910)
Placer Dome File

DATE CODED: 1992/02/27
DATE REVISED: 1992/02/27

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE236**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHIPSAW CREEK PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

Open Pit

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 23 N
LONGITUDE: 120 38 59 W
ELEVATION: 1155 Metres

NORTHING: 5464174
EASTING: 670841

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of the surface trace of Whipsaw Creek, 19.5 kilometres southwest of Princeton (NTS map sheet 092H/07 (Edition 2)).

COMMODITIES: Gold

Platinum

MINERALS

SIGNIFICANT: Gold Platinum
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Recent

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Whipsaw Creek flows northeast for 24 kilometres into the Similkameen River, southwest of Princeton. The lower 2 kilometres of the creek cuts through a narrow steep-sided valley while the remainder flows over a broader, more open valley floor.

The gravels from this creek yielded "fine scales" of gold and platinum (Geological Survey of Canada Annual Report 1887-1888, page 62A). These deposits are now reported to be largely exhausted (Geological Survey of Canada Summary Report 1922, page 118A).

The gravels were worked intermittently between 1887 and 1935. The Similkameen Placer Syndicate held a lease on the creek in 1925. Total gold production is estimated at 3460 grams.

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EMPR AR 1890-380; 1891-577; 1892-545; 1894-758; 1925-215
EMPR BULL 28, pp. 54,55
GSC ANN RPT *1887-1888, p. 62A
GSC EC GEOL No. 13, p. 94 (1934)
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243, p. 61
GSC P 85-1A, pp. 349-358
GSC PROG RPT 1877-1878, p. 156B
GSC SUM RPT 1922, p. 118A; 1923, pp. 68A,69A
Falconbridge File
Placer Dome File

DATE CODED: 1992/02/27
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE237**

NATIONAL MINERAL INVENTORY:

NAME(S): **LW**

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H08E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 27 N
LONGITUDE: 120 00 15 W
ELEVATION: 1682 Metres

NORTHING: 5473368
EASTING: 717462

LOCATION ACCURACY: Within 500M

COMMENTS: LW zone, 460 metres south of the Canty deposit, 2.2 kilometres east-northeast of the summit of Nickel Plate Mountain and 5 kilometres northeast of Hedley (George Cross News Letter #238, 1988).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Arsenopyrite
ASSOCIATED: Calcite
ALTERATION: Silica Pyroxene Skarn
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Vein
CLASSIFICATION: Skarn Epigenetic
TYPE: K04 Au skarn
DIMENSION: STRIKE/DIP: 360/
COMMENTS: North-striking, vein-like zone of silicification and pyroxene flooding.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Whistle Creek	
Lower Jurassic			Hedley Intrusions

ISOTOPIC AGE: 199 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Andesitic Crystal Ash Tuff
Andesitic Lithic Ash Tuff
Diorite
Gabbro Dike
Gabbro Sill

HOSTROCK COMMENTS: Date for the Hedley Intrusions from Fieldwork 1989, page 271.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 11.4000 Grams per tonne
COMMENTS: Average grade over a core length of 1.2 metres.
REFERENCE: George Cross News Letter No. 238 (Dec. 12), 1988 (hole GN-88-6).

CAPSULE GEOLOGY

The LW deposit is 2.2 kilometres east-northeast of the summit of Nickel Plate Mountain and 5 kilometres northeast of Hedley. The Canty mine (092HSE064) is about 500 metres to the north. The area between Cahill Creek and its south-flowing tributary, Sunset Creek, is underlain by massive andesitic crystal-lithic ash tuff and siliceous ash tuff of the Upper Triassic Whistle Creek Formation (Nicola Group). These rocks are intruded by diorite and gabbro dykes and sills of the Early Jurassic Hedley Intrusions. The deposit consists of a narrow, north-striking, vein-like zone of silicification and pyroxene flooding cut by calcite stringers, with up to 20 per cent sulphides. Most of the sulphides consist of massive arsenopyrite. Gold is associated with the arsenopyrite. One

CAPSULE GEOLOGY

drill hole graded 2.6 grams per tonne gold over 0.76 metre (George Cross News Letter No. 238 (Dec. 12), 1988, hole GN-88-4, 72.24 to 73.00 metres). A second hole averaged 11.4 grams per tonne gold over 1.2 metres (hole GN-88-6, 23.6 to 24.8 metres).

The deposit was discovered by Golden North Resource Corporation, while exploring in the vicinity of its Canty deposit. The company drilled 13 holes totalling 1729 metres in 1988.

BIBLIOGRAPHY

EMPR FIELDWORK 1985, pp. 101-105; 1986, pp. 65-79; 1987, pp. 59-80
EMPR OF 1987-10; 1988-6; 1992-1
EMPR P 1989-3, pp. 29,30
EMR MP CORPFILE (Golden North Resource Corporation)
GSC MAP 568A; 888A; 41-1989
GSC MEM 243, p. 73
GSC OF 2167, pp. 59-80
GCNL *#238, 1988

DATE CODED: 1992/02/28
DATE REVISED: 1992/02/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE238**

NATIONAL MINERAL INVENTORY:

NAME(S): **DALBY MEADOWS**, DALBY CREEK

STATUS: Developed Prospect

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H07E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 45 N

LONGITUDE: 120 35 59 W

ELEVATION: 1000 Metres

NORTHING: 5474231

EASTING: 674159

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of a gold and platinum discovery on Dalby Creek, 3.8 kilometres west of the Similkameen River and 9 kilometres southwest of Princeton (Assessment Report 16128, Map 3).

COMMODITIES: Gold

Platinum

Iridium

MINERALS

SIGNIFICANT: Gold Platinum Iridium

ASSOCIATED: Clay

MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

SHAPE: Bladed

DIMENSION: 30 x 3 Metres

COMMENTS: Pay width and thickness of a boulder channel.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Quaternary
Eocene

GROUP

Unnamed/Unknown Group
Princeton

FORMATION

Unnamed/Unknown Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Boulder Gravel
Gravel
Siltstone
Sand
Clay

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DALBY MEADOWS

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1988

QUANTITY: 820000 Tonnes

COMMODITY

GRADE

Gold 0.3260 Grams per tonne

COMMENTS: Quantity is in cubic metres. Grade ranges from 0.091 to 0.561 gram of gold equivalent per cubic metre for combined gold and platinum.

REFERENCE: Assessment Report 17531, page 6.

CAPSULE GEOLOGY

The Dalby Meadows prospect is located on Dalby Creek, 3.8 kilometres west of the Similkameen River and 9 kilometres southwest of Princeton.

Dalby Meadows comprises an area of gently rolling uplands between 900 and 1100 metres elevation bordered to the north and south by Bromley and Lamont creeks respectively. The headwaters of Stevenson and Tracey creeks lie to the east and mountainous terrain rises steeply to the west. The meadows are drained by Dalby Creek, a southward-flowing tributary of Lamont Creek, some 4.7 kilometres long.

The meadows are, in part, underlain by a Quaternary interglacial channel hidden by a thin mantle of overburden. The gravels of this channel contain fine to nugget-sized particles of gold and platinum (Assessment Report 16128, page 5). Trenching along Dalby Creek revealed a thick section of clay beneath 3 to 6 metres of gravel. Continued prospecting in the area encountered "colours" of gold and platinum in gravels on siltstone bedrock of the Eocene Princeton

CAPSULE GEOLOGY

Group. Additional work defined a gold and platinum-bearing boulder channel with a pay thickness of 3 to 6 metres and a minimum width of 30 metres, lying beneath 3 to 6 metres of sandy silt. The stream and boulder gravels of the channel contain 0.13 to 0.65 gram of gold and about 0.013 gram of platinum per cubic metre (Assessment Report 17531, page 5). Most of the gold occurs in coarse nuggets. Electron microprobe studies indicate the gold nuggets consist of about 90 per cent gold, while the platinum particles comprise 80 per cent platinum and 8 per cent iridium. Drilling has outlined in excess of 820,000 cubic metres of gravel grading 0.091 to 0.561 gram of gold equivalent for combined gold and platinum (Assessment Report 17531, page 6).

This deposit was staked by Blackberry Gold Resources Inc. in 1985, under the premise that Dalby Meadows is underlain by an old channel of the Tulameen River. The company extracted bulk samples from a number of trenches and pits, and conducted various geophysical surveys, in addition to percussion drilling, between 1984 and 1987.

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EMPR ASS RPT 16128, *17311
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358
CMH 1990-91, p. 77

DATE CODED: 1992/03/02
DATE REVISED: 1992/03/02

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE239**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAX**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 02 N
LONGITUDE: 120 34 07 W
ELEVATION: 744 Metres

NORTHING: 5480386
EASTING: 676220

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of an area of sampling along the Princeton-Tulameen road, 4 kilometres west-southwest of Princeton (Assessment Report 21328, Figure 4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Calcite Chlorite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 1 Metres
COMMENTS: Fault zone.

L04 Porphyry Cu ± Mo ± Au
STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Volcanic
Gossan

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ROADCUT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
YEAR: 1991

COMMODITY: Copper
GRADE: 0.0411 Per cent

COMMENTS: Chip sample across a 0.5-metre wide rusty zone with malachite staining.

REFERENCE: Assessment Report 21328, page 11, sample 109.

CAPSULE GEOLOGY

The Max showing occurs along the Princeton-Tulameen road, 4 kilometres west-southwest of Princeton.

A section of Upper Triassic Nicola Group volcanics is exposed for 300 metres along the north side of the road. The volcanics are cut by various zones of gossan, faulting and brecciation, 0.02 to 2 metres in width. The zones commonly contain calcite stringers, and in one instance also chlorite stringers. A chip sample across a 0.5-metre wide fault zone with calcite stringers and a trace of chalcopyrite contained 0.0246 per cent copper, and a second 0.5-metre wide zone of gossan with malachite staining contained 0.0411 per cent copper (Assessment Report 21328, page 11, samples 108, 109).

BIBLIOGRAPHY

EMPR ASS RPT *21328
EMPR OF 1987-19
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1157
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol. 24, pp. 2521-2536 (1987)

DATE CODED: 1992/03/04
DATE REVISED: 1992/06/08

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE240**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUPERIOR**, LUCKY TODD, REILLEY'S

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 59 N
LONGITUDE: 120 59 49 W
ELEVATION: 1097 Metres

NORTHING: 5479380
EASTING: 645180

LOCATION ACCURACY: Within 500M

COMMENTS: Superior showing on the east bank of the Tulameen River (Vuich Creek), 100 metres east of the mouth of Railroad Creek and 20 kilometres southwest of Tulameen (Minister of Mines Annual Report 1913, page 227, sketch map of Summit Camp).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L02 Porphyry-related Au L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Granodiorite
Quartz Porphyritic Dike

HOSTROCK COMMENTS: The Eagle Plutonic Complex is Late Jurassic to Early Cretaceous (Geological Survey of Canada Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1913
SAMPLE TYPE: Chip
COMMODITY Gold GRADE 0.6900 Grams per tonne
COMMENTS: Chip sample taken across 1.5 metres.
REFERENCE: Minister of Mines Annual Report 1913, page 232.

CAPSULE GEOLOGY

This copper showing is on the east bank of Vuich Creek, 100 metres east of the mouth of Railroad Creek and 20 kilometres southwest of Tulameen.

A large quartz porphyritic dyke cuts granodiorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. Pyrite and traces of chalcopyrite occur in narrow seams along fractures in the dyke. A sample taken across 1.5 metres assayed 0.69 gram per tonne gold and nil copper (Minister of Mines Annual Report 1913, page 232).

BIBLIOGRAPHY

EMPR AR *1913-232; *1937-D26
EMPR ASS RPT 9434
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1992/03/27
DATE REVISED: 1992/04/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE241**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKAIST RIVER**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 07 N
LONGITUDE: 120 52 37 W
ELEVATION: 1433 Metres

NORTHING: 5461338
EASTING: 654392

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 400 metres north of the Skaist River, 3.4 kilometres west of the summit of Skaist Mountain and 32.5 kilometres southwest of Princeton (Geological Fieldwork 1991, page 58, occurrence M4).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Pyrite
ALTERATION TYPE: Pyrite Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 2 x 1 Metres
COMMENTS: Quartz vein strikes northeast for 1.5 metres.

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous	Spences Bridge	Undefined Formation	
Upper Cretaceous			Unnamed/Unknown Informal

ISOTOPIC AGE: 85.7 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

LITHOLOGY: Tuff
Tuffaceous Siltstone
Wacke
Argillite
Hornblende Biotite Diorite
Gossan

HOSTROCK COMMENTS: Date for the Skaist River stock is from Fieldwork 1991, page 55.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Cascade Mountains
RELATIONSHIP:
GRADE: Hornfels

CAPSULE GEOLOGY

The Skaist River showing is 400 metres north of the Skaist River, 3.4 kilometres west of the summit of Skaist Mountain and 32.5 kilometres southwest of Princeton.

The showing consists of a sheared quartz vein, 15 to 30 centimetres wide and 1.5 metres long, in Cretaceous Spences Bridge Group tuffs, tuffaceous siltstones, wacke and argillite, near the southeast contact of the Late Cretaceous Skaist River stock (hornblende biotite diorite). The vein contains massive to banded to disseminated pyrite and trace chalcopyrite. The volcanoclastics are pervasively hornfelsed and pyritized along strike to the southwest. A weak gossanous zone extends along strike to the northeast.

BIBLIOGRAPHY

EMPR FIELDWORK *1991, pp. 58,59
GSC MAP 888A; 1386A; 41-1989
GSC MEM 243
GSC P 85-1A, pp. 349-358

DATE CODED: 1992/03/30
DATE REVISED: 1992/04/26

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSE242**

NATIONAL MINERAL INVENTORY:

NAME(S): **VIRGINIA (L.2428)**, SIMILCO, COPPER MOUNTAIN,
CUMONT

STATUS: Past Producer Open Pit
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 26 N
LONGITUDE: 120 30 43 W
ELEVATION: 1128 Metres

NORTHING: 5468293
EASTING: 680730

LOCATION ACCURACY: Within 500M

COMMENTS: Centred on an area of definition drilling (1990 drilling) on the Virginia claim (Lot 2428), 600 metres west of Wolfe Creek and 13 kilometres due south of Princeton (George Cross News Letter #148, 1990, drill plan).

COMMODITIES: Copper Gold Silver Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Copper Molybdenite
ASSOCIATED: Calcite Magnetite Epidote Orthoclase Chlorite
ALTERATION: Albite Epidote Chlorite Orthoclase Clay
Limonite Gypsum Malachite

COMMENTS: Also azurite and hematite.
ALTERATION TYPE: Propylitic Potassic Argillic Oxidation Albitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
SHAPE: Bladed
DIMENSION: 300 x 240 x 100 Metres STRIKE/DIP: TREND/PLUNGE: 090/
COMMENTS: The South (Main) zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Lower Jurassic			Lost Horse Intrusions

ISOTOPIC AGE: 195 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Andesite
Basalt
Basaltic Andesitic Flow
Basaltic Andesitic Pyroclastic
Feldspar Porphyritic Andesite Basalt
Cherty Tuff
Cherty Lapilli Tuff
Monzonite
Monzodiorite
Diorite

HOSTROCK COMMENTS: Date for the Lost Horse Intrusions is from Bulletin 59. Host rocks also includes felsite and basalt dykes, latite and syenodiorite.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PLUTONIC BELT: Thompson Plateau
RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: VIRGINIA REPORT ON: Y
CATEGORY: Measured YEAR: 1996
QUANTITY: 1305317 Tonnes
COMMODITY: Copper GRADE: 0.4200 Per cent

COMMENTS: Geological resource as at December 31, 1996. Copper cutoff grade is 0.21 per cent and the strip ratio is 1.37.

REFERENCE: Princeton Mining Corporation 1996 Annual Report, page 9.

CAPSULE GEOLOGY

The Virginia mine lies mostly on the north side of Lost Horse Gulch, 450 to 850 metres west of Wolfe Creek and 13 kilometres due south of Princeton.

The area in the vicinity of Wolfe Creek is underlain by Early Jurassic intrusive rocks of the Lost Horse Intrusions and the Voigt stock (Copper Mountain Intrusions), both of Early Jurassic age, and volcanics of the Upper Triassic Nicola Group. Wolfe Creek flows along the contact separating the Voigt stock to the east from the Lost Horse Intrusions and Nicola Group volcanics to the west. The Nicola Group volcanics were previously included with the Wolf Creek Formation (Geological Survey of Canada Memoir 171). All units are cut by north-striking post-Early Cretaceous quartz feldspar porphyritic felsite dykes ("Mine Dykes"), and unconformably overlain to the north by volcanics of the Eocene Princeton Group.

This porphyry copper-gold deposit is hosted in basaltic to andesitic flows and pyroclastics and diorite to monzonite and syenite of the Lost Horse Intrusions. The volcanics are comprised mostly of dark grey to black feldspar porphyritic andesite/basalt, frequently containing numerous euhedral plagioclase phenocrysts up to 2 millimetres long in an aphanitic matrix. Augite and/or hornblende phenocrysts are sometimes also present. Weak to moderate propylitic alteration gives the rock a medium to dark greenish grey colour. A thick section of fresh, homogeneous andesite/basalt underlies the western part of the deposit.

The pyroclastics consist of pale green to white to purplish grey, massive to thinly bedded to laminated "cherty" tuff, locally grading to "cherty" lapilli tuff. The cherty nature of the pyroclastics is largely due to pervasive albite flooding. Bedding is shallow to moderately dipping.

These volcanics are intruded by a network of dykes, sills and irregular bodies of medium to fine-grained, pale grey monzonite and monzodiorite and less commonly diorite of the Lost Horse Intrusions. Slender, prismatic hornblende phenocrysts up to 1 centimetre long are sparsely distributed throughout the monzonite. Occasional pervasive albite flooding gives the rock a pale greenish grey appearance. Extensive sections of monzonite occur in the east-central part of the deposit.

This initial phase of the Lost Horse Intrusions is cut by a second phase comprised of dykes and small irregular bodies of fine-grained pink syenite to syenodiorite (microsyenite), locally dark purplish to pinkish grey latite and "andesite". This intrusive is variably feldspar, augite, quartz and biotite porphyritic. One distinctive microsyenite porphyry contains numerous tabular orthoclase phenocrysts commonly up to 5 centimetres in length in a pink aphanitic matrix. The second phase intrusions frequently contain blebs of magnetite, calcite or an intergrowth of both, up to 5 millimetres in diameter.

All units are in turn intruded by two suites of postmineral dykes. The "Mine Dykes" are the more important of the two, and consist of creamy white, feldspar quartz porphyritic felsite, sometimes with gradational, greenish margins. These dykes commonly exhibit fine to coarse banding (flow banding?) along their margins. They pinch and swell, and split and coalesce, commonly enclosing lenticular bodies of country rock.

The Virginia deposit is cut by four major dykes and a number of smaller satellite dykes. The main dykes are commonly 10 to 30 metres wide, but sometimes swell up to 60 metres. They strike north-northeast or north-northwest and dip steeply east. The second suite of dykes are comprised of dark greenish grey to black aphanitic basalt. Diamond drilling indicates they are steeply dipping and sometimes cut the felsite dykes.

The hydrothermally altered host rocks have undergone propylitic, potassic and argillic alteration. Minor oxidation is also evident. Propylitic alteration is most common and usually occurs as pervasive albite in the Lost Horse Intrusions (first phase) and "cherty" tuff, and as albite stringers, blotches, and vein alteration envelopes in the volcanics. Albite blotches are occasionally cored by pyrite. Epidote forms stringers and veins, in both intrusives and volcanics; it also occurs as patches and blebs, mostly in the intrusives. Epidote is commonly associated with orthoclase along fractures. Chlorite occurs as blotches and along veins in intrusives and volcanics. The mafic postmineral dykes tend to be moderately to strongly chloritized. Chlorite stringers and blotches usually occur with calcite or orthoclase. Both epidote and chlorite tend to be associated with copper mineralization.

Moderate to strong pervasive potassic alteration is developed locally in the pyroclastics and intrusives, in the form of pink orthoclase. Secondary orthoclase occurs more commonly as veins and blotches in the volcanics and intrusives. The mineral also forms

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alteration envelopes along calcite, magnetite +/- calcite, epidote and chlorite veins and stringers, and is strongly associated with copper mineralization.

Argillic alteration is largely confined to the Lost Horse monzonites and monzodiorites, and occurs mostly along the east and west sides of the deposit. Argillic-altered intrusives along the west side are occasionally strongly mineralized. Blotches and patches of clay are sometimes developed in magnetite. The felsite dykes are commonly clay altered.

Oxidation is the least significant form of alteration and is usually associated with surface weathering. Minor malachite and azurite occur at surface and traces are found at up to 30 metres depth. Minor limonite alteration of sulphides has occurred near surface. Gypsum is sometimes associated with limonite at greater depths. Magnetite is occasionally replaced by hematite, sometimes together with clay.

Mineralization consists of pyrite and chalcopyrite as disseminations and blebs and in steeply dipping veins and fracture fillings in both the volcanics and intrusives. Most of the disseminated pyrite and chalcopyrite is contained in the first phase of the Lost Horse Intrusions. Similar sulphide mineralization is well developed in tuffaceous horizons which tend to be richer in chalcopyrite in the eastern part of the deposit. The second Lost Horse intrusive suite carries minor disseminated pyrite and only traces of chalcopyrite.

Fracture and vein controlled sulphide mineralization is best developed in the volcanics, but is also present in the Lost Horse Intrusions (first phase). Epidote-orthoclase +/- calcite and orthoclase-chlorite +/- calcite veins tend to be mineralized with pyrite and chalcopyrite. The sulphides are also disseminated through chlorite and orthoclase +/- chlorite blotches and patches associated with this veining. Disseminated to semimassive pyrite and chalcopyrite are present in calcite, magnetite-calcite and massive magnetite veins and stringers. In the larger magnetite and magnetite-calcite veins, pyrite blebs and cubes several centimetres in diameter are frequently rimmed with chalcopyrite. Sulphides and calcite occur interstitially to blades and fibres of magnetite in sulphide-magnetite +/- calcite veins. White calcite veins commonly up to 0.3 metre wide, sometimes up to 12 metres wide (core length), contain semimassive to massive pyrite, mostly along margins but also as bands in the interior of the veins. These calcite-pyrite veins occasionally contain irregular blebs of chalcopyrite up to 5 centimetres in diameter in pyrite-free sections of the veins. Massive pyrite-chalcopyrite veins are not as common as the other vein types.

Minor to trace amounts of molybdenite and native copper are also present. Traces of molybdenite occur in massive sulphide and calcite veins. Flakes of native copper are developed along chloritic fractures in the western part of the deposit.

Overall, copper grades are similar in both the volcanics and intrusives. However, grades frequently change abruptly at lithologic contacts. Copper values tends to also increase along the margins of barren felsite dykes. Precious metal values are elevated in magnetite and chalcopyrite-rich mineralization. One magnetite-calcite vein with semimassive pyrite and chalcopyrite averaged 2.21 per cent copper, 1.06 grams per tonne gold and 4.8 grams per tonne silver over 17.1 metres (Northern Miner July 30, 1990, hole VB-90-10).

Total indicated (probable) reserves are estimated at 13.6 million tonnes grading 0.40 per cent copper and 0.21 gram per tonne gold (George Cross News Letter No. 212 (Nov. 1), 1990). These reserves contain 6.26 million tonnes of mineable reserves grading 0.36 per cent copper and 0.17 gram per tonne gold at a cutoff grade of 0.2 per cent copper and a strip ratio of 1.12 to 1 (Property File - Princeton Mining Corporation, 1991, pages 11,12). Most of the reserves are contained in one zone trending west for 300 metres and averaging 100 metre wide. Copper mineralization extends to depths of in excess of 240 metres in this zone. Smaller areas of mineralization occur along the zone's northern flank up to 120 metres to the north. One narrow zone (Connection zone) extends to the northwest, and appears to link with the Alabama prospect (092HSE013).

This deposit was initially explored by Fort Reliance Minerals Ltd., which conducted geological mapping, sampling and trenching in 1964. Cumont Mines Ltd. drilled one hole and completed soil and geophysical surveys between 1966 and 1968. Magnetometer and induced polarization surveys, in addition to soil and rock sampling, were carried out by Newmont Exploration of Canada Ltd. in 1987. Similco Mines Ltd. drilled 21 holes in 1988 and 1989 while searching for barren ground suitable for the dumping of waste rock from the nearby

CAPSULE GEOLOGY

Similco (Copper Mountain) mine (092HSE001) to the south. The resulting discovery prompted the drilling of 105 holes totalling 19,471 metres in 1990. Similco Mines began mining the deposit in December, 1991, with ore being treated at its adjacent mining and milling complex.

The geologic resource of the Virginia deposit as at December 31, 1996 is 1,305,317 tonnes grading 0.420 per cent copper at a copper cutoff grade of 0.21 per cent and a strip ratio of 1.37 (Princeton Mining Corporation 1996 Annual Report, page 9).

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DATE CODED: 1992/03/30
DATE REVISED: 1997/05/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSE243**

NATIONAL MINERAL INVENTORY:

NAME(S): **BROMLEY CREEK ZEOLITE** BROM

MINING DIVISION: Similkameen

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 25 N
LONGITUDE: 120 33 50 W
ELEVATION: 835 Metres

NORTHING: 5477402
EASTING: 676659

LOCATION ACCURACY: Within 500M

COMMENTS: Area of sampling in gravel pit, 350 metres northeast of Bromley Creek, 100 metres southeast of Highway 3 and 5.5 kilometres southwest of Princeton (Property File - map accompanying notice of work).

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Zeolite Clinoptilolite
ALTERATION: Zeolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Replacement Epigenetic Industrial Min.
TYPE: D01 Open-system zeolites

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Allenby

IGNEOUS/METAMORPHIC/OTHER

ISOTOPIC AGE: 49.2 +/- 2 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Rhyolite Crystal Vitric Tuff
Gravel
Sandstone
Shale
Rhyolite Tephra

HOSTROCK COMMENTS: Date is for the Princeton ash (Fieldwork 1982, page 49).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bromley Creek Zeolite showing is exposed in an old gravel pit, 350 metres northeast of Bromley Creek, 100 metres southeast of Highway 3 and 5.5 kilometres southwest of Princeton.

The occurrence is situated near the centre of the Princeton Basin, a northerly trending fault-bounded trough filled by Eocene volcanic rocks of mainly intermediate composition, comprising the Lower Volcanic Formation, and an overlying Eocene sedimentary sequence of sandstone, shale, waterlain rhyolite tephra (tuff) and coal, up to 2000 metres thick, comprising the Allenby Formation.

The gravel pit contains blocks of rounded to angular zeolite, weighing 3 to 5 tonnes each. This material is likely derived from the same zeolitized, waterlain rhyolite crystal-vitric tuff, which hosts the Highway 3 occurrence (092HSE165), 800 metres northeast. The unit is in the upper part of the Allenby Formation (Princeton Group) and is known informally as the Tailings ash. Clinoptilolite content (in per cent) and cation exchange capacity (in milli-equivalents per 100 grams) for two samples are as follows (Property File - V. Marcille-Kerslake, 1992):

Sample	Clinoptilolite	CEC
1	60.93	134.05
2	46.18	101.60

Sample 2 was taken at surface.

The showing was bulk sampled by Ray Marks in 1991.

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PAGE: 1165
REPORT: RGEN0100

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CAPSULE GEOLOGY

The south dump has a gross mineral inventory of 335,000 tonnes, with 176,000 tonnes grading 1.20 grams per tonne gold. The north dump has reserves of 186,000 tonnes grading 1.35 grams per tonne gold (B.H. MacLean, 1991, page 2).

Sumac Ventures Inc. drilled 47 auger and percussion holes totalling 340 metres in 1988. The company proposed to recover gold by heap leaching the tailings. The two tailings dumps were drilled in 1990 and 1991 by Candorado Mines Ltd., operator of the Hedley Tailings deposit (092HSE144), 1.5 kilometres to the south. The company plans to selectively mine the outer perimeter of the south dump and all of the north dump.

In 1995, production from the tailings totalled 93 kilograms of gold and 10 kilograms of silver from 42640 tonnes processed.

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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW001**

NATIONAL MINERAL INVENTORY: 092H3 Cu1

NAME(S): **GIANT COPPER**, AM BRECCIA, CANAM
A.M. (L.1586), PASS, CAMP,
NEW BRECCIA, NO. 1, INVERMAY

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:
LATITUDE: 49 09 49 N
LONGITUDE: 121 01 29 W
ELEVATION: 1800 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: AM Breccia zone located 37 kilometres east of Hope. See the Invermay (092HSW002).

Underground
MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5447522
EASTING: 643999

COMMODITIES: Copper Gold Silver Zinc Lead
Molybdenum Uranium Tungsten

MINERALS

SIGNIFICANT: Chalcopyrite Arsenopyrite Pyrite Pyrrhotite Sphalerite
Galena Molybdenite Uraninite Monazite Scheelite
ASSOCIATED: Quartz Calcite Tourmaline Feldspar Mica
ALTERATION: Silica Kaolin Sericite Chlorite Carbonate
Magnetite Tourmaline Actinolite
ALTERATION TYPE: Silicific'n Argillic Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Vein Disseminated
CLASSIFICATION: Replacement Igneous-contact Porphyry Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au I05 Polymetallic veins Ag-Pb-Zn±Au
L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Regular
MODIFIER: Faulted
DIMENSION: 550 x 360 x 120 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Dimensions are for the AM Breccia zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Ladner Undefined Formation Invermay Stock
Oligocene

LITHOLOGY: Siliceous Sediment/Sedimentary
Breccia
Argillite
Siltstone
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Methow

INVENTORY

ORE ZONE: AM REPORT ON: Y

CATEGORY: Measured YEAR: 1995
QUANTITY: 26762000 Tonnes
COMMODITY GRADE
Silver 12.3400 Grams per tonne
Gold 0.3770 Grams per tonne
Copper 0.6530 Per cent

COMMENTS: Previous drilling and underground development have outlined an open pit resource for the AM Breccia zone.
REFERENCE: Inf. Circ. 1997-1, page 19 and 1995 Annual Report, Imperial Metals.

INVENTORY

ORE ZONE: AREA REPORT ON: Y
 CATEGORY: Indicated YEAR: 1995
 QUANTITY: 19956200 Tonnes
 COMMODITY GRADE
 Silver 11.9900 Grams per tonne
 Gold 0.4100 Grams per tonne
 Copper 0.7500 Per cent
 COMMENTS: Drill indicated resource using a strip ratio of 4.5 to 1 and including a small, near-surface pit estimated to contain 5,986,860 tonnes grading 0.64 per cent copper, 0.30 gram per tonne gold and 10.96 grams per tonne silver at a stripping ratio of 1.5 to 1.
 REFERENCE: Northern Miner - February 13, 1995.

ORE ZONE: GIANT COPPER REPORT ON: Y
 CATEGORY: Indicated YEAR: 1998
 QUANTITY: 45373026 Tonnes
 COMMODITY GRADE
 Silver 11.1900 Grams per tonne
 Gold 0.3800 Grams per tonne
 Copper 0.4700 Per cent
 COMMENTS: AM and Invermay (092HSW002) zones calculated by Imperial Metals Corporation.
 REFERENCE: Information Circular 1999-1, page 9.

CAPSULE GEOLOGY

The Giant Copper prospect is located 1.5 kilometres east of the Skagit Valley Recreation area boundary and 2 kilometres due south of Silverdaisy Mountain. The prospect is covered by property 100 per cent owned by Bethlehem Resources Corp., a wholly owned subsidiary of Imperial Metals Corp.

The Giant Copper property originally consisted of two properties; the AM, discovered in 1930 by Consolidated Mining and Smelting Company and the Invermay, discovered in 1933 by Invermay Annex Mining Company. The two properties were consolidated in 1956 by Canam Mining Corp. Between 1955 and 1963, several companies optioned the property and carried out exploration and development programs. A 1.5-metre sample from an adit, taken in 1954, assayed 0.92 per cent copper, 17.14 grams per tonne silver, trace gold, 0.144 per cent molybdenum and 0.044 per cent uranium (0.052 per cent equivalent U3O8) (Minister of Mines Annual Report 1954). After a two year option, Giant Mascot Mines Ltd. purchased all of Canam's assets in 1966. Giant Mascot Mines Ltd. continued work between 1966 and 1970. Further work ceased until 1979, when limited diamond drilling and rehabilitation work was carried out on the No. 10 level. By the end of 1980, 6017 metres of underground drifts and raises, and 14,078 metres of diamond drilling had been completed on the property. The property lay dormant again until 1988, when Bethlehem Resources Corp. acquired it from Campbell Resources Inc. (formerly Giant Mascot Mines Ltd.). Between 1988 and 1990, a comprehensive exploration and evaluation program was carried out. In 1995, an additional 1389 metres of diamond drilling was completed in eight holes to test for additional, near-surface mineralization which may add to the open pit mineral inventory of the southwest portion of the AM Breccia. In September 1995 the provincial government announced the creation of the Skagit Valley Class A Provincial Park. The Giant Copper property straddles the northern boundary of the Skagit Valley area; future access to the site is guaranteed under the Park Act (Information Circular 1996-1, page 16).

In the vicinity of the Giant Copper prospect, the northwest trending Hozameen thrust fault separates older, late Paleozoic to Middle Jurassic Hozameen Group rocks to the west from Early to Middle Jurassic Ladner Group metasedimentary rocks. The Pasayten strike-slip fault separates Ladner Group rocks from Cretaceous Pasayten Group pelites and conglomerates to the east. Mafic to ultramafic sills intrude sedimentary packages. Early to middle Tertiary plutonic rocks intrude the older sedimentary and intrusive packages. Regional deformation occurred during the Late Cretaceous and resulted in a regional greenschist facies metamorphism and a synclinal fold pattern which strikes and plunges 35 degrees to the north.

Argillite, siltstone, quartzite, greywacke and tuffs of the Ladner Group are intruded by diorite to granodiorite of the Invermay stock, thought to be Oligocene in age. Hornfelsing of Ladner Group rocks can extend for several hundred metres from the contact of the Invermay stock, which is roughly 3300 metres long along a northwest

CAPSULE GEOLOGY

trend by 400 to 1900 metres wide.

Three major fault sets are recognized in the Giant Copper prospect area. Pre-ore, pre-intrusive strike-slip and thrust (Hozameen and Pasayten) faults trend 020 to 030 degrees. Northeast-trending faults, such as the Giant fault, trends through the AM Breccia and No. 1 Anomaly on the property. These faults may be long lived conjugates to the northwest-trending faults. It has been suggested the Giant fault may have been the structural control for the localization of the AM Breccia and hypothesized that the Giant fault has dismembered the AM Breccia and displaced the eastern portion 1000 metres to the northeast in the vicinity of the No. 1 Anomaly (092HSW161). The third fault set strikes 270 to 280 degrees and may be extensional, a factor in localizing brecciation zones.

Three different types of mineralization are found at the Giant Copper prospect. The first are tourmaline, sulphide, magnetite replacement bodies scattered throughout the Invermay stock and along its borders in adjacent Ladner Group metasediments. Alteration consists of the addition of fine-grained tourmaline and magnetite with lesser amounts of pyrite, pyrrhotite and chalcopyrite. Replacement zones frequently have an alteration halo of chlorite, sericite and actinolite.

The second type are lead-zinc-silver veins that form erratic lenses along northeast-trending structures. Mineralization consists of coarse sulphides in a gangue of quartz and calcite, enclosed in a strong fault gouge.

The third and most economically important type of mineralization is breccias with chalcopyrite, gold and silver mineralization. There are six known breccia bodies: the AM, Invermay, No. 1, Pass, Camp and New Breccia. The Invermay Breccia, however, is weakly mineralized and exploration in the area has concentrated on the Invermay vein. The Pass, Camp and New breccias have received only cursory exploration and have been previously considered lower priority exploration targets.

Breccia bodies consist of angular to subrounded fragments of sedimentary and mafic intrusive rocks in a matrix of calcite, quartz, tourmaline and feldspar. Sulphide minerals occur in patches and consist predominantly of pyrite, pyrrhotite, chalcopyrite and arsenopyrite with lesser sphalerite and galena and minor amounts of molybdenite, scheelite and magnetite.

The AM orebody is an elongate, northwest trending, series of subvertical plunging, breccia bodies which are bounded by steeply dipping faults. It has been the focus of the greatest proportion of exploration. It has been subdivided into three sectors; the Northern and Southern Nose zones and the Central zone. The bulk of previously stated mineral resources are concentrated in and adjacent to a vertically plunging, crescent or horseshoe-shaped body of higher grade mineralization of the North Nose zone, which wraps around the northwest nose of the breccia. The east limb of the North Nose zone is open to depth below 15 level and the west limb is open to depth below 10 level. Several post mineralization northeast-trending faults cut the breccia. Diamond drilling in 1995 was successful in tracing a near surface, northeast trending breccia zone with copper mineralization in the southeast portion of the AM Breccia. The Giant fault offsets the southeast part of the breccia 300 metres to the northeast. Mineralization occurs in a pipe-like zone of brecciated siliceous sediments. The zone measures 550 by 360 by 120 metres and comprises siliceous fragments in a grey matrix.

In the North and South Nose zones, mineralization consists of pyrrhotite, chalcopyrite and lesser pyrite as pockets in the matrix adjacent to fragments, and subordinately as veinlets cutting both matrix and fragments. Other minerals include arsenopyrite, molybdenite, magnetite, galena, sphalerite, uraninite, monazite and scheelite. The amount of sulphide minerals is not associated with the degree of brecciation. Where copper mineralization is weak to moderate, pyrite or pyrrhotite are the dominant sulphides. Strong copper mineralization areas are dominated by chalcopyrite as large blebs and clots rimming breccia fragments and partially filling the breccia matrix. These areas of strong chalcopyrite are accompanied by strong sericite clay alteration of the feldspathic breccia matrix or chloritization of an andesitic matrix. Zones of intense tourmaline alteration are commonly found immediately adjacent to but postdate zones of strong chalcopyrite mineralization. Copper-silver values within the AM Breccia show a marked correlation while high gold values correlate with high copper values or elevated arsenic values. However, recent drilling has outlined several high grade gold zones that are associated low copper values. The final 24.4 metres in drillhole GCR89-27 averaged 1.45 grams per tonne gold and 0.19 per cent copper (Assessment Report 24157). The uraninite is spatially associated with the molybdenite. The breccia matrix is

CAPSULE GEOLOGY

composed of calcite, quartz, chlorite, carbonate, alkali feldspar, white mica and kaolin. Tourmaline occurs in fractures, fragments and the matrix. Mineralization in the central zone appears to be substantially lower in grade and lacking continuity.

The drill-indicated resource was last estimated at 19,956,200 tonnes grading 0.75 per cent copper, 0.41 gram per tonne gold and 11.99 grams per tonne silver at a stripping ratio of 4.5:1. The resource includes a small, near-surface pit estimated to contain 5,986,860 tonnes grading 0.64 per cent copper, 0.30 gram per tonne gold and 10.96 grams per tonne silver at a stripping ratio of 1.5:1 (Northern Miner - February 13, 1995).

Drilling in 1995 indicates the southeast portion of the Central zone has potential for significant amounts of moderate grade copper-gold-silver mineralization.

Underground unclassified reserves recalculated on pre-1989 data and limited mainly to the northern end of the AM breccia pipe, are 3.36 million tonnes grading 1.17 per cent copper, 0.51 gram per tonne gold and 21 grams per tonne silver (Mineral Exploration Review 1990, page 39).

In 1988, Bethlehem Resources Corporation conducted exploration and re-assayed old drill core. From a total of 2715 samples, the mean value of uranium was 1.02 parts per million, with the highest 176 parts per million (P. McAndless, personal communication, 1990).

Previous drilling and underground development outlined an open pit resource estimated at 20.7 million tonnes grading 0.75 per cent copper, 0.4 gram per tonne gold and 12 grams per tonne silver. A small underground resource of 3.4 million tonnes grading 1.17 per cent copper, 0.5 gram per tonne gold and 20 grams per tonne silver is also estimated.

The geological reserve estimated by Wright Engineers in a 1966 feasibility study was 57.8 million tonnes grading 0.55 per cent copper, 0.28 gram per tonne gold and 6.9 grams per tonne silver. New surface tonnage is estimated to contain an open-pit resource of 29.5 million tonnes grading 0.65 per cent copper, 0.38 grams per tonne gold and 12.34 grams per tonne silver (Information Circular 1997-1, page 19). Drilling (in 1996) on the Invermay (092HSW002), located 1.5 kilometres northwest of the AM zone, was aimed at establishing a second open pit resource on the property. Results were considered encouraging. The company has filed an application for a 10,000-tonne bulk sample from the AM zone.

In 1997, Imperial Metals Corporation focused on development planning. It combined assays from drill programs carried out on the AM and Invermay (092HSW002) zones in 1995 and 1996 with those from previous studies and reported an aggregate open-pit and underground mineral resource of 45,373,000 tonnes grading 0.47 per cent copper, 0.38 gram per tonne gold and 11.19 grams per tonne silver. The company estimates that the AM zone has an open-pit reserve of 1,084,250 tonnes grading 0.84 per cent copper, 0.55 gram per tonne gold and 11.55 grams per tonne silver at a stripping ratio of 1.13:1 and an underground mineable reserve of 1,183,000 tonnes grading 1.15 per cent copper, 0.51 gram per tonne gold and 20.26 grams per tonne silver (Exploration in BC 1997, page 62).

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Ltd.; Giant Mascot Mines Limited; Mogul Mines Limited;
Cominco Ltd.)
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PAGE: 1172
REPORT: RGEN0100

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V STOCKWATCH Dec.13, 1989
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Imperial Metals Corporation 1995 Annual Report

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW002**

NATIONAL MINERAL INVENTORY: 092H3 Ag1

NAME(S): **INVERMAY, NORWEGIAN CANAM**
GIANT COPPER, K.V. GOLD, VERNON 3,4

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 10 40 N
LONGITUDE: 121 01 53 W
ELEVATION: 1770 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5449084
EASTING: 643472

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 700 metres southwest from the top of Silverdaisy Mountain (Property File - Eastwood sketches). See Giant Copper (092HSW001).

COMMODITIES: Silver Zinc Lead Gold Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite Arsenopyrite Jamesonite
Pyrite

ASSOCIATED: Quartz Tourmaline

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Shear Disseminated Breccia Vein
CLASSIFICATION: Hydrothermal Epigenetic Porphyry
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au
L01 Subvolcanic Cu-Ag-Au (As-Sb)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic Oligocene	Ladner	Undefined Formation	Invermay Stock

LITHOLOGY: Quartz Diorite
Argillite
Siltstone
Greywacke
Felsic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: INVERMAY

REPORT ON: Y

CATEGORY: Inferred
QUANTITY: 15330000 Tonnes

YEAR: 1997

COMMODITY	GRADE	
Copper	0.2100	Per cent
Gold	0.3800	Grams per tonne
Silver	7.9200	Grams per tonne

COMMENTS: Geological resource. See Giant Copper (092HSW001) for AM and Invermay resource.

REFERENCE: 1997 Cordilleran Roundup Abstracts, page 24 and WWW.

CAPSULE GEOLOGY

The area of the Invermay occurrence is underlain by steeply dipping and tightly folded rocks of the Lower and Middle Jurassic Ladner Group. The northwest trending Hozameen fault is to the immediate west and separates the Ladner rocks from mafic volcanics and lesser sediments of the Permian-Jurassic Hozameen Complex, on the west.

The Ladner Group rocks in the area of interest are mainly argillites and siltstones with minor greywacke and felsic tuff. Intruding this package is the Invermay stock, a medium-grained diorite to granodiorite body thought to be Oligocene in age. Numerous dikes and sills ranging from diorite to pyroxenite also intrude.

On the Invermay, between 1936 and 1946, 7 short adits had been driven: five adits approximately in line down the hillside and two adits, designated A and B, just to the south. By the 1950s, over 600

CAPSULE GEOLOGY

metres of underground development had occurred.

An area of brecciated quartz diorite within the stock is reported to be the host for mineralization; three types of mineralization are indicated. Underground development explored a strong, relatively tight shear zone that strikes northeast with a near-vertical dip. Along this shear, a narrow mineralized zone contains quartz, galena, sphalerite and minor chalcopyrite. The width of this zone ranged from several centimetres up to 60 centimetres. Diamond drilling from the drifts revealed a second type of mineralization in a breccia consisting of fine disseminated chalcopyrite that assayed uniformly low grade values in copper. A third type consists of scattered pockets of jamesonite, pyrite, arsenopyrite and chalcopyrite in tourmaline-rich banded quartz diorite at the A and B adits.

Between 1933 and 1938, 5 short adits were driven and 23 tonnes of ore were mined in 1936 and 1937. Later, between 1941 and 1946, two additional adits were driven. Records show that a further 67 tonnes were mined in 1941 and 4 tonnes in 1947. Total production from the property was 94 tonnes from which 313,020 grams of silver, 716 grams of gold, 9654 kilograms of lead and 10,619 kilograms of zinc were recovered.

Imperial Metals drilled 13 diamond drill holes (totalling 3457 metres) on the Invermay in 1996 with the aim of establishing a second open-pit resource on its Giant Copper property (see 092HSW001). The company believes it is testing a porphyry-to-transitional-type deposit with mineralization contained within a tourmaline breccia. A geological resource for the Invermay is 15.4 million tonnes grading 0.21 per cent copper, 0.38 gram per tonne gold and 7.92 grams per tonne silver (1997 Cordilleran Roundup Abstracts, page 24 and WWW).

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hole cross-section (all 1:600 scale), claims; 1997 Cordilleran
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WWW <http://www.imperialmetals.com>; <http://www.infomine.com/>
Imperial Metals Corporation, 1995 Annual Report
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW003**

NATIONAL MINERAL INVENTORY: 092H3 Ni1

NAME(S): **MAMMOTH**, FOUNDATION MINES, FORKS,
BIG BEN, STAR, DIAMOND,
RUBY, HEART, BB,
DEFIANCE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 13 14 N
LONGITUDE: 121 05 19 W
ELEVATION: 890 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5453733
EASTING: 639182

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north side of the Sumallo River, about 2.0 kilometres west of the confluence of the Sumallo and Skagit rivers (part of the historic 23 Mile Camp).

COMMODITIES: Nickel Molybdenum Silver Gold Copper Tungsten

MINERALS

SIGNIFICANT: Pyrrhotite Sphalerite Chalcopyrite Molybdenite Scheelite
Arsenopyrite Pyrite Magnetite

ASSOCIATED: Quartz Calcite Siderite Pyrolusite
ALTERATION: Actinolite Epidote Anorthite Hornblende Pyroxene
Wollastonite Garnet Chlorite

COMMENTS: Also prehnite and strontianite.

ALTERATION TYPE: Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Disseminated Vein
CLASSIFICATION: Skarn Replacement
TYPE: K SKARN M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Unknown	Hozameen	Undefined Formation	Ultramafic Intrusions

LITHOLOGY: Limestone
Greenstone
Argillite
Chert
Pyroxenite Dike
Ultramafic

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
COMMENTS: Located along the contact of the Bridge River and Methow terranes.

INVENTORY

ORE ZONE: MAIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1961
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 27.4300 Grams per tonne
Gold 0.3400 Grams per tonne
Copper 0.2500 Per cent
Nickel 0.7000 Per cent

COMMENTS: Sample taken from an opencut in the main deposit.
REFERENCE: Property File - Prospectus & Mining Record, Foundation Mines Ltd.

CAPSULE GEOLOGY

The north-northwest trending Hozameen fault separates the low greenschist facies rocks of the Permian to Jurassic Hozameen Complex on the west, from Lower-Middle Jurassic Ladner Group sediments to the east. A Late Cretaceous quartz diorite stock intrudes the sediments along the east side of the fault. Pyroxenite dikes and minor ultramafic pods intrude the Hozameen greenstones.

CAPSULE GEOLOGY

The showings are west of the Hozameen fault and are underlain by rocks of the Hozameen Complex, comprised mainly of greenstone, volcanic chert, argillite and limestone. The regionally metamorphosed rocks generally contain fine-grained actinolite, epidote, chlorite and locally prehnite. Limestone is interbedded with the greenstone.

The main deposit occurs in a belt about 15 metres wide within altered limestone. The lime silicate rocks hosts scheelite in a vein about 0.9 metre along the west wall of the lime belt. Associated with the scheelite is a considerable amount of nickeliferous pyrrhotite. Of the lime silicate minerals, anorthite occurs in coarsely crystalline masses associated with the scheelite and clusters of green, fibrous actinolite. Other minerals consist of dark sphalerite, pyrolusite and molybdenite.

The east wall of the lime silicate belt is comprised of an intimate mixture of quartz and calcite with intergrowths of siderite. A considerable amount of pyrrhotite and sphalerite is disseminated throughout the carbonate vein.

Other small orebodies consist of a mixture of pyrrhotite, pyrite, arsenopyrite, chalcopyrite and some magnetite. These occur as pods or disseminations in a gangue of quartz and lime silicate minerals consisting of epidote, hornblende, pyroxene, wollastonite, strontianite and garnet.

In 1961, a sample taken from an opencut in the main deposit analysed 0.34 gram per tonne gold, 27.43 grams per tonne silver, 0.25 per cent copper and 0.7 per cent nickel (Prospectus and Mining Record for Foundation Mines Ltd.).

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EMR MP CORPFILE (Foundation Mines Ltd.)
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GSC MAP 12-1969; 737A
GSC P 69-47, p. 62
GSC SUM RPT 1911, p. 120,121; *1920A, p. 40; *1922A, p. 121, Fig.11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/22

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Violarite is secondary after pentlandite and occurs bordering cracks and cleavages of that mineral. Limonite occurs in narrow, sinuous veinlets that cut both sulphide and gangue minerals. Greenish white stains and crusts of the hydrous nickel sulphate, morenosite, have been identified.

From 1936 to 1974, 4,319,976 tonnes of ore was mined yielding 16,516 grams of silver, 1,026 grams gold, 140,700 kilograms cobalt, 13,212,770 kilograms copper and 26,573,090 nickel. Ore graded about 0.77 per cent nickel and 0.34 per cent copper with cobalt as a byproduct. However, chrome oxide, platinum, gold and silver are also present (Assessment Report 16553).

In 1936, one 22.7 tonne bulk sample taken from the 488 metre (1600 feet) crosscut averaged 2.74 grams per tonne platinum and palladium and 0.68 gram per tonne gold. Early records of samples of ore yielded 3.98 grams per tonne platinum and palladium and 7.89 grams per tonne gold. The chrome content of the ore averaged 0.2 to 0.4 per cent.

In 1987, 63 samples were collected and all were anomalous in chromium with assays up to 1.28 per cent. Three samples collected on the surface were anomalous in platinum and yielded 1.17, 1.61 and 1.61 grams per tonne platinum, respectively. One high-grade sample from the bottom of the "1500" orebody assayed 2.85 grams per tonne platinum and 4.94 grams per tonne palladium. The best gold assay from the rock samples was 0.93 gram per tonne gold.

Exploration and development of the Pride of Emory deposit has had a long history. The original showings were staked and prospected in 1923. In 1926, the B.C. Nickel Co. Ltd. began underground development of the original showings. Further development continued through to 1938 until poor market conditions forced a closure. In 1952, Newmont Mining Co. and Pacific Nickel Mines Ltd. formed Western Nickel Mines Ltd. to reopen the workings and drive the 2600 main haulage level and other adits. Mine and mill development proceeded to 1958 and commercial production began. Production continued from 1958 to 1974, at which time the economic limit of mining was reached. The scattered nature of the mineralized zones and the fact that most of them were blind, forced the closure of the mine.

Combined (proven/probable) reserves in 15 zones are 863,000 tonnes grading 0.75 per cent nickel, 0.3 per cent copper and 0.03 per cent cobalt (Property File - Christopher, P.A., 1975).

See also Star of Emory 3 (092HSW093) and Choate (092HSW125).

Homestake Canada Inc. announced in 2000 that they will undertake a major 2-year quarrying operation at the property, in order to seal the large "glory hole".

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DATE CODED: 1985/07/24
DATE REVISED: 1989/04/25

CODED BY: GSB
REVISED BY: KDH

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW005**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEA**, SCHKAM LAKE

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 45 N
LONGITUDE: 121 26 52 W
ELEVATION: 185 Metres

NORTHING: 5474471
EASTING: 612591

LOCATION ACCURACY: Within 500M

COMMENTS: Located within a few hundred metres to the north of Schkam Lake, about 2 kilometres north of Hope (Assessment Report 3355, Sheet No. 2).

COMMODITIES: Nickel Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite
ALTERATION: Serpentine
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Shear Vein Disseminated
CLASSIFICATION: Hydrothermal
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Eocene
Cretaceous
Cretaceous

GROUP

Hozameen
Unnamed/Unknown Group

FORMATION

Undefined Formation
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions
Custer Gneiss

LITHOLOGY: Diorite Porphyry
Peridotite
Shale
Dunite
Diorite
Argillite
Conglomerate

HOSTROCK COMMENTS: Custer Gneiss consists of Paleozoic-Mesozoic rocks metamorphosed in the Cretaceous. Unnamed ultramafic intrusions possibly Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core

YEAR: 1965

COMMODITY

Nickel

GRADE

0.3000

Per cent

COMMENTS: A 3-metre drill interval. A 9-metre interval which included the above 3-metre interval gave similar grades overall.

REFERENCE: Property File - Drill logs and Assay Certificate, Impad Holdings, 1965.

CAPSULE GEOLOGY

The area of the Bea showing is underlain by a fault-bound block of Permian to Jurassic Hozameen Complex rocks consisting mainly of shale/argillite. This is in contact to the north with metamorphic rocks of the Custer Gneiss and to the west with Eocene conglomerate. Northeast trending peridotite-dunite and associated brecciated rocks, probably as dikes or sills, intrude the country rock.

This showing at Schkam Lake was originally reported as an occurrence of nickel oxide in a small band of silicate-siderite rock interpreted as an intrusion. Around the same time, a showing at the lake was described as a nickel saprolite deposit.

In 1965, Impad Holdings drilled a diamond-drill hole at this location. From 76 to 79 metres, altered diorite porphyry with rare pyrrhotite and some pyrite assayed 0.13 per cent nickel. A zone of

CAPSULE GEOLOGY

highly slickensided mashed rock from about 106.7 to 115.8 metres assayed 0.12 percent nickel (from 106.7 to 109.7 metres), 0.28 per cent nickel (from 109.7 to 112.8 metres) and 0.30 per cent nickel (from 112.8 to 115.8 metres) (Property File - Drill Logs and Certificate of Assay for Diamond Drill Hole No. 1, Impad Holdings Ltd., 1965).

Within a few hundred metres to the east of the drillhole, an area of serpentinized amygdaloidal rock contains sparsely disseminated pyrite and chalcopyrite (Minister of Mines Annual Report 1965, page 218).

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GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/05

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW006**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARGIE, MURPHY, MCKAY AND MURPHY (L.27),
GREENWOOD, UNION BAR**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 24 22 N
LONGITUDE: 121 26 05 W
ELEVATION: 150 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5473781
EASTING: 613553

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Crown grant Lot 27, less than 1 kilometre southeast of Schkam Lake, about 2 kilometres north of Hope. The adit opening is located a few hundred metres to the east, just east of the CPR railway tracks.

COMMODITIES: Copper Silver Lead Tungsten Gold

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Galena Scheelite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 7 Metres
COMMENTS: Quartz vein.

STRIKE/DIP: 210/65N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Tertiary

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Argillite
Shale
Granodiorite
Diorite
Serpentinite
Gneiss
Conglomerate

HOSTROCK COMMENTS: The mineralized vein appears to be at the contact of argillite and a mass of granodioritic rock, probably of Tertiary age.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1996

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Silver

20.9000

Grams per tonne

Copper

1.0300

Per cent

COMMENTS: Over 7 metres at a depth of 13.4 metres.

REFERENCE: Verdstone Gold Corporation; Press Release, April 10, 1997.

CAPSULE GEOLOGY

The area of the Murphy occurrence is underlain by a fault-bound block of Permian to Jurassic Hozameen Complex rocks consisting mainly of shale/argillite. This is in contact to the north and east, as shown by Muller (GSC Map 41-1989), with metamorphic rocks of the Cretaceous and/or Tertiary Custer Gneiss and to the west with Eocene conglomerate. The country rocks have been intruded by the Cretaceous Spuzzum pluton, the contact of which is just a few kilometres to the west, and a nearby a granodioritic mass related to an unnamed early Tertiary pluton which occurs across the Fraser River to the southeast.

This occurrence has been reported to be the oldest lode mine on the mainland. In 1858, the Murphy brothers sank a shaft on a

CAPSULE GEOLOGY

mineralized quartz vein. An opencut was also made near the shaft, and it is reported that some high grade silver-lead ore was shipped to Swansea, Wales. The Murphy claim was Mining License No. 1 under the Mineral Ordinance of 1869. Prior to 1879, an adit was driven from a point just east of the present Canadian Pacific Railway tracks in an easterly direction for 244 metres and later extended to 293 metres cutting Crown-granted claim (Lot 27) at a depth of about 60 to 90 metres. Some work was done in 1924 and again in the mid-1960s, when 6 diamond-drill holes and 3 percussion holes were put down. From 1980 to 1991, work was done on the Margie claims which surround the Murphy Crown grant (Lot 27) and covers much of the adit area. Two drillholes were put down near the showings during this period.

The quartz vein occurs at the zone of contact of slaty argillite and a dioritic mass and is mineralized with pyrite, pyrrhotite, chalcopyrite and some galena. At the shaft site, the vein is about 7.6 metres wide and strikes 210 degrees, dipping 65 degrees northwest. The hangingwall is formed by the intrusion; the footwall would be the argillite but is described in one report as serpentine. Inside the adit, about 183 metres from the portal, a quartz vein is exposed striking 005 degrees having a near vertical rolling dip. It is sparsely mineralized with sulphides and scheelite. The whole length of the adit is reported to be much disturbed by faulting. In 1915, a grab sample taken from the dump of an opencut yielded 1.6 per cent copper, 13.71 grams per tonne silver and a trace of gold (Minister of Mines Annual Report 1915, page 260).

Verdstone Gold Corporation drilled 13 holes (over 600 metres) in 1996. The best intersection was 1.03 per cent copper and 20.9 grams per tonne silver over 7 metres (Press Release, Verdstone Gold Corporation, April 10, 1997).

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EMPR ASS RPT 5922, 8827, 10039, 13190, 14349, 17196, 21137, 22249
EMPR EXPL 1980-191; 1981-186; 1984-185; 1986-C205; 1988-C100
EMPR PF (Geology maps - Bea Group of Mineral Claims, Impad Holdings,
1965-1966 (in 092HSW005 file); *Prospectus, Kelso Explorations,
1972 (with Summary Report on the Pat, Mary-G, Mill, Giant, Swede,
Bea, Yodi, Rick, Jeff, Sam, Algernon, Mel, Dave, P and LYD Mineral
Claims)(in 092HSW005 file))
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
GCNL #53(Mar.17), 1997
PR REL Verdstone Gold Corporation, April 10, 1997

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

rocks are now represented as schists and gneisses. The mineralized zones occur within this zone of altered sediments. The Lucky Four (Main zone) is about 46 metres from the granodiorite contact.

A skarn zone outcrops on a prominent steep bluff on the crest of the mountain and extends northwest down a precipitous spur. The zone is a coarsely crystallized mass of brown garnet and contains sheaves of curved, columnar, black crystals believed to be zoisite, dark green pyroxene, calcite and clear quartz. Some of the minerals are remarkable for their large size and well developed crystal form. A zone of giant quartz crystals about 6 metres wide, adjoins the main skarn zone on its northeastern side. The quartz crystals range from 10 to 35 centimetres in diameter and up to 1 metre in length.

The skarn zone is about 15 metres wide and has an exposed horizontal length of 152 metres and a vertical distance of 122 metres. Economic mineralization in the skarn consists of chalcopryite as disseminations, fracture fillings and cavity fillings. Three high grade lenticular zones of almost solid or massive chalcopryite occur as well as in several smaller areas. However, much of the skarn contains little or no chalcopryite.

Copper mineralization is generally in garnetite but has been observed in greywacke along with associated high silver values. Other sulphide minerals present are pyrrhotite, pyrite, arsenopyrite, bornite and minor amounts of molybdenum. The silver mineral has not been identified. Other gangue minerals besides the coarsely crystalline garnet include zoisite, pyroxene, calcite and quartz. Several pods of coarse pegmatitic hornblende and radial actinolite occurs in a siliceous matrix. Crystals can reach 50 centimetres in size for hornblende and 10 centimetres in size for clusters of actinolite.

Few notable gold values were obtained; the majority assayed in the 0.34 gram per tonne range. One of the notable exceptions was sample ASK L13-OE which yielded 4.25 grams per tonne gold, 49.03 grams per tonne silver and 0.13 per cent copper (Assessment Report 18537).

An indicated reserve of 23,600 tonnes of ore averaging 8 per cent copper and 205 grams per tonne silver in four separate shoots was reported (Northern Miner - December 15, 1955 (as reported by Department of Energy, Mines and Resources, Ottawa, National Mineral Inventory 92H/4 Cul)). Later reserves were reported as 113,375 tonnes averaging 3 per cent copper (Financial Post Survey of Mines, 1958, page 121 (as reported by Department of Energy, Mines and Resources, Ottawa, National Mineral Inventory 92H/4 Cul)).

Assessment Report 17587 reports that 32 tonnes of selected material from the main showing was flown out by helicopter (apparently in the 1960s). No government record exists of this event.

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1925-293; 1926-324; *1949-214; 1950-167; 1951-194; 1952-206;
1953-158; 1954-519; 1955-74; 1956-115, 1965-219, 1967-64
EMPR ASS RPT 455, 458, *17587, *18537, *19822
EMPR EXPL 1988-C98
EMPR FIELDWORK 1985, pp. 95-97
EMPR GEM 1971-257
EMPR PF (Plans of Crown grant)
GSC MAP 737A; 12-1969; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/15

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW008**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMPRESS**, EMPRESS NO. 1 (L.1804), EMPRESS NO. 2 (L.1805),
EMPRESS NO. 3 (L.1806), EMPRESS NO. 4 (L.1807)

STATUS: Past Producer Open Pit

MINING DIVISION: New Westminster

REGIONS: British Columbia

NTS MAP: 092H05E 092H05W

BC MAP:

LATITUDE: 49 16 56 N

LONGITUDE: 121 45 05 W

ELEVATION: 500 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south slopes of Bear Mountain, opposite Seabird
Island, about 6.4 kilometres north of Agassiz.

UTM ZONE: 10 (NAD 83)

NORTHING: 5459580

EASTING: 590808

COMMODITIES: Copper Silver Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite Pyrite
ALTERATION: Garnet Wollastonite Malachite Azurite Magnetite

Epidote

Skarn Oxidation

ALTERATION TYPE:

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Skarn

TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Chilliwack	Undefined Formation	Coast Plutonic Complex
Tertiary			

LITHOLOGY: Limestone
Granodiorite
Skarn
Garnetite

HOSTROCK COMMENTS: Mineralization occurs along the skarned contact between granodiorite
and limestone.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

TERRANE: Chilliwack

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE:

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1917

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

48.0000

Grams per tonne

Copper

5.3000

Per cent

COMMENTS: Representative sample from an ore dump.

REFERENCE: Minister of Mines Annual Report 1917, page 287.

CAPSULE GEOLOGY

The Empress property is located along the contact between limestone of the Devonian-Permian Chilliwack Group and a middle Tertiary granodiorite intrusion which is part of the Coast Plutonic Complex.

Mineralization occurs in the metamorphosed limestone and along the granodiorite-limestone contact. The garnet-wollastonite skarn hosts chalcopyrite with some bornite, molybdenite, pyrite and magnetite. Epidote, malachite and azurite is associated with the skarn and the metamorphosed limestones. Bedding strikes east-west and dips about 80 degrees north.

Considerable development work was done on the property between 1915 and 1917. A representative sample from the ore dump containing chalcopyrite in a gangue of magnetite and garnetite analysed trace gold, 48.0 grams per tonne silver and 5.3 per cent copper (Minister of Mines Annual Report 1917, page 287). About 181.4 tonnes of ore was shipped from the property between 1916 and 1917. In 1917, 91

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1188
REPORT: RGEN0100

CAPSULE GEOLOGY

tonnes of ore produced 6350 kilograms of copper.

BIBLIOGRAPHY

EMPR AR 1895-701; 1898-1109; *1917-286,287; 1918-290; *1931-176;
1965-220
EMPR ASS RPT 1879
EMPR BC METAL MM00218
EMPR FIELDWORK 1985, pp. 95-97
EMPR GEM 1969-195,196
GSC MAP 12-1969; 737A
GSC P 69-47
GCNL Oct.13, 1971

DATE CODED: 1985/07/24
DATE REVISED: 1988/04/22

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW009**

NATIONAL MINERAL INVENTORY:

NAME(S): **POPKUM LIMESTONE, FRASER VALLEY LIME, ADANAC LIME, WESTERN CANADA LIME, POPCUM**

STATUS: Past Producer Open Pit
REGIONS: British Columbia

MINING DIVISION: New Westminster

NTS MAP: 092H04E

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 49 11 56 N

NORTHING: 5450355

LONGITUDE: 121 43 10 W

EASTING: 593288

ELEVATION: 61 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry at the north end of the western limestone band, 1.3 kilometres southwest of Popkum.

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Lower Permian

ISOTOPIC AGE: DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.

TYPE: R09 Limestone

DIMENSION: 600 x 60 Metres STRIKE/DIP: 150/30E

TREND/PLUNGE:

COMMENTS: Both limestone bands outcrop for at least 600 metres and the eastern band is at least 60 metres thick.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Paleozoic
GROUP: Chilliwack

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

DATING METHOD: Fossil
MATERIAL DATED: Various fossils

LITHOLOGY: Limestone
Siliceous Limestone
Siliceous Argillite
Chert

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: QUARRY

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1947

SAMPLE TYPE: Chip

COMMODITY: Limestone GRADE: 45.7500 Per cent

COMMENTS: Average across 24.3 metres. Grade given for CaO.

REFERENCE: Bulletin 40, page 42.

CAPSULE GEOLOGY

Two Lower Permian limestone beds of the Devonian-Permian Chilliwack Group outcrop as two north-trending bands 300 metres apart along the base of Mount Cheam for at least 600 metres, 1.3 kilometres southeast of Popkum on the south side of the Fraser Valley. The western band is at least 24 metres thick while the eastern band is at least 60 metres thick. The limestone and interbedded siliceous argillite strike 150 degrees and dip 30 degrees northeast.

Both bands are generally composed of dark grey, medium-grained limestone containing some chert lenses and beds, and a few veinlets and masses of quartz and calcite. At the north end of the western band, the limestone displays lenses and thin beds of fine grained siliceous limestone. Two chip samples taken in succession across 24.3 metres of strata in a quarry in the western band averaged 45.75 per cent CaO, 0.68 per cent MgO, 15.58 per cent insolubles, 0.205 per cent R2O3, 0.14 per cent Fe2O3, 0.0155 per cent MnO, 0.0888 per cent sulphur and 37.44 per cent ignition loss (Bulletin 40, page 42).

Limestone was produced by various operators (Western Canada

CAPSULE GEOLOGY

Lime Company Limited, Adanac Lime Corporation Limited, Fraser Valley Lime Supplies Ltd.) between 1917 and 1970 from two quarries in the western band. Most of the production came from a quarry on the north end of the band. A smaller quarry lies just to the south. Most of the limestone was quarried for pulverized stone (agricultural purposes) and roofing granuals by Fraser Valley Lime Supplies between 1949 and 1970. Production totalled 113,761 tonnes of limestone; includes some trucked in from other sources. Some production values are from historical fiche.

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1951-222; 1952-260; 1953-192; 1954-182; 1955-95; 1956-152;
1957-87; 1958-96; 1959-174; 1960-145; 1961-149; 1962-154,155;
1963-145; 1964-186; 1965-266,267; 1966-267,268; 1967-309;
1968-321
EMPR BULL *23, p. 50; *40, pp. 42,43
EMPR GEM 1969-397; 1970-500; 1971-467; 1972-600; 1973-549
GSC MAP 12-1969; 737A; 1386A
GSC P 69-47, p. 7
CANMET RPT *811, Part 5, p. 179

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/01

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW010**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOHN**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 44 N
LONGITUDE: 121 02 17 W
ELEVATION: 1261 Metres

NORTHING: 5475133
EASTING: 642309

LOCATION ACCURACY: Within 500M

COMMENTS: Diamond-drill hole 1 (1981) collar, 1.75 kilometres south-southeast from the summit of Treasure Mountain, north-northeast of the confluence of Amberty and Vuich creeks (Assessment Report 10276).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Tetrahedrite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Jurassic

GROUP

Pasayten
Ladner

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Arkose
Graphitic Argillite
Conglomerate
Dike
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Silver	41.4700	Grams per tonne
Lead	2.8600	Per cent
Zinc	0.4700	Per cent

COMMENTS: Sample of quartz vein.
REFERENCE: Assessment Report 10276.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault but in large part are conformable.

The John occurrence is underlain by faulted, brecciated and slightly altered sediments of the Pasayten Group consisting of graphitic argillite, conglomerate and arkose with various dikes and some andesite also occurring. Diamond drilling intersected a quartz-calcite vein with graphitic gouge and graphitic fragments near a dike contact. A sample of the vein assayed 41.47 grams per tonne silver, 2.86 per cent lead and 0.47 per cent zinc (Assessment Report

CAPSULE GEOLOGY

10276).
Rotary drilling in 1989 intersected a quartz-carbonate vein mainly hosted in arkose and containing pyrite, galena, sphalerite and possibly chalcopyrite and tetrahedrite. A 1.5-metre interval, part of a 6-metre intersection of the vein, yielded 2800 grams per tonne silver, 36.5 per cent lead and 0.02 per cent zinc (Assessment Report 20373, drillhole RH#3). Trenching in 1990 revealed the existence of two parallel veins.

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EMPR ASS RPT 9152, *10276, *20373
EMPR EXPL 1980-192; 1981-250
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/09

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

In 1961, a new company was formed and a new crosscut was extended to 126 metres and a 69-metre raise driven about 60 metres from the portal.

Vanstates Explorations Ltd. acquired an option on the 3 Crown grants in 1980. In 1981, a 61-metre raise was driven from the Eureka drift and a new adit was driven 65 metres to intersect the raise. Based on this work, an indicated resource of 38,000 tonnes grading 449.15 grams per tonne silver, and an inferred resource of about 10,900 tonnes at the same grade were reported (Vanstate Resources Ltd., Statement of Material Facts 1983 (reported in National Mineral Inventory 92H6 Ag 9)).

The upper 600 metres of Silver Peak is composed mainly of Eocene conglomerate, part of a narrow north-trending band of sediments extending from just north of Hope to as far south as the U.S. border and beyond. The conglomerate strikes north and dips steeply to the east. To the east and north of Silver Peak, the country rocks are intruded by an Oligocene granodiorite. Monger (GSC Map 41-1989) shows a narrow, north trending apophyses of granodiorite extending north from the Miocene Mount Barr batholith and contacting the conglomerate on its west along the eastern flank of Silver Peak, and the Oligocene granodiorite on its east and north. The western boundary of the conglomerate is defined by the contact of the Cretaceous Spuzzum pluton consisting of mainly quartz diorite and diorite.

Cutting the conglomerate at an angle to both bedding and joint planes are a number of quartz porphyry dikes. The largest of these has an average width of 6 metres, and follows in an irregular fashion the line of Glory Hole gulch which cuts through the middle of the property in a northwest direction.

The mineral deposits occur in well defined fracture zones in the conglomerate which coincide with northeast trending joint planes. These fracture zones, several feet wide, have been developed through movement and brecciation along the joint planes. The principal deposits occur as veins within the fracture zones but rarely occupy the entire width of the zones. Emplacement tends to favour the hangingwall side of the zone.

The chief gangue minerals are siderite, limonite and quartz. The principal ore mineral is tetrahedrite which carries varying proportions of lead, silver and copper. It occurs with siderite, quartz and pyrite as disseminations or as masses that rarely exceed a cubic centimetre in size.

The principal orebodies are called the Eureka, Victoria (formerly the Van Bremer) and Victoria West. A couple of minor orebodies cross the Glory Hole gulch below the Eureka lode.

The Eureka body has been traced across the summit of Silver Peak for about 427 metres, its course largely defined by solid conglomerate walls. Its width varies from 1.5 to 6 metres; it is at its widest east of the Glory Hole gulch. The proportion of vein and mineral material within this fracture zone is extremely variable. In 1924, it was reported that an adit was driven in the early days of development (which dates back to 1868) for 73 metres along the orebody. A 61-centimetre sample taken across the face analysed 151.54 grams per tonne silver and 0.17 per cent copper (GSC Memoir 139, page 156).

The Victoria lode has been traced for about 366 metres on the southwestern slopes of Silver Peak. The general character is similar to that of the Eureka. By 1924, a 2.4-metre drift was driven on the orebody, the mineralized part of which was about 36 centimetres wide. A sample across this yielded 399.43 grams per tonne silver and 0.30 per cent copper (GSC Memoir 139, page 157). About 70 metres above this short drift, another adit was driven for 15 metres along a vein of richly oxidized ore. The vein, which strikes nearly east and dips 70 degrees south, has an average width of 30 centimetres. A sample taken at the portal of this tunnel across 35.6 centimetres yielded 5785.76 grams per tonne silver, a trace of gold, 1.12 per cent copper and 11.96 per cent lead (GSC Memoir 139, page 157). Another sample yielded 22,574.59 grams per tonne silver and 26.72 per cent lead.

The Victoria South orebody and the smaller veins crossing Glory Hole gulch below the Eureka lode, are composed of much the same material as described above.

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1919-190; 1921-197; 1924-138; 1926-198; 1962-92; 1963-90; 1968-78
EMPR ASS RPT 11057, 20491
EMPR EXPL 1983-237
EMPR GEM 1969-199, 1970-250
EMR MP CORPFILE (Eureka Victoria Mines, Limited: Vanstates Resources Ltd.)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1195
REPORT: RGEN0100

BIBLIOGRAPHY

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GSC MEM *139, pp. 152-160
GSC P 69-47, p. 64
GSC PROG RPT 1871-72, pp. 57, 66; 1873-74, p. 7; 1875-76, p. 5;
1876-77, pp. 131, 478
GSC SUM RPT 1920A, p. 36
GCNL #127, #178, 1981
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/15

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW012**

NATIONAL MINERAL INVENTORY:

NAME(S): **D & J, DIAMOND, SILVER BELL,
BELL, DELLA**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 11 45 N
LONGITUDE: 121 05 10 W
ELEVATION: 732 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5450989
EASTING: 639433

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of the Skagit River about 1.6 kilometres south of the confluence of the Sumallo and Skagit rivers (part of the historic 23 Mile Camp).

COMMODITIES: Copper Gold Silver Zinc Lead

MINERALS

SIGNIFICANT:	Pyrrhotite	Chalcopyrite	Arsenopyrite	Sphalerite	Pyrite
	Galena	Copper			
ASSOCIATED:	Quartz	Epidote	Garnet	Hornblende	Wollastonite
ALTERATION:	Epidote	Garnet	Hornblende	Wollastonite	
ALTERATION TYPE:	Skarn				
MINERALIZATION AGE:					

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn
DIMENSION: Metres 105 Polymetallic veins Ag-Pb-Zn±Au
COMMENTS: Main showing dips between 30 degrees to vertical both east and west. STRIKE/DIP: 340/90 TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic Upper Cretaceous	Hozameen	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Greenstone
Volcanic Chert
Skarn
Pelite
Quartz Diorite
Limestone

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Located near contact between Bridge River and Methow terranes.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1948
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 41.1400 Grams per tonne
Gold 0.3400 Grams per tonne
Copper 4.1000 Per cent
COMMENTS: Sample across 1.2 metres; traces of nickel, cobalt and zinc are also present.
REFERENCE: Minister of Mines Annual Report 1948, page 155.

CAPSULE GEOLOGY

The Hozameen fault traverses north-northwest separating the low greenschist facies rocks of the Permian-Jurassic Hozameen Complex on the west from Lower-Middle Jurassic Ladner Group sediments to the east. A Late Cretaceous quartz diorite stock intrudes the sediments along the east side of the fault.
The D & J claims are underlain by Hozameen Complex rocks comprised mainly of greenstone, volcanic chert, pelite and limestone. These rocks generally contain fine-grained actinolite, epidote,

CAPSULE GEOLOGY

chlorite and locally prehnite. The limestone is interbedded with the greenstone and commonly forms lenticular beds, up to 30 metres in thickness. The Hozameen rocks are intruded by numerous basic sills and dikes. The bedding strikes fairly uniformly at about 330 degrees and dips between 30 degrees to near vertical towards both the east and west.

Mineralization is comprised mainly of pyrrhotite and chalcopyrite with sphalerite and pyrite. Occasional stringers of arsenopyrite and galena are also present. The sulphides occur as infillings in four major fracture sets with average attitudes of 320 degrees dipping 80 degrees northeast; 350 degrees dipping 75 degrees west; 285 degrees dipping 85 degrees south and a weaker set mineralized predominantly with sphalerite, striking 050 degrees and dipping 80 degrees northwest.

The main showing, at 732 metres elevation, consists of skarn and sulphides in a zone about 6 metres wide striking 340 degrees and dipping steeply to the northeast. Mineralization consists of a mixture of pyrrhotite, arsenopyrite, pyrite and chalcopyrite in a gangue of quartz, epidote, garnet, hornblende and wollastonite. Some native copper was reported in fracture planes. Surrounding the skarn area are 10 centimetre wide quartz veins which host galena, sphalerite, arsenopyrite and pyrrhotite. In 1915, a sample from the main workings analysed 2.74 grams per tonne gold, 64.45 grams per tonne silver, 18 per cent copper and 6 per cent zinc.

In 1948, mineralized stringers hosting mainly pyrrhotite and chalcopyrite, were sampled. A 1.2 metre wide sample analysed 0.34 gram per tonne gold, 41.14 grams per tonne silver, 4.1 per cent copper with traces of nickel, cobalt and zinc (Minister of Mines Annual Report 1948, page 155).

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*1923-164; *1938-F4,F11-F13; *1948-154,155; *1962-90
EMPR PF (Claim map & Surficial Geology map of the Della Group,
D & J Claims by H.H. Shear, 1961)
GSC BULL 238
GSC MAP *12-1969; 56A
GSC P *69-47, p. 62
GSC SUM RPT *1911, p. 122; *1920A, pp. 24, Fig. 3, 39, 40; *1922A,
pp. 122, Fig. 11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/27

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW013**

NATIONAL MINERAL INVENTORY: 092H5 Zn1

NAME(S): **SENECA**, AGASSIZ-WEAVER, HARRISON,
LUCKY JIM, DOROTHY, I AM,
EARL, TAKI, CAROL,
IC

STATUS: Past Producer Open Pit
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 19 01 N
LONGITUDE: 121 56 42 W
ELEVATION: 274 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5463225
EASTING: 576674

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the east side of the Chehalis River about 8 kilometres north of Harrison Mills, approximately 80 kilometres east of Vancouver.

COMMODITIES: Zinc Copper Lead Silver Gold

MINERALS

SIGNIFICANT: Sphalerite Pyrite Chalcopyrite Galena Tetrahedrite
ASSOCIATED: Barite Pyrite Quartz
ALTERATION: Silica Sericite
ALTERATION TYPE: Silicific'n Sericitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform Massive Stratabound Disseminated
CLASSIFICATION: Volcanogenic
TYPE: G07 Subaqueous hot spring Ag-Au G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Dacitic Volcaniclastic
Dacite Breccia
Volcanic Siltstone
Tuff
Rhyolite
Dacite
Basalt
Dacite Porphyry
Volcanic Breccia
Argillite

HOSTROCK COMMENTS: The most common intrusions are the synvolcanic feldspar-phyric dacite porphyry sills, ranging from 1 to 50 metres thick.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Harrison
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Zeolite

INVENTORY

ORE ZONE: SENECA REPORT ON: Y
CATEGORY: Combined YEAR: 1983
QUANTITY: 1506239 Tonnes
COMMODITY GRADE
Silver 41.1300 Grams per tonne
Gold 0.8200 Grams per tonne
Copper 0.6300 Per cent
Lead 0.1500 Per cent
Zinc 3.5700 Per cent

COMMENTS: Drill indicated, possible and inferred reserves at undiluted grades. Also includes 898,573 tonnes grading 1.09 grams per tonne gold, 55.53 grams per tonne silver, 0.84 per cent copper and 5.17 per cent zinc (undiluted).

REFERENCE: Filing Statement 200/85, International Curator Resources Ltd.

CAPSULE GEOLOGY

The Seneca deposit is located on the east side of the Chehalis River on the west side of Harrison Lake, about 8 kilometres north of

CAPSULE GEOLOGY

Harrison Mills, British Columbia.

The Seneca occurrence has been explored by mining companies since the 1920s. In the 1970s, Cominco Ltd. delineated a small Kuroko-type, stratiform, volcanogenic massive sulphide deposit. The property is currently owned by 493744 Ontario Ltd. and Metall Mining Corp.

The area of the Seneca deposit and its related occurrences, the Vent (092HSW139) and the Fleetwood/33 zones (092HSW165), are underlain primarily by volcanic rocks of the Lower-Middle Jurassic Harrison Lake Formation. In general, the strata on the property strike approximately northwest and are essentially flat lying or moderately east dipping. The stratigraphy has undergone very little deformation or metamorphism and retains pristine volcanic textures. Metamorphic grade in the area is zeolite facies.

McKinley et al. (Fieldwork 1994) have subdivided the property stratigraphy into three principal volcanic facies as follows:

- 1) Facies 1 - Lavas (vent-proximal facies) consist of basaltic to rhyolitic composition flows, domes and associated in situ hyaloclastites and autoclastic breccias
- 2) Facies 2 - Volcaniclastic rocks (vent-proximal to distal facies) consist of juvenile to reworked, coarse volcanic breccia and tuffs to fine-grained siltstone
- 3) Facies 3 - Synvolcanic intrusions consist of basaltic to rhyolitic sills and dikes that have intruded lavas and volcaniclastic sediments

A fourth facies consists of an argillite that often contains flattened pumice clasts and is commonly in close proximity to mineralization. This fourth facies is restricted to the main Seneca deposit, also referred to as the Pit area, and does not correlate across the property.

Three types of mineralized zones are present in the Seneca area:

- 1) Conformable massive sulphide lenses
- 2) Semimassive and disseminated sulphides associated with volcaniclastic rocks
- 3) Stockwork and stringer mineralized zones

Conformable, stratabound lenses of semimassive sphalerite, pyrite and chalcopyrite with lesser galena are exposed in the Pit area. The sulphides are hosted by fragmental rocks and occur as discontinuous pods that do not correlate between adjacent drillholes. Unlike the 33 zone, the massive sulphides in the Pit area are underlain by siliceous stringer and disseminated mineralization.

Massive to disseminated sulphides are hosted in the volcaniclastic 'ore zone conglomerate', tending to be restricted to the upper part of the unit. The 'ore zone conglomerate', part of Facies 2 and found only in the Pit area, varies from 1 to 15 metres in thickness. The unit consists of moderately silicified, mostly subrounded dacite lava clasts ranging from sand size up to 3 centimetres in diameter in a sandy or silty matrix. The unit can be matrix or clast supported, and also contains clasts and matrix that have been replaced and/or infilled by sulphides. A dacite lava clast breccia occurs stratigraphically below the 'ore zone conglomerate'. One of the better drillhole intersections (drillhole 85-03) cut 0.5 metre of massive pyrite, sphalerite and barite with lesser chalcopyrite, underlain by 3.5 metres of mostly semimassive pyrite. More commonly, the mineralization hosted by the 'ore zone conglomerate' consists of clasts that are partially replaced, or matrix that is partly infilled by pyrite and occasionally sphalerite. Some of the clasts are rimmed with later pyrite. Tetrahedrite has been microscopically recognized.

Faulting is evident in several directions and may have exerted some control on the mineralization.

Generally, most of the rocks at the Seneca occurrences are relatively unaltered, exhibiting pristine preservation of volcanic textures. Macroscopically recognizable alteration is restricted to the Vent and Fleetwood zones where it is characterized by intense silicification and sericitization associated with massive to flow banded and flow brecciated dacite porphyry. The volcanics are pyritized to varying degrees over much of the area.

In 1962, about 260 tonnes of ore was shipped from a small open pit that constituted the Lucky Jim (Seneca) prospect and shipped to the Britannia Mine (092GNW003). The ore graded 1.55 per cent copper, 8.15 per cent zinc, 154.28 grams per tonne silver and 4.11 grams per tonne gold (Assessment Report 23417).

Combined (drill indicated, possible and inferred) reserves at Seneca are 1,506,239 tonnes grading 3.57 per cent zinc, 0.15 per cent lead, 0.63 per cent copper, 0.82 gram per tonne gold and 41.13 grams per tonne silver. This reserve also includes 898,573 tonnes grading 1.09 grams per tonne gold, 55.53 grams per tonne silver, 0.84 per cent copper and 5.17 per cent zinc (undiluted) (Filing Statement

CAPSULE GEOLOGY

200/85, International Curator Resources Ltd.).

In 1985, a drillhole on the northeast side of the deposit intersected 0.6 metre of massive sulphides which assayed 5.97 grams per tonne gold, 246.85 grams per tonne silver, 10.1 per cent zinc, 0.36 per cent copper and 0.7 per cent lead. The deposit is considered still to be open in this direction.

In 1994, drillhole S-94-41 was drilled to test the Seneca horizon, 700 metres downdip of previous drillhole S-91-02, which intersected 0.24 per cent copper, 1.58 per cent zinc, 4.34 grams per tonne silver and 0.034 gram per tonne gold over 3 metres and which showed the most noticeable alteration to date. The hole also tested a mercury anomaly outlined and tested by Cominco Ltd. in 1972. The hole collared into dacite feldspar porphyritic flow and is underlain by dacitic feldspar phyric lapilli tuff. The dacitic package is underlain by a thick sequence of andesitic lapilli tuff and massive mafic flow and flow breccias. The hole, however, failed to find any significant mineralization and alteration.

The Vent zone (092HSW139) is 2 kilometres to the northwest along strike with the Seneca deposit. The Fleetwood and 33 zones (092HSW165), are about 1.5 kilometres northwest of the Vent zone. For further details on the Seneca deposits, readers are referred to the article by McKinley et al. (Fieldwork 1994).

In 1990, Metall Mining Corp. optioned the property to evaluate the Seneca deposit and the VMS potential for the remainder of the property. In 1991, the Fleetwood zone was discovered. In 1992, the 33 zone was discovered in the same area.

In 1995, International Curator Resources Ltd. conducted two days exploration work on the Dorothy 12 and 13 claims to determine the source of a coincident copper, lead, and zinc anomaly outlined by previous soil sampling. The area of these claims is underlain by a series of volcanic sediments, and rhyolitic to andesitic flows, tuffs and breccias that have been variable sericitized and silicified. Thirteen rock samples were taken from outcrops. The highest results were from sample JC-6, which yielded 0.07 per cent lead, 0.02 per cent zinc, 2.0 grams per tonne silver and 0.02 gram per tonne gold (Assessment Report 24318).

In 1997, Riverstone Resources Inc. drilled 6 holes (693.4 metres) on the IC claims.

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EMPR OF 1992-1; 1999-2
EMPR PF (International Curator Resources Ltd. (1988): Annual Report; Riverstone Resources (1997): Prospectus, March 17, 1997; Notes on Seneca Talk, D. Pearson, Nov.6, 1974; Notes on CIM District 6 Meeting, Kamloops, ~1984)
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EMR MP CORPFILE (Zenith Mining Corporation Ltd.; Chevron Standard Ltd.)
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DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW014**

NATIONAL MINERAL INVENTORY: 092H3 Au1

NAME(S): **RUBY, GOLD COIN, DENAR, VANCOUVER, PI**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 06 53 N
LONGITUDE: 121 05 54 W
ELEVATION: 1070 Metres

NORTHING: 5441950
EASTING: 638769

LOCATION ACCURACY: Within 500M

COMMENTS: Sargent, in 1938, reports that these showings were on the Ruby and Vancouver claims (Minister of Mines Annual Report 1938, page F19). The Ruby is part of a group of claims near Shawatum Creek known as the Gold Coin (Minister of Mines Annual Report 1929, page 241). The Gold Coin group appears to have covered a number of earlier workings, specifically the North Star (092HSW076) and Billican (092HSW077) prospects and possibly the Skajit Giant (092HSW075).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite

COMMENTS: Chalcopyrite assumed to occur.

ALTERATION TYPE: Silicific'n Sericitic

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Shear

CLASSIFICATION: Skarn

TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Tertiary

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Limestone
Basalt
Chert
Diorite
Granodiorite

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cascade Mountains

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1938

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

3.4300

Grams per tonne

Copper

0.3500

Per cent

COMMENTS: Sampled across 2.4 metres. Trace of silver also reported.

REFERENCE: Minister of Mines Annual Report 1938, page F19.

CAPSULE GEOLOGY

The area of the Ruby occurrence is underlain by basalt and massive to locally bedded chert of the Permian to Jurassic Hozameen Complex. Basalt-chert contacts are steeply dipping and probably faulted. Small intrusions of diorite to granodiorite of unknown, but probable Tertiary age occur in the basalt. A fault striking 015 degrees along Pyrrhotite Creek truncates a 120 degree striking fault that passes through the Giant Creek area. Monger has mapped another west-northwest striking fault in the valley north of the property (GSC Map 12-1969).

Over several square kilometres, the basalt is altered and veined. Alteration consists mainly of silicification and lesser sericitization. Three main types of mineralization are reported to

CAPSULE GEOLOGY

occur in the vicinity. These include skarn, veins and porphyry types.

In 1938, Sargent reported that this showing, occurring on the old Ruby claim, was one of two promising "replacement" showings in the area (Minister of Mines Annual Report 1938, page F19). The showing appeared to occur in irregular masses or pods of impure limestone.

Sargent reported two cuts about 30 metres apart, on the steep slope east of Antimony Creek, expose sulphide mineralization of "good width". In the northerly cut, massive mineralization is developed in shears striking east and dipping 25 degrees south. Mineralization also cuts through the hangingwall of the shear in small chimney-like masses. The types of sulphides were not reported but a sample of the material taken across the shear yielded 3.43 grams per tonne gold, 0.35 per cent copper, a trace of silver and nil zinc over 2.4 metres (Minister of Mines Annual Report 1938, page F19).

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EMPR EXPL 1978-E140; 1979-141
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
GSC SUM RPT 1923A, pp. 73-76

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW015**

NATIONAL MINERAL INVENTORY:

NAME(S): **VALLEY VIEW**, GOLD TOP, STACEY CREEK,
CONSTANTINE, PF, MIDNIGHT,
NOREEN, REX

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 49 15 20 N
LONGITUDE: 121 51 17 W

NORTHING: 5456496
EASTING: 583338

ELEVATION: 304 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: The Stacey Creek zone located along the lower reaches of Stacey
Creek, on the southwest slope of Mount Agassiz. The Valley View zone
is located about 450 metres to the northeast (Assessment Report
17318, Figure 5).

COMMODITIES: Copper Zinc Lead Silver Gold

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Galena Pyrite Pyrrhotite
ASSOCIATED: Quartz Sericite Carbonate Epidote Barite
ALTERATION: Chlorite Pyrophyllite Epidote Sericite Feldspar

ALTERATION TYPE: Sericitic Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Breccia Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	
Upper Jurassic	Undefined Group	Kent	

LITHOLOGY: Breccia
Chert
Siliceous Tuff Breccia
Volcanic Flow
Pyroclastic
Arkose
Tuff
Greywacke

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Harrison
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 30.0000 Grams per tonne
Gold 0.4500 Grams per tonne
Copper 0.9000 Per cent
Lead 0.9000 Per cent
Zinc 1.4000 Per cent

COMMENTS: A 0.5 metre chip sample of sulphide mineralization from
sericitized volcanic breccia.
REFERENCE: Assessment Report 12222.

CAPSULE GEOLOGY

The area is underlain mainly by Lower-Middle Jurassic Harrison
Lake Formation rocks comprised of volcanic flows, pyroclastics and
tuff breccias with minor interbedded volcanic/sedimentary greywacke,
tuff and arkose. These rocks are thought to be part of the Middle
Jurassic Weaver Lake Member of the Harrison Lake Formation. These
are in fault contact with the Upper Jurassic Kent Formation which is

CAPSULE GEOLOGY

comprised of chert, interbedded tuffs and volcanic flow rocks which resemble the Weaver Lake Member suite.

A strong, northeast trending zone of hydrothermal alteration extending for about 350 metres, pervades the rocks in the Valley View zone. The alteration consists of chlorite, locally strong sericite, lesser epidote with some pervasive feldspar (albite?) and quartz. Disseminated pyrite occurs throughout the alteration zone with much lesser pyrrhotite. Southeast trending and vertical to steeply dipping mineralized open space quartz-sericite-carbonate-epidote veins are superimposed on the alteration zones. These veins extend over several centimetres and are mineralized with coarse crystalline pyrite, minor chalcopyrite, sphalerite and galena yielding trace silver and gold values.

A second zone of significant hydrothermal alteration and mineralization is located along the lower reaches of Stacey Creek, and extends for about 45 metres along the stream bank. The altered zone occurs in siliceous chert, arkose and breccias which have undergone extensive sericitic and local brecciation with strong silica and feldspar impregnation and veining. An irregular vein of barite about 0.5 metre wide, occurs in the intensely sericitic (pyrophyllite) brecciated alteration zone. Minor sulphide mineralization consisting of pyrite, chalcopyrite, galena and sphalerite occurs locally in association with sericitic and siliceous alteration.

The significant differences between the Stacey Creek (Constantine) zone and the Valley View zone is the more intense sericitic (pyrophyllite) alteration, stronger brecciation and much less disseminated pyrite and other sulphides.

Selected samples from the mineralized zones were collected in 1984. A sample from a mineralized vein hosting pyrite and chalcopyrite assayed 0.064 per cent copper, 28.11 grams per tonne silver and 0.034 gram per tonne gold. A chip sample from a mineralized, siliceous feldspathic fragmental rock from Stacey Creek analysed 0.138 per cent copper, 0.86 per cent lead, 0.30 per cent zinc, 2.9 grams per tonne silver and 0.001 gram per tonne gold. Another 0.5 metre chip sample from sericitized, weakly silicified breccia that is crosscut by barite veinlets, analysed 0.087 per cent copper, 0.126 per cent lead, 0.364 per cent zinc, 10.4 grams per tonne silver and 0.014 gram per tonne gold. A 0.5 metre chip sample of sulphide mineralization from this area yielded 0.295 per cent copper, 0.90 per cent lead, 1.40 per cent zinc, 30.0 grams per tonne silver and 0.45 gram per tonne gold (Assessment Report 12222).

A small shipment was made in 1961.

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DATE CODED: 1985/07/24
DATE REVISED: 1994/11/17

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW016**

NATIONAL MINERAL INVENTORY: 092H6 Ag1

NAME(S): **TREASURE MOUNTAIN**, TREASURE MOUNTAIN MINE, SILVER CHIEF,
 SILVER KING, SILVER HILL, CASCADE,
 DORNBERG, H.W., H.W. SPLIT,
 C. RUBY, EAST,
 LOWER GOLD, MARY E

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092H06E
 BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 24 58 N
 LONGITUDE: 121 03 42 W
 ELEVATION: 1488 Metres

UTM ZONE: 10 (NAD 83)
 NORTHING: 5475521
 EASTING: 640586

LOCATION ACCURACY: Within 500M

COMMENTS: No. 2 level portal, 500 metres south of the summit of Treasure
 Mountain, 750 metres north of a small lake at the head of Amberty
 Creek, 27.5 kilometres east-northeast from the town of Hope
 (Minister of Mines Annual Report 1952, Figure 7).

COMMODITIES: Silver Lead Zinc Copper Gold
 Antimony

MINERALS

SIGNIFICANT: Sphalerite Galena Zinkenite Tetrahedrite Chalcopyrite
 Argentite Pyrargyrite Bournonite Silver
 COMMENTS: Rare native silver in galena.
 ASSOCIATED: Quartz Carbonate Siderite Pyrite Arsenopyrite
 Pyrrhotite Magnetite Hematite
 ALTERATION: Carbonate Chlorite
 COMMENTS: Alteration at dike-wallrock contacts with local manganese oxide
 enrichment.
 ALTERATION TYPE: Carbonate Chloritic
 MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Stockwork Disseminated Shear
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 SHAPE: Tabular
 MODIFIER: Fractured
 DIMENSION: 305 x 304 x 1 Metres STRIKE/DIP: TREND/PLUNGE:
 COMMENTS: C vein.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Pasayten	Undefined Formation	
Jurassic	Ladner	Undefined Formation	
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Argillite
 Arkose
 Conglomerate
 Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: TREASURE MOUNTAIN

REPORT ON: Y

CATEGORY: Combined YEAR: 1988
 QUANTITY: 160000 Tonnes
 COMMODITY GRADE
 Silver 850.0000 Grams per tonne
 Lead 4.0000 Per cent
 Zinc 5.0000 Per cent

COMMENTS: Average grade of ore at a cutoff grade of 500 grams per tonne
 equivalent silver. Probable/possible/inferred reserves in all zones.
 REFERENCE: Property File - Prospectus, Huldra Silver Inc., 1988.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking,

CAPSULE GEOLOGY

moderate to steeply southwest dipping volcanic and sedimentary rocks of the Middle and Lower Jurassic Dewdney Creek Formation (Ladner Group) and Lower to Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominant arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

The dikes and sills range from diorite to gabbro in composition and strike west in the Dewdney Creek Formation and west-northwest in the Pasayten Group. The intrusive bodies are generally altered (chlorite-carbonate) and range from a few centimetres to 9.1 metres wide. They are from a few metres up to 304 metres long, pinch out abruptly and are veined near their margins by irregular veinlets of quartz. Many of the dikes and sills are about 1.5 metres wide and less than 61 metres long. The largest sill is about 1.2 kilometres long and as much as 213 metres wide and is hosted in the Dewdney Creek Formation.

A major fault, the Treasure Mountain fault, strikes 080 degrees, dips 30 to 65 degrees south and is traceable for 2.3 kilometres across all lithologies. It has both a strike-slip and dip-slip component and offsets both sequences. A feldspar porphyry dike generally occupies a central position in the fault zone, dividing it into footwall and hangingwall sections, but in places the dike is on one wall of the fault or the other. The walls of the dike are sheared and is as much as 21 metres wide in the east but narrows toward the west; for most of its length it is between 3 and 6 metres wide. The dike is altered (chlorite-carbonate) at wallrock contacts, and is widest in the east where it approaches a granitic intrusion.

Several other faults with similar attitudes also occur. Two faults cross the southwest part of the region and strike east and dip steeply south, but one splay of one fault dips north. The more northerly of these two faults, the Indiana fault, hosts the Blue Bell (092HSW020) and possibly the Indiana (092HSW022) and Summit (092HSW023) occurrences. The southern fault, the Queen Bess fault, hosts the Queen Bess (092HSW021) occurrence. These two faults diverge to the west from the Treasure Mountain fault and contain subparallel splays separated by shattered rock. The Queen Bess fault splits into two branches that diverge toward the west.

Mineralization in the Treasure Mountain occurrence area is hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch, split and coalesce and vary considerably in width and attitude. The lodes consist of up to several sulphide-rich stringers or veins, together with quartz-carbonate vein material concentrated in pockets and disseminated in wallrock. Typically, very little quartz-carbonate gangue is present. The veins, for the most part, are less than 0.6 metre wide and generally consist of a central massive section with veinlets and disseminated mineralization distributed outwards into the wallrock. Veins can range from centimetres to over 3 metres in width and extend for only a few metres to over 300 metres in length. Numerous stringers occur and are centimetres wide and continue for only a few metres. The multiplicity of veins and associated mineralization is irregular. Locally, an aggregate width of mineralized veins or stringers separated by gouge and broken wallrock can reach 3.04 metres. The fault zone wallrock itself is mineralized and locally manganese oxide enriched.

The Treasure Mountain mine is predominantly underlain by northwest striking, southwest dipping Pasayten Group arkose, argillite and minor conglomerate. The Treasure Mountain fault cuts through all lithologies and hosts a feldspar porphyry dike which divides the fault into hangingwall and footwall sections. The dike is 0.6 to 1.2 metres wide for the most part but ranges to 6 metres. Mineralized quartz-carbonate veining is found on the footwall and hangingwall of the dike and are presently called the "dike" veins. Historically the "dike" veins have been explored and developed by three levels of which the second level produced practically all the millfeed. Unmined ore shoots are reported to be present in the existing mine levels. Recent underground drilling outlined a new ore shoot on Level 1 grading 722.96 grams per tonne silver, 4.33 per cent lead and 4.69 per cent zinc over a length of 32 metres and a width of 1.2 metres. Indicated reserves increased by 3047 tonnes and inferred reserves by 7619 tonnes (George Cross News Letter No.239, 1989).

To the east, the "dike" veins split away and form two distinct hangingwall veins, the H.W. vein and the H.W. Split vein (Assessment

CAPSULE GEOLOGY

Report 11947). A recently discovered vein, the C vein, occurs east along strike of these veins and is not related to the feldspar porphyry dike. The C vein branches or splits along its strike and coalesces with other veins. A second, narrow silver-rich vein parallels the C vein to the south. The controlling Treasure Mountain fault zone crosses and cuts off the C vein in the east and swings sharply to the south. The feldspar porphyry dike which generally occupies a central position within the Treasure Mountain fault zone can wander, particularly into the hangingwall and does so in the eastern portion of the C vein where the vein terminates against the dike. The fault zone and dike swings sharply to the south at this point. The upper No. 1 crosscut level, the No. 2 level and a new intermediate level 1A have been extended underground to intersect the C vein and development has progressed along it. The south dipping (70 degrees) C veins have been explored on four horizons; surface, level 1, level 1A and level 2 for a total downdip depth of 305 metres. The strike length has been tested along 304 metres. The C vein zone width averages 1 metre but varies from centimetres wide to 2.59 metres. Indicated reserves are reported as 132,436 tonnes grading 867.28 grams per tonne silver and 10 per cent combined lead-zinc (George Cross News Letter No.170, 1989).

Sulphides constitute the greater part of the vein matter, and gangue minerals are present in minor amounts. Sphalerite is the most abundant, followed by galena, pyrite, arsenopyrite, tetrahedrite, pyrrhotite and chalcopyrite. Mineralogical examinations show that zinkenite is present in important amounts. Bournonite is also identified. Magnetite has been reported in drill core along with hematite near dike contacts. Rare native silver and argentite is present in galena. Pyrargyrite and argentite have also been documented in underground diamond-drill core intersections (George Cross News Letter No.152, 1988). The gangue mineralogy consists of milky and glassy quartz and light-coloured carbonate. Some of the carbonate may be manganiferous siderite. Cavities in the lodes are common and are narrow (less than 3 centimetres wide). Generally they are lined with sulphide crystals and quartz crystals.

The East zone, located 762 metres east of the mine, contains indicated reserves of 11,792 tonnes grading 1052.39 grams per tonne silver, 12.27 per cent lead and 0.82 per cent zinc (George Cross News Letter No.239, 1989).

The Ruby zone, where high grade pyrargyrite mineralization was discovered in trenches 3200 metres east-southeast from the C vein, contains inferred reserves of 9071 tonnes grading 534.76 grams per tonne silver (George Cross News Letter No.170, 1989).

Trenching tested a possible eastern continuation of the C vein zone near Troll Lake, about 175 metres northeast of the C vein termination against the feldspar porphyry dike. A north trending, narrow shear zone (Troll Lake), centimetres wide, yielded assays of 3428 grams per tonne silver (McDougall, 1987).

A gold-bearing shear zone was also exposed by trenching 800 metres southeast of the C vein zone. This zone, the Lower Gold, contains mineralization apparently paralleling the feldspar porphyry dike. A grab sample assayed 4.79 grams per tonne gold and 308.52 grams per tonne silver (McDougall, 1987).

In 1988, a 362 tonne bulk surface sample of selected high-grade ore from the C vein was processed and yielded a weighted average grade of 3438.28 grams per tonne silver, 32.7 per cent lead and 6.8 per cent zinc (Northern Miner - August 29, 1988).

Combined (probable, possible and inferred) reserves for the Treasure Mountain property are 160,000 tonnes grading 850 grams per tonne silver, 4 per cent lead and 5 per cent zinc; average grade of ore at a cutoff grade of 500 grams per tonne equivalent silver (Property File - Prospectus, Huldra Silver Inc., 1988).

Past and present work comprise extensive surface and underground development.

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EMPR ASS RPT 7463, *11947, 13343
EMPR BC METAL MM00304
EMPR EXPL 1979-143; 1981-34; 1983-235; 1984-184; *1989-95-103
EMPR GEM 1970-381
EMPR MAP 65 (1989)
EMPR MIN STATS 1990, p. 27

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EMR MIN BULL MR 223 B.C. 115
EMR MP CORPFILE (Cascade Consolidated Silver Mining Company Limited;
Silver Hill Mines Ltd.; Huldra Silver Inc.)
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1910, pp. 118,119; 1920 Part A, pp. 23-30,38,39; *1922
Part A, pp. 95-102,105-107
GCNL #216,#246, 1987; #12,#43,#73,#152,#164,#71,#200(Oct.18), 1988;
#170,#239,#34(Feb.17), #118(June 20), 1989
N MINER Oct.26, 1987; Apr.25, Aug.29, 1988; Mar.6, 1989
WWW <http://www.infomine.com/>
Prospectus, Harrisburg-Dayton Resource Corp. May 12, 1988 (Report by
Dewonck, 1987); *Huldra Silver Inc. July 21, 1987 (Report by
McDougall, 1987); Schellelex Gold Corp. July 6, 1988 (Report by
Dewonck, 1987)
Placer Dome File
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1989/09/27

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW017**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE CHIP, BLUECHIP, DIANE,
WA, WAH, BLUE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 18 47 N
LONGITUDE: 121 36 50 W
ELEVATION: 200 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5463182
EASTING: 600745

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1 kilometre south of Laidlaw and about 1 kilometre east of
Wahleach Creek (Assessment Report 20163, figure 7).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Marcasite Chalcopyrite Telluride

Gold Pyrite Calcite

ASSOCIATED: Quartz Sericite

ALTERATION: Sericitic

ALTERATION TYPE: Sericitic

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

Miocene
Cretaceous

Mount Barr Batholith
Unnamed/Unknown Informal

LITHOLOGY: Quartz Diorite
Phyllitic Slate
Quartzitic/Quartzose Slate

HOSTROCK COMMENTS: The unnamed metasediment country rock is thought to have been derived
from Paleozoic and Mesozoic rocks and metamorphosed in the Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

Undivided Metamorphic Assembl.

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1968

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

349.0300

Grams per tonne

COMMENTS: From a 30-centimetre chip across a vein.

REFERENCE: Property File - Campbell, D.D. (1968).

CAPSULE GEOLOGY

The Blue Chip area is underlain by black phyllitic and quartzitic slates which have undergone repeated periods of deformation. Muller reports that the parent rocks are largely upper Paleozoic (probably Hozameen Complex) but may be in part Mesozoic; with metamorphism occurring in the Cretaceous (GSC Paper 69-47, page 33). These metasediments have been penetrated by an apophyses or cupola of the Miocene Mount Barr batholith consisting of hornblende-biotite quartz diorite about 250 by 250 metres in area.

Mineralization is restricted to quartz veins in the quartz diorite. The veins strike east-northeast dipping at low angles to the south, varying from 10 to 45 centimetres in thickness. A minor second set of quartz veins occupy south-trending shear and fault zones that dip steeply to the east and west. These veins are generally less than 2.5 centimetres wide, and composed of quartz, calcite and minor sulphides.

Locally, a strong sericitic alteration is found for up to 60 centimetres on either side of the main quartz veins. Several pulses of sulphide deposition associated with the quartz veins are

CAPSULE GEOLOGY

recognized. The first is a pyrite-arsenopyrite assemblage, followed by a pyrrhotite-chalcopyrite assemblage, followed by a marcasite-telluride-native gold succession. Sulphide mineralization in the veins is dominated by pyrrhotite.

A sample of sulphide mineralization from one vein assayed 349.03 grams per tonne gold across 30 centimetres (Campbell, 1968). The same report states that other samples of similar mineralization yielded negligible gold while samples of altered wallrock with no sulphides yielded up to 77.49 grams per tonne gold. In 1985, a total of 109 samples were collected (Assessment Report 14894). Analysis of these samples yielded spotty values for gold (greater than 1 gram per tonne up to 5.4 grams per tonne) and silver up to 36.5 grams per tonne.

It is reported that four adits exist on the property; two excavated prior to 1970 and two after (Assessment Report 14894). A trial shipment of 1.49 tonnes of vein material was shipped to the Tacoma smelter in 1957 but no results were reported (Minister of Mines Annual Report 1957, page 66).

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EMPR ASS RPT 7108, *9894, *14894, *20163
EMPR EXPL 1978-142; 1981-147; 1986-C198
EMPR GEM 1969-198; 1970-249
EMPR PF (*Campbell, D.D. (1968): Summary Report on the Laidlaw Gold Property, Almaza Mines Ltd.)
GSC MAP 737A; 12-1969; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW018**

NATIONAL MINERAL INVENTORY: 092H6 Ag2

NAME(S): **EUREKA (L.1210), JENSEN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 25 01 N
LONGITUDE: 121 04 03 W
ELEVATION: 1506 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5475603
EASTING: 640160

LOCATION ACCURACY: Within 500M

COMMENTS: Adit portal on Lot 1210, 1.5 kilometres south-southwest from the summit of Treasure Mountain, just west of the Treasure Mountain mine workings (092HSW016), 27.5 kilometres east-northeast from the town of Hope (Minister of Mines Annual Report 1952, Figure 7).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Argentite

Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

DIMENSION: Metres STRIKE/DIP: 080/65S

TREND/PLUNGE:

COMMENTS: Treasure Mountain fault zone hosting quartz veins and dike.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Jurassic

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Diorite Sill
Feldspar Porphyry Dike
Volcanic Breccia
Conglomerate
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1952

SAMPLE TYPE: Rock

COMMODITY

GRADE

Silver

305.0900

Grams per tonne

Lead

5.7000

Per cent

Zinc

11.8000

Per cent

COMMENTS: Sample across 25 centimetres of quartz vein.

REFERENCE: Minister of Mines Annual Report 1952, page A130.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast-dipping fault, but in large part are conformable.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain,

CAPSULE GEOLOGY

092HSW016).

The Eureka occurrence is underlain by Dewdney Creek Formation volcanic breccia, conglomerate and argillite intruded by a large diorite sill 213 metres wide and 1.2 kilometres long. The Treasure Mountain fault crosses the area at 080 degrees with 30 to 65 degree dips to the south. The fault hosts a feldspar porphyry dike 1.5 metres wide. An adit explores the fault zone which consists of two faults separated by the feldspar porphyry dike, each to some extent containing mineralized quartz veins. The veins range from 1 to 30 centimetres in width, the hangingwall lode being the wider. The veins narrow towards the east. Mineralization consists of pyrite (more abundant here than in any other occurrences along the fault), galena, sphalerite and chalcopyrite, and possibly argentite and tetrahedrite.

The footwall mineralization occurs between the diorite sill and the feldspar porphyry dike. A sample across 25 centimetres of vein assayed 51.42 grams per tonne silver, 0.7 per cent lead and 25.3 per cent zinc (Minister of Mines Annual Report 1952, page A129). The hangingwall mineralization is between the feldspar porphyry dike and argillite, volcanic breccia and conglomerate. Quartz veins and stringers form a zone 0.9 metre wide. A sample across 25 centimetres assayed 305.09 grams per tonne silver, 5.7 per cent lead and 11.8 per cent zinc (Minister of Mines Annual Report 1952, page A130).

A parallel fault, 15 metres south of the Treasure Mountain fault, occurs in argillites. It is partly occupied by a quartz vein 1 to 25 centimetres wide, and strikes 075 degrees with 35 to 65 degree dips to the south. A sample across 15 centimetres assayed 89.12 grams per tonne silver, 2.3 per cent lead and 12.2 per cent zinc (Minister of Mines Annual Report 1952, page A130).

Minor production took place in 1927.

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EMPR AR 1911-K186; 1912-K190; *1913-K226-K228; 1914-K367; *1923-A188, 189; *1924-B170; 1925-A210,A211; *1926-A223-A227; 1928-C267; 1930-A215; 1931-A130; 1932-A139; *1952-A119-A130
EMPR BC METAL MM00300
EMR MP CORFILE (Unicorn Resources Ltd.)
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1920 Part A, pp. 23-30; 1922 Part A, pp. 95-102,105,106
Prospectus, *Harrisburg-Dayton Resource Corp. May 12, 1988 (Report by Dewonck, 1987); *Huldra Silver Inc. July 21, 1987 (Report by McDougall, 1987)

DATE CODED: 1985/07/24
DATE REVISED: 1990/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW019**

NATIONAL MINERAL INVENTORY: 092H6 Ag3

NAME(S): **VIGO (L.91)**, SOUTHERN NO. 8 FR., SOUTHERN NO. 8,
LULU (L.92), SUNBEAM FALLS,
LOWER CREEK, MIDDLE CREEK, UPPER CREEK,
BASIL, SUMMIT CAMP

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 25 14 N
LONGITUDE: 121 04 21 W
ELEVATION: 1411 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5475995
EASTING: 639787

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 23 metres northeast of a showing in a creek bed on Lot 91, 1 kilometre due west from the summit of Treasure Mountain, 27.5 kilometres east-northeast from the town of Hope (Minister of Mines Annual Report 1952, Figure 7).

COMMODITIES: Silver Lead Zinc Copper Gold
Antimony

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Pyrite Pyrrhotite
Arsenopyrite Tetrahedrite Marcasite Stibnite Jamesonite
Boulangerite

COMMENTS: Antimony sulphosalts; local coatings of jamesonite and boulangerite.

ASSOCIATED: Quartz Calcite Carbonate Siderite

ALTERATION: Sericite Epidote Limonite Chlorite

ALTERATION TYPE: Propylitic Silicific'n Oxidation Chloritic

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
COMMENTS: Vein dips steeply east.

STRIKE/DIP: 020/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Conglomerate
Tuff
Lithic Crystal Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Channel

YEAR: 1987

COMMODITY

GRADE

Silver	754.5000	Grams per tonne
Gold	1.0900	Grams per tonne
Copper	0.9000	Per cent
Lead	5.3100	Per cent
Antimony	0.1600	Per cent
Zinc	13.5500	Per cent

COMMENTS: Weighted assay average of 18 samples along a 76 metre length of vein with an average sample width of 0.64 metre.

REFERENCE: Property File - Dewonck, 1987.

CAPSULE GEOLOGY

The Vigo prospect is located on the former Vigo (Lot 91) Crown grant, 1 kilometre due west of Treasure Mountain and 27.5 kilometres east-northeast of Hope, British Columbia.

Mineral showings in the area were first discovered in 1894 and known as the Treasure Mountain, Summit Camp, Silver Chief or Silver

CAPSULE GEOLOGY

Hill property. Between 1894 and 1896, Indiana Company worked on the Sutter, Skyline, Lulu and Vigo claims. Sporadic exploration continued until 1913. The area has seen significant exploration and development work with production from 1920 to 1932 and then again in the 1950s. Since 1993, the Vigo prospect is owned by Golden Coast Minerals Ltd. In 1993, geological mapping and one trench was excavated at the Vigo prospect.

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain, 092HSW016).

The Vigo occurrence is underlain by Dewdney Creek Formation massive conglomerate, tuff and thinly bedded argillite. A quartz-carbonate vein 10 to 15 centimetres wide striking 020 degrees and dipping steeply east, is exposed in a creek bed. It is mineralized with coarsely crystalline galena, minor sphalerite, chalcopyrite and pyrite.

Recent trenching has expanded this showing intermittently, both southwest along the creek for 120 metres and northeast for 50 metres from a vertical shaft. Several vein segments occur and probably occupy the same structure or closely related subparallel to parallel structures. Mineralization is variable and is consistently comprised of galena, sphalerite, chalcopyrite, pyrite, pyrrhotite, arsenopyrite with minor tetrahedrite, marcasite and antimony sulphosalts. The gangue includes quartz, calcite, siderite and silicified and chloritized wallrock fragments. The veins are called the Vigo, Falls, Lower Creek, Middle Creek and Upper Creek. One sample in the Middle Creek vein carries needle-like crystals in vugs, and surface coatings of jamesonite or boulangerite.

A summary of trench channel sampling of the veins are as follows. A weighted assay average of 18 samples along a 26 metre length of the Vigo vein with an average sample width of 0.64 metre, yielded 754.50 grams per tonne silver, 5.31 per cent lead, 13.55 per cent zinc, 0.90 per cent copper, 0.16 per cent antimony and 1.09 grams per tonne gold. A weighted assay average of 18 samples along a 17 metre length of the Falls vein with an average sample width of 0.24 metre, yielded 685.60 grams per tonne silver, 11.57 per cent lead, 10.75 per cent zinc, 0.57 per cent copper, 0.13 per cent antimony and 0.95 gram per tonne gold. A weighted assay average of 5 samples along an 8 metre length of the Lower Creek vein with an average sample width of 0.40 metre, yielded 375.70 grams per tonne silver, 2.57 per cent lead, 18.75 per cent zinc, 2.02 per cent copper, 0.05 per cent antimony and 0.78 gram per tonne gold. A weighted assay average of 6 samples along a 13 metre length of the Middle Creek vein with an average sample width of 0.50 metre, yielded 483.34 grams per tonne silver, 2.17 per cent lead, 23.93 per cent zinc, 2.76 copper, 0.3 per cent antimony and 1.57 grams per tonne gold. A weighted assay average of 6 samples along a 15 metre length of the Upper Creek vein with an average sample width of 0.49 metre, yielded 499.45 grams per tonne silver, 4.59 per cent lead, 10.79 per cent zinc, 0.65 per cent copper, 0.64 per cent antimony and 0.30 gram per tonne gold (Dewonck, 1987).

Trenching has also exposed two mineralized argillite bands which contain disseminations and bands of black sphalerite, pyrite, chalcopyrite, marcasite and pyrrhotite. A dump grab sample of stibnite from a filled-in trench, 30 metres south of the southernmost vein exposure (Upper Creek vein) identified as the Antimony Cut, assayed 47.9 per cent antimony (Dewonck, 1987).

Another quartz-carbonate vein, the Basil vein, has recently been discovered on the property (Assessment Report 18111) and has an average width of 30 centimetres. The vein strikes 064 degrees and dips 78 degrees north with an exposed strike length of 20 metres. It is mineralized with sphalerite with some galena and chalcopyrite and is hosted in an altered lithic crystal tuff. Sericite and epidote alteration mineralogy is present.

In 1993, the Cal vein was exposed by a new trench. The trench

CAPSULE GEOLOGY

and vein are located immediately north of the Vigo claim near its northeast corner. The 23 metres of trenching exposed 21 metres of variable amounts of sphalerite, galena and chalcopyrite in a quartz vein. Mineralization is not restricted to the vein and extends along hairline fractures within massive, fine grained ash to lapilli tuff. The vein varies in width from 6 to 40 centimetres. The strike ranges from 040 to 072 degrees and dips range from 80 degrees southeast to vertical. The average strike is 058 degrees dipping steeply to the southeast. Chlorite alteration and silicification occur locally with in the hostrock. Manganese with minor limonite coatings occur along hairline fractures.

A total of 21 samples were collected from the trench. Samples yielded significant copper, zinc, lead and silver values. Seven samples yielded copper values ranging from 1.02 to 9.78 per cent copper. Corresponding lead values from these samples ranged from 0.90 to 2.53 per cent, zinc values ranged from 0.14 to 9.99 per cent, silver values ranged from 298.6 to 579.5 grams per tonne and gold values ranged from 0.82 to 1.18 grams per tonne (Assessment Report 23036).

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*1913-K226-K228,K232; 1914-K367; 1923-A189; 1926-A223; 1930-A214,
A215; *1952-A119-A130
EMPR ASS RPT 17175, 18111, 20340, 21833, *23036
EMPR PF (*Harrisburg-Dayton Resource Corp. (May 12, 1988):
Prospectus; Dewonck (1987): Report; Schelllex Gold Corp. (July 6,
1988): Report)
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1910, pp. 118,119; 1920 Part A, pp. 23-30; 1922 Part A,
pp. 95-102
GCNL #98, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW020**

NATIONAL MINERAL INVENTORY: 092H6 Ag6

NAME(S): **BLUE BELL (L.132)**, M 94 (LOTS 130, 132), SUMMIT NO. 2 (L.130),
ADIT E, BLUEBELL

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 24 59 N
LONGITUDE: 121 04 47 W
ELEVATION: 1521 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5475518
EASTING: 639275

LOCATION ACCURACY: Within 500M

COMMENTS: Lower adit portal on the boundary of Lots 130 and 132, 1.5 kilometres west-southwest from the summit of Treasure Mountain, 27.5 kilometres east-northeast from the town of Hope (Minister of Mines Annual Report 1952, Figure 7).

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Pyrrhotite Chalcopyrite

Arsenopyrite

ASSOCIATED: Quartz Calcite

ALTERATION: Epidote Sericite

COMMENTS: Local manganese oxide staining.

ALTERATION TYPE: Propylitic Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: Metres

STRIKE/DIP: 085/70S

TREND/PLUNGE:

COMMENTS: Indiana fault hosting quartz veins.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Dewdney Creek	

LITHOLOGY: Argillite
Agglomerate
Tuff
Breccia
Conglomerate
Sill
Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver 233.4400 Grams per tonne

Copper 0.3000 Per cent

Lead 6.1100 Per cent

Zinc 12.3400 Per cent

COMMENTS: Select grab sample from adit E dump material.

REFERENCE: Property File - Dewonck, 1987.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes

CAPSULE GEOLOGY

predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

Several faults occur. Two faults cross the southwest part of the region and strike east and dip steeply south, but one splay of one fault dips north. The more northerly of these two faults, the Indiana fault, hosts the Blue Bell and possibly the Indiana (092HSW022) and Summit (092HSW023) occurrences. The southern fault, the Queen Bess fault, hosts the Queen Bess (092HSW021) occurrence. These two faults diverge to the west from the Treasure Mountain fault and contain subparallel splays separated by shattered rock. The Queen Bess fault splits into two branches that diverge toward the west.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain, 092HSW016).

The Blue Bell occurrence is underlain by northwest striking (315 degrees), moderate to steep (65 degrees) southwest dipping volcanic and sedimentary rocks of the Dewdney Creek Formation intruded by numerous sills and some dikes ranging from diorite to gabbro in composition. Four faults cross the area: Indiana, Queen Bess, Ridge, and the trace of the Treasure Mountain fault, and cut argillite, agglomerate, tuff, breccia and conglomerate units.

The most northerly fault, the Indiana fault, has a variable strike ranging between 085 degrees to 110 degrees with dips between 70 to 85 degrees south. Adits and opencuts have explored this fault for 243 metres. The fault contains irregular, discontinuous quartz-calcite veins 2 to 30 centimetres wide, and a stringer zone 30 centimetres wide; some gouge is also evident. The veins are well mineralized with pyrite, sphalerite, argentiferous galena, some arsenopyrite and pyrrhotite and minor chalcopyrite; but the stringer zone is sparsely mineralized. Some shearing is evident parallel to the veins. Epidote and sericite occur disseminated throughout the vein zone and along vein selvages. A sample across 0.3 metre in a diamond-drill hole intersection assayed 726.73 grams per tonne silver, 4.4 per cent lead and 10.7 per cent zinc (Assessment Report 11455).

In the central part of the Blue Bell claim (Lot 132), the Queen Bess fault strikes west-southwest and appears to continue to the west to the Queen Bess occurrence (092HSW021). The fault hosts quartz veining a few centimetres in width. Small amounts of sulphides accompany the quartz which are locally manganese stained.

In the north, a recently discovered adit (adit E) on the Summit No. 2 claim (Lot 130), is developed on a 15 centimetre wide mineralized fault zone. A select grab sample from dump material assayed 233.44 grams per tonne silver, 6.11 per cent lead, 12.34 per cent zinc and 0.3 per cent copper (Dewonck, 1987).

The Ridge fault in the east is a splay off the Treasure Mountain fault, and has not been tested. The approximate trace of the Treasure Mountain fault in the south has been drill tested from an outcrop of a sill, but only unmineralized stringers of quartz were intersected.

Past work comprised some underground development.

BIBLIOGRAPHY

- EMPR AR 1899-742; 1900-899; 1903-H185; 1911-K186; 1912-K190; *1913-K226-K228; 1914-K367; 1917-F208; 1920-N160,N161; 1921-G180; *1923-189; *1926-A223-A227; 1927-C254; *1929-C278; 1937-D33; *1952-A119-A132
EMPR ASS RPT *9514, *11455, *17175
EMPR EXPL 1981-54; 1982-170,171
EMPR PF (Janes, R.H. (1985): Report on Mineral Lease 94)
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1910, pp. 118,119; 1920 Part A, pp. 23-50; *1922 Part A, pp. 95-103,106,107
Prospectus, *Harrisburg-Dayton Resource Corp. May 12, 1988 (Report by Dewonck, 1987); Schelllex Gold Corp. July 6, 1988 (Report by Dewonck, 1987)

DATE CODED: 1985/07/24
DATE REVISED: 1990/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW021**

NATIONAL MINERAL INVENTORY: 092H6 Ag7

NAME(S): **QUEEN BESS**, MOUNTAIN VIEW

STATUS: Prospect

Underground

MINING DIVISION: Similkameen

REGIONS: British Columbia

NTS MAP: 092H06E

BC MAP:

LATITUDE: 49 24 47 N

LONGITUDE: 121 05 15 W

ELEVATION: 1685 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit portal, 2.5 kilometres south from the summit of Mount Sutter and 2.25 kilometres west-southwest from the summit of Treasure Mountain, 27.5 kilometres east-northeast from the town of Hope (Minister of Mines Annual Report 1952, Figure 7).

UTM ZONE: 10 (NAD 83)

NORTHING: 5475133

EASTING: 638721

COMMODITIES: Silver

Lead

Zinc

MINERALS

SIGNIFICANT: Galena

Sphalerite

Pyrite

Pyrrhotite

ASSOCIATED: Quartz

Calcite

ALTERATION: Epidote

Sericite

COMMENTS: Manganese oxide staining.

ALTERATION TYPE: Propylitic

Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal

Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: Metres

STRIKE/DIP: 065/65N

TREND/PLUNGE:

COMMENTS: Queen Bess fault hosting quartz veins and dike.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Jurassic

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Breccia

Agglomerate

Argillite

Tuff

Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: OPENCUT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

Silver

GRADE

129.2300

Grams per tonne

Lead

4.0200

Per cent

Zinc

3.9400

Per cent

COMMENTS: Sample from opencut above lower adit; copper assayed 0.02 per cent and gold 0.03 gram per tonne.

REFERENCE: Property File - Dewonck, 1987.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

Several faults occur. Two faults cross the southwest part of

CAPSULE GEOLOGY

the region and strike east and dip steeply south, but one splay of one fault dips north. The more northerly of these two faults, the Indiana fault, hosts the Blue Bell (092HSW020) and possibly the Indiana (092HSW022) and Summit (092HSW023) occurrences. The southern fault, the Queen Bess fault, hosts the Queen Bess occurrence. These two faults diverge to the west from the Treasure Mountain fault, and contain subparallel splays separated by shattered rock. The Queen Bess fault splits into two branches that diverge toward the west.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain, 092HSW016).

The Queen Bess occurrence is underlain by north-northwest striking, southwest dipping Dewdney Creek Formation breccia, agglomerate, thinly bedded argillite and tuff. The Queen Bess fault strikes 065 degrees and dips 65 degrees northwest through the area. A feldspar porphyry dike, 0.9 metre wide, has intruded along the footwall of the fault; wallrock is pyritic. An adit explores the fault zone which consists of several slips and also contains a quartz vein, 15 centimetres wide, mineralized with pyrite, sphalerite and argentiferous galena and pyrrhotite. Calcite is also present as gangue. A sample across 25 centimetres of the east face of the drift assayed 260.52 grams per tonne silver, 3.9 per cent lead and 15.2 per cent zinc (Minister of Mines Annual Report 1952, page A132).

In the east, the fault zone is exposed by opencuts where several parallel quartz stringer veins form a zone 0.9 metre wide. Minor amounts of sphalerite, galena and pyrite are present. The quartz veins are stained dark by a coating of manganese oxides. Epidote and sericite occur disseminated throughout the veins and along vein selvages. A recent grab sample from an opencut above the lower adit assayed 129.23 grams per tonne silver, 4.02 per cent lead, 3.94 per cent zinc, 0.02 per cent copper and 0.03 gram per tonne gold (Dewonck, 1987).

Towards the west, the fault zone splits and is less mineralized. This fault extends onto the Blue Bell occurrence (092HSW020) to the east.

Past work consisted of some underground development.

BIBLIOGRAPHY

- EMPR AR 1898-1112; 1900-899; 1903-H185; 1911-K186; 1912-K190; *1913-K226-K228; 1914-K367; 1920-N160,161; 1921-G180; 1923-189; 1927-C255; 1928-C266,C267; 1929-C278,C279; 1930-A215; *1952-A119-A129, A132
EMPR ASS RPT 11455, 17175
EMPR EXPL 1982-170,171
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1910, pp. 118,119; 1920 Part A, pp. 23-30; *1922 Part A, pp. 95-102,104,106,107
Prospectus, *Harrisburg-Dayton Resource Corp. May 12, 1988 (Report by Dewonck, 1987); Schelllex Gold Corp. July 6, 1988 (Report by Dewonck, 1987)

DATE CODED: 1985/07/24
DATE REVISED: 1990/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW022**

NATIONAL MINERAL INVENTORY: 092H6 Ag4

NAME(S): **INDIANA**, SUTTER (L.93), SKYLINE (L.94)

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H06E
 BC MAP:

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 00 N
 LONGITUDE: 121 05 02 W
 ELEVATION: 1634 Metres

NORTHING: 5475541
 EASTING: 638972

LOCATION ACCURACY: Within 500M

COMMENTS: Adit portal on Lot 93, 1.75 kilometres west from the summit of Treasure Mountain and 2 kilometres south from the summit of Mount Sutter, 27.5 kilometres east-northeast from the town of Hope (Minister of Mines Annual Report 1952, Figure 7).

COMMODITIES: Silver Lead Zinc Copper Gold
 Antimony

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite Arsenopyrite Chalcopyrite
 Pyrite Pyrargyrite Proustite Tennantite

COMMENTS: Proustite and tennantite occur as inclusions in pyrrhotite.

ASSOCIATED: Quartz Carbonate

ALTERATION: Epidote Sericite Limonite Goethite

ALTERATION TYPE: Propylitic Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: Metres
 COMMENTS: Indiana fault hosting quartz veins.

STRIKE/DIP: 075/70S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Volcanic Sandstone
 Conglomerate
 Argillite
 Diorite Dike
 Basalt Dike
 Dacite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1988
SAMPLE TYPE:	Channel		
COMMODITY	GRADE		
Silver	490.2000	Grams per tonne	
Gold	0.6800	Grams per tonne	
Lead	5.5000	Per cent	
Zinc	2.6000	Per cent	

COMMENTS: Weighted average of surface channel sampling of six zones on the Indiana structure over a 135 metre length and a 1 metre width.

REFERENCE: Property File - Annual Report, Schelllex Gold Corp. February, 1989.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present

CAPSULE GEOLOGY

and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

Several faults occur. Two faults cross the southwest part of the region and strike east and dip steeply south, but one splay of one fault dips north. The more northerly of these two faults, the Indiana fault, hosts the Blue Bell (092HSW020) and possibly the Indiana and Summit (092HSW023) occurrences. The southern fault, the Queen Bess fault, hosts the Queen Bess (092HSW021) occurrence. These two faults diverge to the west from the Treasure Mountain fault, and contain subparallel splays separated by shattered rock. The Queen Bess fault splits into two branches that diverge toward the west.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain, 092HSW016)

The Indiana occurrence is underlain by volcanic sandstone, conglomerate and argillite of the Dewdney Creek Formation intruded by Late Cretaceous-Tertiary diorite-basalt-dacite dikes. The rocks strike 330 degrees with vertical dips. The Indiana fault strikes through the area at 075 degrees and dips 70 degrees south. It continues to the east onto the northern part of the Blue Bell occurrence (092HSW020) and to the west to the Summit occurrence (092HSW023).

The fault in the Indiana area is nearly 1.2 metres wide at the adit portal but narrows considerably to the west. It contains several narrow quartz-carbonate stringers separated by gouge and by bleached and pyritic wallrock. The veins are typically irregular and discontinuous and are mineralized with variable amounts of argentiferous galena, sphalerite, pyrrhotite, arsenopyrite, chalcopyrite and pyrite. Epidote and sericite occur disseminated throughout the vein and in vein selvages. Limonite (mainly goethite) occurs in fractures cutting the veins and sulphide mineralization. Petrographic examination revealed inclusions of proustite and tennantite in pyrrhotite and also identified pyrargyrite. Trenching has exposed a quartz-carbonate vein at the Indiana adit and extends 75 metres southwest. A channel sample across 1.4 metres assayed 0.2 per cent copper, 8.11 per cent lead, 6.85 per cent zinc, 647.54 grams per tonne silver and 0.03 gram per tonne gold (Assessment Report 18111).

Recent work has extended the strike length of the Indiana structure to 799 metres where it has been exposed by trenching for over 300 metres. The structure ranges from 0.7 to 2.9 metres in width and extends over a vertical range of 106 metres. A weighted average of surface channel sampling of six zones on the Indiana structure yielded a grade of 490.20 grams per tonne silver, 5.5 per cent lead, 2.6 per cent zinc and 0.68 gram per tonne gold over a 135 metre length and a 1 metre width (Annual Report-Schelllex, 1989). A grab sample from the Indiana adit yielded 0.3 per cent antimony (Dewonck, 1987).

Past work comprised some underground development.

BIBLIOGRAPHY

- EMPR AR 1896-573; 1898-1112; 1899-742; 1902-H306; 1903-H185; 1911-K186; 1912-K190; *1913-K226-K228; 1914-K367; 1917-F208; 1919-N172; *1923-189; 1926-A223; *1952-A119-A129,A132,A133
EMPR ASS RPT 9421, *9514, *11455, 17175, 18111
EMPR EXPL 1981-54; 1982-170,171
EMR MP CORPFILE (Unicorn Resources Ltd.)
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1910, pp. 118,119; 1920 Part A, pp. 23-30; *1922 Part A, pp. 95-103,106,107
GCNL #128(Jul.5), 1983; #164, 1988
N MINER August 29, 1988
Annual Report, Schelllex Gold Corp. February, 1989
Prospectus, *Harrisburg-Dayton Resource Corp. May 12, 1988 (Report by Dewonck, 1987); Schelllex Gold Corp. July 6, 1988 (Report by Dewonck, 1987)

DATE CODED: 1985/07/24
DATE REVISED: 1990/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW023**

NATIONAL MINERAL INVENTORY: 092H6 Ag5

NAME(S): **SUMMIT, EVENING STAR (L.113), STEVENSON, SILVER HILL**

STATUS: Past Producer	Underground	MINING DIVISION: Similkameen
REGIONS: British Columbia		UTM ZONE: 10 (NAD 83)
NTS MAP: 092H06E		NORTHING: 5475499
BC MAP:		EASTING: 638530
LATITUDE: 49 24 59 N		
LONGITUDE: 121 05 24 W		
ELEVATION: 1765 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Shaft, 2 kilometres south from the summit of Mount Sutter and 2.25 kilometres west from the summit of Treasure Mountain, 27.5 kilometres east-northeast from the town of Hope (Minister of Mines Annual Report 1952, Figure 7).		

COMMODITIES: Silver Lead Zinc Copper Gold
 Antimony

MINERALS

SIGNIFICANT: Galena	Sphalerite	Pyrrhotite	Arsenopyrite	Chalcopyrite
Pyrite	Proustite	Tennantite		
ASSOCIATED: Quartz				
ALTERATION: Sericite	Epidote	Limonite	Goethite	
ALTERATION TYPE: Propylitic		Oxidation		
MINERALIZATION AGE:				

DEPOSIT

CHARACTER: Vein				
CLASSIFICATION: Hydrothermal	Epigenetic			
TYPE: I05	Polymetallic veins	Ag-Pb-Zn±Au		
DIMENSION: Metres			STRIKE/DIP: 070/70S	TREND/PLUNGE:
COMMENTS: Indiana fault hosting quartz veins.				

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Ladner	Undefined Formation	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Conglomerate
 Sandstone
 Argillite
 Diorite Dike
 Basalt Dike
 Dacite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Methow	

INVENTORY

ORE ZONE: VEIN	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Channel	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	396.6100 Grams per tonne
Gold	2.7000 Grams per tonne
Copper	0.1900 Per cent
Lead	4.5100 Per cent
Zinc	5.8700 Per cent
COMMENTS: Trench sample across 1.37 metres of quartz vein.	
REFERENCE: Assessment Report 18111.	

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present

CAPSULE GEOLOGY

and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

Several faults occur. Two faults cross the southwest part of the region and strike east and dip steeply south, but one splay of one fault dips north. The more northerly of these two faults, the Indiana fault, hosts the Blue Bell (092HSW020) and possibly the Indiana (092HSW022) and Summit occurrences. The southern fault, the Queen Bess fault, hosts the Queen Bess (092HSW021) occurrence. These two faults diverge to the west from the Treasure Mountain fault, and contain subparallel splays separated by shattered rock. The Queen Bess fault splits into two branches that diverge toward the west.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain, 092HSW016).

The Summit occurrence is underlain by Dewdney Creek Formation massive conglomerate, sandstone and argillite intruded by Late Cretaceous-Tertiary diorite-basalt-dacite dikes. The Indiana fault strikes through the area at 070 degrees and dips 70 degrees south. The fault continues to the east and passes through the Indiana occurrence area (092HSW022) onto the northern part of the Blue Bell occurrence (092HSW020).

A shaft explores the fault, where a 38 centimetre quartz vein stringer zone contains abundant galena and sphalerite with variable amounts of pyrite, pyrrhotite, arsenopyrite and chalcopyrite. Petrographic studies revealed proustite and tennantite as inclusions in pyrrhotite. Wallrock and gouge constitute a major portion of the fault zone. Sericite and epidote occur as disseminations in the quartz veins and along vein selvages. Quartz crystals are common. An opencut along the fault exposed a number of very narrow stringers of galena across a width of 1.8 metres of sparsely mineralized rock. Limonite (mainly goethite) occurs in fractures cutting the veins and sulphide mineralization.

To the west, the zone can be traced for 152 metres but consists of gouge and bleached wallrock. Ninety-one metres east of the shaft, widely separated quartz stringers form a zone 0.9 metre wide. Recent trenching of the fault structure starts 74 metres west of the shaft and extends east for a total distance of 315 metres. Channel sampling from the trenches across 1.37 metres of vein yielded a best assay of 0.19 per cent copper, 4.51 per cent lead, 5.87 per cent zinc, 396.61 grams per tonne silver and 2.70 grams per tonne gold (Assessment Report 18111). Grab samples at the Summit shaft yielded up to 0.5 per cent antimony (Dewonck, 1987).

Minor production took place in 1951.

BIBLIOGRAPHY

- EMPR AR 1899-742; 1900-899; 1903-H185; 1911-K186; 1912-K190; *1913-K226-K228,K229; 1914-K367; 1917-F208; 1919-N172; 1920-N161; *1922-N166; *1923-189; *1952-A119-A129,A133
EMPR ASS RPT 18111
EMPR BC METAL MM00294
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1910, pp. 118,119; 1920 Part A, pp. 23-30; 1922 Part A, pp. 95-102,104
Prospectus, *Harrisburg-Dayton Resource Corp. May 12, 1988 (Report by Dewonck, 1987); Schelllex Gold Corp. July 6, 1988 (Report by Dewonck, 1987)
GCNL #164, 1988
N MINER August 29, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1990/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW024**

NATIONAL MINERAL INVENTORY:

NAME(S): **IDEAL GOLD**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 08 N
LONGITUDE: 121 26 21 W
ELEVATION: 210 Metres

NORTHING: 5475195
EASTING: 613201

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit portal, 200 metres west of the highway and about 4 kilometres north of Hope (Property File - Geology Map, Impad Holdings Ltd., 1966)

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite

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

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Custer Gneiss
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite
Hornblende Diorite
Argillite
Granite
Lamprophyre Dike
Talc Schist
Feldspar Dike

HOSTROCK COMMENTS: Custer Gneiss consists of Paleozoic-Mesozoic rocks metamorphosed in the Cretaceous. Unnamed intrusions are Tertiary or Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The area is underlain by a fault-bound block of Permian to Jurassic Hozameen Complex rocks consisting mainly of shale/argillite. This is in contact to the north and east, as shown by Muller (GSC Map 41-1989), with metamorphic rocks of the Custer Gneiss and to the west with Eocene conglomerate. The country rocks have been intruded by the Cretaceous Spuzzum pluton, the contact of which is just a few kilometres to the west, and a nearby granodioritic mass related to an unnamed early Tertiary pluton which occurs across the Fraser River to the southeast.

The Ideal Gold occurrence appears to be located in the area mapped as Custer Gneiss. These rocks are believed to have been derived from lower Mesozoic and possibly Paleozoic rocks and metamorphosed in the Cretaceous. The Minister of Mines Annual Report 1934 describes the rocks near the main adit as hornblende diorite in contact with altered siliceous feldspar tongues and dikes. The Minister of Mines Annual Report 1966 describes the rock in the adit as granite or granodiorite, crushed and strongly silicified, containing many dark bands and lenses, some of which are lamprophyre, and some of which appear to be argillite or pyroxene and amphibole.

In 1934, it was reported that two bodies of quartz were intersected in the 155-metre adit, the first at 58 to 67 metres from the portal, and the second at 101 metres from the portal. Six 1.5-metre samples were taken across the first showing but all samples yielded only traces of gold and silver (values of 8 to 14 dollars per ton were reported in 1934) (Minister of Mines Annual Report 1934, page F19). The second exposure at 101 metres also yielded only a

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RUN TIME: 10:48:34

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CAPSULE GEOLOGY

trace of gold and silver across 0.9 metre. An opencut in talc schist, about 100 metres in elevation above the adit, exposes an 86-centimetre wide lens of quartz. A sample across this yielded traces of gold and silver (Annual Report 1934). In 1966, the adit was reported to be 274 metres in length.

BIBLIOGRAPHY

EMPR AR *1934-F19; *1966-60
EMPR PF (Geology maps - Bea Group of Mineral Claims, Impad Holdings, 1965-1966 (in 092HSW005 file); *Prospectus, Kelso Explorations, 1972 (with Summary Report on the Pat, Mary-G, Mill, Giant, Swede, Bea, Yodi, Rick, Jeff, Sam, Algernon, Mel, Dave, P and LYD Mineral Claims)(in 092HSW005 file))
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/05

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW025**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER DAISY**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 11 46 N
LONGITUDE: 121 04 10 W
ELEVATION: 915 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5451051
EASTING: 640647

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of the Skagit River about 2.0 kilometres south of the confluence of the Sumallo and Skagit rivers, along Silverdaisy Creek (part of the historic 23 Mile Camp).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Tetrahedrite Galena Sphalerite
Chalcopyrite
ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation

LITHOLOGY: Greenstone
Chert
Limestone
Pelite

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River Methow
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Located along contact between the Bridge River and Methow terranes.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1938
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 5852.5000 Grams per tonne
Gold 3.4000 Grams per tonne
Copper 0.7000 Per cent
Lead 15.7000 Per cent
Zinc 2.0000 Per cent

COMMENTS: A 7.6 centimetre wide sample from the hangingwall of a mineralized quartz vein.

REFERENCE: Minister of Mines Annual Report 1938, page F28.

CAPSULE GEOLOGY

The Hozameen fault traverses north-northwest separating the low greenschist facies rocks of the Permian-Jurassic Hozameen Complex to the west, from Lower-Middle Jurassic Ladner Group sediments to the east. Late Cretaceous quartz diorite stocks intrude the sediments along the east side of the fault.

The Silver Daisy showing lies just west of the Hozameen fault and is underlain by Hozameen Complex rocks comprised mainly of greenstone, chert and minor limestone. These rocks generally contain fine-grained actinolite, chlorite and epidote. The bedded strikes fairly uniformly at about 330 degrees and dips about 70 degrees west.

Mineralization occurs in lenses of quartz and quartz veins which infill fractures and crosscut the cherts and greenstones. Sulphides include pyrrhotite, sphalerite, galena, arsenopyrite and tetrahedrite.

CAPSULE GEOLOGY

Old workings consist of four main adits which follow the quartz vein networks.

In 1923, samples were collected of rejected material from an old stockpile when material was shipped in 1916. A sample analysed 2.05 grams per tonne gold, 5245 grams per tonne silver, 6.0 per cent lead and 25 per cent zinc. A 7.6 centimetre wide sample from the hangingwall of a mineralized quartz vein analysed 5852.5 grams per tonne silver, 3.4 grams per tonne gold, 0.7 per cent copper, 15.7 per cent lead and 2.0 per cent zinc (Minister of Mines Annual Report 1938, page F28).

BIBLIOGRAPHY

EMPR AR *1913-219; *1916-264; *1923-163; *1927-210; *1928-227;
1929-217,241; *1938-F4,F20,F27-F29
EMPR BC METAL MM00229
GSC BULL 238
GSC MAP *12-1969
GSC P *69-47, p. 63
GSC SUM RPT *1920A, p. 24, Fig.3, 39; 1922A, pp. 120, 121, Fig.11
Imperial Metals Corporation, 1995 Annual Report

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/26

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW026**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAITH**, DOLLY VARDEN, SILVER CHIEF

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 00 32 N
LONGITUDE: 121 24 15 W

NORTHING: 5429671
EASTING: 616700

ELEVATION: 760 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 800 metres south of the head of Chilliwack Lake on the east side of the valley (Minister of Mines Annual Reports 1923, page 262; 1926, page 325 (sketch map)).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Oligocene Chilliwack Batholith

LITHOLOGY: Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1923

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	1508.5800	Grams per tonne
Gold	1.3700	Grams per tonne
Copper	1.8000	Per cent

REFERENCE: Minister of Mines Annual Report 1923, page 262.

CAPSULE GEOLOGY

At the Faith occurrence, two mineralized seams in a shear zone, about 4.5 metres apart, occur in quartz monzonite of the Oligocene Chilliwack batholith. The seams are up to 15 centimetres wide, filled with ground-up granitic rock and in places up to 5 centimetres of quartz carrying sphalerite, galena and tetrahedrite.

A sample of quartz vein taken in 1923 yielded 1.37 grams per tonne gold, 1508.58 grams per tonne silver and 1.8 per cent copper (Minister of Mines Annual Report 1923, page 262).

By 1930, a tunnel had been driven for about 6 metres on the west seam, then a crosscut was made to the east seam which was then drifted on for 10.7 metres. In 1926, it is reported that 1 tonne of ore was mined and 3577 grams of silver and 22 kilograms of copper recovered.

BIBLIOGRAPHY

EMPR AR *1923-262; 1924-257; 1925-293; 1926-324,325; *1930-315
EMPR BC METAL MM00219
EMPR PF (Reports on proposed Sapper Park, J.T. Fyles, 1971)
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW027**

NATIONAL MINERAL INVENTORY: 092H3 Ag1

NAME(S): **JULY**, CANAM, GIANT COPPER,
 INVERMAY

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H03E
 BC MAP:
 LATITUDE: 49 10 29 N
 LONGITUDE: 121 01 44 W
 ELEVATION: 1700 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Located about 900 metres south from the top of Silverdaisy Mountain
 (Property File - Eastwood sketches).

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5448749
 EASTING: 643663

COMMODITIES: Silver Gold Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Arsenopyrite
 ASSOCIATED: Quartz
 MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	Invermay Stock
Oligocene			

LITHOLOGY: Quartz Diorite
 Argillite
 Siltstone
 Greywacke
 Felsic Tuff

HOSTROCK COMMENTS: The host Invermay stock is thought to be Oligocene. The undivided
 Ladner Group rock is Lower to Middle Jurassic (GSC Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
 TERRANE: Methow
 PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1936
 SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	161.1400	Grams per tonne
Gold	2.0600	Grams per tonne
Copper	0.6000	Per cent
Zinc	4.9000	Per cent

 COMMENTS: A chip sample taken across 15 centimetres of zinc-rich material in
 the hangingwall.
 REFERENCE: Minister of Mines Annual Report 1936, page F27.

CAPSULE GEOLOGY

The area of the July prospect is underlain by steeply and tightly folded rocks of the Lower and Middle Jurassic Ladner Group. In the area of interest, these are mainly argillites and siltstones with minor greywacke and felsic tuff. Intruding this package is the Invermay stock, a medium-grained diorite to granodiorite body thought to be Oligocene in age. Numerous dikes and sills ranging from diorite to pyroxenite also intrude.

The July claims were located in 1935. By 1938, the workings consisted of two short adits and some surface cuts on ground that slopes steeply to the creek to the south. The upper adit, at 1730 metres elevation, is 10 metres long. The lower adit starts about 53 metres south of the upper adit at 1725 metres elevation, and has a total length of about 46 metres.

The rock exposed in the workings is quartz diorite, similar to that of the adjoining Invermay deposit (092HSW002), and the

CAPSULE GEOLOGY

geological setting is considered to be the same. Sulphides, principally sphalerite, arsenopyrite and chalcopyrite, occur with fine-grained quartz in narrow widths, generally following the walls in zones of shearing or fracturing. The average strike of these zones is east of north with a steep dip to the east. The adits expose lenses of quartz and sulphides or gouge seams from a few centimetres up to about 30 centimetres thick.

A 15-centimetre sample taken across zinc-rich material at the hangingwall in the lower adit assayed 2.06 grams per tonne gold, 161.14 grams per tonne silver, 0.6 per cent copper and 4.9 per cent zinc (Minister of Mines Annual Report 1938, page F27).

BIBLIOGRAPHY

EMPR AR *1933-F26; *1965-206
EMPR PF (see 92HSW002 file for the following - Eastwood, G.E.P.
(1965): Sketches of Invermay claims (1:6000 scale), workings
(plan and cross-section), geology, and drillhole cross-section
(all 1:600 scale))
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/19

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW028**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUNRISE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 04 38 N
LONGITUDE: 121 05 20 W
ELEVATION: 760 Metres

NORTHING: 5437799
EASTING: 639564

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the lower southwest slope of Shawatum Mountain (Minister of Mines Annual Report 1938, figure on page F4).

COMMODITIES: Zinc Lead Gold Silver

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena

ASSOCIATED: Quartz

ALTERATION: Chlorite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: E SEDIMENT-HOSTED

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation

LITHOLOGY: Limestone
Diorite

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: OPENCUT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1938

SAMPLE TYPE: Channel

COMMODITY

GRADE

Silver	6.8600	Grams per tonne
Gold	0.6900	Grams per tonne
Zinc	3.8000	Per cent

COMMENTS: Sampled across 38 centimetres.

REFERENCE: Minister of Mines Annual Report 1938, page F14.

CAPSULE GEOLOGY

The Sunrise showing occurs in Permian to Jurassic Hozameen Complex rocks. Workings from the 1930s consist of four opencuts, mainly in white, soft decomposed rock cut by irregular quartz lenses and stringers. Microscopic study of the decomposed rock indicated that it was probably a silicified limestone. A fine-grained diorite was observed in the westernmost cut.

The rocks in all opencuts are pyritic and one of the cuts in the decomposed rock exhibited abundant chlorite and a little sphalerite and galena. A 1.5-metre channel sample of this material yielded 0.69 gram per tonne and 13.71 grams per tonne silver (Minister of Mines Annual Report 1938, page F14). The same source records a second sample across 38 centimetres of 0.69 gram per tonne gold, 6.86 grams per tonne silver, 3.8 per cent zinc and nil lead.

BIBLIOGRAPHY

EMPR AR *1938-F13
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/25

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW028**

MINFILE NUMBER: **092HSW029**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUNSET**, SILENT FRIEND, HOPE,
ORE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:
LATITUDE: 49 01 00 N
LONGITUDE: 121 07 39 W
ELEVATION: 1480 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located near the head of Galene Creek (Assessment Report 1193, Maps 2 and 4).

Underground
MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5430998
EASTING: 636910

COMMODITIES: Zinc Copper Lead Silver Gold

MINERALS

SIGNIFICANT: Magnetite Sphalerite Chalcopyrite Galena Pyrite
ALTERATION: Garnet Quartz Epidote Calcite Actinolite
 Limonite Malachite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Chilliwack Batholith
Oligocene			

LITHOLOGY: Limestone
Basalt
Greenstone
Mudstone
Greywacke
Granodiorite
Chert

HOSTROCK COMMENTS: The granodiorite is probably related to the Chilliwack batholith which lies to the west. The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1967
SAMPLE TYPE:	Chip		
COMMODITY	GRADE		
Silver	38.4000	Grams per tonne	
Gold	0.4500	Grams per tonne	
Copper	0.7700	Per cent	
Zinc	6.4100	Per cent	

COMMENTS: An average of 12 samples over 12 metres.
REFERENCE: Assessment Report 4719, page 6.

CAPSULE GEOLOGY

The area of the Sunset showing is underlain by rocks of the Permian to Jurassic Hozameen Complex. These rocks, which include basalt, greenstone, mudstone, greywacke, limestone and chert, have been intruded by a large stock of very coarse grained granodiorite. Near the contact, the main showing occurs as an assemblage of skarn minerals replacing the hangingwall side of a limestone bed for a true width of 10.7 metres. Disseminated mineralization extends a further 1.5 metres toward the footwall of the limestone. Sphalerite, lesser chalcopyrite and minor galena are the principal ore minerals, and occur along with specular hematite (specularite), magnetite and pyrite in a lime silicate zone of garnet, quartz, epidote, actinolite and calcite. Light brown limonite coats the entire surface exposure

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along with lesser amounts of malachite and white zinc oxide.

The average values from 12 samples over a true width of 12 metres are 0.45 gram per tonne gold, 38.40 grams per tonne silver, 0.77 per cent copper, 0.33 per cent lead and 6.41 per cent zinc (Assessment Report 4719, page 6).

Prior to 1938, about 100 metres of tunneling work was done below the main showing as well as some surface trenching.

BIBLIOGRAPHY

EMPR AR 1929-242; 1930-205; *1938-F14; 1967-66
EMPR ASS RPT *1195, *4719
EMPR GEM 1973-124
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/26

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW030**

NATIONAL MINERAL INVENTORY:

NAME(S): **INTERNATIONAL (L.932)**, GRANDVIEW (L.931), GIBSON

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 00 29 N
LONGITUDE: 121 08 34 W
ELEVATION: 1890 Metres

NORTHING: 5430013
EASTING: 635817

LOCATION ACCURACY: Within 500M

COMMENTS: Common boundary of Lots 931 and 932.

COMMODITIES: Lead Copper Gold Silver Uranium

MINERALS

SIGNIFICANT: Galena Chalcopyrite Pyrite Carnotite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Tertiary Undefined Group
Paleozoic-Mesozoic Hozameen

FORMATION

Skagit
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Andesitic Breccia
Andesitic Tuff

HOSTROCK COMMENTS: The Skagit Formation is Miocene and Pliocene. The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1929

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver	617.0000	Grams per tonne
Gold	4.8000	Grams per tonne
Copper	4.0000	Per cent
Lead	38.6000	Per cent

COMMENTS: A 0.5-metre sample.

REFERENCE: Minister of Mines Annual Report 1929.

CAPSULE GEOLOGY

At the International showing, a 1.2-metre wide, southwest-trending vein occurs in andesitic tuffs and breccia of the Miocene and Pliocene Skagit Formation. Permian to Jurassic Hozameen Complex volcanic rocks are in contact with the Skagit Formation in this vicinity and underlie much of the territory to the north.

Massive galena, pyrite, and chalcopyrite occur in the vein. A 0.5-metre sample assayed 38.6 per cent lead, 4 per cent copper, 4.8 grams per tonne gold and 617 grams per tonne silver (Minister of Mines Annual Report 1929). Carnotite is also reported to occur in the vein.

BIBLIOGRAPHY

EMPR AR 1910-131; 1915-267,450; 1929-242; *1938-F22
EMPR MAP 22-35
EMPR OF 1990-32
GSC EC GEOL No. 16 (Rev.), p. 233
GSC MAP 737A; 12-1969; 41-1989
GSC OF 551

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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REPORT: RGEN0100

BIBLIOGRAPHY

GSC SUM RPT 1911, p. 122

DATE CODED: 1985/07/24
DATE REVISED: 1987/09/04

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW031**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAIRPLAY (L.2085)**, F.E.W., FEW,
FAT MAN NANCY JANE, QUEEN (L.2092),
ST. ALICE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:
LATITUDE: 49 13 52 N
LONGITUDE: 121 51 41 W
ELEVATION: 50 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of Fairplay Crown grant (Lot 2085).

Underground
MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5453772
EASTING: 582894

COMMODITIES: Copper Zinc Lead Gold Silver

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE:

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>
Jurassic	Undefined Group	Harrison Lake	
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Felsic Flow
Felsic Pyroclastic
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The Fairplay occurrence is underlain by Lower and Middle Jurassic Harrison Lake Formation rocks which consists of intermediate, locally felsic flows and pyroclastics. Intrusions of Tertiary quartz diorite are reported in this area also.

In 1897, there was reported to be two lodes on the Fat Man and Nancy Jane property, about 50 metres apart. These were from 1.5 to 5 metres in width and carried gold, silver, copper, lead and zinc. At this time it was considered a copper prospect. A shaft, 14 metres long, and three adits totalling 64 metres had been completed on the property to 1897.

By 1898, the Fairplay and St. Alice claims were situated on the ground formerly occupied by the Fat Man and Nancy Jane claims. In this year, a tunnel 55 metres long and two crosscuts, 12 and 21 metres long respectively, were completed. A total of about 122 metres of underground development had been done on the property up to, and including 1898.

In 1929, on what was now the F.E.W claim, a short tunnel was run from the level of the railway track and a shaft sunk about 6 metres at the end of the tunnel on a small stringer showing a little zinc.

BIBLIOGRAPHY

EMPR AR *1897-579; *1898-1150; *1929-399
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/18

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW032**

NATIONAL MINERAL INVENTORY:

NAME(S): **SLESSE CREEK, ROY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 00 36 N
LONGITUDE: 121 37 01 W
ELEVATION: 750 Metres

NORTHING: 5429489
EASTING: 601139

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Canyon Creek, a tributary of Slesse Creek (Minister of Mines Annual Report 1929, page 400).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
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
Upper Paleozoic Oligocene Proterozoic-Paleoz.	Chilliwack	Undefined Formation	Chilliwack Batholith Yellow Aster Complex

LITHOLOGY: Granodiorite
Diorite
Mafic Volcanic Rock
Argillaceous Rock
Amphibolitic Rock

HOSTROCK COMMENTS: The Chilliwack Group is Devonian to Permian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

In 1929, it was reported that small pyritized quartz veins carrying gold values occur in granodiorite and diorite. Two short adits were driven on the showings.

The area of the Slesse Creek occurrence is underlain mainly by the Devonian to Permian Chilliwack Group consisting of mafic volcanic rocks and metamorphosed argillaceous rocks. Proterozoic and Paleozoic amphibolitic rocks of the Yellow Aster Complex occur as fault slices in contact with Chilliwack Group rock on the west, and intrusive rocks of the Oligocene Chilliwack batholith, on the east.

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GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/09

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW033**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANNA**, CONTACT, GRACE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 17 02 N
LONGITUDE: 121 44 28 W
ELEVATION: 175 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5459778
EASTING: 591553

LOCATION ACCURACY: Within 1 KM

COMMENTS: The location is reported to be about 800 metres from a wagon road going to the Empress (092HSW008) group of claims (Crown grant Lots 1804-1807) (Minister of Mines Annual Report 1918, page 290).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite
ALTERATION: Garnet Epidote Tremolite Clinopyroxene Malachite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Skarn Igneous-contact
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Chilliwack	Undefined Formation	
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Limestone
Gneiss
Granodiorite
Marble

HOSTROCK COMMENTS: The Chilliwack Group is of Devonian to Permian age.
Granodiorite is of Oligocene and/or Miocene age.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1992
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 4.2000 Grams per tonne
Copper 0.1100 Per cent
COMMENTS: Chip sample 92LC01 over 6.1 metres.
REFERENCE: Assessment Report 22353.

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1922
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 192.0000 Grams per tonne
Gold 0.6900 Grams per tonne
Copper 15.0000 Per cent
REFERENCE: Minister of Mines Annual Report 1922, page 253.

CAPSULE GEOLOGY

The Anna showing is located at about 175 metres elevation, 2 kilometres due south of Bear Mountain and northwest of the Fraser River, near the northeast corner of the Canada Department of Agriculture Agassiz Research Station property.
Regionally, the Anna showing lies east of the Harrison Lake fracture system, a major, northwest trending fault system that separates older rocks on the eastern side of the fault from younger rocks on the western side of the fault. Older rocks on the eastern

CAPSULE GEOLOGY

side of the Harrison Lake fault include Devonian to Permian Chilliwack Group volcanic and sedimentary rocks. The Lower and Middle Jurassic Harrison Lake Formation comprises the dominant lithological unit on the southwestern side of the fault.

At the Anna showing, the country rock is variably metamorphosed gneissic rocks of the Chilliwack Group, which has been intruded by coarse grained, massive granodiorite of Oligocene and/or Miocene age. Limestone lenses are included with the Chilliwack Group. Small, fine grained, quartz diorite dikes locally cut these gneissic rocks. Intense silicification is prevalent in the area.

Garnet-tremolite-clinopyroxene-epidote skarn occurs along the contact of this limestone. Sulphide mineralization consists of bunches or lenses of chalcopyrite and chalcocite with malachite staining in gossanous crystalline limestone (marble). The line of strike of the ore is about 345 degrees. The ore appears to have filled a fissure at one locality, attaining a width of about one metre.

By 1918, an adit at least 7.6 metres long had been excavated, and by 1922 a glory hole/quarry, 8.5 metres long by 5.5 metres wide by about 5.5 metres high at the face, was dug. A carload of ore was reported shipped in 1920.

A sample taken from the ore dump in 1922 yielded 0.69 gram per tonne gold, 192.0 gram per tonne silver and 15 per cent copper (Minister of Mines Annual Report 1922, page 253). Two rock samples of garnet-rich skarn were taken in 1992. Chip sample 92LC01, over 6.1 metres, yielded 0.11 per cent copper and 4.2 grams per tonne silver (Assessment Report 22353). Grab sample 92LC02 yielded 0.42 per cent copper and 5.4 grams per tonne silver (Assessment Report 22353).

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EMPR ASS RPT *22353, *22502, *22744
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW034**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMANCIPATION**, DAWSON, SUNSHINE (L.1300),
RAYMOND (L.1299), HOPE, BOULDER,
DIKE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:
LATITUDE: 49 29 11 N
LONGITUDE: 121 15 42 W
ELEVATION: 850 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located within a kilometre to the west of the Coquihalla River
between Fifteen Mile and Ladner creeks (Bulletin 79, Figure 40).

Underground
MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5482980
EASTING: 625900

COMMODITIES: Gold Silver Copper Lead Zinc
Talc

MINERALS

SIGNIFICANT: Gold Arsenopyrite Pyrrhotite Pyrite Chalcopyrite
Marcasite Enargite Telluride
COMMENTS: Native gold appears to be associated with arsenopyrite.
ASSOCIATED: Quartz Carbonate Calcite Siderite Dolomite
Gypsum Albite Talc
ALTERATION: Silica Chlorite Talc
ALTERATION TYPE: Silicific'n Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Replacement
TYPE: I01 Au-quartz veins
DIMENSION: 4 Metres STRIKE/DIP: 180/50W TREND/PLUNGE:
COMMENTS: The Boulder vein strikes south to southwest and dips 50 to 65 degrees
west. The vein width varies from 0.5 to 4.6 metres width.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic	Undefined Group	Spider Peak	
Jurassic	Ladner	Undefined Formation	
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Greenstone
Slaty Argillite
Siltstone
Serpentinite
Wacke
Clastic Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow
PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: UNDERGROUND REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1933
SAMPLE TYPE: Chip
COMMODITY
Silver 3.4300 Grams per tonne
Gold 13.7100 Grams per tonne
COMMENTS: A chip sample across 2.44 metres in a drift on the No. 4 level,
directly beneath the ore zone on the No. 2 winze.
REFERENCE: Assessment Report 23492.

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 17.1400 Grams per tonne
COMMENTS: The 1.6-metre interval between 14.6 and 16.2 metres in drillhole
U-19, drilled by Aquarius Resources Ltd in 1981.
REFERENCE: Assessment Report 23492.

CAPSULE GEOLOGY

The former Emancipation mine is located 1 kilometre west of the Coquihalla River, between Fifteen Mile and Ladner creeks. Hope, British Columbia is located about 15 kilometres to the southwest.

In 1910, the construction of the Kettle Valley railway opened the area to prospecting and mineral exploration. This led to the discovery and staking of the Emancipation claim in 1913. Intermittent production occurred at the Emancipation gold mine between 1916 and 1941. By 1921, a considerable amount of underground development work had been carried out and a 5-stamp mill installed with a 4.53 tonne per day capacity. The operator at this time was Liberator Mining Co. Between 1922 and 1933 ownership changed hands several times, with Dawson Gold Mines Ltd. the main operator. Kettle Valley Gold Mine Ltd. conducted limited work in 1937. The mill operated at 22.68 tonnes per day with ore mined from the No. 2 level. In 1971, Aquarius Resources Ltd. restaked the Emancipation as the Hope claim group and renewed exploration on the property. In 1972, the underground workings were surveyed, mapped and sampled. Surface geological mapping was carried out in 1973. From 1976 to 1976, an extensive surface exploration was carried out under the supervision of Cochrane Consultants Ltd. In 1980, an all-weather road was constructed and further underground mapping and sampling was carried out. A surface and underground drilling program was carried out in 1981 by Aquarius Resources Ltd. Underground drilling consisted of 31 drillholes, totalling 1177 metres. Surface drilling consisted of 10 drillholes, totalling 901 metres. No further work was conducted until 1991-1992 under option from Anglo Swiss Mining Corp. by Homegold Resources Ltd. Considerable underground refurbishing was conducted on the Nos. 3 and 4 levels. Three underground drillholes were completed, totalling 81.38 metres.

In the area of the Emancipation mine, sedimentary rocks of the Lower and Middle Jurassic Ladner Group are separated from the Coquihalla Serpentine Belt to the west by a fractured, elongate slice of greenstone, 100 to 180 metres wide, of the Triassic Spider Peak Formation. The Ladner rocks are generally overturned, west dipping and east facing; the unconformity between them and the Spider Peak Formation is poorly exposed and has been faulted and sheared. The Ladner rocks consist of slaty argillites, siltstones, wacke and clastic limestone.

The East Hozameen fault system in the mine area dips steeply east and apparently involves two generations of fracturing. The oldest set strikes northerly and is offset 250 metres left-laterally by a younger northwest-striking fault along Tangent Creek.

The Emancipation mine was developed by five adits (adits 1-4 and A) that were concentrated along a series of gold-bearing quartz +/- carbonate veins that cut the Spider Peak Formation. These veins were the principal ore source of the mine. However, two of the lower workings (adits 3 and 4) were driven on a talc-bearing zone within the Hozameen fault which was apparently barren. In 1933, a drift on the No. 4 level intersected a 3.35-metre wide vein directly beneath the ore zone in the No. 2 winze. The central part contained abundant sulphides and a chip sample across 2.44 metres yielded 13.71 grams per tonne gold and 3.43 grams per tonne silver (Assessment Report 23492). A picked sample from the face yielded 72.68 grams per tonne gold (Assessment Report 23492).

Outcrops of massive to highly sheared talc are seen in Tangent Creek. Both drilling and underground workings indicate the talc-bearing fault zone is locally several metres wide.

There are essentially three sets of quartz +/- carbonate veins at the mine. These include the Boulder vein and the Dike vein, separated by a set of irregular, reverse dipping flat veins. Both the Dike and Boulder veins typically follow reverse fractures and vary markedly in attitude and character along strike and with depth. The flat veins apparently follow second order sigmoidal tension fractures.

The flat veins comprise numerous thin quartz +/- calcite veinlets, irregular lenses and stringer networks together with at least three more prominent quartz veins. They strike north to

CAPSULE GEOLOGY

northwest, are from 0.5 to 20 centimetres wide and dip 20 to 45 degrees east. They are splays from the overlying, gently inclined Dike vein, but quickly pinch out with depth. The veins consist of quartz with calcite, plagioclase, gypsum and sulphides together with some free gold.

On the surface, close to adit 2, the Boulder vein strikes northerly and follows the faulted contact between the Spider Creek Formation and the Ladner Group. Farther north, the vein system splays, swings to a northeasterly strike and is locally hosted entirely within Ladner rocks. It is the widest vein on the property, varying between 0.5 and 4.6 metres in width, and dipping from 50 to 65 degrees west. It contains mainly milky to clear massive quartz, and minor amounts of calcite. The vein carries sporadic traces of disseminated pyrite, arsenopyrite and chalcopyrite, but little or no gold. Locally, the margins of the Boulder vein grade outward into brecciated zones up to 3 metres wide. These comprise fragments of Ladner rock with disseminated sulphides set in a vein matrix which contains minor to trace amounts of albite, calcite, dolomite, siderite, gypsum, pyrrhotite and marcasite.

Underground drilling on the Boulder vein system in the 1980s intersected sulphides along the margins of the vein, predominantly on the hangingwall. In decreasing order of abundance, sulphides consisted of disseminated pyrrhotite, pyrite, chalcopyrite and arsenopyrite. The Boulder vein system changes character down dip and along strike from a more massive quartz vein to a quartz stringer with pervasive silicification. The sulphide content also increases down dip and occur as a silica-sulphide replacement zone. Tuffaceous sediments in the hangingwall also contain more sulphides down dip. During drilling, visible gold was noted in at least three areas of replacement and appeared to be associated with arsenopyrite. The best intersections from underground drillholes were from drillholes U-15 and U-19. The 1.4-metre interval between 23.9 and 25.3 metres from drillhole U-15 yielded 20.57 grams per tonne gold (Assessment Report 23492). The 1.6-metre interval between 14.6 and 16.2 metres from drillhole U-19 yielded 17.14 grams per tonne gold (Assessment Report 23492).

Surface drilling north of the Emancipation mine was conducted to delineate geological contacts, structures, quartz veins and mineralization. The drillholes intersected similar structures and rock types intersected in underground drilling, favourable for sulphide replacement zones but no significant altered or mineralized zones were found.

Locally, the greenstones in the hangingwall of the Boulder vein are intensely silicified over widths of 1 to 4 metres, and contain disseminated carbonate, pyrite, pyrrhotite, arsenopyrite and chalcopyrite, but no gold. Drilling during the 1980s by Aquarius Resources indicates that this hangingwall alteration persists at depth, but the Boulder vein quickly pinches out down dip. A sample taken of altered wallrock yielded 820 parts per billion of tellurium, suggesting the presence of tellurides in the system (Bulletin 79, page 45).

The Dike vein was probably the most important source of ore as it was stoped for 85 metres along strike and over 40 metres down dip. It strikes north and varies from 1 to 60 centimetres in width, the dip varying with depth. In the upper mine workings, the Dike vein dips 45 degrees west, but with increasing depth the dip flattens out until it becomes a gently undulating, subhorizontal structure. Also with increasing depth, the vein splits into several subparallel veins and veinlets of quartz and/or calcite. The system follows a strongly sheared chloritic fault zone. The vein contains small specks of gold along with pyrrhotite, arsenopyrite, pyrite, chalcopyrite and marcasite. The vein also contains nodules of pink albite, and enargite has been observed locally. Early reports state that free gold occurred in spectacular amounts.

For further details on the Coquihalla gold belt and the Emancipation mine, readers are referred to Bulletin 79, from which most of the above information was taken. A good description of the workings completed up to 1937 may be found in a report by Schofield and Orr (Property File).

The Emancipation gold mine was active between 1916 and 1941 producing 18,818 grams of silver, 90,104 grams of gold, 61 kilograms of lead and 85 kilograms of zinc from a total of 1158 tonnes mined.

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1926-196; 1927-208; 1928-227; 1929-238; 1930-204; 1931-114;
1932-156,253; 1933-175; 1937-A40,F35; 1938-A38; 1940-28; 1941-28
EMPR ASS RPT 3015, 4930, 5440, 5870, 6236, 9035, 10515, 17106, *23492

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1244
REPORT: RGEN0100

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EMPR BULL 1 (1932), p. 78; 20, Part IV (1946), p. 22; *79, pp. 41-46
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EMPR GEM 1971-266; 1974-113
EMPR INDEX 3-195
EMPR OF 1986-1
EMPR PF (*Hodge, E.T. (1920): Report on Emancipation Mine; *Orr, F.O.
and Schofield, S.J. (1937): Report on Emancipation Property of
Kettle Valley Gold Mines Limited)
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GSC MEM *139, p. 136
GSC P 69-47
GCNL #209(Nov.2), 1981
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/04

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW035**

NATIONAL MINERAL INVENTORY:

NAME(S): **BROKEN HILL, MORNING, LUKE 1-4,
KING, JESSI, HARV**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 59 N
LONGITUDE: 121 14 20 W
ELEVATION: 762 Metres

NORTHING: 5482648
EASTING: 627559

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of the Coquihalla River about 1.3 kilometres above the mouth of Dewdney Creek.

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Arsenopyrite Galena
ASSOCIATED: Quartz Carbonate
ALTERATION: Sericite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic	Ladner	Undefined Formation	
Lower Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Slaty Argillite
Siltstone
Greenstone
Meta Pelite
Quartz Feldspar Dike

HOSTROCK COMMENTS: Ladner Group is Middle to Lower Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Cascade Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 0.3400 Grams per tonne
Gold 0.0340 Grams per tonne
COMMENTS: Sample from quartz-feldspar dike and associated 0.5 metre quartz vein.
REFERENCE: Assessment Report 10932.

CAPSULE GEOLOGY

The Broken Hill showing is located on the east side of the Coquihalla River about 1.3 kilometres above the mouth of Dewdney Creek.

Placer gold was discovered in the mid-1800s. Lode gold production was first achieved in the Hope area in 1905 from the Ward mine (092HNW015) on Siwash Creek. The nearby Emancipation claim (092HSW034) was staked in 1913, with ore shipments between 1916 and 1919. In 1927, trenching at the Aurum mine (092HSW003) exposed free gold hosted in talcose schist. The Broken Hill showing on the Harv claim has been explored starting around 1913, with surface stripping and trenching of quartz veins. In the late 1970s and early 1980s, the area was held by Aquarius Resources Ltd. Geochemical soil sampling and preliminary prospecting were conducted.

The area is underlain by the Lower to Middle Jurassic Ladner Group comprised of a sequence of fine grained, poorly to well bedded slaty argillites and siltstones with minor amounts of coarser grained

CAPSULE GEOLOGY

materials. The Ladner Group sediments stratigraphically overlie older greenstones which are traceable discontinuously over 15 kilometres along the eastern side of the Hozameen fault. The greenstone-Ladner Group contact is marked by faulting and shearing, but in places the sedimentary rocks rest directly on the volcanic rocks with either an unconformable or disconformable relationship. The greenstone consists of altered basalts and andesites representing either a lower part of the Ladner Group or a basement to the Ladner Group sediments.

Locally, the Ladner Group sediments consist of dark grey to black, well indurated metapelite which has undergone low grade greenschist facies metamorphism. The pelite bedding strikes 330 degrees and dips moderately to the south. Quartz veins occur randomly rarely exceeding 10 centimetres in length, and appear to be discontinuous along strike. The veins host minor disseminated pyrite and pyrrhotite. The bedrock weathers rust brown and hosts disseminated pyrite.

The Broken Hill showing consists of a single quartz-carbonate vein which forms a 0.5 metre wide vein between the east contact of a quartz-feldspar dike and the sediments. The fine grained, light brown quartz-feldspar dike strikes 045 degrees and is approximately 1.0 metre wide with weak hydrothermal alteration. The quartz vein hosts minor disseminated pyrite, arsenopyrite, pyrrhotite with sericite, and rare galena.

In 1982, a sample taken across the vein assayed 0.034 gram per tonne gold and 0.34 gram per tonne silver (Assessment Report 10932).

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GSC MEM 139, pp. 146,147
GSC P 69-47
GSC SUM RPT 1920 Part A, p. 35

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HSW036**

NATIONAL MINERAL INVENTORY: 092H6 Au1

NAME(S): **AUFEAS**, JUMBO, CAM,
RAM, AL, STAR,
MAC, MAIN, C

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:
LATITUDE: 49 20 35 N
LONGITUDE: 121 29 13 W
ELEVATION: 500 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located about 5 kilometres southwest of Hope on a northeast-flowing tributary (Wardle Creek) of Silver Creek (Geology Map - Coquihalla River Area, GSC Memoir 139).

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5466694

EASTING: 609905

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Arsenopyrite Chalcopyrite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous			Spuzzum Intrusions
Oligocene			Unnamed/Unknown Informal

LITHOLOGY: Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Unnamed Oligocene intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: MAIN VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1938
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 219.4300 Grams per tonne
COMMENTS: An anomalously high value. The average value of the Main vein was thought to be about 17 grams per tonne gold.
REFERENCE: Property File - Dolmage, V. (1938): The Aubeas Gold Deposit.

CAPSULE GEOLOGY

The Aubeas deposit was discovered in 1910 and has been periodically investigated since then. According to Brewer, 178 metres of crosscutting and 157 metres of drifting were done by 1915 (Minister of Mines Annual Report 1915, page 255). Production records indicate mining activity from 1937 to 1940. Little information on the actual type of development is available for this period except that stoping operations were carried out from a single drift in 1939, the year in which 70 per cent of recorded production occurred (Minister of Mines Annual Report 1939, page 86).

Most of the following deposit description is taken from a report by Victor Dolmage (Property File - The Aubeas Gold Deposit, 1938). Two principal veins (and apparently several minor ones) called the Main and the C veins are on the property. Also occurring is a large mineralized fault situated close to the veins and a wide mineralized shear situated 90 to 180 metres south of the veins. All the development work has been confined to the quartz veins, primarily the Main vein.

The Main vein has been exposed at surface by opencuts for about 52 metres. A long crosscut tunnel was driven to intersect the vein and drifts were run in both directions along the vein. The east

CAPSULE GEOLOGY

drift is 12 metres and the west drift is reported variably as 122 metres or 61 metres; a plan of the working on file in Victoria shows the latter length but indicates it is partially caved (Arnold, 1936). A stope was driven in the west drift for 17 metres and a small winze sunk to 3 or 5 metres. The distance up the dip of the Main vein to the surface is 91 metres.

The veins occur in a large body of quartz diorite of the Cretaceous Spuzzum pluton about 800 metres north of its contact with and intrusion of younger Oligocene quartz diorite and granodiorite. The veins consist of arsenopyrite with a little quartz and minute quantities of chalcopyrite and pyrite. The wallrocks are intensely sheared and altered but contain little or no sulphides.

The Main vein and the C vein are parallel, striking easterly. The Main vein dips 50 to 60 degrees south and the C vein, which occurs 12 metres to the north, dips 20 degrees south. The width of the Main vein varies from about 5 to 69 centimetres but the average is only 23 centimetres. After a "thorough sampling", Dolmage concluded that the average assay from the vein was 17 grams per tonne gold. Surface values are higher than those in the tunnels.

The C vein is narrower and has been traced for about 15 metres. Over half this distance the vein is a mere stringer, over the other half it is 7 to 10 centimetres wide. The C vein is similar in composition to the Main vein but has a higher gold content. Two samples assayed 131.66 grams per tonne gold and 219.43 grams per tonne gold respectively (Dolmage, 1938).

Cairnes reports that 127 tonnes of ore were mined and partly sacked in or by 1914 (GSC Summary Report 1920 Part A, page 36). It is not clear if an ore shipment was made at that time or not.

Production from 1937 to 1941 totalled 487 tonnes, yielding 18,226 grams of silver, 13,686 grams of gold and 4,526 kilograms of copper. Production in 1940 and 1941 from the Star is attached to this property.

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EMPR EXPL 1987-C170
EMPR GEM 1970-250; 1972-116; 1973-132; 1974-113
EMPR INDEX 3-188, 214
EMPR PF (Arnold, T.E. (1936): Aufeas Mine - Plan of Workings;
*Arland, A.J. (1937): Preliminary Report, Aufeas Mine; *Arland, A.J. (1937): Report on the Aufeas Mine; *Dolmage, V. (1938): The Aufeas Gold Deposit; Starr, C.C. (1939): Report on the Aufeas Mine, 5 p.; Aufeas Mine Sketch showing veins, faults and general surface (1"=300'), 1939; Aufeas Mine, Cross-sections (1"=30'), 1939; Aufeas Mine Workings (1"=30'), 1939)
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC MEM *139, p. 148
GSC P 69-47
GSC SUM RPT 1920A, p. 35
GCNL #201, 1983; #18,#45,#148, #172 1985; #5, 1986

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW037**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARY JANE**, ANNIE LOU

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 14 47 N
LONGITUDE: 121 41 06 W
ELEVATION: 250 Metres

NORTHING: 5455678
EASTING: 595706

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 4 kilometres south(east?) of Cheam View Station on Jones(?)
Mountain at an elevation of between 213 and 274 metres (Minister of
Mines Annual Report 1918, page 286).

COMMODITIES: Molybdenum Gold Silver Copper

MINERALS

SIGNIFICANT: Molybdenite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Miocene			Mount Barr Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1918
SAMPLE TYPE: Grab

COMMODITY	GRADE
Molybdenum	1.4900 Per cent

COMMENTS: The original assay was reported as 2.5 per cent molybdenite.
REFERENCE: Minister of Mines Annual Report 1918, page 287.

CAPSULE GEOLOGY

The Mary Jane showing is hosted in granodiorite of the Miocene Mount Barr batholith. Quartz veins or lenses carrying molybdenite occur in a shear zone which is highly fractured and altered. Molybdenite occurs as disseminated flakes or as lumps of considerable size within the quartz.

On the old Mary Jane claim, an adit was driven for 6 metres along the strike of the vein. The width of the vein varied from about 1 millimetre up to 38 centimetres. On the Annie Lou claim, a vein ranging from 30 to 90 centimetres in width was exposed in an opencut for a length of about 9 metres. In this opencut, molybdenite also occurs as disseminations in the granitic footwall near cleavage planes of the shearing.

Samples graded from 0.2 to 2.5 per cent molybdenite with traces of gold, silver and copper (Minister of Mines Annual Report 1918, page 286).

BIBLIOGRAPHY

EMPR AR *1918-K286
EMPR ASS RPT 8428
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47, p. 68

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1250
REPORT: RGEN0100

MINFILE NUMBER: **092HSW038**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAST CHANCE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 26 N
LONGITUDE: 121 39 08 W
ELEVATION: 366 Metres

NORTHING: 5466188
EASTING: 597905

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located on "Hurling's" mountain (Mount Hicks?) at a reported elevation of 366 metres, about 2.4 kilometres from the Canadian Pacific Railway tracks. Since the claim group was located from the mountain's base in a northerly direction over the summit, there is a resulting contradiction in location with respect to the reported distance from the tracks and the above given elevation (Minister of Mines Annual Report 1918, page 289).

COMMODITIES: Molybdenum Copper Silver Gold

MINERALS

SIGNIFICANT: Pyrite Molybdenite Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Slollicum Schist

LITHOLOGY: Limestone
Schistose Rock

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl.

PHYSIOGRAPHIC AREA: Fjord Ranges (Southern)

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1918
SAMPLE TYPE: Grab
COMMODITY: _____ GRADE: _____
Molybdenum 2.5000 Per cent

COMMENTS: The original assay was reported as 4.2 per cent molybdenite.
REFERENCE: Minister of Mines Annual Report 1918, page 289.

CAPSULE GEOLOGY

The Last Chance showing occurs in metamorphosed limestone associated with a sheared and sometimes schistose igneous rock. If the location of the Last Chance is indeed on the south flank of Hicks Mountain, then the hostrocks are likely part of the Slollicum Schist, a package of older rocks metamorphosed in the Cretaceous. The country rocks are intruded to the west by a stock of Oligocene granodiorite and to the east by the Cretaceous Spuzzum pluton consisting of quartz diorite and diorite.

In the cleavage planes, but also sometimes disseminated throughout the metamorphosed rock, pyrite with flakes and occasionally lumps of molybdenite occur; some chalcopyrite also occurs. The chief showing is at 366 metres elevation, about 2.4 kilometres from the railway (Canadian Pacific Railway). Other showings occur about 150 metres higher.

One sample yielded 0.3 per cent copper and 6.86 grams per tonne silver with traces of gold and molybdenite; another yielded 4.2 per cent molybdenite with traces of gold and silver (Minister of Mines Annual Report 1918, page 289).

BIBLIOGRAPHY

EMPR AR *1918-289
EMPR ASS RPT 18729, 18981

MINFILE NUMBER: **092HSW038**

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1251
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 9, p. 89
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/29

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW039**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR NO. 1, STAR**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 12 47 N
LONGITUDE: 121 04 22 W
ELEVATION: 1158 Metres

NORTHING: 5452928
EASTING: 640356

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south side of the Sumallo River about 1.0 kilometre west of the junction of the Sumallo and Skagit rivers (part of the historic 23 Mile Camp).

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Arsenopyrite Galena Pyrrhotite Chalcopyrite Pyrite
Marcasite Sphalerite
Copper

ASSOCIATED: Quartz Tourmaline

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Replacement
TYPE: I01 Au-quartz veins
DIMENSION: Metres STRIKE/DIP: 260/80S TREND/PLUNGE:
COMMENTS: Mineralized quartz-arsenopyrite vein.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation

LITHOLOGY: Greenstone
Limestone
Volcanic Chert
Argillaceous Chert

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Located near the contact between the Bridge River and Methow terranes.

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1923
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 123.4300 Grams per tonne
Gold 8.2300 Grams per tonne
COMMENTS: Sample from arsenopyrite-rich quartz vein; also assayed 6.4 per cent arsenic.
REFERENCE: Minister of Mines Annual Report 1923, page 164.

CAPSULE GEOLOGY

The north-northwest trending Hozameen fault separates the low greenschist facies rocks of the Permian-Jurassic Hozameen Complex on the west, from the Lower-Middle Jurassic sediments of the Ladner Group to the east. A Late Cretaceous quartz diorite stock intrudes the sediments along the east side of the Hozameen fault and is exposed on the north side of the Sumallo River.

The Star No.1 occurrence area lies west of the fault and is underlain by rocks of the Hozameen Complex comprised mainly of massive greenstone, volcanic chert, argillaceous chert and limestone. The regionally metamorphosed rocks generally contain fine-grained actinolite, epidote, chlorite and locally prehnite. The limestone is interbedded with the greenstone and forms isolated, commonly lenticular beds up to 30 metres in thickness.

Mineralization occurs within massive greenstone and consists of disseminated pyrite, pyrrhotite, marcasite, chalcopyrite and rare

CAPSULE GEOLOGY

native copper. Pyrrhotite is associated with large, irregular grains of tourmaline and the native copper was noted in minute joint planes within the greenstone.

A quartz vein, striking 260 degrees and dipping 80 degrees south, hosts abundant arsenopyrite with minor galena. In 1923, a sample from the vein assayed 8.23 grams per tonne gold, 123.43 grams per tonne silver and 6.4 per cent arsenic (Minister of Mines Annual Report 1923, page 164).

In an upper working, mineralization occurs along a contact between limestone and greenstone. The replacement mineralization consists mainly of galena, minor chalcopyrite, pyrrhotite and sphalerite. In 1920, samples from the workings yielded high values in gold, silver and copper.

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EMPR AR *1923-164; 1938-F4
GSC BULL 238
GSC MAP 12-1969; 737A
GSC P 69-47
GSC SUM RPT *1920A, pp. 24,40,41, Fig.3; *1922A, pp. 120,121, Fig.11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/18

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW040**

NATIONAL MINERAL INVENTORY: 092H3 Ni1

NAME(S): **FORKS**, FOUNDATION MINES, MAMMOTH

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 13 45 N
LONGITUDE: 121 05 02 W
ELEVATION: 1463 Metres

NORTHING: 5454699
EASTING: 639501

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the north slope of the Sumallo River, north of the confluence of the Skagit and Sumallo rivers (part of the historic 23 Mile Camp).

COMMODITIES: Nickel

MINERALS

SIGNIFICANT: Pyrrhotite
ASSOCIATED: Olivine Pyroxene
ALTERATION: Serpentine
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Ultramafic Intrusions
Unknown			

LITHOLOGY: Serpentinized Peridotite
Greenstone
Serpentinized Dunite
Volcanic Chert
Argillaceous Chert
Limestone

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River Methow
PHYSIOGRAPHIC AREA: Cascade Mountains
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: Located near the contact between the Bridge River and Methow terranes. GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1938
SAMPLE TYPE: Grab
COMMODITY GRADE
Nickel 0.4000 Per cent
COMMENTS: Samples containing pyrrhotite assay from 0.2 to 0.4 per cent nickel.
REFERENCE: Minister of Mines Annual Report 1938, page F8.

CAPSULE GEOLOGY

The Hozameen fault traverses north-northwest separating the low greenschist facies rocks of the Permian-Jurassic Hozameen Complex on the west, from the Lower-Middle Jurassic sediments of the Ladner Group to the east. A Late Cretaceous quartz diorite stock intrudes the sediments along the east side of the Hozameen fault.

The Forks showing lies just west of the fault and is underlain by rocks of the Hozameen Complex comprised mainly of massive greenstone, volcanic chert, argillaceous chert and limestone. The regionally metamorphosed rocks generally contain fine-grained actinolite, epidote, chlorite and locally prehnite.

Reports indicate a small ultramafic pod intrudes the Hozameen Complex greenstones. The highly altered rock probably represents peridotite with segregations of dunite which subsequently have been serpentinized. Petrographic studies in 1938 found this rock to consist almost entirely of olivine with serpentine, presumed to be

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CAPSULE GEOLOGY

derived from the olivine, and occasional grains of pyroxene. Fine grains of sulphides, consisting mainly of pyrrhotite, are disseminated throughout this rock.

In 1938, several samples were collected and yielded between 0.2 to 0.4 per cent nickel (Minister of Mines Annual Report 1938, page F8).

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EMPR PF (*Unpublished Report on Foundation Mines by R.J. MacKinnon, on the Mammoth, 092HSW003, pp. 9,10)
GSC BULL 238
GSC MAP 12-1969; 737A
GSC P 69-47
GSC SUM RPT 1922A, pp. 121, Fig.11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/21

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW041**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEFIANCE**, COPPER KING, VELVET,
FAIRY PRINCE, FAIRY QUEEN, ELITE

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 13 07 N
LONGITUDE: 121 05 46 W
ELEVATION: 1120 Metres

NORTHING: 5453503
EASTING: 638641

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south side of the Sumallo River (part of the historic 23 Mile Camp).

COMMODITIES: Nickel

MINERALS

SIGNIFICANT: Pyrrhotite
ALTERATION: Actinolite Strontianite
COMMENTS: Strontianite was reported in 1920.

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Skarn Replacement
TYPE: E16 Shale-hosted Ni-Zn-Mo-PGE

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Hozameen	Undefined Formation	

LITHOLOGY: Limestone
Greenstone
Volcanic Chert
Argillaceous Chert

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline	PHYSIOGRAPHIC AREA: Cascade Mountains	
TERRANE: Bridge River	Methow	
METAMORPHIC TYPE: Regional	RELATIONSHIP:	GRADE: Greenschist
COMMENTS: Located near the contact between the Bridge River and Methow terranes.		

CAPSULE GEOLOGY

The north-northwest trending Hozameen fault separates the low greenschist facies rocks of the Permian-Jurassic Hozameen Complex on the west, from the Lower-Middle Jurassic sediments of the Ladner Group to the east. A Late Cretaceous quartz diorite stock intrudes the sediments along the east side of the Hozameen fault on the north side of the Sumallo River.

The Defiance showing lies west of the fault and is underlain by rocks of the Hozameen Complex comprised of greenstone, volcanic chert, argillaceous chert and limestone. The regionally metamorphosed rocks generally contain fine-grained actinolite, epidote, chlorite and locally prehnite. The limestone is interbedded with greenstone and forms isolated, commonly lenticular beds up to 30 metres in thickness.

Mineralization occurs along a highly altered contact between limestone and greenstone. Replacement mineralization consists of nearly massive nickeliferous pyrrhotite. The mineralized zone ranges from 3.6 to 9.1 metres in width, and is traceable for 45 metres to the south.

The limestone unit hosts acicular, green actinolite crystals and in 1920, strontianite was reported.

BIBLIOGRAPHY

EM EXPL 2002-29-40
EMPR AR *1915-264; 1916-264; 1917-234; 1920-171; *1927-211; 1938-F9;
1955-74
EMPR PF (Claim map for Foundation Mines Ltd., 1966)
GSC BULL 238
GSC MAP 12-1969; 737A
GSC P 69-47

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1257
REPORT: RGEN0100

BIBLIOGRAPHY

GSC SUM RPT 1911, pp. 115-123; *1920A, pp. 24,39-41; *1922A, pp. 120-122, Fig.11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/18

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW042**

NATIONAL MINERAL INVENTORY:

NAME(S): **B.B., RAINBOW, HORSESHOE,
STAR NO. 2, FOUNDATION MINES, BIG BEN**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 12 46 N
LONGITUDE: 121 04 36 W
ELEVATION: 914 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5452890
EASTING: 640073

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the northeast side of the Sumallo River opposite the confluence of the Sumallo and Skagit rivers (part of the historic 23 Mile Camp).

COMMODITIES: Silver Gold Zinc Copper Lead

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Galena Sphalerite Chalcopyrite

Pyrite Boulangerite Jamesonite
COMMENTS: Minor sulphantimonide and sulpharsenide salts of lead and copper were reported.

ASSOCIATED: Quartz Carbonate
ALTERATION: Epidote Hornblende Pyroxene Wollastonite Garnet

ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Podiform Massive Disseminated
CLASSIFICATION: Skarn Replacement
TYPE: K02 Pb-Zn skarn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation Unnamed/Unknown Informal
Upper Cretaceous

LITHOLOGY: Limestone
Greenstone
Volcanic Chert
Argillite
Quartz Diorite

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Located near the contact between the Bridge River and Methow terranes.

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1927
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 822.8000 Grams per tonne
Gold 6.8600 Grams per tonne
Copper 0.4000 Per cent
Lead 3.5000 Per cent

COMMENTS: A 23-centimetre sample taken from a 0.9 metre wide mineralized quartz vein.

REFERENCE: Minister of Mines Annual Report 1938, page F21.

CAPSULE GEOLOGY

The north-northwest trending Hozameen fault separates the low greenschist facies rocks of the Permian-Jurassic Hozameen Complex on the west, from the Lower-Middle Jurassic sediments of the Ladner Group to the east. A Late Cretaceous quartz diorite stocks intrudes the sediments along the east side of the fault.

The B.B. showing is adjacent to Hozameen Complex greenstone, volcanic chert, argillite and limestone. The regionally

CAPSULE GEOLOGY

metamorphosed rocks generally contain fine-grained actinolite, epidote, chlorite and locally prehnite. Limestone is interbedded with the greenstone.

Three mineralized zones occur, paralleling the quartz diorite contact to the west. The easternmost zone consists of a steeply dipping fracture system in silicified limestone. Sulphide mineralization includes arsenopyrite, sphalerite and pyrite. A sample taken in 1927 across 10 centimetres assayed 0.69 gram per tonne gold, 377.1 grams per tonne silver and 2.0 per cent zinc.

The middle zone occurs in a 2.75 metre seam of altered limestone which hosts epidote, hornblende, pyroxene, wollastonite and garnet. Mineralization includes pods of arsenopyrite, sphalerite, chalcopyrite, galena, pyrite and pyrrhotite. Other minerals include sulphantimonide and sulpharsenide salts of lead, described as boulangerite and jamesonite. Quartz is the chief gangue mineral and occurs as either white, massive and sugary in texture or as clusters of individual, clear crystals.

Development work consists of a number of opencuts and short adits driven along narrow ore veins and replacement deposits which are generally parallel and trend 060 degrees with near vertical dips.

In 1938, a 23-centimetre sample of massive sulphides taken from a 0.9 metre quartz vein in the main workings analysed 6.86 grams per tonne gold, 822.8 grams per tonne silver, 0.4 per cent copper and 3.5 per cent lead (Minister of Mines Annual Report 1938, page F21).

Stripping 46 metres above the road indicated mineralization over 1.5 to 2.0 metres width in two narrow fractures. Mineralization consisted mainly of arsenopyrite with an antimony-bearing sulphide. A 10-centimetre sample analysed 0.68 gram per tonne gold, 678.8 grams per tonne silver and 1.8 per cent lead (Minister of Mines Annual Report 1938, page F21).

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*F21; 1955-74; 1962-89
EMPR BC METAL MM00228
EMPR PF (*Claim map for Foundation Mines, 1966; Unpublished Report
on Foundation Mines by R.J. MacKinnon on the Mammoth-092HSW003,
p. 9)
GSC BULL 238
GSC MAP *12-1969; 56A; 737A
GSC P 69-47
GSC SUM RPT *1916, pp. 120-122; *1920A, p. 41A; *1922A, pp. 122A,
123A, Fig.11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/22

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW043**

NATIONAL MINERAL INVENTORY:

NAME(S): **MASTER ACE**, TIMBERWOLF, PEERS CREEK,
MASTER ACE I, SITTING BULL

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:
LATITUDE: 49 16 54 N
LONGITUDE: 121 08 19 W
ELEVATION: 1985 Metres

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5460435
EASTING: 635374

LOCATION ACCURACY: Within 500M
COMMENTS: Located near the headwaters of Eighteen Mile Creek, about 5.0 kilometres northwest of Highway 3 on the east flank of Mount Outram.

COMMODITIES: Gold Silver Copper Bismuth Nickel
Platinum

MINERALS

SIGNIFICANT: Chalcopyrite Arsenopyrite Pyrite Pyrrhotite Sperrylite
COMMENTS: Sperrylite (an arsenide of platinum) was reported in the late 1940s.
ASSOCIATED: Quartz Talc Magnetite
ALTERATION: Talc Malachite Azurite
ALTERATION TYPE: Serpentin'zn Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins
DIMENSION: Metres STRIKE/DIP: /77W TREND/PLUNGE: 360/
COMMENTS: Trend of major fault/shear which hosts mineralized quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Coquihalla Serpentine Belt
Unknown			Unnamed/Unknown Informal
Cretaceous			

LITHOLOGY: Talc Schist
Serpentinite
Serpentinized Ultramafic
Volcanic Chert
Argillaceous Chert
Mylonite
Greenstone

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: GRADE: Greenschist
PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 22.1000 Grams per tonne
Gold 3.2000 Grams per tonne
Copper 1.3450 Per cent
REFERENCE: Assessment Report 15086.

CAPSULE GEOLOGY

The area is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of interbedded chert, pelite, basic volcanics and minor limestone. These are intruded by a Late Cretaceous or older quartz diorite intrusion. To the northeast of the showing, the Hozameen fault traverses south-southeast and separates the low greenschist facies rocks of the Hozameen Complex from unmetamorphosed Mesozoic rocks. Ultramafic rocks are cut by greenstones of the Hozameen Complex and generally occur along the fault. There is shearing along this contact and in places the ultramafic rocks appear

CAPSULE GEOLOGY

to be intrusive. The ultramafic rocks which occur along the Hozameen fault are part of the Coquihalla Serpentine Belt.

The Master Ace occurrence is underlain by altered Hozameen Complex greenstone and volcanic chert with argillaceous chert and mylonite. A major fault/shear structure trending 350 to 360 degrees with an apparent dip of 75 to 80 degrees west, traverses the property. The fault/shear is represented by a serpentinized ultramafic, which in places, is up to 100 metres in width. The western contact of the serpentinite is comprised of a strong talc shear in fault contact with sheared, siliceous argillaceous chert. The eastern contact is comprised of an irregular serpentinite, cherty volcanic-greenstone contact. Both east and west contacts are associated with quartz veining.

Several old trenches and opencuts are found along the west contact which follows a talc shear zone. Mineralization is hosted in subparallel quartz veins and stringers which are associated with the talcose schist. Sheared quartz veins consistently carry chalcopyrite with malachite-azurite staining and lesser arsenopyrite. In 1933, the quartz veining was found to host pyrite, chalcopyrite and arsenopyrite. The vein averaged 0.6 to 1.8 metres in width and is traceable for several kilometres. Samples were reported to have assayed 8.9 grams per tonne gold and 189.5 grams per tonne silver. In 1985, sampling of the old workings yielded 3.2 grams per tonne gold, 22.1 grams per tonne silver and 1.345 per cent copper (Assessment Report 15086).

The 1986 drilling in the quartz-altered talc schist shear intersected magnetite, chalcopyrite, pyrrhotite and arsenopyrite with lesser pyrite associated with quartz. Two samples from the percussion drilling averaged 9.33 grams per tonne gold and 13.71 grams per tonne silver (Assessment Report 16342).

Surface sampling of the Master Ace zone, which has been outlined for 762 metres, yielded anomalous gold, silver, copper and arsenic with detectable nickel, chromium and bismuth. In the late 1940s, a mining consultant reported "ribboned" or "banded" arsenopyrite in the quartz as well as sperrylite, an arsenide of platinum. Detectable platinum associated with the nickel and chromium was reported in 1986.

In 1986, one grab sample assayed 2.65 grams per tonne gold, 7.2 grams per tonne silver, 0.063 per cent copper, 0.183 per cent nickel and 0.07 per cent chromium. Another sample yielded 12.07 grams per tonne gold, 17.83 grams per tonne silver and 0.48 per cent bismuth. The quartz veins host a bismuth sulphide which does not appear to be directly related to the chalcopyrite and arsenopyrite, but does carry anomalous gold and silver values.

A second mineralized zone, the Newjay (092HSW152), lies 914 metres south of the Master Ace zone along the same shear, and is outlined for a strike length of about 450 metres.

BIBLIOGRAPHY

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- EMPR AR 1930-205; *1932-157; *1933-177
- EMPR ASS RPT *15086, *16342, *16730
- EMPR EXPL *1986-C205
- EMPR EXPL REVIEW 1986, pp. 26,72
- EMPR FIELDWORK 1982, pp. 62-84
- GSC MAP 12-1969
- GSC MEM 139
- GSC P 69-47
- GSC SUM RPT 1922A; 1929A
- GCNL #107, #163, #154, 1986
- N MINER Oct.13, Aug.11, Jul.4, 25, 1986
- V STOCKWATCH Jul.17, 1987
- Newjay Resources Ltd.: Statement of Material Facts (92/87), Jul.6, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/19

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW044**

NATIONAL MINERAL INVENTORY:

NAME(S): **ST. PATRICK**, A & W, M.P.P.

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 37 N
LONGITUDE: 121 14 02 W
ELEVATION: 1371 Metres

NORTHING: 5472713
EASTING: 628154

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the Sowaqua Valley, along a tributary on the north slope of Fools Pass, about 18 kilometres due east of Hope.

COMMODITIES: Nickel Chromium Gold Silver

MINERALS

SIGNIFICANT: Serpentine
COMMENTS: Exact mineralogy is not reported.
ASSOCIATED: Quartz Carbonate
ALTERATION: Serpentinite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Coquihalla Serpentine Belt
Unknown			Unnamed/Unknown Informal
Upper Cretaceous			

LITHOLOGY: Serpentinite
Quartz Diorite
Chert
Greenstone
Pelite
Basic Volcanic

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Contact Regional
PHYSIOGRAPHIC AREA: Cascade Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Greenschist

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	0.3430	Grams per tonne	
Gold	0.0340	Grams per tonne	
Chromium	0.2130	Per cent	
Nickel	0.1860	Per cent	

COMMENTS: Sample of serpentinite; difficult testing for the presence of chromium.

REFERENCE: Assessment Report 11449.

CAPSULE GEOLOGY

The St. Patrick occurrence area is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of interbedded chert, pelite and basic volcanics. These are intruded by a Late Cretaceous or older quartz diorite intrusion. To the east of the showing, the Hozameen fault traverses south-southeast and separates the low greenschist facies rocks of the Hozameen Complex from unmetamorphosed Mesozoic rocks. Ultramafic rocks are cut by greenstones of the Hozameen Complex and generally occur along the fault. There is shearing along the contact and in places the ultramafics appear to be intrusive. The ultramafic rocks which occur along the Hozameen fault are part of the Coquihalla Serpentine Belt.

CAPSULE GEOLOGY

Mineralization occurs along the contact between the serpentinite and diorite intrusion. Numerous quartz-carbonate veinlets crosscut the serpentinite. The veins and fracture fillings range from 2.5 to 20 centimetres in width.

In 1983, samples collected from the quartz-carbonate veinlets averaged 0.343 gram per tonne silver and 0.034 gram per tonne gold. Samples collected from the serpentinite assayed 0.034 gram per tonne gold, 0.343 gram per tonne silver, 0.186 per cent nickel and 0.213 per cent chromium. Another sample assayed 0.213 per cent nickel and 0.069 per cent chromium. The laboratory testing facility found it difficult to dissolve and analyse the samples for chromium (Assessment Report 11449).

BIBLIOGRAPHY

EMPR AR 1922-143;1923-162,163; 1933-177
EMPR ASS RPT 9581, *11449
EMPR EXPL 1983-235
EMPR GEM 1975-E68
EMPR OF MAP 1986-1D
EMPR PF (Summary of Diamond Drilling A & W Claim, Sowaqua Creek Area, Coquihalla (Hope) British Columbia by Arctex Engineering Services for Altar Gold and Resources Ltd., Oct.29, 1983)
GSC MAP 12-1969; 737A
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1929A, pp. 173A-176A

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/15

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW045**

NATIONAL MINERAL INVENTORY:

NAME(S): **U.S. RAMBLER**, ARGENTUM, RAMBLER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:
LATITUDE: 49 25 35 N
LONGITUDE: 121 07 50 W
ELEVATION: 1646 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located along Dewdney Creek at the main fork near the headwaters.

Underground

MINING DIVISION: New Westminster

Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5476537

EASTING: 635561

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: G04 Besshi massive sulphide Cu-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Ladner Undefined Formation

LITHOLOGY: Quartzite
Volcanic Sandstone
Siltstone
Wacke
Tuff
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Chip
COMMODITY Silver GRADE 15.4300 Grams per tonne
COMMENTS: A 10-centimetre sample taken across an oxidized shear.
REFERENCE: Assessment Report 14714.

CAPSULE GEOLOGY

The area is underlain by Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) tuffaceous sediments comprised of volcanic sandstone, siltstone, wacke, tuff and argillite with interlayered fossiliferous limestone. These rocks are separated from the Lower-Upper Cretaceous Pasayten Group sediments to the east, by the major northwest trending Chuwanten fault.

The U.S. Rambler showing occurs in bedded quartzite which strikes 015 degrees. There is minor shearing along the bedding planes. The rock is altered and oxidized with extensive limonitic staining. Vein-filling along these shears is comprised mainly of altered hostrock and contains disseminated pyrite, galena and sphalerite.

In 1913, a 15-metre adit was driven along one of these shears and a 0.76-metre sample taken near the face of the tunnel assayed trace gold and 17.14 grams per tonne silver. In 1985, a 10-centimetre sample taken 100 metres east of the main fork of Dewdney Creek from the oxidized shears along the bedding planes, yielded 15.43 grams per tonne silver (Assessment Report 14714).

BIBLIOGRAPHY

EMPR AR 1913-227,229; 1930-205; 1931-115
EMPR ASS RPT *14714, 17117

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1265
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR EXPL 1986-C206
EMPR OF MAP 1986-1D
GSC MAP 12-1969; 41-1989
GSC MEM 139
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/15

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW046**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACKJACK**, ARGENTUM, RAMBLER

MINING DIVISION: New Westminster
Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5476033
EASTING: 635171

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

LATITUDE: 49 25 19 N
LONGITUDE: 121 08 10 W
ELEVATION: 1432 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Dewdney Creek, in the valley which parallels the east slope of Mount Snider.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ALTERATION: Limonite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Ladner Undefined Formation

LITHOLOGY: Quartzite
Tuff
Argillite
Volcanic Sandstone
Siltstone
Wacke
Felsic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 23.3100 Grams per tonne

COMMENTS: A 0.2 metre chip sample from a leached contact zone.
REFERENCE: Assessment Report 14714.

CAPSULE GEOLOGY

The area is underlain by Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) tuffaceous sediments comprised of volcanic sandstone, siltstone, wacke, tuff and argillite with interlayered fossiliferous limestone. These rocks are separated from the Lower-Upper Cretaceous Pasayten Group sediments to the east, by the major northwest trending Chuwanten fault.

The Blackjack showing is hosted by interbedded tuff, quartzite and argillite which are crosscut by a coarse grained, black felsic dike trending between north and north-northeast. The main showing, located on the west side of the junction of Dewdney Creek, is exposed in an opencut about 6 metres from the creek. Disseminated pyrite, galena and sphalerite occurs in an oxidized band which ranges from 25 to 30 centimetres in width, and consists of sheared and altered wallrock.

Another showing, located about 500 metres south of the creek junction, occurs in coarser grained sediments. The same black, felsic dike crosscuts these bedded sediments nearly at right angles. On both sides of the dike, which averages 6 metres in width, mineralization consists of disseminated galena and sphalerite. The contacts are highly altered with oxidized and leached wallrock

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REPORT: RGEN0100

CAPSULE GEOLOGY

averaging 0.5 metre in width. In 1985, a 0.2-metre sample from this leached zone assayed 23.31 grams per tonne silver (Assessment Report 14714).

BIBLIOGRAPHY

EMPR AR 1913-227,230; 1930-205; 1931-115
EMPR ASS RPT *14714, 17117
EMPR EXPL 1986-C206
EMPR OF MAP 1986-1D
GSC MAP 12-1969; 41-1989
GSC MEM 139
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/14

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW047**

NATIONAL MINERAL INVENTORY:

NAME(S): **HALL'S**, ARGENTUM, RAMBLER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

MINING DIVISION: New Westminster
Similkameen
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 29 N
LONGITUDE: 121 06 50 W
ELEVATION: 1905 Metres

NORTHING: 5474529
EASTING: 636821

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Dewdney Creek, between Dewdney and Ambery creeks on the north slope of Tulameen Mountain.

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena

ALTERATION: Limonite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Volcanogenic

TYPE: G04 Besshi massive sulphide Cu-Zn

COMMENTS: Tuffaceous sedimentary beds trend 090 degrees.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Jurassic

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Quartzite
Volcanic Sandstone
Siltstone
Wacke
Argillite
Limestone
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

70.9700

Grams per tonne

COMMENTS: Sample from oxidized rusty bands.

REFERENCE: Assessment Report 14714.

CAPSULE GEOLOGY

The area is underlain by Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) tuffaceous sediments comprised of volcanic sandstone, siltstone, wacke, tuff and argillite with interlayered fossiliferous limestone. These rocks are separated from the Lower-Upper Cretaceous Pasayten Group sediments to the east, by the major northwest trending Chuwanten fault.

The Hall's showing is hosted by bedded quartzite which trends 090 degrees. The quartzite consists of alternating grey and limonitic bands which are highly fractured and blocky in places. Fine-grained pyrite is disseminated throughout the grey bands while the oxidized limonitic bands host some disseminated sphalerite and galena. Several opencuts were excavated in the oxidized bands. In 1913, a sample taken across 1.2 metres assayed 0.69 gram per tonne gold and 24.0 grams per tonne silver. In 1985, a grab sample from the oxidized, rusty bands yielded 70.97 grams per tonne silver (Assessment Report 14714).

BIBLIOGRAPHY

EMPR AR *1913-227,229; 1930-205; 1931-115

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1269
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT *14714
EMPR EXPL 1986-C203
EMPR OF MAP 1986-1D
GSC MAP 12-1969; 41-1989
GSC MEM 139
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/14

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW048**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD MOUNTAIN**, KELLY 1, VAL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 28 59 N
LONGITUDE: 121 02 05 W
ELEVATION: 1494 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5483013
EASTING: 642346

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 6.8 kilometres above the mouth of Jim Kelly Creek, just above a cabin owned by Mr. James Kelly on Gold Mountain.

COMMODITIES: Silver Copper Lead Gold

MINERALS

SIGNIFICANT: Galena Chalcopyrite Arsenopyrite Pyrite Tetrahedrite

Bornite

ASSOCIATED: Quartz
ALTERATION TYPE: Silicific'n

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
COMMENTS: Mineralized quartz vein.

STRIKE/DIP: 090/15S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Jurassic-Cretaceous

GROUP

Pasayten

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Eagle Plutonic Complex

LITHOLOGY: Sandstone
Conglomerate
Pelite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Methow

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE:

COMMENTS: Part of Kelly Creek Camp (Minister of Mines Annual Report 1913).

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1913

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver 685.7000 Grams per tonne

Gold 14.4000 Grams per tonne

Copper 4.9000 Per cent

COMMENTS: High-grade sample from mineralized vein. A 25-centimetre sample

taken across the vein also assayed 0.68 gram per tonne gold.

REFERENCE: Minister of Mines Annual Report 1913, page 233.

CAPSULE GEOLOGY

The area is underlain by Lower to Upper Cretaceous Pasayten Group sediments which are comprised of altered, fractured and fissured sandstone, conglomerate and pelite. These are intruded by diorite of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex. To the north of the showing, the Upper Oligocene-Lower Miocene Coquihalla Formation comprised of basalt, rhyolite, tuff and agglomerate, caps Coquihalla Mountain.

The Gold Mountain showing consists of a quartz vein, ranging from 5 to 30 centimetres in width, infilling a fracture in the Pasayten Group rocks, striking 090 degrees and dipping slightly to the south. The vein is faulted and was developed by a 38.1-metre adit and two opencuts. The vein hosts galena, chalcopyrite, arsenopyrite, and pyrite with minor tetrahedrite and bornite.

In 1913, a 25-centimetre sample taken across the vein yielded

CAPSULE GEOLOGY

0.68 gram per tonne gold and trace silver. A hand-picked sample of high-grade material analysed 14.40 grams per tonne gold, 685.7 grams per tonne silver and 4.9 per cent copper (Minister of Mines Annual Report 1913, page 233).

In 1984, silicification and pyritization was found to be associated with east-trending faults. Gold and silver values are associated with the quartz infilling.

BIBLIOGRAPHY

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EMPR ASS RPT 10961, *12390, 17865, 19306, 20470, 21805
EMPR EXPL 1982-171,172; 1984-184
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
GSC SUM RPT *1922A, p. Fig.10
*Ray, G.E., Shearer, J.T., Niels, R.J. (1986): The Geology and Geochemistry of the Carolin Gold Deposit, Southwest British Columbia - Proceedings of Gold '86 Symposium, Toronto, 1986, pp. 470-487, Fig.1, p. 471

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/08

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW049**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUPERIOR**, JIM KELLY 1, VAL

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 17 N
LONGITUDE: 121 01 45 W
ELEVATION: 1250 Metres

NORTHING: 5483580
EASTING: 642734

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 6.4 kilometres above the mouth of Jim Kelly Creek,
about 7.0 kilometres from the confluence of Jim Kelly Creek and
the Tulameen River.

COMMODITIES: Silver Lead Copper Gold

MINERALS

SIGNIFICANT: Tetrahedrite Galena Chalcopyrite Pyrite
ASSOCIATED: Quartz
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Pasayten	Undefined Formation	
Jurassic-Cretaceous			Eagle Plutonic Complex

LITHOLOGY: Sandstone
Conglomerate
Pelite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Methow
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:
COMMENTS: Part of Kelly Creek camp (Minister of Mines Annual Report 1913).

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1913
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	1151.9800 Grams per tonne
Gold	2.0600 Grams per tonne

COMMENTS: High-grade ore.
REFERENCE: Minister of Mines Annual Report 1913, page 233.

CAPSULE GEOLOGY

The Superior occurrence is underlain by sediments of the Lower to Upper Cretaceous Pasayten Group which are comprised of altered, fractured and fissured sandstone, conglomerate and pelite. These are intruded by diorite of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex. To the north of the showing, the Upper Oligocene-Lower Miocene Coquihalla Formation comprised of basalt, rhyolite, tuff and agglomerate, caps Coquihalla Mountain.

The showing consists of a quartz vein which infills a fracture zone in the schistose rocks, nearly paralleling a diorite contact some 9 to 10 metres distant. The vein consists of quartz stringers within silicified and altered rock which attain a width of about 30 centimetres. The quartz hosts galena, pyrite, chalcopyrite and tetrahedrite. There is a 25-centimetre gouge, or talc-rich zone, on the hangingwall of the vein. The main workings consist of an open cut 31 by 4.5 by 1.5 metres in which about 27.2 tonnes of high-grade ore was mined and then lost by a flood.

In 1913, a sample of the high-grade ore assayed 2.06 grams per tonne gold and 1151.98 grams per tonne silver. A 1.3-metre sample

CAPSULE GEOLOGY

across the lower end of the cut yielded trace gold and 20.57 grams per tonne silver (Minister of Mines Annual Report 1913, page 233).

In 1984, silicification and pyritization was found to be associated with east-trending faults. A major fault of this nature was found along the western boundary of the claim. Ten samples were taken from the pyritized areas and assayed between 0.34 and 1.71 grams per tonne silver and 0.034 gram per tonne gold (Assessment Report 12390).

BIBLIOGRAPHY

EMPR AR *1913-227,232,233
EMPR ASS RPT 10961, *12390, 17865, 19306, 20470, 21805
EMPR EXPL *1982-171,172; 1984-184
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT *1922A, p. Fig.10
*Ray, G.E., Shearer, J.T., Niels, R.J. (1986): The Geology and Geochemistry of the Carolin Gold Deposit, Southwest British Columbia - Proceeding of Gold '86 Symposium, Toronto, pages 470-487, Fig.1, p. 471

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/08

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW050**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOHN BULL**, VAL, EVENING STAR
W.B. MARKS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

Underground

MINING DIVISION: Similkameen

LATITUDE: 49 29 24 N
LONGITUDE: 121 02 05 W
ELEVATION: 1220 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5483785
EASTING: 642326

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Jim Kelly Creek about 8.0 kilometres from the confluence with the Tulameen River; the showing is immediately below the first main fork of the creek.

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins
DIMENSION: Metres
COMMENTS: Mineralized quartz vein.

STRIKE/DIP: 165/50W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Jurassic-Cretaceous

GROUP

Pasayten

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Eagle Plutonic Complex

LITHOLOGY: Sandstone
Conglomerate
Pelite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Methow

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE:

COMMENTS: Part of Kelly Creek camp (Minister of Mines Annual Report 1913).

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1937

SAMPLE TYPE: Channel

COMMODITY

GRADE

Silver

3.4300

Grams per tonne

Gold

9.6000

Grams per tonne

COMMENTS: An 18 centimetre wide channel sample across a quartz vein.

REFERENCE: Minister of Mines Annual Report 1937, pages D21,D22.

CAPSULE GEOLOGY

The John Bull occurrence is underlain by sediments of the Lower to Upper Cretaceous Pasayten Group which are comprised of altered, fractured and fissured sandstone, conglomerate and pelite. These are intruded by foliated diorite of the Late Jurassic and Early Cretaceous Eagle Plutonic Complex comprised of a mass of foliated granodiorite. To the north of the showing, the Upper Oligocene-Lower Miocene Coquihalla Formation comprised of basalt, rhyolite, tuff and agglomerate, caps Coquihalla Mountain.

The showing consists of a small quartz vein which strikes 165 degrees and dips 50 degrees west. The vein is developed by a 6.1-metre open cut and a tunnel extending 7.6 metres along the vein. The vein ranges from 15 to 25 centimetres in width, and has several parallel stringers which traverse the rock adjacent to the vein. The mineralized main quartz vein hosts pyrite and chalcopyrite. In 1913, a sample taken across 20 centimetres assayed 24.0 grams per tonne gold and 17.1 grams per tonne silver. A high-grade sample yielded

CAPSULE GEOLOGY

48.0 grams per tonne gold (Minister of Mines Annual Report 1913, page 233). In 1937, an 18-centimetre wide sample assayed 9.6 grams per tonne gold and 3.43 grams per tonne silver (Minister of Mines Annual Report 1937, pages D21,D22).

In 1984, silicification and pyritization were found to be associated with east-trending faults. A major fault of this nature was found along the western boundary of the claim. Ten samples were taken from the pyritized areas and assayed between 0.34 and 1.71 grams per tonne silver and 0.034 gram per tonne gold (Assessment Report 13829).

BIBLIOGRAPHY

EMPR AR *1913-227,232,233; *1937-D21,D22; 1965-161; 1966-174

EMPR ASS RPT 10685, *13829, 19306, 20470, 21805

EMPR EXPL *1982-169; 1985-C170

GSC MAP 737A; 1069A; 12-1969; 41-1989

GSC P 69-47

GSC SUM RPT 1922A, p. Fig.10

*Ray, G.E., Shearer, J.T., Niels, R.J. (1986): The Geology and Geochemistry of the Carolin Gold Deposit, Southwest British Columbia - Proceedings of Gold '86 Symposium, Toronto, 1986, pp. 470-487, Fig.1, p. 471

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/08

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW051**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARSELLAISE**, AURA, FINE,
FORTUNE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:
LATITUDE: 49 29 56 N
LONGITUDE: 121 03 35 W
ELEVATION: 1478 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: Located along the west fork of Jim Kelly Creek, west of the John Bull occurrence (092HSW050).

Underground
MINING DIVISION: Similkameen
UTM ZONE: 10 (NAD 83)
NORTHING: 5484726
EASTING: 640490

COMMODITIES: Gold Silver Copper Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cretaceous Jurassic-Cretaceous	Pasayten	Undefined Formation	Eagle Plutonic Complex

LITHOLOGY: Sandstone
Conglomerate
Pelite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow
METAMORPHIC TYPE: Contact
COMMENTS: Part of Kelly Creek camp (Minister of Mines Annual Report 1913).

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE:

INVENTORY

ORE ZONE: VEIN
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY

Silver	68.5700	Grams per tonne
Gold	3.5000	Grams per tonne

COMMENTS: Sample taken across 66 centimetres of a quartz vein.
REFERENCE: Minister of Mines Annual Report 1937, pages D21,D22.

CAPSULE GEOLOGY

The Marsellaise occurrence is underlain by sediments of the Lower to Upper Cretaceous Pasayten Group which are comprised of altered, fractured and fissured sandstone, conglomerate and pelite. These are intruded by foliated diorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. To the north of the showing, the Upper Oligocene-Lower Miocene Coquihalla Formation comprised of basalt, rhyolite, tuff and agglomerate, caps Coquihalla Mountain.

The showing consists of a small quartz vein with associated stringers that cuts schistose hostrocks. The quartz vein hosts pyrite with minor chalcopyrite. In 1913, a sample taken across 1.2 metres assayed 0.68 gram per tonne gold and trace silver (Minister of Mines Annual Report 1913, page 233).

In 1937, the showing was described as being located on the west fork of Jim Kelly Creek at 1478 metres elevation. The quartz vein was exposed by a 6-metre opencut and a short adit. The vein strikes 280 degrees and dips 60 degrees north in schistose rocks. It ranges from 12 to 66 centimetres in width and is mineralized with pyrite, chalcopyrite and traces of galena. A sample taken across 66 centimetres assayed 3.5 grams per tonne gold and 68.57 grams per

CAPSULE GEOLOGY

tonne silver (Minister of Mines Annual Report 1937, pages D21,D22).

BIBLIOGRAPHY

EMPR AR *1913-227,233; *1937-D21,D22; 1965-161; 1966-174
EMPR ASS RPT 10868, 14362, 18826
EMPR EXPL 1982-179; 1986-C219
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1922A, p. Fig.10
*Ray, G.E., Shearer, J.T., Niels, R.J.(1986): The Geology and
Geochemistry of the Carolin Gold Deposit, Southwest British
Columbia - Proceedings of Gold '86 Symposium, Toronto, 1986,
pp. 470-487, Fig.1, p. 471

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/08

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW052**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPOKANE**, VANCOUVER, VAL,
AURA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 47 N
LONGITUDE: 121 02 35 W
ELEVATION: 1460 Metres

NORTHING: 5484480
EASTING: 641704

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on Jim Kelly Creek, about 9.0 kilometres west of the
confluence of Jim Kelly Creek and the Tulameen River.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Jurassic-Cretaceous

GROUP

Pasayten

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Eagle Plutonic Complex

LITHOLOGY: Sandstone
Conglomerate
Pelite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Methow

METAMORPHIC TYPE: Contact

COMMENTS: Part of the Kelly Creek camp.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1913

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

4.1100

Grams per tonne

COMMENTS: Sample taken across 0.9 metre.

REFERENCE: Minister of Mines Annual Report 1913, page 233.

CAPSULE GEOLOGY

The area of the Spokane occurrence is underlain by sediments of the Lower to Upper Cretaceous Pasayten Group which are comprised of altered, fractured and fissured sandstone, conglomerate and pelite. These are intruded by foliated diorite of the Late Jurassic to Early Cretaceous Eagle Plutonic Complex. To the north of the showing, the Upper Oligocene-Lower Miocene Coquihalla Formation comprised of basalt, rhyolite, tuff and agglomerate, caps Coquihalla Mountain.

The showing consists of two opencuts along a fracture zone in schistose hostrock. The fracture is infilled by quartz which hosts pyrite. The irregular quartz veinlets carrying pyrite cover about 0.9 metre width across the shear. In 1913, a sample across 0.9 metre assayed 4.11 grams per tonne gold (Minister of Mines Annual Report 1913, page 233).

Locally, silicification and pyritization is associated with east-trending faults. The pyritized faults yield minor silver and gold values.

BIBLIOGRAPHY

EMPR AR 1903-249; 1908-126,128; *1913-227,233; 1914-514; 1937-D21,
D22; 1965-161; 1966-174

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1279
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 10685, 10868, 13829, 14362, 18826
EMPR EXPL 1982-169,179; 1985-C170; 1986-C219
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

GSC SUM RPT *1922A, p. Fig.10

*Ray, G.E., Shearer, J.T., Niels, R.J. (1986): The Geology and
Geochemistry of the Carolin Gold Deposit, Southwest British
Columbia - Proceedings of Gold '86 Symposium, Toronto, 1986,
pp. 470-487, Fig. 1, p. 471

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/08

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW053**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUEEN, ROY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 00 43 N
LONGITUDE: 121 38 12 W
ELEVATION: 560 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5429679
EASTING: 599692

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Slesse Creek near Glacier Creek (Minister of Mines Annual Report 1904, page 266).

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Paleozoic

GROUP

Chilliwack

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Slate
Felsic Dike

HOSTROCK COMMENTS: The Chilliwack Group is Devonian to Permian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1904

COMMODITY

Silver

GRADE

6.8600

Grams per tonne

COMMENTS: Sample also yielded a trace of gold.

REFERENCE: Minister of Mines Annual Report 1904, page 266.

CAPSULE GEOLOGY

The area of the Queen occurrence is underlain by the Devonian to Permian Chilliwack Group consisting of mafic volcanic rocks and metamorphosed argillaceous rocks. Proterozoic and Paleozoic amphibolitic rocks of the Yellow Aster Complex occur as fault slices in contact with Chilliwack Group rock on the west, and the Oligocene Chilliwack batholith, on the east.

In 1897, it was reported that a tunnel was extended by 46 metres in order to strike a vein. In 1904, it was reported that a drift was run for 6 metres into a zone of altered slate about 60 to 90 centimetres wide. The zone is cut by a felsic dike and both it and the slate are mineralized with pyrite. Selected samples were reported to yield a trace of gold and 6.86 grams per tonne silver (Minister of Mines Annual Report 1904, page 266).

BIBLIOGRAPHY

EMPR AR 1897-617; *1904-266; 1906-256; 1909-278
EMPR ASS RPT 16927, 18237
EMPR FIELDWORK 1985, pp. 95-97
GSC MAP 737A; 12-1969; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/09

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW054**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING**, ST. ELMO, KING EXTENSION

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 23 N
LONGITUDE: 121 35 01 W
ELEVATION: 100 Metres

NORTHING: 5466187
EASTING: 602890

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located at St. Elmo, west of Hope (Minister of Mines Annual Report 1900, page 905)

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cretaceous

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Spuzzum Intrusions

LITHOLOGY: Quartz Diorite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

A tunnel was excavated on the King claims between 1899 and 1902, achieving a length of 27 metres. The deposit was not described except to say that it was showing rich prospects of galena ore.

The King group of claims were reported to be situated at St. Elmo, west of Hope. As shown on GSC Map 737A, St. Elmo is located on the Canadian National Railway line, about 1 kilometre downstream from the mouth of Hunter Creek. This area is underlain by the southern extremity of the Cretaceous Spuzzum pluton consisting of quartz diorite and diorite.

BIBLIOGRAPHY

EMPR AR 1899-744; 1900-905; *1901-1087; 1902-196; 1903-185; 1904-236
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW055**

NATIONAL MINERAL INVENTORY:

NAME(S): **STEAMBOAT MOUNTAIN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 05 58 N
LONGITUDE: 121 04 30 W
ELEVATION: 1550 Metres

NORTHING: 5440295
EASTING: 640515

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 1.2 kilometres west-southwest of the summit of Shawatum (Steamboat) Mountain, on the southwest side of a ridge (GSC Summary Report 1911, Map 56A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Quartzite
Argillite
Diorite Porphyry Dike

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The hostrocks of the Steamboat Mountain occurrence are reported to consist of a series of interbedded quartzites and argillites of the Permian to Jurassic Hozameen Complex. These are cut by a diorite porphyry dike from 1.4 to 2.4 metres wide that is exposed along strike for 107 metres. It is sparingly mineralized with pyrite and chalcopyrite. A quartz lens exposed in a crosscut is 2 metres (at its greatest width) by 7 metres long and hosts, along with the surrounding hostrock, pyrite and chalcopyrite.

Two tunnels were driven in, or shortly before, 1911; the upper is 19 metres long and the lower is 37 metres long, not including a 5.5-metre crosscut on the quartz lens.

In 1910, reports that gold occurred in a free state in the dike set off a rush of several hundred prospectors to the area. Charles Camsell of the Geological Survey of Canada visited the property in 1911 and samples taken at that time proved barren in gold (GSC Summary Report 1911, page 121). When the claims of this significant gold discovery proved to be fraudulent, the resulting "evil effects of the Steamboat Mountain fiasco" shook the confidence of prospectors in this region for years after. Three new townsites were apparently quickly abandoned.

BIBLIOGRAPHY

EMPR AR 1910-131; 1911-181; 1912-187; 1915-267; 1916-265; 1938-F8
GSC MAP 56A; 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1911, pp. 115,121

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW056**

NATIONAL MINERAL INVENTORY: 092H3 Au1

NAME(S): **PYRRHOTITE CREEK**, GOLD COIN, DENAR,
PI, NORTH STAR, DINAR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 07 16 N
LONGITUDE: 121 05 31 W
ELEVATION: 1370 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5442672
EASTING: 639218

LOCATION ACCURACY: Within 500M

COMMENTS: Sargent, in 1938, reports on these showings on the east side of Pyrrhotite Creek (Minister of Mines Annual Report 1938, page F18). The North Star group of claims apparently covered these showings in 1923 (GSC Summary Report 1923). Later, the Gold Coin group (circa 1929) appears to have covered this and a number of other nearby showings. The Dinar claims (1980) later stretched out over much of the same ground as the Gold Coin group.

COMMODITIES: Copper Gold Silver Antimony

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite Stibnite

ASSOCIATED: Quartz

ALTERATION: Silica Sericite

COMMENTS: Skarn mineral assemblage reportedly not present with sulphides.

ALTERATION TYPE: Silicific'n Sericitic

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Disseminated

CLASSIFICATION: Skarn

TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Basalt
Chert
Diorite
Granodiorite

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SKARN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1938

SAMPLE TYPE: Chip

COMMODITY

GRADE

COMMODITY	GRADE	Units
Gold	0.6900	Grams per tonne
Copper	0.5000	Per cent

COMMENTS: Chip over about 3.35 metres. A trace of silver was detected.

REFERENCE: Minister of Mines Annual Report 1938, page F19.

CAPSULE GEOLOGY

The area of the Pyrrhotite Creek occurrence is underlain by basalt and massive to locally bedded chert of the Permian to Jurassic Hozameen Complex. Basalt-chert contacts are steeply dipping and probably faulted. Small intrusions of diorite to granodiorite of unknown, but probable Tertiary age occur in the basalt. A fault striking 015 degrees along Pyrrhotite Creek truncates a 120 degree striking fault that passes through the Giant Creek area. Monger has mapped another west-northwest striking fault in the valley north of the property (GSC Map 12-1969).

Over several square kilometres, the basalt is altered and veined. Alteration consists mainly of silicification and lesser

CAPSULE GEOLOGY

sericitization. Three main types of mineralization are reported to occur in the vicinity. These include skarn, veins and porphyry types.

In 1938, Sargent reported that this showing, extending from the east side of Pyrrhotite Creek eastward, was one of the most promising "replacement" showings in the area (Minister of Mines Annual Report 1938, page F19). Pyrrhotite Creek itself marks a lithologic contact between basalt and chert.

Several skarns with outcrop areas up to 3 metres across are exposed in cuts in altered basalt. The skarns are mainly massive pyrrhotite with 1 to 2 per cent chalcopyrite and very variable quartz (0 to 80 per cent). Some disseminated mineralization also occurs. In 1938, a chip sample taken by Sargent yielded 0.69 gram per tonne gold, 0.5 per cent copper and a trace of silver over 3.35 metres. One locality in the creek bed itself contained mainly pyrrhotite with chalcopyrite but also pyrite and little stibnite.

BIBLIOGRAPHY

EMPR AR 1929-241; *1938-F18; 1950-167; 1958-55; 1960-87; 1961-86
EMPR ASS RPT 5474, *8839
EMPR EXPL 1978-E140; 1979-141
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
GSC SUM RPT *1923A, pp. 73-76

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW057**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEFRIES**, TEN MILE CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 06 29 N
LONGITUDE: 121 06 37 W
ELEVATION: 750 Metres

NORTHING: 5441188
EASTING: 637916

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located in the vicinity of Shawatum (Steamboat) Mountain (Minister of Mines Annual Reports 1923 and 1924). Possibly on or near one of the Gold Coin occurrences (092HSW014, 56, 75, 76, 77).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Volcanogenic
TYPE: G04 Besshi massive sulphide Cu-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Hozameen	Undefined Formation	

LITHOLOGY: Basalt
Chert
Pelite

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The area of the Defries occurrence is underlain by Permian to Jurassic rocks of the Hozameen Complex comprised mainly of basalt, chert and pelite. These rocks have undergone regional, low grade greenschist facies metamorphism and generally contain fine-grained actinolite, epidote and chlorite.

In 1923, a large body of sulphide ore comprising chalcopyrite and sphalerite was reported. The property is described as being about 16 kilometres down the Skagit River from the 23 Mile Camp, in the area of Steamboat (Shawatum) Mountain.

BIBLIOGRAPHY

EMPR AR *1923-164; 1924-137; 1925-180
GSC BULL 238
GSC MAP 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT 1923A, p. 73A

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW058**

NATIONAL MINERAL INVENTORY:

NAME(S): **UTAH**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 09 19 N
LONGITUDE: 121 08 49 W
ELEVATION: 914 Metres

NORTHING: 5446371
EASTING: 635112

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of the Skagit River on the southwest side of Silvertip Mountain (from location plot on GSC Map 56A).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: G04 Besshi massive sulphide Cu-Zn 101 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Chert
Pelite
Greenstone

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cascade Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The area is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of chert, pelite and greenstone with minor interbedded limestone.

The Utah showing was comprised of four claims. In 1911, a 11.3-metre adit was driven along a bed of oxidized, limonitic sulphide-bearing limestone. The limestone is crosscut by small quartz stringers hosting pyrite and chalcopyrite. Chalcopyrite and pyrite are also disseminated throughout the limestone.

In 1911, a sample taken from the adit containing quartz, calcite, pyrite and chalcopyrite yielded no trace of gold.

BIBLIOGRAPHY

GSC BULL 238
GSC MAP 12-1969; *56A; 41-1989
GSC P 69-47
GSC SUM RPT *1911, p. 122

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/26

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1287
REPORT: RGEN0100

MINFILE NUMBER: **092HSW059**

NATIONAL MINERAL INVENTORY:

NAME(S): **DUNDEE**, JOSEPHINE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 12 07 N
LONGITUDE: 121 43 04 W
ELEVATION: 50 Metres

NORTHING: 5450697
EASTING: 593404

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located at the foot of Cheam Peak about 800 metres from a wagon road (circa 1915) (Minister of Mines Annual Report 1915, page 308).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Marcasite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic	Chilliwack	Undefined Formation	

LITHOLOGY: Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Argillites of the Devonian to Permian Chilliwack Group host lenses of quartz sometimes containing particles of marcasite and pyrite. In 1915, some good values were reported from the showing but two government samples yielded only a trace of gold and silver (Minister of Mines Annual Report 1915, page 308).

BIBLIOGRAPHY

EMPR AR *1915-308
EMPR FIELDWORK 1985, pp. 95-97
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW059**

MINFILE NUMBER: **092HSW060**

NATIONAL MINERAL INVENTORY:

NAME(S): **PACIFIC MINES, BRETT, HOPE GOLD MINES,
DUNDEE, DUNWELL, LEBRED,
RENO, FIFTEENMILE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:
LATITUDE: 49 28 34 N
LONGITUDE: 121 16 10 W
ELEVATION: 730 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located on the south side of Fifteen Mile Creek, near Jessica.

Underground
MINING DIVISION: New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5481824
EASTING: 625363

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Gold Arsenopyrite
ASSOCIATED: Talc
ALTERATION: Talc
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Peridotite
Diorite
Diorite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Cascade Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: STOCKPILE
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY
Silver 3.4300 Grams per tonne
Gold 16.4500 Grams per tonne

COMMENTS: Grab from 18-tonne stockpile of sorted ore.
REFERENCE: Property File - Special Report by B.T. O'Grady, 1936-Brett Gold Mines.

CAPSULE GEOLOGY

The Coquihalla Serpentine Belt forms a narrow, elongate, north-northwest trending steeply dipping unit separating supracrustal rocks of the Ladner Group to the east, from the Hozameen Complex in the west. Dark, highly sheared to massive serpentinite of probable peridotite parentage, characterizes the belt.

The western contact is represented by a major fracture which appears to dip steeply east. This is termed the "West" Hozameen fault and the serpentinites in this vicinity contain highly sheared talcose rocks. The serpentinite has a complex association with diorite intrusions which occur as dike-like bodies within the ultramafics. On the property, a 30 metre wide diorite dike crosscuts the serpentinite.

Workings consist of development along sheared fractures and talcose seams in the serpentinite which strike northwest and dip generally to the southwest. Mineralization consists of native gold in the talcose serpentinite as well as some arsenopyrite.

The main adit intersects a shear striking 310 degrees and dipping 75 degrees southwest. In 1936, a selected sample of the slickensided serpentinite from about 18 tonnes of sorted ore assayed

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CAPSULE GEOLOGY

16.45 grams per tonne gold and 3.43 grams per tonne silver. Samples from other shears yielded between trace to 0.68 gram per tonne gold and trace to 6.85 grams per tonne silver (O'Grady, 1936).

BIBLIOGRAPHY

EMPR AR 1929-238,239; 1930-205; 1933-177; 1936-F61
EMPR FIELDWORK 1982, pp. 62-84
EMPR OF 1986-1
EMPR PF (Special Report by B.T. O'Grady, 1936 - Brett Gold Mines Ltd.)
GSC MAP 12-1969
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1929A
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/08

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW061**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRON MOUNTAIN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 01 24 N
LONGITUDE: 121 17 53 W
ELEVATION: 1760 Metres

NORTHING: 5431445
EASTING: 624424

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in a deep gorge near the summit of Custer Ridge about 3 kilometres southeast of the Silver King showing (092HSW062) (Minister of Mines Annual Report 1915, page 304 and sketch map opposite page 240).

COMMODITIES: Iron Sulphur

MINERALS

SIGNIFICANT: Limonite Pyrite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Layered Massive
CLASSIFICATION: Residual Industrial Min.
TYPE: B01 Laterite Fe

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Oligocene			Chilliwack Batholith

ISOTOPIC AGE: 29 Ma

DATING METHOD: Potassium/Argon
Cretaceous-Tertiary

Custer Gneiss

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: The Custer Gneiss protolith is lower Mesozoic and possibly Paleozoic and Precambrian. Metamorphic age is Late Cretaceous-early Tertiary.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Cascade Mountains
Undivided Metamorphic Assembl.
RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1915

SAMPLE TYPE: Chip

COMMODITY	GRADE
Iron	40.8000 Per cent
Sulphur	1.5000 Per cent

COMMENTS: A 7.6 metre chip sample from a wall in the upper adit.

REFERENCE: Minister of Mines Annual Report 1915, page 304.

CAPSULE GEOLOGY

The area lies near the contact between the granodioritic Oligocene Chilliwack batholith and the Custer Gneiss complex of uncertain age.

The Iron Mountain showing consists of oxidized iron ore in a deep gorge near the summit of Custer Ridge. The hostrock is sheared granodiorite. Opencuts exposed bands of limonitic, ochreous material lying between bands of solid ore. Three short adits were driven into the iron ore which is comprised mainly of oxidized pyrite and limonite. In 1915, samples were taken from two of the adits. A sample across 4.6 metres yielded 38.8 per cent iron, 1.3 per cent sulphur and nil phosphorous. Another chip sample across 7.6 metres yielded 40.8 per cent iron, 1.5 per cent sulphur and nil phosphorous (Minister of Mines Annual Report 1915, page 304).

BIBLIOGRAPHY

EMPR AR *1915-240,304,305
GSC MAP 12-1969; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1291
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW062**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER KING**, LONE STAR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 02 10 N
LONGITUDE: 121 20 21 W
ELEVATION: 1525 Metres

NORTHING: 5432799
EASTING: 621387

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on the southwest side of a deep gorge at the source of the headwaters of "Silver" (Paleface) Creek (Minister of Mines Annual Report 1915, page 305 and sketch map opposite page 240).

COMMODITIES: Lead Gold Silver

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz Pyrite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary Oligocene			Custer Gneiss Chilliwack Batholith

LITHOLOGY: Quartzite
Granodiorite

HOSTROCK COMMENTS: Metamorphic age of Custer Gneiss is Late Cretaceous-early Tertiary. The protolith is lower Mesozoic and possibly Paleozoic-Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl. Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Mineral outcroppings at the headwaters of Silverhope (Silver) Creek are reported to consist of galena in quartz and quartzite. The quartzite contains crystals of pyrite. Two adits were driven; the lower adit for 17 metres with two crosscuts (25 and 6 metres), and the upper adit for 4.6 metres. Samples taken yielded a trace of gold and silver and nil copper (Minister of Mines Annual Report 1915, page 305).

The location of the showing is uncertain. The area is underlain by the Custer Gneiss, a package of rocks derived from Mesozoic and possibly Paleozoic rocks and metamorphosed in the Late Cretaceous and early Tertiary. The granodioritic Oligocene Chilliwack batholith intrudes the country rock.

BIBLIOGRAPHY

EMPR AR 1899-851; *1915-305
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW063**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNTAIN GOAT**, PIERCE MOUNTAIN, CHUCK 1-2

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 03 49 N
LONGITUDE: 121 37 05 W
ELEVATION: 1724 Metres

NORTHING: 5435447
EASTING: 600949

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Pierce Mountain just east of Pierce Lake, about 7 kilometres southeast of Chilliwack on the south side of the Chilliwack River.

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Igneous-contact
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic
Paleozoic
Paleozoic-Mesozoic
Proterozoic-Paleoz.

GROUP

Undefined Group
Chilliwack

FORMATION

Cultus
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions
Yellow Aster Complex

LITHOLOGY: Gabbro
Serpentinite
Argillite
Pelite

HOSTROCK COMMENTS: Host is apparently the contact area of Yellow Aster Complex gabbro and an unnamed ophiolitic ultramafic of Paleozoic/Mesozoic? age.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Chilliwack

Shuksan

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

23.2000

Grams per tonne

COMMENTS: A 0.17 metre chip sample taken across a quartz vein.

REFERENCE: Assessment Report 16183.

CAPSULE GEOLOGY

The Mountain Goat property is underlain by an imbricated sequence of metamorphosed Precambrian to Mesozoic rocks. These include gabbroic and dioritic rock of the Proterozoic and Paleozoic Yellow Aster Complex; sedimentary rocks of the Devonian to Permian Chilliwack Group; and Paleozoic and/or Mesozoic ultramafic rocks (unnamed). A high angle, eastward dipping fault appears to have brought these older rocks over younger metasedimentary pelitic rock of the Triassic and/or Jurassic Cultus Formation which lies to the west. Oligocene tonalite of the Chilliwack batholith intrude the package on its eastern boundary.

The serpentinites are in close association with the dark green gabbroic rocks. Argillites and pelites of the Chilliwack Group are found structurally below the gabbros. These argillites have been altered to dark green to grey hornfels and schist with abundant biotite and sericite.

Ore-bearing quartz veins are associated with the Chilliwack batholith. Mineralization on the property consists of quartz veins

CAPSULE GEOLOGY

and stringers along the contact between serpentinites and gabbros. The veins strike northeast and dip 65 to 80 degrees northwest. Mineralized quartz veins host pyrrhotite, chalcopyrite and minor arsenopyrite.

In 1931, two small veins were reported to have analysed 116.1 grams per tonne gold (Minister of Mines Annual Report 1933, page 258). Several old adits and trenches occur on the property.

In 1987, four rock chip samples were taken from a quartz vein, ranging between 8 to 20 centimetres in width, which was exposed in an old adit at 1724 metres elevation. A sample taken over 17 centimetres yielded 23.2 grams per tonne gold; another sample analysed 18.4 grams per tonne gold over 20 centimetres (Assessment Report 16183).

BIBLIOGRAPHY

EMPR AR *1915-305,306; *1933-258
EMPR ASS RPT *16183, *17621
EMPR BULL *1, p. 145; 20, Part IV, p. 19
EMPR FIELDWORK 1985, pp. 95-97
EMPR GEM *1972-101
EMPR PF (Starr, C.C. (1937): Report on the Mountain Goat and Other Claims of the Kandahar Consolidated Gold Mine, 5 p.)
GSC MAP 737A; 12-1969; 1069A; 41-1989
GSC P *69-47, p. 65

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/10

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW064**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUMBO (L.187)**, LINCOLN (L.186), GOLD BUG (L.188),
ROY, TORB

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 00 17 N
LONGITUDE: 121 37 28 W
ELEVATION: 920 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5428892
EASTING: 600601

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the centre of Jumbo Crown grant Lot 187 (NTS map 92H/4).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Pyrrhotite Bornite

ASSOCIATED: Quartz

ALTERATION: Malachite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Paleozoic

GROUP

Chilliwack

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite

HOSTROCK COMMENTS: The Chilliwack Group is Devonian to Permian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

49.8000

Grams per tonne

Gold

7.4000

Grams per tonne

Copper

9.0000

Per cent

REFERENCE: Assessment Report 18237.

CAPSULE GEOLOGY

The area is underlain by the Devonian to Permian Chilliwack Group consisting of mafic volcanic rocks and metamorphosed argillaceous rocks. Proterozoic and Paleozoic amphibolitic rocks of the Yellow Aster Complex occur as fault slices in contact with the Chilliwack Group on the west, and Oligocene intrusive rocks of the Chilliwack batholith on the east.

The hostrock of the Jumbo occurrence is an iron-rich argillite striking 320 degrees. The property was first explored around 1904 and 1905, with the development of several opencuts and two adits. The first adit, on the Jumbo Crown grant, followed a seam of quartz, about 30 centimetres wide, for about 30 metres where it pinched out. Later government assays of the quartz yielded no values. The second adit, about 150 metres lower in elevation on the Lincoln Crown grant, was driven for about 18 metres into iron-stained argillite. A sample from an opencut in the adit area yielded trace gold and 27 grams per tonne silver (Minister of Mines Annual Report 1915, page 307).

In 1988, a mineralized area designated the Torb zone, was discovered in a possible shear zone on the eastern edge of the Jumbo Crown grant. This zone consists of a sulphide lens stained with malachite and containing chalcopyrite, pyrite, minor pyrrhotite and possibly bornite. One sample yielded 7.4 grams per tonne gold, 9 per cent copper and 49.8 grams per tonne silver (Assessment Report 18237).

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RUN TIME: 10:48:34

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PAGE: 1296
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1904-267; 1905-249; *1915-307
EMPR ASS RPT 7107, 16927, *18237
EMPR FIELDWORK 1985, pp. 95-97
GSC MAP 737A; 12-1969; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/09

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW065**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT CHEAM 2**, LUCKY, POP

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 12 06 N
LONGITUDE: 121 42 00 W
ELEVATION: 540 Metres

NORTHING: 5450688
EASTING: 594700

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north slope of Mount Cheam about 1 kilometre southeast of where the powerline crosses the Trans-Canada Highway.

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Pyrrhotite

ASSOCIATED: Quartz

ALTERATION: Garnet

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Skarn
TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic
Triassic-Jurassic
Miocene

GROUP

Chilliwack
Undefined Group

FORMATION

Undefined Formation
Cultus

IGNEOUS/METAMORPHIC/OTHER

Mount Barr Batholith

LITHOLOGY: Limestone
Pelite
Volcaniclastic
Volcanic Rock
Granodiorite
Quartz Diorite
Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1966

SAMPLE TYPE: Channel

COMMODITY

GRADE

Copper

0.1100

Per cent

COMMENTS: From a 2.1 metre channel sample.

REFERENCE: Minister of Mines Annual Report 1966, page 61.

CAPSULE GEOLOGY

The Cheam Mountain area is underlain by pelites and sandstones of the Triassic and/or Jurassic Cultus Formation, which in turn overlie volcanoclastic sediments, limestone and volcanics of the Devonian to Permian Chilliwack Group. These rocks are intruded by the Miocene Mount Barr batholith composed of granodiorite and quartz diorite.

Workers in 1966 reported limestone bluffs of the Chilliwack Group contains two irregular, parallel and vertical, vuggy quartz veins 2 metres wide and 15 metres apart which trend south up the face. Within the veins are scattered veinlets of chalcopyrite and irregular masses of pyrrhotite. Some sulphide extends into the limestone wallrock. The limestone is crystalline and in spots altered to garnet.

A 2.1 metre channel sample taken across one of the veins yielded 0.11 per cent copper and nil silver and gold (Minister of Mines Annual Report 1966, page 61). Other samples yielded traces of gold and tungsten. In 1973, work was apparently performed at this location on the Lucky claims, where iron, copper and zinc

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CAPSULE GEOLOGY

mineralization were noted at a limestone-granite contact.

BIBLIOGRAPHY

EMPR AR *1966-61
EMPR ASS RPT *13222, *20161, *21579
EMPR FIELDWORK 1985, pp. 95-97
EMPR GEM *1973-124
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW066**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAINY**, CEDARFLAT, CF

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 18 N
LONGITUDE: 121 05 15 W
ELEVATION: 1585 Metres

NORTHING: 5479796
EASTING: 638602

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit (Assessment Report 8253). Drillholes located to the immediate east and south of the adit (Assessment Report 8884).

COMMODITIES: Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Pyrrhotite Chalcopyrite Pyrite Magnetite

ASSOCIATED: Quartz Carbonate

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Pasayten	Undefined Formation	

LITHOLOGY: Phyllite
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Copper	0.0200	Per cent
Zinc	1.4200	Per cent

COMMENTS: From a 1-metre drill interval. Gold analysed 0.07 gram per tonne.
REFERENCE: Assessment Report 8884.

CAPSULE GEOLOGY

The Rainy showing area is underlain by a series of sediments of the Cretaceous Pasayten Group. Mineralization consists of massive sphalerite, pyrite and pyrrhotite in a quartz gangue. Minor amounts of chalcopyrite and magnetite have also been observed. The mineralization on surface occurs parallel to foliation, in rusty black phyllites interbedded with conglomerates.

Noranda drilled the property in 1980 in order to test an anomalous zone and determined that it was caused by weak pyrrhotite-sphalerite-pyrite carbonate veinlets. The veinlets are narrow (less than 2 millimetres) and occur at infrequent intervals. A 1-metre drill interval yielded 1.42 per cent zinc, 0.02 per cent copper, 3 grams per tonne silver and 0.07 gram per tonne gold (Assessment Report 8884).

BIBLIOGRAPHY

EMPR AR 1968-276
EMPR ASS RPT *1560, *8253, *8884
GSC MAP 12-1969; 737A; 1069A; 41-1989

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW067**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLOVER LEAF**, RUBY CREEK

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 29 N
LONGITUDE: 121 37 05 W
ELEVATION: 60 Metres

NORTHING: 5468179
EASTING: 600351

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located along Ruby Creek just above the junction of Ruby Creek and the Fraser River.

COMMODITIES: Talc Nickel Copper Silver Gold

MINERALS

SIGNIFICANT: Talc Pyrrhotite
ASSOCIATED: Tremolite Actinolite Magnetite
ALTERATION TYPE: Serpentin'zn Talc
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: M07 Ultramafic-hosted talc-magnesite M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation

LITHOLOGY: Chloritic Phyllite
Pyroxenite

HOSTROCK COMMENTS: Age of metamorphism is Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fjord Ranges (Southern)
TERRANE: Plutonic Rocks

CAPSULE GEOLOGY

The Clover Leaf showing is on the southwest bank of Ruby Creek which drains southeast into the Fraser River, northeast of Agassiz. Exposures are poor and lens-like; the area is mostly drift covered. The talc exposure is 10 metres thick with a strike length of 70 metres, contained within north striking, steeply dipping chloritic phyllite. The talc is believed to be a completely altered ultramafic body, as many such bodies are seen in the vicinity, including a bluff of pyroxenite north of the talc showing. Muller has included this area under his map unit Ms (GSC Map 41-1989). The parent rocks are believed to be largely upper Paleozoic (probably Permian-Jurassic Hozameen Complex) but may be in part Mesozoic; with metamorphism occurring in the Cretaceous (GSC Paper 69-47, page 33). The talc is cream to dark greenish grey and weathers rust and green. The surface is highly fractured and slickensided, and the talc has a north trending foliation. In thin section, the talc ore consists of 25 per cent tremolite-actinolite and 5 per cent magnetite. It yields an off-white to grey powder. The property has been drilled, first in 1964 and again in 1970. The later drilling intersected about 60 metres of talc in a hole angling 33 degrees north, along strike, indicating the depth of talc but not the true thickness. Trenching and test pits have also been dug on the showing, dating to 1966. Pyrrhotite, carrying values in nickel and copper, was also reported. Up to 100 grams per tonne silver was obtained from pack sack drill samples. Values in gold are also reported to occur.

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EMPR ASS RPT 2666
EMPR GEM 1969-198; 1970-249; 1973-130
EMPR OF *1988-19, p. 35
EMPR PF (*Report by J.W. McCammon, 1974-Clover Leaf Tale Property, Ruby Creek)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1301
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/21

CODED BY: GSB
REVISED BY: MM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW068**

NATIONAL MINERAL INVENTORY:

NAME(S): **JON**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 01 58 N
LONGITUDE: 121 25 31 W
ELEVATION: 840 Metres

NORTHING: 5432294
EASTING: 615102

LOCATION ACCURACY: Within 500M

COMMENTS: Located 2 kilometres north from the head of Chilliwack Lake and about 400 metres west from the western shore opposite Depot Creek (Assessment Report 8052, Figure No. 2).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Pyrite Molybdenite Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic 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>
Oligocene			Chilliwack Batholith

LITHOLOGY: Biotite Granodiorite
Aplite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Jon showing is situated on the west side of Chilliwack Lake approximately 2 kilometres north of the head of the lake at an elevation of approximately 855 metres.

Exploration in 1966 included 55 silt samples and 101 soil samples (EMPR ASS RPT 1604). Limited work occurred during 1968 including reconnaissance geological mapping. Some stripping and 3.6 metres of trenching occurred in 1969. Midnapore Oil, later Midnapore Resources Inc., carried out more silt and soil sampling as well as some geological mapping in 1980 and 1981 (EMPR ASS RPT 08052, 09446).

Medium to coarse-grained biotite granodiorite of the Oligocene to Miocene Chilliwack Batholith underlies the area. An approximately 300 metre wide northeast trending, medium to fine-grained aplite body appears to cut the granodiorite in the vicinity of the showing and contains quartz veins, fracture fillings and disseminations that carry molybdenite, chalcopyrite and pyrite.

BIBLIOGRAPHY

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EMPR ASS RPT *1604, *8052, 9446
EMPR EXPL 1980-188; 1981-39
EMPR GEM 1969-196
EMPR PF (General File - Reports on proposed Sapper Park, J.T. Fyles, 1971)
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW069**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOVE, STONEY, IAM-50,
DS, LOU, I AM**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 26 N
LONGITUDE: 121 53 05 W
ELEVATION: 305 Metres

NORTHING: 5467766
EASTING: 580988

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the north side of Weaver Lake about 11.0 kilometres northwest of Harrison Hot Springs.

COMMODITIES: Copper Zinc Lead Silver

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Galena Pyrite
ASSOCIATED: Quartz Barite
ALTERATION: Epidote Chlorite Zeolite K-Feldspar Sericite
 Clay Silica Pyrite
ALTERATION TYPE: Propylitic Potassic Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated Stockwork
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Undefined Group Harrison Lake

LITHOLOGY: Rhyolite
 Intermediate Flow Breccia
 Lapilli Tuff
 Andesite
 Basalt
 Basaltic Andesitic Flow

HOSTROCK COMMENTS: Volcanic flows and pyroclastics are part of the Weaver Lake Member of the Harrison Lake Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 2.9000 Grams per tonne
Copper 0.4440 Per cent
Lead 0.1590 Per cent
Zinc 1.7160 Per cent
COMMENTS: Sample #24614.
REFERENCE: Assessment Report 14221.

CAPSULE GEOLOGY

The area is underlain by the Weaver Lake Member of the Lower-Middle Jurassic Harrison Lake Formation which consists of a series of basaltic to rhyolitic flows, flow breccias and bedded tuffs. Strong regional faulting has resulted in intense local fracturing and shearing. Structural features appear to have controlled the locus of hydrothermal alteration and associated mineralization. Alteration in the flows consists mainly of epidote with local concentrations of chlorite, zeolite and potassium alteration. Minor drag folding or warping was noted adjacent to the fault/shear zones.

Along the northern boundary of the claim are a series of basaltic to rhyolitic flows, flow breccias and tuffs. A distinctive

CAPSULE GEOLOGY

intermediate flow breccia, composed predominantly of rounded feldspar porphyry fragments, forms a predominant bluff in the northwest part of the claim. Very fine grained lapilli tuffs underlie this breccia. Below the tuffs are massive basaltic to andesitic flows.

Two large zones of alteration and related mineralization were mapped. These zones lie along fault drainages and represent strong fracture zones associated with the faulting. The resultant alteration consists of local silicification, bleaching (clay alteration), quartz veining and the local occurrence of epidote, chlorite and sericite. The degree of alteration is relative to the proximity of, and the intensity of, the fracturing or shearing.

Sulphide mineralization is directly related to the alteration and varies from broad pyritization, between 1 to 10 per cent, to vuggy quartz veining with minor disseminations or aggregates of sphalerite, chalcopyrite and pyrite +/- galena. Quartz veining varies from white to grey, massive to vuggy and appears to crosscut the alteration. Minor barite is associated with the quartz. The veining is thin and sporadic although local stockworks were reported.

In 1985, seven rock samples were collected from the highly altered zones which have associated sphalerite, pyrite, barite and quartz in variable amounts. All samples were anomalous in barium and zinc with minor copper, cadmium, manganese and silver. One sample yielded 2.9 grams per tonne silver, 0.44 per cent copper, 1.72 per cent zinc, 0.16 per cent lead and 0.1 per cent barium (Assessment Report 14221).

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EMPR EXPL *1978-E141,E142; 1979-142; 1980-190; *1985-169,170
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EMPR GEM 1970-247; *1972-102-114, Fig. 5,6; 1973-129; 1974-103
EMPR OF 1999-2
GSC MAP 12-1969; 737A
GSC P 69-47; 86-1B, pp. 715-720
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Ray, G.E. et.al. (1985): Precious Metal Mineralization in Southwest British Columbia, Field Guides to Geology and Mineral Deposits in the Southern Canadian Cordillera, GAC Section Meeting, Vancouver, British Columbia, May 1985

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/16

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW070**

NATIONAL MINERAL INVENTORY:

NAME(S): **LD, RYE, ARANY,
EMILE, RYE 2, MAD**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 19 59 N
LONGITUDE: 121 50 29 W
ELEVATION: 400 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5465127
EASTING: 584176

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of Harrison Lake about 2.5 kilometres southeast of Weaver Lake, and 6.0 kilometres northwest of Harrison Hot Springs.

COMMODITIES: Silver Gold Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Silica Pyrite
COMMENTS: Manganese staining.
ALTERATION TYPE: Silicific'n Pyrite Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Undefined Group Harrison Lake

LITHOLOGY: Andesite
Andesitic Flow
Andesitic Pyroclastic
Rhyolite
Shale

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Harrison
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1975
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 25.0300 Grams per tonne
Gold 4.1400 Grams per tonne
COMMENTS: The 5.18 metre interval between 0.91 and 6.09 metres. Drillhole location or number unknown.
REFERENCE: Assessment Report 23845 (reported in).

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 2009.0000 Grams per tonne
Gold 63.7700 Grams per tonne
Zinc 7.2300 Per cent
COMMENTS: Sample from trench on the Rye 2 claim.
REFERENCE: Assessment Report 6181.

CAPSULE GEOLOGY

The LD showing is located on the west side of Harrison Lake, about 2.5 kilometres southeast of Weaver Lake and 6.0 kilometres northwest of Harrison Hot Springs.
The Hope-Harrison Lake area has a long history of mineral

CAPSULE GEOLOGY

discoveries, following the discovery of placer gold on the Fraser River in 1858. The first record of work on the ground covered by the LD claims consisted of soil and rock chip sampling in 1974 by Cominco Ltd. on the Rye claims. Aaron Mines Ltd. were owners of the Rye claims. Samples from a trench yielded significant precious and base metal values. In 1975, a diamond drill program totalling 185 metres was completed on the newly discovered zone. Several significant gold and silver intersections were made. A ground magnetometer survey was carried out by Cochrane Consultants Ltd. In 1979 and 1980, an adit was driven from the south to explore the zone but no further information is available. In 1991 and 1994, Flame Petro-Minerals Corp. conducted soil and rock sampling, geological mapping, and an electromagnetic survey. Several linear gold soil anomalies up to 600 metres in length were defined. They drilled 7 holes (762 metres) in 1996.

The area is underlain by the Lower and Middle Jurassic Harrison Lake Formation comprised mainly of andesitic to rhyolitic flows and pyroclastics. Calcite veins are common and a thinly bedded shale unit is often manganese stained and hosts disseminated pyrite. The predominant structure on the property is a fault trending 070 degrees and marked by a strong topographic linear depression. The fault is quite complex with subparallel splays and is offset by north to northwest faults. Some tectonic breccias are associated with these fault structures.

On the Rye 2 claim, medium grey coloured, andesitic pyroclastics are crosscut by numerous veins of quartz and calcite which hosts blebs of disseminated pyrite.

Mineralization is associated with an intense pyrite-silica and quartz-calcite vein system which hosts sphalerite, chalcopyrite and pyrite. In 1973, a sulphide-rich sample from a trench on the Rye 2 claim yielded 63.77 grams per tonne gold, 2009.44 grams per tonne silver and 7.23 per cent zinc (Assessment Report 6181). The most significant intersections of diamond drilling in 1975 were: 2.13 metres of 11.79 grams per tonne gold and 44.57 grams per tonne silver between 17.68 and 19.81 metres; 2.13 metres of 6.86 grams per tonne gold and 27.08 grams per tonne silver between 28.35 and 30.48 metres; 5.18 metres of 4.14 grams per tonne gold and 25.03 grams per tonne silver between 0.91 and 6.09 metres; and 1.52 metres of 16.6 grams per tonne gold and 91.88 grams per tonne silver between 14.94 and 16.46 metres (Assessment Report 23845).

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EMPR ASS RPT 5421, 5735, *6181, 21303, 23306, 23338, *23845, 24434, 24811
EMPR EXPL 1975-E63; 1977-E123
EMPR FIELDWORK 1984, pp. 120-131; 1985, pp. 95-97
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Ray, G.E. et al. (1985): Precious Metal Mineralization in Southwest British Columbia, Field Guides to Geology and Mineral Deposits in the South Canadian Cordillera, GAC, Section Meeting, Vancouver, British Columbia, May 1985

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW071**

NATIONAL MINERAL INVENTORY:

NAME(S): **NIK**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 46 N
LONGITUDE: 121 49 08 W
ELEVATION: 800 Metres

NORTHING: 5459192
EASTING: 585904

LOCATION ACCURACY: Within 1 KM

COMMENTS: On Mount Agassiz, north-northeast of Chilliwack.

COMMODITIES: Nickel Copper

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: E16 Shale-hosted Ni-Zn-Mo-PGE

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Undefined Group	Harrison Lake	
Upper Jurassic	Undefined Group	Kent	
Miocene			Unnamed/Unknown Informal

LITHOLOGY: Sandstone
Conglomerate
Argillite
Granodiorite
Intermediate Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

The area of the Nik occurrence is underlain by sedimentary rock of the Upper Jurassic Kent Formation, which consists of sandstone, conglomerate and argillite. These are underlain to the west by rocks of the Lower and Middle Jurassic Harrison Lake Formation which consists mainly of intermediate volcanics. A stock of Miocene granodiorite contacts the Kent Formation rocks to the east of Mount Agassiz.

In 1969, Blackjack Explorations conducted a magnetometer survey consisting of 4.8 kilometres, as well as a biogeochemical survey covering all of the Nik 1 to 24 claim group. In the same year, approximately 241 metres of diamond drilling in two holes were done. Nickel and copper were reported but the character of the mineralization, if any, was not indicated.

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GSC MAP 12-1969; 737A; 41-1989
Arthur, A.J. (1987): Mesozoic Stratigraphy and Paleontology of the West Side of Harrison Lake, Southwest British Columbia, M.Sc. Thesis, University of British Columbia, Dec. 1987

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

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW072**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASCOT**, FAB, TREBLIF

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 14 11 N
LONGITUDE: 121 53 44 W
ELEVATION: 150 Metres

NORTHING: 5454321
EASTING: 580398

LOCATION ACCURACY: Within 500M

COMMENTS: Located 4.5 kilometres east of Harrison Mills (Assessment Report 3604, Figure 1 and 2).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Chalcocite

ASSOCIATED: Quartz

ALTERATION: Silica

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Jurassic
Tertiary

GROUP

Undefined Group

FORMATION

Harrison Lake

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Andesite Breccia
Andesite
Andesite Porphyry
Basalt
Felsic Volcanic
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Harrison

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

0.3500

Per cent

REFERENCE: Assessment Report 9640.

CAPSULE GEOLOGY

The Ascot occurrence is underlain by Lower and Middle Jurassic Harrison Lake Formation andesites, andesite porphyry, andesite breccia and basalt. Felsic volcanics and intrusions of Tertiary quartz diorite are also reported in this area.

The volcanic rocks are locally silicified and mineralized with sulphides, primarily pyrite. Minor amounts of chalcopyrite and a trace of sphalerite are associated with quartz stringers striking west-northwest and dipping steeply northeast in altered siliceous volcanic rock, reported variably as agglomerate or andesite flow breccia. A film of chalcocite coats the other sulphides where the stringers are vuggy. These sulphides also occur in small amounts in the country rock together with heavy concentrations of pyrite.

In the same vicinity, chalcopyrite is reported to occur in a shear in porphyritic andesite. The shear is 15 centimetres wide, strikes 110 degrees, dips 65 degrees southwest and is parallel to a band of grey, cherty pyritic rock about 3 metres wide.

A sample of a sulphide-rich gossan zone yielded 0.35 per cent copper and less than 0.1 gram per tonne gold (Assessment Report 9640).

RUN DATE: 26-Jun-2003
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EMPR EXPL 1989-189
EMPR GEM 1972-102
EMPR OF 1999-2
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/18

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW073**

NATIONAL MINERAL INVENTORY:

NAME(S): **TA**, GREENDROP, GL,
ID

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 08 07 N
LONGITUDE: 121 26 02 W
ELEVATION: 1040 Metres

NORTHING: 5443675
EASTING: 614237

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of Greendrop Lake at the site of diamond-drill hole 1
(Assessment Report 8376, Map 1).

COMMODITIES: Copper Molybdenum Lead Zinc Tungsten
Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Sphalerite Galena

Magnetite

Scheelite

ASSOCIATED: Quartz

Calcite

Gypsum

ALTERATION: Quartz

Sericite

Chlorite

Carbonate

Epidote

Biotite

ALTERATION TYPE: Sericitic

Propylitic

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Oligocene			Chilliwack Batholith
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Diorite
Quartz Diorite
Granodiorite
Quartz Diorite Porphyry
Dike
Gossan
Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains
Undivided Metamorphic Assembl.

CAPSULE GEOLOGY

The area is underlain by granodiorite and quartz diorite of the Oligocene Chilliwack batholith. These have intruded the Custer Gneiss which occurs to the north and east of the occurrence, and Eocene conglomerates and sandstones which occur to the west. The Custer Gneiss is a metamorphic complex derived mainly from lower Mesozoic and possibly Paleozoic and Precambrian rocks, and metamorphosed in the Late Cretaceous or early Tertiary.

The intrusive rocks have been altered and pyritized by later intrusions of a quartz diorite porphyry and a breccia complex. Dikes and sill-like igneous bodies of various compositions have subsequently been emplaced. A centrally located elliptical gossan zone is associated with multiple intrusions of mainly dioritic composition.

Hydrothermal alteration in the gossan zone is characterized by a variable assemblage of quartz, sericite, chlorite, carbonate, epidote and minor biotite. Essentially two alteration suites are recognized, phyllic and propylitic.

Primary mineralization in the gossan area includes pyrite and minor chalcopyrite, molybdenite, magnetite, sphalerite and galena. Quartz, sericite, calcite and gypsum are reported to be the main non-metallic hydrothermal minerals.

Pyrite occurs in fractures and disseminations and as coarse clusters with quartz and rare molybdenite in a rubble breccia. Molybdenite also occurs within an intensely altered quartz stockwork along its contact or in steeply dipping quartz veins. Chalcopyrite

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1311
REPORT: RGEN0100

CAPSULE GEOLOGY

is found in fracture veining and minor disseminations within adjacent wallrock.

Sphalerite and galena are common in drill core but appear restricted to steeply dipping quartz-calcite veinlets. Several specks of coarse scheelite were also identified in drill core. Magnetite is abundant in altered granodiorite near the western contact of the rubble breccia.

A gold occurrence is also documented in this area, as indicated on GSC Map 737A.

BIBLIOGRAPHY

EMPR ASS RPT 7968, *8376
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT 1923A, pp. 70,71

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW074**

NATIONAL MINERAL INVENTORY: 092H6 Ag8

NAME(S): **MORNING STAR (L.131)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:
LATTITUDE: 49 25 54 N
LONGITUDE: 121 04 39 W
ELEVATION: 1610 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adit near the centre of Lot 131, 1.5 kilometres east of the summit of Mount Sutter, south of Sutter Creek, 27.5 kilometres east-northeast from the town of Hope (Assessment Report 17020).

Underground

MINING DIVISION: Similkameen

UTM ZONE: 10 (NAD 83)

NORTHING: 5477221
EASTING: 639393

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Tetrahedrite
ASSOCIATED: Quartz Calcite
COMMENTS: Manganese oxide staining.
ALTERATION TYPE: Oxidation Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
COMMENTS: Vein zone.
STRIKE/DIP: 075/45S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Ladner Undefined Formation

LITHOLOGY: Andesite
Tuffaceous Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Methow

INVENTORY

ORE ZONE: OPENCUT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1927
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 2571.0000 Grams per tonne
Gold 1.3700 Grams per tonne
Lead 42.0000 Per cent
Zinc 8.0000 Per cent

COMMENTS: Sample of ore in opencut.
REFERENCE: Minister of Mines Annual Report 1927, page C255.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain, 092HSW016).

The Morning Star occurrence is underlain by northwest striking,

CAPSULE GEOLOGY

southwest dipping Dewdney Creek Formation andesite and tuffaceous rock. A fracture zone hosts an oxidized quartz-calcite stringer vein zone that varies from a few centimetres to 45 centimetres in width. The zone strikes 075 degrees and dips 45 degrees south and is mineralized with galena, sphalerite and pyrite with manganese oxide staining. A second stringer vein zone outcrops 22 metres southwest of the first and strikes 045 degrees with 80 degree south dips. This zone is 60 centimetres wide and is sparsely mineralized.

Underground development along the fracture zone revealed that it is very narrow and sparsely mineralized with the exception of a 3-metre section where the zone is 60 centimetres wide and mineralized with galena, sphalerite, tetrahedrite and pyrite in a gangue of gouge and silicified and brecciated andesite wallrock. Crosscutting intersected another zone (apparently a widened continuation of the first) 7.6 metres wide containing three mineralized fractures, each 60 centimetres wide, separated by bands of altered andesite. The fractures contain sphalerite, galena and pyrite in a gangue of brecciated wallrock.

A grab sample of ore in an opencut above the adit portal assayed 1.37 grams per tonne gold, 2571 grams per tonne silver, 42 per cent lead and 8 per cent zinc (Minister of Mines Annual Report 1927, page C255).

BIBLIOGRAPHY

EMPR AR 1898-1112; 1903-H185; 1904-G300; 1911-K186; 1912-K190; *1913-K226-K228,K232; 1914-K367; 1915-K234,K250,K251; 1917-F208; *1923-189; 1927-C255; 1928-C266; *1952-A119-A129,A133,A134
EMPR ASS RPT 17020, 18341
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1920, Part A, pp. 23-30,35; 1922, Part A, pp. 95-102,104

DATE CODED: 1985/07/24
DATE REVISED: 1990/01/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW075**

NATIONAL MINERAL INVENTORY: 092H3 Au1

NAME(S): **SKAJIT GIANT, DENAR, COPPER CLIFF,
PI, GOLD COIN, DINAR**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 07 10 N
LONGITUDE: 121 06 48 W
ELEVATION: 1100 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5442448
EASTING: 637662

COMMENTS: This prospect, first described by Cairnes, is located near Giant Creek (GSC Summary Report 1923). The Dinar claims (1980) later stretched out over this ground and this prospect was called the Copper Cliff deposit. The Gold Coin group of claims (circa 1929) may have covered this occurrence at one time.

COMMODITIES: Copper Silver Gold Molybdenum

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite Molybdenite
ASSOCIATED: Quartz
ALTERATION: Actinolite Epidote Chlorite Quartz
ALTERATION TYPE: Silicific'n Sericitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Vein
CLASSIFICATION: Volcanogenic
TYPE: G05 Cyprus massive sulphide Cu (Zn)

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Unnamed/Unknown Informal
Tertiary			

LITHOLOGY: Basalt
Chert
Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SKARN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 20.5700 Grams per tonne
Gold 0.1000 Grams per tonne
Copper 0.5000 Per cent

COMMENTS: An average value from samples taken over 23.47 metres.
REFERENCE: Assessment Report 8839.

CAPSULE GEOLOGY

The area of the Skajit Giant occurrence is underlain by basalt and massive to locally bedded chert of the Permian to Jurassic Hozameen Complex. Basalt-chert contacts are steeply dipping and probably faulted. Small intrusions of diorite to granodiorite of unknown, but probable Tertiary age occur in the basalt. A fault striking 015 degrees along Pyrrhotite Creek truncates a 120 degree striking fault that passes through the Giant Creek area. Monger has mapped another west-northwest striking fault in the valley north of the property (GSC Map 12-1969).

Over several square kilometres, the basalt is altered and veined. Alteration consists mainly of silicification and lesser sericitization. Three main types of mineralization are reported to occur in the vicinity; these include skarn, veins and porphyry types.

CAPSULE GEOLOGY

The main showing is an irregular lens-shaped body of massive sulphide, with an average thickness in the surface showing of 3 to 4 metres (maximum of 5 metres), with its long axis perpendicular to strike measuring about 25 metres. The body is controlled by a dominant fracture system which strikes 120 to 130 degrees and dips 40 to 50 degrees southwest, and by a subordinate fracture system striking 082 degrees and dipping 40 degrees south.

The body consists mainly of medium-grained pyrrhotite with numerous irregular veins and patches, up to a few centimetres across, of pyrite and much less chalcopyrite. Surface trench samples across 23.47 metres yielded an average assay of 0.5 per cent copper, 20.57 grams per tonne silver and 0.10 gram per tonne gold (Assessment Report 8839). About 183 metres west-northwest of the main showing is the probable extension of the Copper Cliff body. An assay from here yielded 0.4 per cent copper, 10.29 grams per tonne silver and 0.34 gram per tonne gold (Assessment Report 8839).

The massive sulphide body is enclosed in basalt which is moderately to strongly altered by brecciation, silicification and veining by pyrite, quartz, actinolite, epidote and chlorite. The least altered basalt is aphanitic and dark green in colour, containing 0.5 to 1 per cent magnetite. The top of a medium to fine-grained quartz diorite to granodiorite outcrops over a small area, 200 metres to the southeast of the showing. A few quartz-rich veins with clots of molybdenite occur in the intrusive rock.

The prospect was first mentioned in 1923 and has been explored since that time in conjunction with other nearby showings. Four diamond-drill holes were completed in 1980.

BIBLIOGRAPHY

EMPR AR 1929-241; 1938-F18; 1950-167; 1958-55; 1960-87; 1961-86
EMPR ASS RPT 5474, *8839
EMPR EXPL 1978-E140; 1979-141
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
GSC SUM RPT *1923A, pp. 73-76

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW076**

NATIONAL MINERAL INVENTORY: 092H3 Au1

NAME(S): **NORTH STAR, DENAR EARL,
WESTERN, GOLD PAN POINT, GOLD COIN,
PI, DINAR**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:
LATITUDE: 49 07 22 N
LONGITUDE: 121 05 04 W
ELEVATION: 1465 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5442871
EASTING: 639760

COMMENTS: This prospect, first described by Cairnes, is located near the two main forks of Star Group Creek (GSC Summary Report 1923). The Gold Coin group of claims (circa 1929 and later) covered this occurrence at one time. Two Crown grants, the Gold Coin No. 4 and No. 6 (Lots 1807 and 1808), are marked on the government topographic map (1:50,000). The Dinar claims (1980) later covered this ground and the different zones were called Earl, Gold Pan Point and Western.

COMMODITIES: Gold Silver Zinc Copper Lead

MINERALS

SIGNIFICANT: Pyrrhotite Sphalerite Chalcopyrite Galena Arsenopyrite
Pyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Calcite Epidote Actinolite Silica
COMMENTS: Skarn mineral assemblage reportedly not present with sulphides.
ALTERATION TYPE: Silicific'n Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Vein Breccia
CLASSIFICATION: Volcanogenic Skarn
TYPE: G05 Cyprus massive sulphide Cu (Zn) K SKARN

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation
Tertiary Unnamed/Unknown Informal

LITHOLOGY: Basalt
Marble
Limestone
Granodiorite
Chert
Dacite Rhyolite Intrusive
Quartz Diorite

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Cascade Mountains
RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1961
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 14.0600 Grams per tonne
Gold 10.2800 Grams per tonne
Copper 0.1000 Per cent
Lead 0.0600 Per cent
Zinc 1.0000 Per cent
COMMENTS: From a 3.7 metre drill interval.
REFERENCE: Assessment Report 8839.

CAPSULE GEOLOGY

The area of the North Star prospect is underlain by basalt and massive to locally bedded chert of the Permian to Jurassic Hozameen Complex. Basalt-chert contacts are steeply dipping and probably

CAPSULE GEOLOGY

faulted. Small intrusions of diorite to granodiorite of unknown, but probable Tertiary age occur in the basalt. A fault striking 015 degrees along Pyrrhotite Creek truncates a 120 degree striking fault that passes through the Giant Creek area. Monger has mapped another west-northwest striking fault in the valley north of the property (GSC Map 12-1969).

Over several square kilometres, the basalt is altered and veined. Alteration consists mainly of silicification and lesser sericitization. Three main types of mineralization are reported to occur in the vicinity; these include skarn, veins and porphyry types.

A number of showings are included under the North Star name, all found in the vicinity of where the two main forks of Star Group Creek join, at 1350 metres elevation. Descriptions of the two most significant zones near this locale are found in Assessment Report 8839 and are summarized as follows.

The Earl showing, about 240 metres up the west fork of Star Group Creek, is a massive sulphide skarn exposed over a width of 2 metres. It contains pyrrhotite, lesser sphalerite and minor chalcopyrite, the latter mainly associated with patches of strongly silicified basalt. Just to the south of the skarn is a vein and silicified breccia zone containing massive sulphide veins up to 30 centimetres wide. The main vein, 10 to 20 centimetres wide, grades upwards from pyrrhotite-rich at the base to coarse-grained sphalerite with lesser chalcopyrite near the top. Nearby is a 3 centimetre wide vein composed of massive arsenopyrite and quartz. Farther south, scattered veins (a few millimetres wide) containing pyrrhotite and sphalerite with calcite and quartz are found. Still farther south, a limestone layer in the basalt occurs, along which has developed a skarn composed of calcite, pyrrhotite and sphalerite with patches of vuggy quartz, epidote and actinolite. South of the Earl zone, between the two branch creeks, on what is called Gold Pan Point, is a body of granodiorite.

A 1961 diamond-drill hole on the Earl zone (as quoted in Assessment Report 8839) intersected 3.7 metres grading 10.28 grams per tonne gold, 14.06 grams per tonne silver, 1.0 per cent zinc, 0.10 per cent copper and 0.06 per cent lead. Gold is reported to be present with some skarns and absent in others. One of the best gold assays from 1980 came from an unmineralized shear zone in basalt.

The Western showing, formerly called the "Glory Hole", is located about 80 metres east of the where the two forks of Star Group Creek join. It consists of four skarn zones over a north-south distance of 40 metres. The skarns typically are made up of pyrrhotite, quartz and sphalerite. One of the zones contains subzones of arsenopyrite and quartz, and one of quartz with minor pyrrhotite and pyrite. The largest of the four skarn zones is 5 metres long and 3 metres wide. Adjacent to it is a 1 metre thick lens of marble. Surrounding the skarn and marble is a porphyritic basalt, and nearby is a porphyritic dacite-rhyolite intrusion. The skarn appears to strike 040 degrees and dip 50 degrees southwest under the limestone-marble. A sample taken over 7.6 metres from an open cut yielded 2.07 grams per tonne gold, 53.14 grams per tonne silver, 5.95 per cent zinc, 0.15 per cent copper and a trace of lead (Assessment Report 8839 (quoting a previous study)). Sargent reported that by 1938 there were 4 cuts and a 7.6 metre adit on this zone (Minister of Mines Annual Report 1938, page F18). The zone was also reported to have been drilled in 1961.

In 1923, Cairnes reported a body of ore occurring in the area of granodiorite on Gold Pan Point which was comprised of a considerable proportion of galena and arsenopyrite, as well as sphalerite and pyrrhotite (GSC Summary Report 1923, page 75). Samples taken at that time yielded as much as 788 grams per tonne silver.

BIBLIOGRAPHY

EMPR AR 1929-241; *1938-F18; 1950-167; 1958-55; 1960-87; 1961-86
EMPR ASS RPT 5474, *8839
EMPR EXPL 1978-E140; 1979-141; 2002-29-40
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
GSC SUM RPT *1923A, pp. 73-76

DATE CODED: 1985/07/24
DATE REVISSED: 1994/10/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW077**

NATIONAL MINERAL INVENTORY: 092H3 Au1

NAME(S): **BILLICAN**, DENAR EASTERN,
GOLD COIN, DINAR

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 07 09 N
LONGITUDE: 121 04 37 W
ELEVATION: 1310 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5442484
EASTING: 640318

LOCATION ACCURACY: Within 500M

COMMENTS: This prospect, first described by Cairnes, is located about 500 metres east-southeast of the confluence of the two upper forks of Star Group Creek (GSC Summary Report 1923). The Gold Coin group of claims (circa 1929 and later) apparently covered this occurrence at one time. The Dinar claims (1980) later covered this ground and the zone was called the Eastern showing.

COMMODITIES: Silver Gold Zinc Lead Copper
Antimony

MINERALS

SIGNIFICANT: Pyrrhotite Sphalerite Chalcopyrite Galena Arsenopyrite
Pyrite Stibnite

ASSOCIATED: Quartz
ALTERATION: Garnet Calcite Epidote Actinolite Quartz
Magnetite

COMMENTS: Skarn mineral assemblage reportedly not present with sulphides.
ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Podiform Massive
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation Unnamed/Unknown Informal
Tertiary

LITHOLOGY: Basalt
Chert
Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 82.2900 Grams per tonne
Gold 0.3400 Grams per tonne
Copper 0.0700 Per cent
Lead 1.8300 Per cent
Zinc 3.2000 Per cent

COMMENTS: Taken across 3 metres.
REFERENCE: Assessment Report 8839.

CAPSULE GEOLOGY

The area of the Billican prospect is underlain by basalt and massive to locally bedded chert of the Permian to Jurassic Hozameen Complex. Basalt-chert contacts are steeply dipping and probably faulted. Small intrusions of diorite to granodiorite of unknown, but probable Tertiary age occur in the basalt. A fault striking 015 degrees along Pyrrhotite Creek truncates a 120 degree striking fault

CAPSULE GEOLOGY

that passes through the Giant Creek area. Monger has mapped another west-northwest striking fault in the valley north of the property (GSC Map 12-1969).

Over several square kilometres, the basalt is altered and veined. Alteration consists mainly of silicification and lesser sericitization. Three main types of mineralization are reported to occur in the vicinity; these include skarn, veins and porphyry types.

In one cut, a 5 to 10 centimetres vein of massive, coarse-grained pyrrhotite with lesser sphalerite, and other similar smaller veins with quartz, are exposed. Some veins are traceable for several tens of metres. About 90 metres to the southeast, two skarns are exposed in cuts. Both skarns are apparently in the form of pods up to 5 metres across. They contain a variety of mineral assemblages and textures as follows:

- 1) massive pyrrhotite-quartz with lesser sphalerite
- 2) coarse-grained garnet enclosing fine-grained magnetite-garnet-quartz
- 3) grossular garnet and calcite in replacement veinlets and patches in basalt
- 4) garnet-epidote-actinolite with minor pyrrhotite
- 5) garnet-calcite-magnetite with patches of vuggy quartz.

A few tens of metres above this is a small skarn up to 2 metres across and 5 metres long; it formed along the contact of a thin chert interlayer and strongly brecciated basalt. The skarn consists of grossular garnet with less actinolite, epidote and pyrrhotite.

A sample from the Billican area taken across 3 metres yielded 0.34 gram per tonne gold, 82.29 grams per tonne silver, 3.2 per cent zinc, 0.07 per cent copper and 1.83 per cent lead (Assessment Report 8839 (quoted from a previous study)).

In 1923, Cairnes also reported the presence of pyrite, chalcopyrite, stibnite, arsenopyrite and galena. One specimen of solid ore taken at that time, composed mainly of pyrrhotite and sphalerite but also containing some stibnite and a little galena, assayed 1.71 grams per tonne gold, 323.32 grams per tonne silver, 40.30 per cent iron, 10.66 per cent lead, 2.66 per cent antimony, 7.15 per cent zinc and no arsenic (GSC Summary Report 1923 Part A, page 74).

By 1923, development work on the Billican consisted of a great deal of surface stripping, opencuts and the driving of an adit to a length 13.7 metres.

BIBLIOGRAPHY

EMPR AR 1929-241; *1938-F18; 1950-167; 1958-55; 1960-87; 1961-86
EMPR ASS RPT 5474, *8839
EMPR EXPL 1978-E140; 1979-141
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
GSC SUM RPT *1923A, pp. 73-76

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW078**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELK HORN**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 08 46 N
LONGITUDE: 121 25 23 W
ELEVATION: 1067 Metres

NORTHING: 5444896
EASTING: 615002

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the northeast side of Greendrop Lake (GSC Summary Report 1923 Part A, Map 2023).

COMMODITIES: Silver Zinc Lead

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Calcite Quartz
ALTERATION: Epidote Garnet Calcite
ALTERATION TYPE: Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Skarn
TYPE: K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous-Tertiary
Oligocene

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Custer Gneiss
Chilliwack Batholith

LITHOLOGY: Limy Sediment/Sedimentary
Granite Gneiss
Skarn

HOSTROCK COMMENTS: Metamorphic age of Custer Gneiss is Late Cretaceous-early Tertiary. The protolith is lower Mesozoic and possibly Paleozoic-Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl. Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1923

COMMODITY	GRADE	
Silver	160.4600	Grams per tonne
Lead	13.7600	Per cent
Zinc	20.6900	Per cent

COMMENTS: Taken across a 10-centimetres vein.

REFERENCE: GSC Summary Report 1923 Part A, page 70.

CAPSULE GEOLOGY

At the Elk Horn showing, galena, sphalerite and pyrite occur in calcite and quartz stringers and veins in a fracture zone, about 3.3 metres across, that cuts intrusive rock of the Custer Gneiss. The Custer Gneiss is derived mainly from lower Mesozoic and possibly Paleozoic and Precambrian rocks, and metamorphosed in the Late Cretaceous or early Tertiary.

Limy sediments have been incorporated into the granite gneiss about the fracture zone, as indicated by small, irregular bands or lenses of lime silicate rock. Epidote, pink garnet and calcite are the reported minerals. A sample taken from a 10-centimetre vein near the hangingwall of the ore zone yielded 160.46 grams per tonne silver, 13.76 per cent lead, 6.72 per cent iron and 20.69 per cent zinc (GSC Summary Report 1923A, page 70).

The contact of the granodioritic Oligocene Chilliwack batholith occurs within a few kilometres to the south of the occurrence.

BIBLIOGRAPHY

GSC MAP 737A; 1069A; 12-1969; 41-1989

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1321
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 69-47
GSC SUM RPT *1923A, pp. 70,71

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW079**

NATIONAL MINERAL INVENTORY: 092H4 Cu1

NAME(S): **LUCKY FOUR (EAST), RICO**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 09 40 N
LONGITUDE: 121 34 25 W
ELEVATION: 1720 Metres

NORTHING: 5446345
EASTING: 603991

LOCATION ACCURACY: Within 500M

COMMENTS: The East zone of the Lucky Four occurrence is about 900 metres east of Foley Peak (Minister of Mines Annual Report 1949, Figure 27).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

ALTERATION: Garnet

COMMENTS: The skarn minerals were not reported for this zone but may be assumed to be similar to the Main zone of the Lucky Four prospect (092HSW007).

ALTERATION TYPE: Skarn

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Podiform Disseminated
CLASSIFICATION: Skarn
TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary			Custer Gneiss
Miocene			Mount Barr Batholith

LITHOLOGY: Greywacke
Argillite
Schist
Gneiss
Granodiorite
Skarn

HOSTROCK COMMENTS: The metasedimentary host is not known but assumed to be one of Custer Gneiss, Settler Schist or Slollicum Schist.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl.

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Muller has mapped the area of Foley Peak as being underlain by three metamorphic assemblages of Mesozoic and/or Paleozoic rocks, metamorphosed in the Cretaceous, all in fault contact (GSC Map 41-1989). These include the Custer Gneiss, the Settler Schist (in part) and the Slollicum Schist. Muller maps a fourth unit of ultramafic rock, of similar age. A few kilometres to the north of the Lucky Four prospect is the contact with the Miocene Mount Barr batholith consisting of granodiorite. Intrusive rock of the Oligocene Chilliwack batholith occurs within several kilometres to the south. Hostrocks are reported to be greywacke, argillite, schist and gneiss.

The East showing is a skarn zone 4.6 metres wide with an exposed horizontal length of 46 metres. Northwestward it splits into narrow stringers and disappears in gneissic banding; to the southeast it is drift covered. One body of massive chalcopyrite, about 28 square metres, occurs in this zone. The East showing occurs less than 15 metres from an intrusion of granodiorite. See the Lucky Four prospect (092HSW007) for further details.

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EMPR ASS RPT 455, 458, *17587, *18537, *19822
EMPR FIELDWORK 1985, pp. 95-97
EMPR GEM 1971-257

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1323
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Plans of Crown grant)
GSC MAP 737A; 12-1969; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/15

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW080**

NATIONAL MINERAL INVENTORY:

NAME(S): **A & W, ST. PATRICK, M.P.P.,
JESSEK, J.P.1**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 22 56 N
LONGITUDE: 121 11 51 W
ELEVATION: 810 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5471509
EASTING: 630824

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the Sowaqua Valley near the junction of Colvite and Sowaqua creeks, about 18 kilometres due east of Hope.

COMMODITIES: Gold Silver Copper Nickel

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite
ASSOCIATED: Quartz
ALTERATION: Talc Limonite Chlorite Hematite Silica
ALTERATION TYPE: Serpentin'zn Oxidation Chloritic Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Coquihalla Serpentine Belt
Unknown			Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Pelite
Volcanic Sandstone
Argillite
Serpentinite
Quartz Diorite
Chert

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Contact Regional
PHYSIOGRAPHIC AREA: Cascade Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Grab
COMMODITY: Gold GRADE: 0.3430 Grams per tonne
COMMENTS: Grab sample from pelite.
REFERENCE: Assessment Report 9581.

CAPSULE GEOLOGY

The area is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of interbedded chert, pelite and volcanic sandstones with distinct grey and black banding. The pelite is dark green and chloritized, with traces of calcareous and weakly hematitic bands. Minor quartz veinlets and secondary pyrite veinlets crosscut these metasediments.

The Hozameen Complex is intruded by sill-like bodies of quartz diorite which are weakly foliated. The Hozameen fault traverses south-southeast separating the lower greenschist facies rocks of the Hozameen Complex from unmetamorphosed Mesozoic rocks to the east. Ultramafic rocks are cut by greenstones of the Hozameen Complex which generally occur along this fault. There is extensive shearing along the contact and in places the ultramafics appear to be intrusive. The ultramafic rocks which occur along the Hozameen fault are part of the Coquihalla Serpentine Belt.

CAPSULE GEOLOGY

In 1980, samples were collected from a highly altered pelite close to a serpentinized intrusion. The intrusion is described as having a granitic texture with chlorite and soft talc with clusters of radiating andalusite crystals. The pelite hosts secondary quartz and pyrite veinlets. Also, intense limonitic staining occurs adjacent to the intrusion. A grab sample from the pelite assayed 0.34 gram per tonne gold (Assessment Report 9581).

Drilling in 1983 indicated short intervals of chlorite-silica-pyrrhotite in the black argillite which hosts disseminated to massive pyrrhotite. The argillite also contains quartz stringers with disseminated pyrrhotite. The pyrrhotite-rich sections in the argillite are oxidized and are associated with limonite and hematite. Thirty-three samples containing silica with visible pyrrhotite and pyrite were assayed. Assays yielded traces of gold, silver, copper and nickel (Assessment Report 11449).

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EMPR ASS RPT *9587, 11449
EMPR EXPL 1983-235
EMPR GEM 1975-E68
EMPR OF MAP 1986-1D
EMPR PF (*Summary of Diamond Drilling, A & W Claim, Sowaqua Creek Area, Coquihalla (Hope), British Columbia by Arctex Engineering for Altar Gold and Resources Ltd., Oct.29, 1983
GSC MAP 12-1969; 737A
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1929A, pp. 173A-176A

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/17

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW081**

NATIONAL MINERAL INVENTORY:

NAME(S): **COGBURN**, NI, NI 752,
AL, OX, COG,
EMERY

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 48 N
LONGITUDE: 121 39 33 W

NORTHING: 5483534
EASTING: 597092

ELEVATION: 1100 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southwest slope of Old Settler Mountain (Geology, Exploration and Mining in B.C. 1971, page 258, Figure 41).

COMMODITIES: Nickel Copper Magnesium

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pentlandite Pyrite

ALTERATION: Serpentinite

ALTERATION TYPE: Serpentin'zn

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein Shear

CLASSIFICATION: Magmatic

TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Paleozoic-Mesozoic
Upper Cretaceous

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions
Spuzzum Intrusions

LITHOLOGY: Pyroxenite
Peridotite
Ultramafic
Quartz Muscovite Garnet Schist
Quartz Diorite
Hornblende Feldspar Schist

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1971

SAMPLE TYPE: Grab

COMMODITY

GRADE

Nickel

0.2200

Per cent

REFERENCE: Geology, Exploration and Mining in B.C. 1971, page 262.

CAPSULE GEOLOGY

The area of the Ni prospect is underlain by a metamorphic package of Paleozoic and/or Mesozoic rocks, possibly correlative with the Permian-Jurassic Hozameen Complex, that were metamorphosed in the Cretaceous. These rocks comprise quartz-muscovite-garnet schist and metavolcanics consisting of hornblende and hornblende feldspar schists. The regional foliation strikes from 320 degrees with a 45 degree northeast dip to 290 degrees with an 85 degree northeast dip, and is generally parallel to layering although some foliation across layering has suggested the occurrence of isoclinal folding. Intimately associated with these Hozameen-derived rocks is a northwest trending fault-bound body of Mesozoic and/or Paleozoic serpentinized pyroxenites and peridotites stretching for about 10 kilometres.

The country rocks are intruded by quartz diorite plugs and dikes associated with the Late Cretaceous Spuzzum pluton and Monger has mapped a small stock of Oligocene granodiorite just north of the prospect (GSC Map 41-1989).

Mineralization identified on surface and drillholes consists of

CAPSULE GEOLOGY

pyrrhotite, up to 4 per cent, with trace chalcopyrite and pyrite. Pyrrhotite occurs widely but sparingly in the ultramafics. It occurs as grains and blebs interstitial to pyroxene crystals, as scattered grains along microshears, and as narrow fracture veinlets less than a few centimetres in length. Chalcopyrite has been found sparsely disseminated in the pyrrhotite. Pyrite is sparingly distributed through most of the rocks of the area, but is lacking in parts of the ultramafic body. Pentlandite has been reported to occur with the above minerals as disseminations (Geology, Exploration and Mining in B.C. 1975, page 74). Samples of mineralized rock yielded 0.19 to 0.22 per cent nickel and trace copper (Geology, Exploration and Mining in B.C. 1971, page 262).

Exploration, which commenced on the Ni claims in 1969 and proceeded through to 1975, was conducted by the Nickel Syndicate, a joint venture between Giant Explorations Limited and Giant Mascot Mines Limited. Extensive geochemical, geophysical and sampling programs were followed by diamond drilling at favorable locations.

In December 2001, Leader Mining International Inc. completed a total of 1360 metres in 23 core drill holes. Holes within the Emery zone yielded consistently higher magnesium grades (greater than 25 per cent magnesium) with lower impurity levels (Canadian Stockwatch, January 7, 2002).

Leader Mining released a measured mineral resource for the Emery Zone in the Switchback Area of 25.5 million tonnes grading 24.5 per cent elemental magnesium (PR REL July 10, 2002). This resource is based on a 38 core drillhole program at 50 metre centres.

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- EMPR EXPL 1975-E74
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- EMPR OF *1990-27, pp. 45,47
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- GSC MAP 12-1969; 737A; 1069A; 41-1989
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- GCNL Sept.1, 1971
- CAN STOCKWATCH Nov.27, Dec.4,10, 2001; Jan.7, 2002
- PR REL Leader mining International Inc., Jun.20, Jul.10, Oct.10, Dec.23, 2002
- WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/30

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW082**

NATIONAL MINERAL INVENTORY:

NAME(S): **SWEDE**, BEA, GIANT

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 59 N
LONGITUDE: 121 30 01 W
ELEVATION: 760 Metres

NORTHING: 5476679
EASTING: 608737

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 4.5 kilometres west of the Fraser River, just north of American Creek (Assessment Report 2744).

COMMODITIES: Nickel Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite
ALTERATION: Sericite Chlorite
ALTERATION TYPE: Sericitic Chloritic Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Magmatic
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Peridotite
Pyroxenite
Gabbro
Dunite
Diorite
Granodiorite
Hornblendite
Garnetiferous Para Gneiss
Sericite Schist

HOSTROCK COMMENTS: The intrusions are thought to be Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1970
SAMPLE TYPE:	Drill Core		
COMMODITY		GRADE	
Copper		0.0200	Per cent
Nickel		0.0900	Per cent

COMMENTS: From a 1.2 metre drill interval.
REFERENCE: Assessment Report 3355.

CAPSULE GEOLOGY

The area of the Swede occurrence is underlain by altered, sericitized and chloritized diorite, gabbro, pyroxenite, peridotite, dunite and hornblendite. Granodiorite, diorite and gabbro phases are reported to be gradational to each other. Rusty oxidized and crumbly shear zones are common in the pyroxenite. Garnet-rich paragneiss and sericite schist occurs nearby, apparently as a roof pendant. The intrusive rocks are reported to form an arcuate-shaped complex occurring as a marginal phase of the main intrusive mass, which is thought to be Cretaceous in age.

Shearing is strongest along a south trend with dips predominantly to the west. Northwest striking shears with north dips are also common.

Nickeliferous pyrrhotite occurs disseminated with chalcopyrite in fractured pyroxenite and peridotite. Pyrite occurs sparingly as disseminations in the rusty oxidized and sheared zones.

Results from drilling in the early 1970s ranged from between

CAPSULE GEOLOGY

0.09 per cent nickel and 0.02 per cent copper over 1.2 metres to 0.01 per cent nickel and 0.01 per cent copper over 9 metres (Assessment Report 3355).

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EMPR AR 1934-F19; 1965-217; 1966-60; 1967-280; 1968-274
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EMPR GEM 1969-197; 1970-249; 1971-257; 1972-115
EMPR PF (Geology maps - Bea Group of Mineral Claims, Impad Holdings, 1965-1966 (in 092HSW005 file); Prospectus, Kelso Explorations, 1972 (with Summary Report on the Pat, Mary-G, Mill, Giant, Swede, Bea, Yodi, Rick, Jeff, Sam, Algernon, Mel, Dave, P and LYD Mineral Claims))
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/05

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW083**

NATIONAL MINERAL INVENTORY: 092H5 Cu2

NAME(S): **IAM, SIR, MARY J,**
DOT, IAM

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 29 N
LONGITUDE: 121 54 05 W
ELEVATION: 792 Metres

NORTHING: 5467841
EASTING: 579777

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Sakwi Creek, about 11.3 kilometres northwest of Harrison Hot Springs and 2.0 kilometres northwest of Weaver Lake.

COMMODITIES: Zinc Copper Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite
ASSOCIATED: Barite
ALTERATION: Silica Clay Epidote Chlorite Sericite
ALTERATION TYPE: Silicific'n Argillic Propylitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Rhyolite Agglomerate
Rhyolite
Lapilli Tuff

HOSTROCK COMMENTS: Volcanic flows and pyroclastics are part of the Weaver Lake Member of the Harrison Lake Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The area is underlain by the Weaver Lake Member of the Lower-Middle Jurassic Harrison Lake Formation which consists of a series of basaltic to rhyolitic flows, flow breccias and bedded tuffs. Strong regional faulting has resulted in intense local fracturing and shearing. Structural features appear to have controlled the locus of hydrothermal alteration and associated mineralization. Alteration in the flows consists mainly of epidote with local concentrations of chlorite, zeolite and potassium alteration. The Sakwi Creek fault cuts through the property. The northwest part of the claim (old Mary J claims) is underlain by a distinctive intermediate flow, composed predominantly of rounded feldspar porphyry fragments in a matrix of the same composition. This rhyolite agglomerate is underlain by very fine grained lapilli tuffs. Sulphide mineralization occurs in the altered rhyolite agglomerate. Alteration is associated with faulting with resultant alteration consisting of local silicification, clay alteration with minor epidote, chlorite and sericite. Black sphalerite, with minor chalcopyrite and galena, occurs with barite as fragment coatings and as veinlets and stringers in the rhyolite agglomerate.

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*8385, *14221, *14334
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1980-190,191; 1985-169,170
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EMPR GEM *1971-265; 1972-102-108, Fig.5,6
EMPR OF 1999-2

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in the South Canadian Cordillera, GAC Section Meeting, Vancouver,
British Columbia, May 1985
Chevron File

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/16

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW084**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRETT CREEK**, BRETT, CLOUD,
CLOUD 3

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 44 N
LONGITUDE: 121 52 27 W
ELEVATION: 670 Metres

NORTHING: 5472039
EASTING: 581691

LOCATION ACCURACY: Within 500M

COMMENTS: Located in Brett Creek drainage, where a main logging road crosses the creek (Assessment Report 17350).

COMMODITIES: Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Pyrite
ASSOCIATED: Quartz Carbonate Barite
COMMENTS: Barite is possibly present as well.
ALTERATION: Pyrite Sericite Clay Silica
ALTERATION TYPE: Pyrite Argillic Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Jurassic
Upper Jurassic

GROUP

Undefined Group

FORMATION

Harrison Lake

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY:

Dacite
Dacitic Flow
Rhyodacite
Andesite
Rhyolite
Quartz Diorite
Monzonite
Rhyodacite Breccia
Andesite Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison
METAMORPHIC TYPE: Contact Regional

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

GRADE:

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1987

COMMODITY

Copper 0.1000 Per cent
Zinc 2.0000 Per cent

COMMENTS: The sample is described as a composite chip character sample. The size was not indicated.

REFERENCE: Assessment Report 17350.

CAPSULE GEOLOGY

The area is underlain by intermediate to acid volcanics of the Lower-Middle Jurassic Harrison Lake Formation. The volcanics are intruded by a Late Jurassic (Arthur, 1987) quartz diorite to monzonite stock, which forms the resistant peak and part of the east flank of Mount Klautd. A linear feature, thought to be a fault, forms the east boundary of the intrusion and parallels the southern tributary of Brett Creek. East of this fault, rhyolite and rhyodacite consisting of massive to pyroclastic (lapilli) beds, have undergone pyritic and argillic alteration with some silicification.

A zone of alteration and mineralization is present where the main logging road crosses Brett Creek. The complex fault zone passes

CAPSULE GEOLOGY

through here parallel to the creek. Strata within the zone trend northeast and dip gently to the southeast. A massive rhyodacite breccia with rounded clasts and a pervasively silica-pyrite altered matrix is exposed in the creek. An overlying dacitic flow unit contains quartz-carbonate (and possibly barite) stringers and veins of black sphalerite and minor chalcopyrite. A composite chip sample yielded 2 per cent zinc and 0.1 per cent copper (Assessment Report 17350). Extending eastward from here is a pervasively pyrite-silica altered andesite tuff with local stringer veins.

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EMPR OF 1999-2
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GSC P 69-47; 86-1B, pp. 715-720
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DATE CODED: 1985/07/24
DATE REVISED: 1995/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW085**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAN**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 00 13 N
LONGITUDE: 121 46 20 W
ELEVATION: 680 Metres

NORTHING: 5428583
EASTING: 589795

LOCATION ACCURACY: Within 500M

COMMENTS: The location is centred on the area of 1980 and 1990 drilling activity on the south side of Tamihi Creek, just north of the Canada-U.S. border (Assessment Report 13300, Plate 1).

COMMODITIES: Copper Zinc Silver Lead

MINERALS

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

DEPOSIT

CHARACTER: Stockwork Breccia Vein Stratiform
CLASSIFICATION: Volcanogenic Syngenetic Hydrothermal
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Chilliwack Undefined Formation

LITHOLOGY: Andesite
Basalt
Dacite
Rhyolite
Siltstone
Pyroclastic Breccia
Rhyodacite
Conglomerate
Felsic Ash Lapilli Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1976
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 5.2000 Grams per tonne
Copper 0.2000 Per cent
Zinc 0.4000 Per cent

REFERENCE: Assessment Report 6113.

CAPSULE GEOLOGY

The Tan prospect is underlain by a series of volcanic rocks and associated sediments and volcanoclastics of the Devonian to Permian Chilliwack Group. The volcanics range from basaltic to rhyodacite in composition and the sediments range from siltstone to conglomerate. The volcanic pile is dominated by amygdaloidal flows (of probable andesitic to basaltic composition) which contain minor interbeds of felsic ash and lapilli tuffs and lesser pyroclastic breccias. Breaks in the volcanism are indicated by sequences of carbonate, pyroclastics and clastics. Overall bedding appears to have a gentle easterly dip on the order 10 degrees, however, local fault-rotated blocks have steep northwest dips. Two styles of mineralization are reported.

The first and most common type of mineralization is that associated with intense quartz vein stockworks, vein breccias and associated "replacements". Minerals include abundant pyrite, lesser

CAPSULE GEOLOGY

amounts of chalcopyrite and sphalerite, and rare galena. The quartz vein/replacement zones often appear to be zoned, with an outer zone of broad quartz veining. Quartz veining increases dramatically towards silicified or "replaced" zones and with it the country rock becomes increasingly silicified, often losing primary textures. These "replacement" zones commonly have associated strong brecciation with quartz vein events both prior to and following brecciation. The "replacement" zones are described as massive siliceous, complete replacements along bedding or fracture zones and are followed by hairline, black quartz veining and/or white quartz veining. These "replacement" zones are usually less than tens of metres in length. Silicification of this type has been observed for over 100 metres but do not have the sulphides or quartz-sulphide veining of the smaller zones. A sample from a zone of siliceous breccia with black quartz yielded 0.2 per cent copper, 5.2 grams per tonne silver and greater than 0.4 per cent zinc (Assessment Report 6113).

The second type of mineralization on the property is syngenetic, consisting of pyrite occurring in dark siltstone. Fine disseminated pyrite forms weak or discontinuous bands paralleling bedding planes.

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EMPR EXPL 1975-E62; 1976-E76; 1977-E122; 1981-199; 1984-179
EMPR GEM 1972-102; 1973-124; 1974-102
EMPR OF 1999-2
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
Falconbridge File

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

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW086**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKU**, SKU 3-10

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 36 N
LONGITUDE: 121 55 30 W

NORTHING: 5471738
EASTING: 578007

ELEVATION: 1067 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Brett and Sakwi creeks, about 6.4 kilometres west of Harrison Lake.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Pyrite Silica
ALTERATION TYPE: Silicific'n Pyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Igneous-contact
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Jurassic
Upper Jurassic

GROUP

Undefined Group

FORMATION

Harrison Lake

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY:

Basalt
Rhyolite
Basalt Rhyolite Tuff
Quartz Diorite
Basalt Rhyolite Breccia

HOSTROCK COMMENTS: Quartz diorite intrusion dated Late Jurassic (Arthur, 1987). Volcanic flows and pyroclastics are part of Weaver Lake Member.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison
METAMORPHIC TYPE: Contact Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

The Sku showing area is underlain by rocks of the Weaver Lake Member of the Lower-Middle Jurassic Harrison Lake Formation, comprised of a varied assemblage of basaltic to rhyolitic flows, tuffs and breccias. These flows and pyroclastics are intruded by a small quartz diorite stock described as Late Jurassic in age (Arthur, 1987). The Harrison Lake rocks are altered near the contact. Alteration is comprised of intense silicification and pyritization. Pyrite with minor chalcopyrite occur as disseminations or as fracture fillings in the contact rocks.

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GSC MAP 12-1969; 737A
GSC P 69-47; 86-1B, pp. 715-720

DATE CODED: 1985/07/24
DATE REVISED: 1988/04/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW087**

NATIONAL MINERAL INVENTORY:

NAME(S): **LITTLE BIGFOOT, SF, EMMA 1-2,
BIG FOOT 4, WOOLYBOOGER, F,
S, BIGFOOT**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 49 25 23 N
LONGITUDE: 121 50 59 W
ELEVATION: 200 Metres

NORTHING: 5475123
EASTING: 583418

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 1.0 kilometre west of Harrison Lake, between Simms and Cartmell creeks, on the north side of Wells Creek. Lies about 1800 metres south of Bigfoot (092HSW094).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcocopyrite
ASSOCIATED: Quartz Carbonate Epidote
ALTERATION: Quartz Carbonate Epidote
ALTERATION TYPE: Propylitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Lapilli Tuff
Volcanic Sandstone
Argillaceous Tuff
Mudstone
Siltstone
Rhyolite
Dacite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core

YEAR: 1984

<u>COMMODITY</u>	<u>GRADE</u>	
Copper	0.0575	Per cent
Zinc	0.0990	Per cent

COMMENTS: Diamond-drill hole 84-8; 57.0 to 58.8 metres.
REFERENCE: Assessment Report 12213.

CAPSULE GEOLOGY

The area is underlain by Lower-Middle Jurassic rocks of the Harrison Lake Formation which are comprised of volcanic and epiclastic rocks varying from basalt to rhyolite in composition with rhyolites and dacites predominating and textures varying from massive flows to fine pyroclastics.

Rocks exposed on the SF property are a complex group of volcanic flows, pyroclastics and epiclastics. The epiclastic rocks are transitional from related lapilli to interbedded lapilli and fine bedded tuffs, volcanic sandstones, argillaceous black tuffs, crumbly mudstones and siltstones. A large area of rhyolite is centred on the headwaters of Wells Creek, and may be a rhyolite dome, which covers one square kilometre.

Mineralization consists of black or brown sphalerite,

CAPSULE GEOLOGY

chalcopyrite and pyrite which occurs as fracture healings or vugs in leached, lapilli tuff. It may or may not be associated with quartz, carbonate or epidote alteration. The mineralized fractures are generally in the order of less than 1 centimetre thick and host very low silver and only trace gold.

W.M. Sharp sampled the area in the early 1960's and staked the SF 1-14 claims in 1972. Nielsen Geophysics identified anomalous zinc and copper the following year. Swim Lake Mines Ltd. optioned the claims in 1974, surveyed the area and drilled the property as the Woollybooger and Bigfoot 4 claims. In 1981, Lornex Mining Corporation Ltd. optioned the property as the Woollybooger, Bigfoot 4 and 5, and Little Bigfoot 1, in conjunction with adjacent claims (Bigfoot 103 and Duke) to the north (see Bigfoot, 092HSW094). Work included linecutting, soil sampling, geologic mapping, IP surveys and staking of the Emma 1 and 2 claims. They drilled several holes in the area in 1984.

A 1.8-metre drill intercept from drillhole 8 assayed 0.0575 per cent copper and 0.099 per cent zinc (Assessment Report 12213). In 1987, Stacia Ventures Inc. had Mountainside Management Limited conduct geological, geochemical and geophysical surveys on the Little Bigfoot property, which is part of the Bigfoot property to the south (092HSW094).

BIBLIOGRAPHY

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*11740, 12213, *16338, 22318, 25743
EMPR EXPL *1975-E64; *1976-E77; 1980-166,167; 1983-181
EMPR FIELDWORK 1983, pp. 42-53; 1984, pp. 120-131; 1985, pp. 95-97
EMPR GEM *1973-130; *1974-103; *1975-E64; *1976-E77
EMPR OF 1999-2
GSC MAP 12-1969; 737A
GSC P 69-47; 86-1B, pp. 715-720
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British Columbia, Field Guides to Geology and Mineral Deposits in
the South Canadian Cordillera, GAC Section Meeting, Vancouver,
British Columbia, May 1985

DATE CODED: 1985/07/24
DATE REVISED: 1999/08/12

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW088**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHILLIWACK RIVER (SOUTH)**, SLESSE

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 04 34 N
LONGITUDE: 121 42 43 W
ELEVATION: 488 Metres

NORTHING: 5436716
EASTING: 594067

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on the surface trace of a limestone exposure.

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica
COMMENTS: As chert bands and lenses in limestone.

MINERALIZATION AGE: Lower Permian

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary

Massive
Industrial Min.

TYPE: R09 Limestone

DIMENSION: 700 x 120

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Limestone band strikes northeast and dips variably southeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Paleozoic
Chilliwack

Undefined Formation

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

LITHOLOGY: Limestone
Argillite
Greywacke
Chert

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1947

SAMPLE TYPE: Chip

COMMODITY

GRADE

Limestone

43.6000

Per cent

COMMENTS: Taken across 30 metres. Grade given for CaO.

REFERENCE: Bulletin 40, page 41.

CAPSULE GEOLOGY

A 120-metre thick Lower Permian sequence of grey, recrystallized limestone with interbedded greywacke, chert and argillite of the Devonian to Permian Chilliwack Group, is exposed for 700 metres along the northwest flank of a northeast trending knoll on the south side of the Chilliwack River, 18 kilometres east of Vedder Crossing. The section consists of an upper 60-metre thick limestone member separated from a lower 30-metre thick limestone member by 30 metres of cherty argillite and greywacke. The sequence strikes northeast and dips variably southeast. Both members contain chert bands and lenses. A chip sample across the top 30 metres of the upper limestone member analysed 43.6 per cent CaO, 2.50 per cent MgO, 15.1 per cent insolubles, 0.47 per cent R2O3, 0.42 per cent Fe2O3, 0.05 per cent MnO, 0.03 per cent P2O5, 0.06 per cent sulphur and 37.8 per cent ignition loss (Bulletin 40, page 41).

In 1998, three diamond drill holes were completed for a total of 367.9 metres (Assessment Report 25596).

BIBLIOGRAPHY

EM EXPL 1998-47-55; 2002-29-40

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1340
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 25596
EMPR BULL *23, pp. 48,49; *40, p. 41
EMPR OF 1992-18
GSC MAP 12-1969; 737A
GSC P 69-47, p. 7

DATE CODED: 1985/07/24
DATE REVISED: 1989/07/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW089**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHILLIWACK RIVER (NORTH)**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 05 32 N
LONGITUDE: 121 42 05 W
ELEVATION: 488 Metres

NORTHING: 5438520
EASTING: 594807

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on the surface trace of a limestone exposure.

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Quartz
MINERALIZATION AGE: Lower Permian
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone

Massive
Industrial Min.

DIMENSION: 1600 x 120

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Limestone band strikes northwest, dips 20 to 50 degrees northeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Chilliwack

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

LITHOLOGY: Limestone
Greywacke
Argillite
Chert

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1957

SAMPLE TYPE: Chip

COMMODITY

GRADE

Limestone

50.3000

Per cent

COMMENTS: Across top 61 metres. Grade given for CaO.

REFERENCE: Bulletin 40, page 42.

CAPSULE GEOLOGY

Several Lower Permian limestone members of the Devonian to Permian Chilliwack Group are exposed in a section of interbedded limestone, greywacke, argillite and chert for 1600 metres along the north side of the Chilliwack River, 19 kilometres east of Vedder Crossing. An upper 120 metre thick limestone member is separated from a lower member of unknown thickness by a bed of argillite and greywacke. The limestone strikes northwest and dips 20 to 50 degrees northeast.

The two members are composed of recrystallized, medium grey limestone with some irregular masses and veinlets of white calcite and quartz. The upper member contains thin beds and lenses of black chert. A chip sample across the top 61 metres of the upper limestone member analysed 50.3 per cent CaO, 0.29 per cent MgO, 8.24 per cent insolubles, 0.44 per cent R2O3, 0.34 per cent Fe2O3, 0.005 per cent MnO, 0.022 per cent P2O5, 0.119 per cent sulphur and 40.1 per cent ignition loss (Bulletin 40, page 42).

BIBLIOGRAPHY

EM EXPL 2002-29-40
EMPR ASS RPT *22201

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1342
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL *40, pp. 41,42
GSC MAP 737A; 12-1969; 41-1989
GSC P 69-47, p. 7

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/01

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1343
REPORT: RGEN0100

MINFILE NUMBER: **092HSW090**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT THURSTON**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 05 57 N
LONGITUDE: 121 46 56 W
ELEVATION: 700 Metres

NORTHING: 5439194
EASTING: 588893

LOCATION ACCURACY: Within 1 KM

COMMENTS: The quarry was probably located on the southern slopes of Mount
Thurston since that is where the Chilliwack Group rock occurs.

COMMODITIES: Andesite Building Stone Dimension Stone

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Industrial Min.
TYPE: R05 Dimension stone - andesite

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Chilliwack	Undefined Formation	

LITHOLOGY: Crystal Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Rock was apparently quarried from the Mount Thurston area, possibly in the early 1960s. The rock is described as pale green, quartz phenocryst-bearing crystal tuff ("birds-eye rock") from the uppermost unit of the Devonian to Permian Chilliwack Group.

BIBLIOGRAPHY

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GSC P 69-47
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DATE CODED: 1985/07/24
DATE REVISED: 1995/01/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW090**

MINFILE NUMBER: **092HSW091**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOP, KAZAR**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 17 N
LONGITUDE: 121 58 56 W
ELEVATION: 1219 Metres

NORTHING: 5478505
EASTING: 573762

LOCATION ACCURACY: Within 500M

COMMENTS: Located east of Chehalis Lake on the northwest slope of Mount Downing, about 39 kilometres north of Harrison Mills.

COMMODITIES: Lead Copper

MINERALS

SIGNIFICANT: Galena Chalcopyrite Pyrrhotite Pyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Pyrite Chlorite
ALTERATION TYPE: Potassic Chloritic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Rhyolite
Andesite Rhyolite Pyroclastic
Andesite
Andesite Rhyolite Volcanic Flow

HOSTROCK COMMENTS: Pyroclastic rocks belong to the Weaver Lake Member of the Harrison Lake Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
RELATIONSHIP:
GRADE:

CAPSULE GEOLOGY

The Top showing area is underlain by rocks of the Weaver Lake Member of the Lower-Middle Jurassic Harrison Lake Formation. The lithology is varied and consists mainly of acidic to intermediate volcanic flows and pyroclastics ranging from andesitic to rhyolitic in composition.

A zone of shearing or apparent faulting occurs along Top Creek. Blebs and narrow veinlets of galena, chalcopyrite, pyrrhotite and pyrite with associated quartz and calcite gangue occur within this shear zone. Alteration associated with this shearing consists of pyritization, potassic alteration and minor chloritization.

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EMPR GEM 1972-102-105, Fig.5; *1974-104
GSC MAP 12-1969; 737A
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Crickmay, C.H. (1962): Gross Stratigraphy of the Harrison Lake Area, British Columbia, Evelyn de Mille Books, Calgary, Alberta, p. 12
Ray, G.E. et. al. (1985): Precious Metal Mineralization in Southwest British Columbia, Field Guides to Geology and Mineral Deposits in the South Canadian Cordillera, GAC Section Meeting, Vancouver, British Columbia, May 1985
Chevron File

DATE CODED: 1985/07/24
DATE REVISED: 1988/04/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW091**

MINFILE NUMBER: **092HSW092**

NATIONAL MINERAL INVENTORY: 092H5 Au1

NAME(S): **HARRISON GOLD, ABO, RN,
GEO, JENNER STOCK, FOOTWALL,
BRECCIA**

STATUS: Developed Prospect	Underground	MINING DIVISION: New Westminster
REGIONS: British Columbia		
NTS MAP: 092H05E 092H05W		UTM ZONE: 10 (NAD 83)
BC MAP:		
LATITUDE: 49 20 07 N		NORTHING: 5465486
LONGITUDE: 121 44 42 W		EASTING: 591175
ELEVATION: 195 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Jenner Stock adit, 500 metres from the eastern shoreline of Harrison Lake, 5 kilometres north-northeast of Harrison Hot Springs (Assessment Report 20144).		

COMMODITIES: Gold	Silver	Copper	Zinc	Lead
Molybdenum	Tungsten	Bismuth		

MINERALS

SIGNIFICANT: Gold	Pyrrhotite	Pyrite	Chalcopyrite	Molybdenite
Scheelite	Galena	Sphalerite		
COMMENTS: Trace and minor amounts of chalcopyrite, molybdenite, scheelite and bismuth-silver tellurides.				
ASSOCIATED: Quartz	Calcite	Sericite	Chlorite	Arsenopyrite
ALTERATION: Sericite	Chlorite	Carbonate		
ALTERATION TYPE: Sericitic		Propylitic	Silicific'n	
MINERALIZATION AGE: Tertiary				
ISOTOPIC AGE: 24.5 +/- 1 Ma	DATING METHOD: Potassium/Argon	MATERIAL DATED: Sericite		

DEPOSIT

CHARACTER: Vein	Stockwork	Breccia
CLASSIFICATION: Epigenetic	Hydrothermal	
TYPE: I01 Au-quartz veins		
SHAPE: Irregular		
MODIFIER: Fractured		
COMMENTS: Age date from vein sericite in Portal Stock adit (Fieldwork 1984).		

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous	Fire Lake	Brokenback Hill	Jenner Stock
Tertiary			

ISOTOPIC AGE: 25.7 +/- 1 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Hornblende

LITHOLOGY: Quartz Diorite
Argillite
Feldspar Porphyry Dike
Crystal Tuff
Tuffaceous Sandstone
Volcanic Flow
Felsic Dike
Volcanic Conglomerate
Pyroclastic
Limestone

HOSTROCK COMMENTS: Age date of Jenner stock from Fieldwork 1985.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline	PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Plutonic Rocks	
METAMORPHIC TYPE: Contact	Gambier
	RELATIONSHIP:
	GRADE: Hornfels

INVENTORY

ORE ZONE: JENNER & PORTAL	REPORT ON: Y
CATEGORY: Inferred	YEAR: 2002
QUANTITY: 600000 Tonnes	
COMMODITY: Gold	GRADE: 2.8000
	Grams per tonne
COMMENTS: See capsule geology for the 1990 resource figure.	
REFERENCE: Press Release, Northern Continental Resources Inc., Feb.18, 2003.	

INVENTORY

ORE ZONE: JENNER & PORTAL

REPORT ON: Y

CATEGORY: Indicated

YEAR: 2002

QUANTITY: 1845000 Tonnes

COMMODITY

GRADE

Gold

2.7900

Grams per tonne

REFERENCE: Press Release, Northern Continental Resources Inc., Feb.18, 2003.

CAPSULE GEOLOGY

The Harrison Lake shear zone is a right-lateral transcurrent fault which splays northward into an imbricate fan of high angle brittle faults. In part it passes along, and parallel to, Harrison Lake. The Harrison Gold property comprises a stratigraphic succession of sedimentary and volcanic rocks of the Cretaceous Brokenback Hill and Peninsula formations (Fire Lake Group) bounded on the east by the major Harrison fault and Tertiary granodiorite of the "Hicks Lake batholith". The Harrison fault separates Fire Lake Group rocks from Cretaceous and/or Tertiary, mainly greenschist facies, mafic to intermediate volcanics and phyllite of the Slollicum Schist. The Harrison fault is a 1-2 kilometre wide fracture zone with a well-developed cleavage dipping 50-70 degrees east but with no marked linear fabric within it. Several possible fault splays cut across the Harrison Gold property.

The Harrison Gold occurrence is underlain by sediments and volcanics of the Brokenback Hill Formation comprising green crystal tuff, volcanic conglomerate and tuffaceous sandstone in the lower part of the section, and volcanic flows, pyroclastics, argillite and sandstone in the upper parts. This sequence conformably overlies a coquina bed of the Peninsula Formation. The sediments and volcanics have been intruded by numerous quartz diorite stocks which are probably related to the "Hicks Lake batholith" (Chilliwack batholith). The age of one such stock, the Jenner stock, has been dated at 23-25 Ma. A feldspar porphyry dike also intrudes the package. Pelites of the Devonian to Permian Chilliwack Group are in fault contact with the Brokenback Hill Formation in the southern parts of the property.

Gold mineralization invariably occurs mainly as free visible flakes up to 2 millimetres in size (generally 0.2-0.6 millimetre or less) within quartz veins (approaching a weak stockwork system). The mineralized quartz veins are confined to quartz diorite intrusive bodies (Jenner, Portal, Hill and Lake stocks), or their immediate periphery. Gold mineralization is not known to occur more than 2 to 3 metres outside the quartz diorite intrusions. Gold also occurs in association with open space sulphide-fillings within a hydrothermally altered breccia pipe (Breccia zone).

The Jenner stock is a small irregular plug or apophysis of quartz diorite which has intruded sedimentary and volcanic rocks of the Brokenback Hill Formation. It is comprised of two main intrusive phases: a medium to coarse grained hornblende-biotite quartz diorite phase which occupies the central and upper portions of the stock; and a fine grained biotite-(hornblende) quartz diorite phase found mainly in the lower portions. Numerous thin, high angle felsic and less commonly mafic dikes are present throughout the stock. Disseminated and evenly distributed mineralization within the Jenner stock consists of 1-3 per cent pyrrhotite, minor pyrite and chalcopyrite, and traces of molybdenite. In its upper levels, the stock is roughly circular to elliptical (80-110 metres in plan) becoming more elongated (60 by 150 metres) with depth. It plunges 80-85 degrees to the east and its overall three dimensional shape can be described as pipe-like. Portions of the stock, mainly along its footwall contact, are occupied by a contact breccia phase which is transitional from a breccia containing both quartz diorite and country rock fragments in a quartz diorite matrix, to one containing only country rock fragments. Several large xenoliths (40 by 20 by 5 metres) or roof pendants are also found within the stock.

The main deposit is the Jenner Stock zone. Gold-bearing vein systems within the Jenner stock are predominantly low-angle structures. The quartz veins which contain gold mineralization are associated with gently dipping (15-40 degrees) veins which form a conjugate set and bisectrix; minor subvertical veins also contain gold. In addition to these low-angle veins, the dominant features are large, low angle, west and east dipping compressive reverse faults which cut both country rocks and the stock. These faults have resulted in thrust development, shearing and localized vein offsets. The higher grade portions of the Jenner stock tend to be at its margins. A northwest trending, possibly post-mineralization fault, the Jenner fault, passes through the stock. Shearing and faulting is commonly associated with an assemblage of pyrite, carbonate and

CAPSULE GEOLOGY

chlorite. Weak to locally strong propylitic alteration of the stock is ubiquitous and consists primarily of chlorite and carbonate.

The veins which contain the gold mineralization are comprised of a gangue of quartz with minor calcite, chlorite and sericite. The major sulphide mineral is pyrrhotite with minor to trace amounts of pyrite, chalcopyrite, molybdenite, scheelite, arsenopyrite, galena and sphalerite. Bismuth-silver tellurides are present and have been observed as intergrowths with native gold grains. The amount of native gold present in a given vein does not appear to correlate directly with the presence of any sulphide nor with its relative concentration. The highest gold concentrations are found along the mineralized western contact (Footwall zone) of the Jenner stock. Strong sericitic alteration envelopes with widths up to several centimetres are commonly developed around mineralized quartz veins.

The Portal stock is located 300 metres southwest from the Jenner stock. It is separated into two distinct domains: the western portion is a roughly circular body with an average diameter of 140 metres and smooth or regular contacts; the eastern portion is dike-like, narrowing from approximately 100 metres in the west to 40-50 metres near the eastern contact, with irregular or bulging contacts. The entire stock is plunging approximately 70 degrees to the east.

Gold-bearing quartz vein attitudes (gold zones) appear to be oriented horizontally to subhorizontally within the Portal stock. Overall, the zones appear to be dipping 15-20 degrees to the west and 5-20 degrees to the south. Drilling to date suggests that gold grades within the zones improve towards the intrusive contacts, particularly the northern contact. A drill intersection of a well mineralized zone averaged 3.17 grams per tonne gold across 30 metres (Assessment Report 19584). The sericite in these veins from the Portal stock adit gives a potassium-argon age of 24.5 Ma +/- 1 Ma (Fieldwork 1984). Gold mineralization also appears to be associated with the northern contact or footwall of a felsic dike. The dike is a quartz-flooded granite or diorite with intense associated chlorite-sericite-biotite-silica alteration along internal fractures and quartz veins, and 2-10 per cent disseminated pyrrhotite.

The Lake stock is located 1650 metres south from the Jenner stock and is the largest and best exposed of the gold-bearing diorite stocks. It is massive in texture with little variation in composition from margin to margin except for local variations in the size of amphibole and the amount of biotite. The stock locally contains up to 3 per cent finely disseminated pyrrhotite. Quartz veins are not common, and are found predominantly near the margins of the stock. The occasional vein contains visible gold with grades up to 2.24 grams per tonne (Assessment Report 19584).

The Hill stock is located 700 metres south from the Lake stock. Gold-silver mineralization is associated with quartz +/- carbonate-pyrrhotite-pyrite, +/- molybdenite, +/- arsenopyrite veins. These veins pass into the sedimentary country rock but the amount of gold and strength of veining generally decreases substantially and finally dies out within a short distance of the host quartz diorite. The mineralized zone containing the veins weakens laterally outward, is relatively flat lying and controlled by low angle veining similar to the Jenner-Portal style mineralization. Gold-silver grades range up to 23 grams per tonne and 57 grams per tonne respectively, across a 1 metre drill intersection (Assessment Report 20144).

A sulphide-bearing (pyrrhotite-sphalerite-chalcopyrite) breccia pipe (Breccia zone) which is strongly sericitized, chloritized and silicified, is spatially related to the Hill stock. It occurs on the west margin of the Hill stock. The breccia contains fragments of the surrounding country rocks as well as occasional fragments of quartz diorite. Fragments are mainly 5-10 centimetres in diameter with some rotation but no apparent milling or grinding. Sulphide mineralization occurs as open-space fillings. The zone has surface dimensions of 325 by 100 metres. A zone of 29 metres averaging 1.56 grams per tonne gold, 4.4 grams per tonne silver, 0.56 per cent zinc and 0.04 per cent copper including 7 metres averaging 3.56 grams per tonne gold, 9.3 grams per tonne silver, 1.2 per cent zinc and 0.049 per cent copper, occurs at the margins of the breccia pipe (Assessment Report 20144). Recent drilling has indicated that the strength of both hydrothermal alteration and grade of gold-silver-zinc mineralization has weakened downdip and laterally outward from the aforementioned 29 metre zone of mineralization.

Between 1972 and 1982, a small tonnage was mined from the property. This was mined from the Portal stock adit, which was 50 metres long and included 4 raises up to 15 metres long (Assessment Report 20144). During 1987, a 1053 tonne bulk sample was procured from the Jenner stock underground workings on the 187 level. In estimating grade and tonnage of the Jenner Stock zone, a general

CAPSULE GEOLOGY

assumption was made that the average grade resulting from the underground workings would extend to surface and depth. A grade of 3.2 to 4.1 grams per tonne gold was indicated from underground sampling and the inferred tonnage is 1.3 million tonnes between surface and 100 metres above sea level, and 2.2 million tonnes from surface down to sea level for the "Footwall zone" (Assessment Report 20144).

Late in 2000, Eagle Plains Resources Ltd. acquired the ground within hours after the claims forfeited.

In 2001, Eagle Plains conducted a 215 kilometre airborne geophysical survey.

Northern Continental Resources Inc. released resource figures in 2003 for the combined Jenner & Portal zones (Press Release February 18, 2003). The indicated resource is 1,845,000 tonnes grading 2.79 grams per tonne gold and the inferred resource is 600,000 tonnes grading 2.8 grams per tonne gold.

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EMR MP CORPFILE (Abo Resource Corporation; Bema International Resources Inc.)
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IPDM Mar./Apr., 1983; Aug./Sept., 1984
N MINER Apr.5, Dec.13, 1984; Nov.18, 1985; Mar.24, 1986; Jan.25, 1988; Mar.9, 1992
N MINER MAG Feb., Mar., 1986
NW PROSP May/June 1983
PR REL Northern Continental Resources Inc., Oct.25, 2002; Feb.18, 2003; Eagle Plains Resources Ltd., Jan.9, 2003
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DATE CODED: 1985/07/24
DATE REVISED: 1990/11/09

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092HSW093**

NATIONAL MINERAL INVENTORY: 092H5,6 Ni1

NAME(S): **STAR OF EMORY 3, PRIDE OF EMORY, GIANT NICKEL,
STAR OF EMORY (L.1414), BRUNSWICK, GIANT MASCOT**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 28 07 N
LONGITUDE: 121 32 21 W
ELEVATION: 1000 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5480577
EASTING: 605841

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Emory Creek on the north side of Zofka Ridge, about 9.6 kilometres northwest of Hope (part of the Giant Nickel mine (092HSW004).

COMMODITIES: Nickel Copper Chromium Gold Platinum
 Palladium

MINERALS

SIGNIFICANT: Pyrrhotite Pentlandite Chalcopyrite Magnetite Chromite
COMMENTS: Concentration of ore due to presence of chalcopyrite of replacement origin. Rare chromite.

MINERALIZATION AGE: Lower Cretaceous

ISOTOPIC AGE: 95-120 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

DEPOSIT

CHARACTER: Massive Disseminated Pipe
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu
SHAPE: Irregular
MODIFIER: Other

DIMENSION: Metres STRIKE/DIP: /70N

TREND/PLUNGE: 285/

COMMENTS: Orebody trends about 285 degrees with a dip of 65 to 70 degrees north-northwest.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cretaceous Pacific Nickel Complex

ISOTOPIC AGE: 107 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

LITHOLOGY: Hornblende Pyroxenite
Hornblendite
Peridotite
Diorite
Quartz Diorite
Norite

HOSTROCK COMMENTS: Ultramafic rocks dated using potassium-argon methods; dates range from 95-120 Ma (Geology, Exploration and Mining in B.C. 1974, page 106).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

TERRANE: Plutonic Rocks

Undivided Metamorphic Assembl.

METAMORPHIC TYPE: Contact Regional

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1975

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper 0.2800 Per cent
Nickel 4.6900 Per cent

COMMENTS: Sample from mineralized drill core over 0.9 metre.

REFERENCE: Assessment Report 5385.

CAPSULE GEOLOGY

The Star of Emory 3 property lies within an ultrabasic complex between the southern tip of the Coast Plutonic Complex and the northern end of a belt of intrusions termed the Chelan batholith. The intrusive rocks within this belt are granites, granodiorites and quartz diorites of Jurassic age and younger. They form the core of

CAPSULE GEOLOGY

an uplifted block of regionally metamorphosed upper Paleozoic rocks which trend north, and are bounded by the Fraser River fault system on the east and west by somewhat less metamorphosed Mesozoic rocks.

The ultramafic complex hosting the Giant Nickel mine (092HSW004) mineralized zones is composed of hypersthene diorite and quartz diorites, norites and ultrabasic rocks, termed the Pacific Nickel Complex, which intrudes schists and earlier intrusive rocks. The older, noritic rocks are found northwest and southwest of the ultramafic complex. Potassium-argon ages from the ultramafic complex range from about 120 to 95 million years. The older ages were obtained from the hornblende pyroxenite phase with late hornblende dikes having the youngest ages.

The ultramafic rocks of the Pacific Nickel Complex form an irregular stock-like mass about 3.0 kilometres across. The northeast half of the stock consists of barren pyroxenites and peridotites which contain little or no hornblende. The southwest half of the stock is a highly variable, hornblende-rich assemblage of peridotites which are mineralized and contain some seventeen orebodies associated with the Giant Nickel mine. These orebodies are scattered along a line trending about 285 degrees.

The Star of Emory and Brunswick orebodies lie along Emory Creek just west of the Pride of Emory and Discovery ore zones. The ore is associated with pipe-like concentrations of pyrrhotite, pentlandite and chalcopyrite which plunges between 65 to 70 degrees to the north-northeast. The ore is very massive and in places has over 60 per cent sulphides. Some of this concentration is due to the presence of chalcopyrite of replacement origin. The mineralized ultramafic bodies are cut off by diorite intrusions. The hostrock is described as mainly hornblende pyroxenite, hornblendite and minor peridotite hosting both disseminated and massive mineralization.

In 1975, drilling intersected massive mineralization comprised mainly of chalcopyrite, pyrrhotite and pentlandite with minor magnetite and rare chromite. In one hole, mineralization over 2.75 metres yielded 2.2 per cent nickel and 0.58 per cent copper. Another intersection over 0.9 metre yielded 4.69 per cent nickel and 0.28 per cent copper (Assessment Report 5385).

These orebodies are part of the Giant Nickel mine which was in operation from 1958 to 1974 inclusive. Nickel and copper were the prime metallic products with cobalt as a byproduct, however, chrome oxide, platinum, gold and silver were also reported. In 1987, prospecting revealed widespread nickeliferous mineralization. A total of 63 rock samples were collected and all were anomalous for chromium and three samples were anomalous for platinum. Gold and palladium values were also reported. Production is included with Pride of Emory (092HSW004).

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DATE CODED: 1985/07/24
DATE REVISED: 1988/02/25

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW094**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIGFOOT**, SASQUATCH, LITTLE BIGFOOT,
 WOOLYBOOGER, DUKE, EMMA,
 MAIN ROAD, 10 MILE, POWERLINE,
 CAMP, HO AND SUN, BIG FOOT,
 SF

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H05W
 BC MAP:
 LATITUDE: 49 26 15 N
 LONGITUDE: 121 50 59 W
 ELEVATION: 200 Metres
 LOCATION ACCURACY: Within 500M

MINING DIVISION: New Westminster
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5476728
 EASTING: 583394

COMMENTS: Located on the west shore of Harrison Lake at the mouth of Simms
 Creek, about 15 kilometres north-northwest of Harrison Hot Springs.
 Lies about 1800 metres north of Little Bigfoot (092HSW087).

COMMODITIES: Zinc Copper Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Chalcopyrite Covellite
 Tetrahedrite
 ASSOCIATED: Quartz Barite
 ALTERATION: Quartz Sericite Pyrite Epidote Hematite
 COMMENTS: Unidentified secondary zinc and lead minerals are also present.
 ALTERATION TYPE: Silicific'n Sericitic Epidote Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
 CLASSIFICATION: Hydrothermal Epigenetic Volcanogenic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn
 DIMENSION: 300 Metres STRIKE/DIP: 295/80E TREND/PLUNGE:
 COMMENTS: Dimensions and orientation are for the Main Road zone in the Bigfoot
 Grid.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Rhyodacite
 Dacite Lapilli Tuff
 Rhyolite
 Pyroclastic

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
 TERRANE: Harrison
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1976
SAMPLE TYPE: Channel	
COMMODITY	GRADE
Silver	24.6000 Grams per tonne
Gold	0.5100 Grams per tonne
Copper	1.0200 Per cent
Lead	0.5800 Per cent
Zinc	5.6800 Per cent

COMMENTS: Sample A, a 6.1-metre channel sample taken across a mineralized
 stringer zone.
 REFERENCE: Assessment Report 22318.

CAPSULE GEOLOGY

The Bigfoot prospect is located on the west shore of Harrison Lake, at the mouth of Simms Creek. Harrison Hot Springs is located 15 kilometres to the south-southeast.
 The present Bigfoot property encompasses the former Sasquatch or Bigfoot property to the north and the SF or Little Bigfoot property (092HSW087) to the south. The Sasquatch property was originally

CAPSULE GEOLOGY

staked in the early 1960s and again in 1967 as the Ho and Sun claims. In 1971, H.V. Barley restaked the property and optioned it to Delphi Resources in 1973. Geological mapping and soil geochemical sampling were carried out by Manex Mining. In 1974, Delphi Resources optioned the property to Quintana Minerals Corp. and a reconnaissance electromagnetic survey was completed. The option was dropped in 1975. In 1976, McIntyre Mines optioned the property and completed geological mapping, soil geochemical sampling and an electromagnetic survey. In 1982, the original Sasquatch showing was restaked as the Duke claims and optioned to Lornex Mining Corp. Ltd. in conjunction with the Little Bigfoot claims to the south. An extensive exploration program was carried out and in 1984, a 927-metre diamond drilling program was completed in 5 holes on the Main Road zone. Lornex later dropped their option. Briana Resources Ltd. acquired the claims and in 1986 and 1987 contracted Shangri-La Minerals Ltd. to carry out two exploration programs. Four target areas were outlined. In 1989, Briana contracted Searchlight Consultants Inc. to carry out heavy mineral sediment and soil geochemical sampling. The claims were allowed to lapse in 1990 and subsequently restaked by S.F. Coombes and later transferred to F. Marshall Smith. Winfield Resources Ltd. conducted geological, geochemical and geophysical surveys in 1992 and additional geophysical surveys in 1998.

To the south, the SF claims were first staked in 1972 and several zinc soil anomalies discovered. Further work in 1973 outlined a zone of anomalous zinc, copper, cadmium and silver soil values, underlain by hydrothermally altered volcanic flows and pyroclastics. In 1974, the claim group was optioned to Swim Lake Mines Ltd. and the claim area extended eastward. Several additional soil anomalies and coincident northwest trending conductors were outlined on the new ground. In 1976, Swim Lake Mines conducted a 457 metre percussion drilling program. Five 91.4-metre holes were completed on the Little Bigfoot grid area. One gold anomaly was intersected in drillhole PD-4 over 6.1 metres. The property was allowed to lapse in the early 1980s. The claims were restaked as the Woolybooger, Bigfoot and Little Bigfoot claims and optioned to Lornex Mining Corp. Ltd. in conjunction with the Bigfoot and Duke claims to the north.

Further geophysical surveys and drilling were conducted in 1984. The drillholes failed to intersect significant mineralization and Lornex relinquished their option. The claims were subsequently acquired by Stacia Ventures Inc. and Mountainside Management Ltd. was contracted to carry out an exploration program. The program outlined three soil geochemical anomalies coincident with favourable geology and two electromagnetic conductors associated with geochemical anomalies. The claims were allowed to lapse in 1990 and subsequently restaked by S.F. Coombes and later transferred to F. Marshall Smith.

The present Bigfoot property was optioned to Winfield Resources Ltd. in 1990. Searchlight Consultants Inc. was contracted to carry out further property exploration.

The dominant regional geological feature in the Harrison Lake region is the Harrison Lake fracture system, which forms a major, northwest trending structure over 100 kilometres in length along Harrison Lake. Rock types on the southwest side of this structure consist of a variety of volcanics, volcanoclastics and sedimentary rocks of the Lower Jurassic Camp Cove Formation, Middle Jurassic Harrison Lake Formation and Middle to Upper Jurassic Echo Island, Mysterious Creek, and Billhook Creek formations. These are overlain by the Lower Cretaceous Fire Lake Group and Lower to Middle Cretaceous Gambier Group. All the above rock types have been intruded by Cretaceous to Tertiary quartz diorite to tonalite intrusions of the Coast Plutonic Complex.

The Bigfoot prospect is underlain by a complex assemblage of volcanic flows, pyroclastics and epiclastics of the Harrison Lake Formation. Massive volcanics and pyroclastics range from basalt to rhyolite in composition, with andesite and rhyodacite predominating. Epiclastic rocks are transitional from lapilli to tuff, volcanic sandstone, argillaceous tuff, mudstone and siltstones. Volcanic conglomerates, greywackes, mudstones and siltstones comprise the epiclastic suite.

The most significant mineralization is exposed on the Bigfoot Grid in the Main Road zone. The mineralization consists of pyrite, black sphalerite, chalcopyrite and minor galena with quartz and bladed barite as veins, patches and disseminations. This mineralization occurs in a northwest trending belt of dacitic and rhyodacitic pyroclastics.

Relatively fine grained, green rhyodacite or dacite lapilli tuff hosts mineralization at the Main Road zone. Epidote and sericite are common alteration minerals in the pyroclastics. Fine grained, disseminated pyrite occurs in fragments and groundmass, decreasing

CAPSULE GEOLOGY

away from mineralized veinlets. Sphalerite with lesser chalcopyrite, galena and pyrite occur in vuggy quartz plus/minus barite vein filling fractures. Late veinlets and patches contain covellite and secondary lead and zinc minerals. On average, the veins strike 295 degrees and dip 80 degrees northwest to vertical. Individual veins are 20 to 100 millimetres wide and spaced up to 3 metres apart. The Main Road zone forms a northwest trending belt about 300 metres wide, bounded to the north by a probable fault parallel to Simms Creek.

In 1976, a 6.1 metre channel sample (Sample A) taken across the mineralized stringer zone assayed 0.51 gram per tonne gold, 24.6 grams per tonne silver, 5.68 per cent zinc, 0.58 per cent lead and 1.02 per cent copper (Assessment Report 22318). Approximately 180 metres to the northwest of the Main Road zone, and on strike with mineralized veins, a slumped test pit exposes disseminated pyrite, chalcopyrite and sphalerite mineralization. A grab sample (Sample 952) taken from the pit in 1974 yielded 114 grams per tonne silver, 4.83 per cent zinc, 1.22 per cent copper and 0.14 per cent lead (Assessment Report 22318).

The Breccia zone, also located within the Bigfoot grid, consists of quartz veins up to 0.25 metre wide with patchy hematite staining. The veins are hosted in rhyodacite lapilli tuff containing chert fragments up to 0.10 metre diameter. A grab sample (Sample BF-II-36) from one of these quartz veins yielded 1.43 grams per tonne gold (Assessment Report 22318). Numerous other sulphide showings are exposed on the Bigfoot Grid. Surface trenching in 1991 was unsuccessful in finding extensions of the known mineralization.

About 360 metres to the southeast at the 10 Mile showing, test pits and 1990 Trench B expose chalcopyrite, sphalerite and minor galena associated with disseminated pyrite within lapilli tuff. This occurrence differs from other sulphide mineralization elsewhere on the property in that it occurs mainly in lapilli tuff fragments. This is interpreted to indicate that, in part, mineralization formed syngenetically with volcanics.

At the Powerline zone, blast and excavator trenching has exposed additional sulphide mineralization. The mineralization is in replacement veins dominated by quartz and sphalerite with lesser pyrite, chalcopyrite, galena and sericite with minor tetrahedrite. The veins are up to 50 millimetres wide and hosted within porphyritic latite flows. Pyrite and sphalerite are also disseminated within the groundmass of the latite. The best grab sample from this zone (Sample BF-II-30) yielded 0.86 gram per tonne gold, 43.0 grams per tonne silver, 0.54 per cent copper, 0.24 per cent lead and 6.3 per cent lead (Assessment Report 22318).

Sulphide mineralization at the Camp showing consists of narrow veins or stringers of pyrite-sphalerite-quartz in bleached porphyritic andesitic dacite. Several other sulphide occurrences have been discovered within the Simms Creek canyon, east of the Main Road zone. These showings are mostly pyrite with minor gold values.

On the Little Bigfoot Grid, pyrite is the most abundant sulphide, occurring in areas of silicification and sericitization as disseminations, blebs, stringers and fracture coatings. Sphalerite and chalcopyrite are reported in several areas in the grid.

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

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW095**

NATIONAL MINERAL INVENTORY:

NAME(S): **KU**, KU 1-30

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 59 N
LONGITUDE: 121 58 35 W
ELEVATION: 1067 Metres

NORTHING: 5481661
EASTING: 574142

LOCATION ACCURACY: Within 500M

COMMENTS: Located 3.2 kilometres northeast of the north end of Chehalis Lake, on the northwest slopes of Mount McRae, about 40 kilometres north of Harrison Mills.

COMMODITIES: Zinc Copper Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Chalcopyrite

ASSOCIATED: Calcite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Jurassic

GROUP

Undefined Group

FORMATION

Harrison Lake

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Rhyolite
Rhyolite Breccia
Rhyolite Tuff
Rhyolitic Dacitic Tuff
Dacite

HOSTROCK COMMENTS: Pyroclastics belong to the Weaver Lake Member of the Harrison Lake Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Harrison

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1974

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver	1.6000	Grams per tonne
Copper	0.0410	Per cent
Zinc	0.1100	Per cent

COMMENTS: Chip sample taken from light brown pyritic rhyolite; also assayed 0.02 per cent lead.

REFERENCE: Assessment Report 5322.

CAPSULE GEOLOGY

The property area covers a conformable contact between the Weaver Lake Member comprised mainly of pyroclastics, and the Echo Island Member consisting of tuff, minor agglomerate, sandstone and pelite. Further to the north, both the Weaver Lake and Echo Island members of the Lower-Middle Jurassic Harrison Lake Formation are overlain by Middle-Upper Jurassic pelites, black shale, siltstone and sandstone of the Mysterious Creek Formation.

On the KU property, disseminated pyrite and pyrrhotite averaging less than 3 per cent, is disseminated throughout the Weaver Lake Member pyroclastics. Rhyolite tuffs are pyritized and contain greater than 5 per cent pyrite and host bright orange gossans. In 1974, small disseminated fragments of sphalerite were found in a light brown rhyolite unit. Drilling in 1977 intersected fracture controlled chalcopyrite and sphalerite in carbonate (calcite) veinlets hosted by rhyolite breccia and rhyolitic to dacitic tuffs.

A chip sample taken across the light brown pyritic rhyolite

CAPSULE GEOLOGY

assayed 1.6 grams per tonne silver, 0.11 per cent zinc, 0.02 per cent lead and 0.041 per cent copper (Assessment Report 5322).

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DATE CODED: 1985/07/24
DATE REVISED: 1988/04/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW096**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROBYN**, LUV, STONEY,
IAM 56, IAM 51-56, MARY J,
SIR, I AM, SENECA

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 49 22 31 N
LONGITUDE: 121 52 41 W
ELEVATION: 831 Metres

NORTHING: 5469780

EASTING: 581443

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south side of Brett Creek, about 11 kilometres
northwest of Harrison Hot Springs and 2.5 kilometres west of Harrison
Lake.

COMMODITIES: Copper Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite Galena
ASSOCIATED: Barite
ALTERATION: Sericite Pyrite
ALTERATION TYPE: Pyrite Sericitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Rhyolite Tuff
Rhyolite Lapilli Tuff Breccia
Felsic Tuff
Rhyolite
Andesite
Andesitic Dike
Andesite Flow
Andesite Flow Breccia

HOSTROCK COMMENTS: Volcanic flows and pyroclastics are part of the Weaver Lake Member
of the Harrison Lake Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline	PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Harrison	Plutonic Rocks
METAMORPHIC TYPE: Contact Regional	RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The Robyn occurrence area is underlain by Weaver Lake Member rocks of the Lower-Middle Jurassic Harrison Lake Formation which are comprised of a series of basaltic to rhyolitic flows, breccias and tuffs with minor interbedded black chert. The southwest corner of the claim group is dominated by a large pyritic rhyolite dome with abundant quartz veining hosted by a sequence of andesite flows and flow breccias. Draping the dome are shallow dipping, strongly pyritic, sericitic rhyolite lapilli tuff breccia. This pyroclastic is overlain by a light grey, fine grained, pyritic felsic tuff. The pyroclastics are cut by minor andesitic dikes and several north and northwest trending normal faults.

Associated with the faulting are small, 1 to 10 centimetre wide, high angle pyrite veins with minor sphalerite +/- chalcopyrite +/- galena +/- barite.

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EMPR EXPL *1977-123,124
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EMPR GEM 1972-102-105, Fig.5; 1973-129; 1974-103
EMPR OF 1999-2
GSC MAP 12-1969; 737A

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- GSC MEM 335
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DATE CODED: 1985/07/24
DATE REVISED: 1988/04/11

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW097**

NATIONAL MINERAL INVENTORY:

NAME(S): **STEVEN, JADE KING 2**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 43 N
LONGITUDE: 121 15 41 W
ELEVATION: 380 Metres

NORTHING: 5478410
EASTING: 626026

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry on Jade King 2 claim (Assessment Report 18292, Figure 2).

COMMODITIES: Jade/Nephrite Gemstones Dimension Stone Soapstone

MINERALS

SIGNIFICANT: Nephrite Serpentinite
ASSOCIATED: Talc Serpentine Quartz Pyrite
ALTERATION: Nephrite Talc Serpentine
ALTERATION TYPE: Serpentin'zn Talc
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Discordant Vein
CLASSIFICATION: Replacement Industrial Min.
TYPE: Q01 Jade
DIMENSION: 1 Metres STRIKE/DIP:
COMMENTS: Steeply dipping, northerly trending serpentinite-filled fault zone up to 1.5 metres wide. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic Unknown	Hozameen	Undefined Formation	Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Chert
Basaltic Volcanic
Argillite
Mafic Volcanic
Basalt

HOSTROCK COMMENTS: Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

A small amount of nephrite jade was mined from a rock quarry 100 metres southeast of the Coquihalla Highway, 14 kilometres northwest of Hope.

The deposit occurs along the eastern margin of a belt of argillite, chert and mafic volcanics of the Permian to Jurassic Hozameen Complex that extends southward along the east side of the Fraser River and into the United States. The eastern margin of the belt is marked by the Hozameen fault, which juxtaposes ultramafics of the Coquihalla Serpentine Belt against the Hozameen Complex in the vicinity of the Coquihalla River.

Jade occurs in serpentinite-filled fault zones cutting Hozameen Complex ribbon cherts and basaltic volcanics. One such zone exposed in the old rock quarry, the West zone, trends northward and pinches and swells over short distances. Widths vary from 0.5 metre to in excess of 1.5 metres. The zone can be subdivided as follows from west to east: highly altered chert and quartz lenses and veins; minor pyrite; talc and serpentinite; nephrite jade seams and lenses; serpentinite; and altered basaltic volcanics and chert.

The serpentinite is comprised of black to dark green, highly sheared and abundantly slickensided, massive to foliated serpentinite. Near the surface, jade is recovered as plates 2 to 5 centimetres thick. The jade consists of apple-green, translucent, fracture free, mottled nephrite of jewelry grade with very few impurities.

R. Fulbrook of Vernon periodically quarried jade from this deposit between the late 1970s and 1987 but no production figures are available. Osirius Enterprises Ltd. carried out trenching,

CAPSULE GEOLOGY

prospecting and geological mapping in 1988.
Extensive trenching and limited production of bedrock jade was completed in 1991. At the same time, an investigation was made of the associated serpentinite, talc, soapstone and white rock alteration zones for their potential as industrial minerals; representative samples were quarried (Assessment Report 21545). Serpentinite was looked at for its use in the dimension stone market and soapstone for its use in carvings. Large quantities of superior grade soapstone are reported to be associated with the jade occurrence.

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EMPR EXPL 1976-E79; 1977-E250; 1978-E292; 1979-334
EMPR OF MAP 1986-1D
GSC MAP 12-1969; 41-1989; 737A; 1386A
GSC MEM 139
GSC OF 980
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/05

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW098**

NATIONAL MINERAL INVENTORY:

NAME(S): **YOLA CREEK**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 12 54 N
LONGITUDE: 121 24 31 W
ELEVATION: 2300 Metres

NORTHING: 5452576
EASTING: 615894

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north slope (south-facing) of the Yola Creek valley, about 1 kilometre down from its confluence with Cantelon Creek. Two showings apparently exist (GSC Summary Report 1923 Part A, Map 2023).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite
ALTERATION TYPE: Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Podiform Stratabound
CLASSIFICATION: Skarn
TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Granite Gneiss
Skarn

HOSTROCK COMMENTS: Metamorphic age of Custer Gneiss is Late Cretaceous-early Tertiary. The protolith is lower Mesozoic and possibly Paleozoic-Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl. Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Pyrrhotite and chalcopyrite in lime silicate rock (skarn) occur within granite gneiss of the Custer Gneiss complex. The Custer Gneiss is derived mainly from lower Mesozoic and possibly Paleozoic and Precambrian rocks, and metamorphosed in the Late Cretaceous or early Tertiary.

Two mineral showings are indicated on the north side of the Yola Creek valley about 1 kilometre downstream from where Cantelon Creek enters, possibly at about 2000 and 2500 metres elevation (GSC Summary Report 1923 Part A, Map 2023).

It is reported to be very similar to the Hinton 1,2 occurrence (092HSW100).

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GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1923A, p. 72 (Map 2023)

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1361
REPORT: RGEN0100

MINFILE NUMBER: **092HSW099**

NATIONAL MINERAL INVENTORY:

NAME(S): **WAHLEACH CREEK**, JONES CREEK, INDUSTRIAL GROUP

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 20 N
LONGITUDE: 121 37 33 W
ELEVATION: 200 Metres

NORTHING: 5462332
EASTING: 599892

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the bank of Wahleach Creek about 800 metres south of the highway (Minister of Mines Annual Report 1960, page 133).

COMMODITIES: Asbestos

MINERALS

SIGNIFICANT: Actinolite
ALTERATION: Serpentinite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Magmatic 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>
Proterozoic-Paleoz.			Yellow Aster Complex

LITHOLOGY: Peridotite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Actinolite occurs as coarse, brittle fibres with little tensile strength in altered diorite. The fibres occur in a series of north and west striking fractures for 61 metres along the bank of Wahleach Creek (Minister of Mines Annual Report 1960, page 133). Cairnes records the same occurrence but reports the hostrock as serpentinized peridotite (GSC Map 737A). Monger maps the locality as Proterozoic and Paleozoic Yellow Aster Complex (GSC Map 41-1989).

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DATE CODED: 1985/07/24
DATE REVISED: 1994/11/25

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW099**

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1362
REPORT: RGEN0100

MINFILE NUMBER: **092HSW100**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILTON 1,2**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 09 28 N
LONGITUDE: 121 25 15 W
ELEVATION: 1400 Metres

NORTHING: 5446196
EASTING: 615137

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 1.6 kilometres north of the Elk Horn occurrence (092HSW078) which is on the northeast side of Greendrop Lake. The showings are at 1220 and 1430 metres elevation (GSC Summary Report 1923 Part A, page 71, Map 2023).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite
ALTERATION: Garnet Epidote Anorthite
ALTERATION TYPE: Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Podiform Stratabound
CLASSIFICATION: Skarn
TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Granite Gneiss
Limestone
Skarn

HOSTROCK COMMENTS: Metamorphic age of Custer Gneiss is Late Cretaceous-early Tertiary. The protolith is lower Mesozoic and possibly Paleozoic-Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl. Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Some surface stripping and opencut work at the Hilton 1,2 showing has exposed a small lens of pyrrhotite, chalcopyrite and pyrite in a narrow belt of skarn rock. The silicate rock contains limestone pods and is itself contained within granite gneiss of the Custer Gneiss complex. The skarn minerals include an abundance of red garnet (andradite?), epidote and anorthite feldspar.

The Custer Gneiss is derived mainly from lower Mesozoic and possibly Paleozoic and Precambrian rocks, and metamorphosed in the Late Cretaceous or early Tertiary. The contact of the granodioritic Oligocene Chilliwack batholith occurs within a few kilometres to the south of the occurrence.

A sample of solid pyrrhotite ore yielded 0.05 per cent nickel and a trace of gold (GSC Summary Report 1923 Part A, page 71).

BIBLIOGRAPHY

GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1923A, p. 71

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW100**

MINFILE NUMBER: **092HSW101**

NATIONAL MINERAL INVENTORY:

NAME(S): **GREENDROP LAKE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 08 30 N
LONGITUDE: 121 26 18 W
ELEVATION: 1067 Metres

NORTHING: 5444379
EASTING: 613898

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of Greendrop Lake, about 600 metres south of the Elk Horn occurrence (092HSW078) (GSC Summary Report 1923 Part A, Map 2023).

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Calcite Quartz
ALTERATION: Epidote Clinopyroxene Calcite
ALTERATION TYPE: Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Skarn
TYPE: K SKARN

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Granite Gneiss
Limestone
Skarn

HOSTROCK COMMENTS: Metamorphic age of Custer Gneiss is Late Cretaceous-early Tertiary. The protolith is lower Mesozoic and possibly Paleozoic-Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl. Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Greendrop Lake occurrence is reported by Cairnes to be very similar to the Elk Horn (09HSW078). It is, therefore, assumed that galena, sphalerite and pyrite occur in calcite and quartz stringers and veins in a fracture zone in the Custer Gneiss (GSC Summary Report 1923 Part A, pages 70,71). Lime silicate rock (skarn?) is closely associated with the granite gneiss host which contains clinopyroxene (diopside?) and epidote.

The Custer Gneiss is derived mainly from lower Mesozoic and possibly Paleozoic and Precambrian rocks, and metamorphosed in the Late Cretaceous or early Tertiary. The contact of the granodioritic Oligocene Chilliwack batholith occurs within a few kilometres to the south of the occurrence.

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GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
GSC SUM RPT *1923A, pp. 70,71

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW102**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHAPMAN AND WORT**, VANWOR, CLAIRE,
 SKAJIT

STATUS: Showing	Underground	MINING DIVISION: New Westminster
REGIONS: British Columbia		
NTS MAP: 092H03E		UTM ZONE: 10 (NAD 83)
BC MAP:		
LATITUDE: 49 12 45 N		NORTHING: 5452896
LONGITUDE: 121 03 25 W		EASTING: 641510
ELEVATION: 1067 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: Located within a few kilometres east of the confluence of the Skagit and Sumallo rivers (Assessment Report 19715).		

COMMODITIES: Copper Silver Gold Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Galena
 COMMENTS: Minerals inferred from reports of elements found.
 ALTERATION: Silica
 ALTERATION TYPE: Silicific'n
 MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Chert
 Argillite
 Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
 TERRANE: Methow

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1989
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	393.5000 Grams per tonne
Gold	1.4000 Grams per tonne
Copper	6.7000 Per cent
Lead	0.2900 Per cent
Zinc	0.2900 Per cent

COMMENTS: Sample from a 10-centimetre vein in an adit.
 REFERENCE: Assessment Report 19715.

CAPSULE GEOLOGY

The Chapman and Wort showing is underlain by Permian-Jurassic Hozameen Complex cherts and argillites and minor younger diorite intrusions. In the 1960s and 1970s, narrow silver and copper-rich veins were located in several places. The Chapman/Wort adit is located at a small stream in a rock outcrop on the southeast of a clear-cut, 10 metres above the Skagit River valley. A 1960s diamond drilling effort in a small silicified and pyrite-rich outcrop, 150 metres north of the adit, had intersected several feet of sulphides at about 80 feet depth, with only sludge recovered.

A chip sample from a 10-centimetre vein in the adit analysed 393.5 grams per tonne silver, 1.4 grams per tonne gold, 6.7 per cent copper, 0.29 per cent lead and 0.29 per cent zinc (Assessment Report 19715).

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EMPR ASS RPT *19715
 EMPR EXPL *1968-83

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1365
REPORT: RGEN0100

BIBLIOGRAPHY

GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW103**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER QUEEN**, SILVER KING

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H03E
 BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 13 16 N
 LONGITUDE: 121 04 15 W

NORTHING: 5453827
 EASTING: 640475

ELEVATION: 1095 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the Sumallo River, east of the confluence of the Sumallo and Skagit rivers (part of the historic 23 Mile Camp).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Pyrrhotite Pyrite

Marcasite

ASSOCIATED: Quartz

ALTERATION: Limonite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: Metres

STRIKE/DIP: 010/45W

TREND/PLUNGE:

COMMENTS: Mineralized vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic

Ladner

Undefined Formation

Unnamed/Unknown Informal

Upper Cretaceous

ISOTOPIC AGE: 84 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Unknown

LITHOLOGY: Quartz Diorite
 Sediment/Sedimentary

HOSTROCK COMMENTS: Quartz diorite intrusion dated at 84 Ma by the Geological Survey of Canada (GSC Map 12-1969).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

Methow

COMMENTS: Located near the contact between the Bridge River and Methow terranes.

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1915

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

6788.4000

Grams per tonne

Gold

1.3700

Grams per tonne

Copper

0.8000

Per cent

Lead

15.0000

Per cent

Zinc

14.9000

Per cent

COMMENTS: High-grade sample.

REFERENCE: Minister of Mines Annual Report 1915, page 265.

CAPSULE GEOLOGY

The north-northwest trending Hozameen fault separates the Permian-Jurassic Hozameen Complex cherts, greenstones, argillites and limestone in the west, from the Lower-Middle Jurassic Ladner Group sediments to the east. A Late Cretaceous quartz diorite stock intrudes the Ladner Group along the east side of the Hozameen fault. The quartz diorite intrusion was dated by the Geological Survey of Canada at 84 million years using potassium-argon dating methods.

A deep gorge traverses the Silver Queen claim from east to west. The outcrops, where the gorge cuts through, exposes a 0.6 metre wide zone which hosts nodules and narrow stringers of galena,

CAPSULE GEOLOGY

chalcopyrite, pyrite and pyrrhotite in quartz gangue. The hostrock is sheared quartz diorite.

On the north side of the gorge, a 9-metre adit was driven along a mineralized quartz vein which strikes 010 degrees and dips about 45 degrees west. Solid galena varies from 5.1 to 25.4 centimetres in width within the vein. In 1915, a sample taken across 7.6 centimetres of galena mineralization assayed 1.37 grams per tonne gold, 6788 grams per tonne silver, 0.8 per cent copper, 15 per cent lead and 14.9 per cent zinc. A sample taken across 0.6 metre assayed trace gold, 41.1 grams per tonne silver and nil copper (Minister of Mines Annual Report 1915, page 265).

On the south side of the gorge, another quartz vein striking 210 degrees and dipping 75 degrees northwest hosts pyrite and pyrrhotite with extensive limonite staining. North and south from this gorge, narrow fissures occur throughout the quartz diorite and host pyrite, pyrrhotite, minor chalcopyrite and marcasite.

BIBLIOGRAPHY

EMPR AR *1915-265; 1938-F4
GSC BULL 238
GSC MAP 12-1969; 737A
GSC P 69-47
GSC SUM RPT 1911, p. 122; 1920A, pp. 39A-41A; 1922A, pp. 120-123,
Fig.11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/18

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW104**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSEDALE GRANITE** VALLEY GRANITE, BRIDAL FALLS

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 18 N
LONGITUDE: 121 44 12 W
ELEVATION: 80 Metres

NORTHING: 5449160
EASTING: 592053

LOCATION ACCURACY: Within 500M

COMMENTS: Centred on quarry at Bridal Falls, 4 kilometres east of Rosedale (NTS map 92H/04).

COMMODITIES: Granite Building Stone Dimension Stone Aggregate

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Miocene

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

R15 Crushed rock

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic
Miocene

GROUP

Chilliwack

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Mount Barr Batholith

LITHOLOGY: Granodiorite
Greywacke
Argillite
Andesite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Granite was quarried 4 kilometres east of Rosedale at Bridal Falls, adjacent to the Trans-Canada Highway.

The region is underlain by a sequence of greywacke, argillite, andesite and basalt of the Devonian to Permian Chilliwack Group, which is intruded by granodiorite of the Miocene Mount Barr batholith and associated smaller intrusive bodies.

Valley Granite Products Ltd. began quarrying in 1947 to produce crushed and ground granite for poultry grit, stucco dash and sand blasting material. Some stone was also sold for building and ornamental purposes. Records of this quarry are confused with another quarry to the northeast (see Valley Granite, 092HSW157).

BIBLIOGRAPHY

EMPR AR 1947-213; 1948-184; 1949-247; 1950-219; 1951-215; 1952-249, 250
GSC MAP 12-1969; 41-1989; 737A; 1386A
GSC P 69-47; 90-1E, pp. 183-195

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1369
REPORT: RGEN0100

MINFILE NUMBER: **092HSW105**

NATIONAL MINERAL INVENTORY:

NAME(S): **AGASSIZ GRANITE** SINCLAIR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 14 29 N
LONGITUDE: 121 44 35 W
ELEVATION: 80 Metres

NORTHING: 5455051
EASTING: 591490

LOCATION ACCURACY: Within 500M

COMMENTS: Adjacent Canadian Pacific Railway line, about 1.6 kilometres east of Agassiz (Minister of Mines Annual Report 1962, page 148).

COMMODITIES: Granite

Dimension Stone

MINERALS

SIGNIFICANT: Unknown

MINERALIZATION AGE: Miocene

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP
Miocene

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Unnamed/Unknown Informal

LITHOLOGY: Granodiorite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

A quarry was developed in Miocene granodiorite, just east of the town of Agassiz. It is reported that 188 tonnes were quarried in 1962 (with 170 tonnes shipped), and 89 tonnes were shipped the following year. The rock was used as dimension stone. Apparently the quarry was active prior to World War I when it was known as the Sinclair quarry.

BIBLIOGRAPHY

EMPR AR *1962-148; *1963-139
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/22

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW105**

MINFILE NUMBER: **092HSW106**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHEAM MARL**, CHEAM CHEAM LAKE,
POPKUM LAKE, POPCUM MARL

STATUS: Past Producer Open Pit
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 48 N
LONGITUDE: 121 44 54 W
ELEVATION: 43 Metres

NORTHING: 5450073
EASTING: 591188

LOCATION ACCURACY: Within 500M
COMMENTS: Location centred on the northeast corner of Cheam Lake
(NTS Map 92H/04).

COMMODITIES: Marl

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Residual Industrial Min.
TYPE: B11 Marl
DIMENSION: 4 Metres
COMMENTS: Flat-lying layer on the bottom of Cheam Lake.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Marl
Clay
Sand

HOSTROCK COMMENTS: Hosted in Pleistocene and Recent swamp deposits of the "Salish Group" (GSC Map 53-1959).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Fraser Lowland

INVENTORY

ORE ZONE: MARL BED

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1947
SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>
Marl	43.5500 Per cent

COMMENTS: Average of three samples. Grade given for CaO.
REFERENCE: Bulletin 40, page 100.

CAPSULE GEOLOGY

A 1.32 to 3.7 metre thick postglacial deposit of brown to white, jelly-like marl with scattered shells of gastropods and bivalves, occurs on the floor of Cheam Lake on the south side of the Fraser River, 14 kilometres east of Chilliwack. The Cheam Marl deposit lies on 0.6 metre of blue clay which is in turn underlain by sand. The marl has a high organic matter content and is contaminated with mud from inflowing streams. Three samples of marl analysed on a moisture-free basis averaged 43.55 per cent CaO, 0.13 per cent MgO, 9.08 per cent insolubles, 0.61 per cent R2O3, 0.85 per cent Fe2O3, 0.036 per cent MnO, 0.04 per cent P2O5, 0.60 per cent sulphur, 0.48 per cent nitrogen, 4.00 per cent organics and 45.16 per cent ignition loss (Bulletin 40, page 100). A second deposit of marl, up to 4.0 metres thick, underlies 1.6 hectares of land formerly covered by an arm of Cheam Lake to the northeast.

Marl and minor humus was initially pumped from the lake and mined along the east shore by Fraser Valley Chemicals and Popkum Marl Products during the 1940s and 1950s. Cheam Marl Products began strip mining on the northeast corner of the lake in 1949. The lake was eventually drained by the company in 1961 to continue strip mining. Mining operations ceased in 1988. A total of 586,512 tonnes of marl was produced.

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1371
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1947-219; 1949-257; 1950-225; 1951-222; 1952-260; 1953-194;
1954-185; 1955-97; 1956-154; 1957-90; 1958-98; 1959-178; 1960-
148; 1961-150; 1962-157; 1963-146; 1964-200; 1965-268; 1966-270;
1967-310; 1968-323
EMPR BULL *23, pp.108,109; *40, pp. 99,100
EMPR GEM 1969-398; 1970-503; 1971-468; 1972-604; 1973-551; 1974-385
EMPR MAP 65 (1989)
EMPR MINING Vol.1 1975-1980, p. 47; 1981-1985
EMPR OF 1992-1; 1992-9
GSC MAP 53-1959; 737A; 12-1969; 41-1989
CANMET RPT 811, Part 5, pp. 179,180

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/01

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW107**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAMP, CAMP 1-2, TEAGUE,
WILLIAMS**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 56 N
LONGITUDE: 121 14 57 W
ELEVATION: 550 Metres

NORTHING: 5484390
EASTING: 626773

LOCATION ACCURACY: Within 500M
COMMENTS: Located at the confluence of Ladner Creek and the Coquihalla River.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Arsenopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	

LITHOLOGY: Argillite
Siltstone
Slate
Carbonaceous Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: WORKINGS

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1974

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

377.1000

Grams per tonne

COMMENTS: Grab sample from old workings. Assayed trace gold.

REFERENCE: Assessment Report 5053.

CAPSULE GEOLOGY

The Camp showing lies east of the north-northwest trending Hozameen fault which separates the Coquihalla Serpentine Belt from Ladner Group sediments to the east.

The area is underlain by Lower-Middle Jurassic Ladner Group metasediments comprised mainly of fissile argillite, slate, black carbonaceous argillite, and siltstone with some coarser bands. The bedding is parallel to the fissility and locally trends 145 degrees and dips 70 degrees southwest. The argillite hosts disseminated pyrite and pyrrhotite with minor crosscutting sulphide veinlets also comprised of pyrite and pyrrhotite. Quartz veins are common, ranging between 0.3 to 15 centimetres in width. The quartz veins are generally parallel to the fissility and host pyrite, pyrrhotite and arsenopyrite.

The showing was worked between 1906 and 1909 with reports of high-grade silver with gold recovery. In 1974, a selected sample from an ore pile from the old workings assayed trace gold and 377.14 grams per tonne silver (Assessment Report 5053).

BIBLIOGRAPHY

EMPR AR 1908-134
EMPR ASS RPT 5053
EMPR FIELDWORK 1982, pp. 62-84
EMPR GEM 1974-114

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1373
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR OF 1986-1D,1F
GSC MAP 12-1969
GSC MEM 139
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/14

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW108**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHANNEL BAR**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 41 N
LONGITUDE: 121 25 29 W
ELEVATION: 50 Metres

NORTHING: 5479941
EASTING: 614150

LOCATION ACCURACY: Within 500M

COMMENTS: Location of 1984 seismic survey (Assessment Report 12153). The area of the survey was covered by Placer Leases 719 and 720. This may or may not be the original location of the Channel Bar Mines placer operations of 1971.

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Gold Silver
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
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: Coast Crystalline
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Placer concentrate was produced in 1971 by Channel Bar Mines Limited. Gold (187 grams), silver (62 grams), lead (1 kilogram) and zinc (1 kilogram) were recovered from the concentrates. A company called Channel Bar Mining Co. Ltd. conducted a seismic refraction survey in 1984 on its placer leases on the Fraser River, in the vicinity of Strawberry Island.

BIBLIOGRAPHY

EMPR ASS RPT *12153
EMPR BC METAL MM00214
EMPR GEM 1971-446
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW109**

NATIONAL MINERAL INVENTORY:

NAME(S): **COTTERELL**, E.M. COTTERELL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 58 N
LONGITUDE: 121 26 40 W
ELEVATION: 60 Metres

NORTHING: 5471172
EASTING: 612901

LOCATION ACCURACY: Within 5 KM

COMMENTS: The location of this "mine" is given as Hope and no other locational information is available (Minister of Mines Annual Report 1942, page 28).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
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
Cretaceous-Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Much of the area surrounding Hope is underlain by Cretaceous or Tertiary intrusions. The hostrocks of the occurrence are not known.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

A "Report on Mining Operations" form was submitted to the government in 1942 by E.M. Cotterell; the report form was subtitled "Gold Quartz Ores". This report documents the shipment of 34 tonnes of ore to Tacoma with the subsequent recovery of 1431 grams of silver, 995 grams of gold and 407 grams of copper. The location of the mine is stated simply as Hope and the operator is listed as E.M. Cotterell of that town. Nothing else is known and the occurrence remains an historical curiosity. Much of the area surrounding Hope is underlain by Cretaceous or Tertiary intrusions. The hostrocks of the occurrence are not known.

BIBLIOGRAPHY

EMPR AR *1942-28
EMPR BC METAL MM00215
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW110**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEE**, BELL, NI 1-2

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 39 N
LONGITUDE: 121 47 45 W
ELEVATION: 150 Metres

NORTHING: 5459002
EASTING: 587584

LOCATION ACCURACY: Within 500M

COMMENTS: Showing (Assessment Report 6790).

COMMODITIES: Uranium Copper Cobalt

MINERALS

SIGNIFICANT: Uraninite Pyrite Phosphuranylite Chalcopyrite Erythrite

Magnetite
ALTERATION: Malachite Limonite Erythrite Phosphuranylite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Pegmatite
TYPE: O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Jurassic
Oligocene

GROUP

Undefined Group

FORMATION

Kent

IGNEOUS/METAMORPHIC/OTHER

Chilliwack Batholith

LITHOLOGY: Hornblende Granodiorite
Pegmatite
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

METAMORPHIC TYPE: Contact

Harrison

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

GRADE:

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1978

SAMPLE TYPE: Chip

COMMODITY

GRADE

Uranium

0.0170

Per cent

COMMENTS: A 2.0-metre chip sample.
REFERENCE: Assessment Report 6790.

CAPSULE GEOLOGY

The Bee occurrence area is underlain by Lower-Middle Jurassic Harrison Lake Formation rocks comprised of intermediate to acidic flows and pyroclastics, and the Upper Jurassic Kent Formation conglomerate, chert and tuffs. These rocks are intruded by the Oligocene Chilliwack batholith. The property covers the contact between Kent Formation conglomerate and hornblende granodiorite of the Chilliwack batholith.

Radioactive pegmatite occurs in hornblende granodiorite. The siliceous pegmatite is comprised mainly of white to clear quartz enveloping subhedral crystals of potash feldspar and fragments of granodiorite hostrock.

A uranium mineral, likely uraninite or uraniferous magnetite, occurs as sporadic, fine disseminated black crystals associated with clusters of fine-grained pyrite. A greenish yellow secondary uranium mineral, possibly phosphuranylite, also occurs in the matrix. The pegmatite also contains chalcopyrite, malachite, erythrite and limonite. A 2-metre chip sample assayed 0.017 per cent uranium (Assessment Report 6790).

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EMPR ASS RPT 6790
EMPR EXPL 1978-141

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1377
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR OF 1990-32
GSC EC GEOL No. 16 (Rev.), p. 230
GSC MAP 12-1969; 737A; 41-1989
GSC P 69-47
Arthur, A.J. (1987): Mesozoic Stratigraphy and Paleontology of the
West Side of Harrison Lake, Southwest British Columbia, M.Sc.
Thesis, University of British Columbia, Dec. 1987

DATE CODED: 1985/07/24
DATE REVISED: 1988/04/21

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW111**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHILLIWACK RIVER**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 04 35 N
LONGITUDE: 121 37 23 W
ELEVATION: 1350 Metres

NORTHING: 5436861
EASTING: 600558

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 2 kilometres southwest of the confluence of Nesakwatch Creek and the Chilliwack River.

COMMODITIES: Asbestos

MINERALS

SIGNIFICANT: Asbestos Chrysotile

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M06 Ultramafic-hosted asbestos

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic
Paleozoic-Mesozoic

GROUP

Undefined Group

FORMATION

Cultus

IGNEOUS/METAMORPHIC/OTHER

Ultramafic Intrusions

LITHOLOGY: Serpentine
Sandstone
Pelite
Argillite
Gabbro

HOSTROCK COMMENTS: Host is unnamed Paleozoic-Mesozoic ophiolitic ultramafic rock.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Chilliwack

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

The Chilliwack River occurrence area is underlain by Jurassic-Triassic Cultus Formation metasediments comprised mainly of sandstone and pelite. To the west is a high angle, steeply dipping fault which appears to have brought older crystalline gabbros and serpentinites over younger metasedimentary Cultus Formation argillite and pelite.

Brittle, harsh asbestos fibres, ranging up to 4.8 millimetres in length, occur in scattered veinlets 2.0 kilometres southwest of the confluence of Nesakwatch Creek and the Chilliwack River.

Monger reports that this serpentinite, of Paleozoic and/or Mesozoic age, contains discontinuous veins of chrysotile asbestos throughout the rock (GSC Paper 69-47).

BIBLIOGRAPHY

EMPR OF 1995-25
GSC MAP 12-1969
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW112**

NATIONAL MINERAL INVENTORY:

NAME(S): **COQUIHALLA SERPENTINE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 11 N
LONGITUDE: 121 15 23 W
ELEVATION: 350 Metres

NORTHING: 5481136
EASTING: 626326

LOCATION ACCURACY: Within 1 KM

COMMENTS: Occurrences exist between Fifteen Mile and Sowaqua creeks within the Coquihalla Serpentine Belt.

COMMODITIES: Asbestos Talc

MINERALS

SIGNIFICANT: Asbestos Antigorite Chrysotile Talc
ALTERATION: Talc Carbonate
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M06 Ultramafic-hosted asbestos M07 Ultramafic-hosted talc-magnesite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic
Paleozoic-Mesozoic
Unknown

GROUP

Ladner
Hozameen

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Peridotite
Gabbro
Diabase

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cascade Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Coquihalla Serpentine Belt forms a narrow, elongate north-west trending, steeply dipping unit separating supracrustal rocks of the Lower-Middle Jurassic Ladner Group to the east, from the Permian-Jurassic Hozameen Complex in the west. Dark, highly sheared to massive serpentinite of probable peridotite parentage, characterizes the belt. It also contains substantial amounts of highly altered gabbro-diabase rocks.

The western boundary is delineated by a major fracture which appears to dip steeply east. This is termed the "West" Hozameen fault and the serpentinites in this vicinity contain highly sheared talcose rocks. The "East" Hozameen fault separates the serpentinite from the Ladner Group metasediments.

Tiny veinlets of asbestos (chrysotile) are commonly observed in hand specimens of the serpentinites. Under microscopic examination, this serpentinite has been identified as antigorite, but varies considerably in appearance according to the stage or amount of serpentinization under which the rock was submitted. Also, thin, bluish white and rather pearly films of another type of serpentinite, somewhat resembling chrysotile, commonly coat fractures or joint planes within the rock.

Talc is extensively developed along shear zones in and bordering the main serpentinite body and is also associated with carbonate in more massive bodies within the serpentinite.

BIBLIOGRAPHY

EMPR FIELDWORK 1982, pp. 62-89
EMPR OF 1986-1D,1F; 1995-25
GSC MAP 12-1969
GSC MEM 139

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1380
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 69-47
GSC SUM RPT *1929A, pp. 178,181-183
Canadian Rockhound Feb. 1966, p. 8

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW113**

NATIONAL MINERAL INVENTORY:

NAME(S): **DINGO**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Underground

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 13 31 N
LONGITUDE: 121 04 20 W
ELEVATION: 1219 Metres

NORTHING: 5454288
EASTING: 640362

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the Skagit Bluffs between the confluence of the Sumallo and Skagit rivers, and Snass Creek with the Sumallo River (part of the historic 23 Mile Camp).

COMMODITIES: Molybdenum Copper Silver Gold

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Upper Cretaceous			Unnamed/Unknown Informal

ISOTOPIC AGE: 84 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Unknown

LITHOLOGY: Quartz Diorite
Sediment/Sedimentary

HOSTROCK COMMENTS: Quartz diorite intrusion dated at 84 million years by the Geological Survey of Canada (GSC Map 12-1969).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River Methow
COMMENTS: Located near the contact of the Bridge River and Methow terranes.

INVENTORY

ORE ZONE: SHEAR REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1927
SAMPLE TYPE: Chip
COMMODITY GRADE

Silver	68.6000	Grams per tonne
Copper	0.2500	Per cent

COMMENTS: A 36-centimetre sample taken across a 1.8 metre wide mineralized shear zone. Also analysed trace gold.

REFERENCE: Minister of Mines Annual Report 1927, page 211.

CAPSULE GEOLOGY

The north-northwest trending Hozameen fault separates Permian to Jurassic Hozameen Complex cherts, greenstones, argillites and limestone in the west, from Jurassic Ladner Group sediments to the east. A Late Cretaceous quartz diorite stock intrudes the Ladner Group along the east side of the Hozameen fault. The quartz diorite intrusion was dated by the Geological Survey of Canada at 84 million years using potassium-argon dating methods.

Shearing occurs within the quartz diorite intrusion. Molybdenite is found in tight vertical fractures. In 1927, a short tunnel was driven along a 1.8 metre shear zone in which chalcopyrite mineralization was noted. A sample taken across 36 centimetres assayed trace gold, 68.6 grams per tonne silver and 2.5 per cent copper (Minister of Mines Annual Report 1927, page 211).

BIBLIOGRAPHY

EMPR AR *1927-211; 1938-F4
GSC BULL 238

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 12-1969; 737A
GSC P 69-47
GSC SUM RPT 1920A, p. 39A; *1922A, pp. 120,121, Fig.11

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/18

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW114**

NATIONAL MINERAL INVENTORY:

NAME(S): **P.L. 1065**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 27 16 N
LONGITUDE: 121 25 18 W
ELEVATION: 50 Metres

NORTHING: 5479174
EASTING: 614387

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in the vicinity of Strawberry Island (George Cross News Letter No.31, 1979).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
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: Coast Crystalline
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

This placer gold property, in the vicinity of Strawberry Island, was estimated to contain 1,529,118 cubic metres of gravel with an overall grade estimated at 6 dollars per cubic metre (George Cross New Letter No.227, 1978). The same source reported that a 33 kilogram sample of upgraded black sand concentrate assayed 1371 grams per tonne gold and 1200 grams per tonne silver. Reports indicate that Quatsino Copper-Gold Mines operated a producing placer operation during 1978 and possibly in 1979. The company expected production to reach 764 cubic metres of gravel per shift.

BIBLIOGRAPHY

GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
GCNL #8,#73,#138,#186,*#227, 1978; *#31, 1979

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW115**

NATIONAL MINERAL INVENTORY: 092H6 Ag8

NAME(S): **FRASER ROCKHOUND**, AGASSIZ BAR, AMERICAN BAR,
BEAVIS BAR, CHEAM VIEW BAR, WAHLEACH BAR,
GREENWOOD ISLAND, SEABIRD ISLAND, FLOOD,
HOPE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 22 27 N
LONGITUDE: 121 27 31 W
ELEVATION: 40 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5470194
EASTING: 611892

LOCATION ACCURACY: Within 5 KM

COMMENTS: A number of Fraser River gravel bars and localities (as listed above
beside the "NAME" category) are reported to be favourable localities
for rockhounding. The location given is only a general location for
the Fraser River.

COMMODITIES: Agate Jade/Nephrite Rhodonite Gemstones

MINERALS

SIGNIFICANT: Agate Nephrite Rhodonite
ASSOCIATED: Jasper Serpentine Garnet Quartz Vesuvianite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer Industrial Min.
TYPE: C01 Surficial placers Q02 Rhodonite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Quaternary _____ _____ Glacial/Fluvial Gravels

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Fraser Lowland

CAPSULE GEOLOGY

The shifting gravel bars of the Fraser River are favourite hunting grounds for rockhounds. Hunting is best done in the winter months when water is lowest. Agate, jade (nephrite) and rhodonite are some of the minerals that have been found. Other minerals of interest include jasper, nickel silicate, serpentine, garnet, quartz, and vesuvianite (The Canadian Rockhound, November 1964).

BIBLIOGRAPHY

GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47
*The Canadian Rockhound, November 1964
Western Homes and Living, October 1961 (Guide to B.C. Rocks and Gems)
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW116**

NATIONAL MINERAL INVENTORY: 092H6 Mn1

NAME(S): **CEDAR**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 51 N
LONGITUDE: 121 07 51 W
ELEVATION: 1500 Metres

NORTHING: 5482589
EASTING: 635391

LOCATION ACCURACY: Within 1 KM

COMMENTS: Reported to be located on the ridge between Cedar (Cedarflat) Creek and the Coquihalla River, less than 3.2 kilometres "in a direct line" from the railway (which ran along the Coquihalla River), and about 6.4 kilometres east of the mouth of Boston Bar Creek (GSC Summary Report 1920 Part A, page 38; and Figure 2, page 24).

COMMODITIES: Manganese

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: F01 Sedimentary Mn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Eocene

GROUP

Pasayten

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Needle Peak Pluton

LITHOLOGY: Arkose
Conglomerate
Argillite
Tuff
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The area of the Cedar manganese occurrence is apparently underlain by sedimentary rock of the Lower to Upper Cretaceous Pasayten Group. These are typically arkose, conglomerate, argillite, minor red beds and tuff. The eastern margin of the Eocene Needle Peak pluton also occurs in the vicinity of the given location for the occurrence. The pluton is composed of granodiorite.

Little is known of the manganese occurrence, having only one source of documentation (GSC Summary Report 1920 Part A, page 38). All that is reported in that reference, other than its location, is that the occurrence is a "manganese deposit of commercial importance".

BIBLIOGRAPHY

GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT *1920, Part A, p. 38

DATE CODED: 1995/01/10
DATE REVISED: 1995/01/10

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW117**

NATIONAL MINERAL INVENTORY:

NAME(S): **VENUS SILVER**

MINING DIVISION: Similkameen

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 01 N
LONGITUDE: 121 05 53 W
ELEVATION: 1860 Metres

NORTHING: 5477399
EASTING: 637898

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the top of Mount Sutter (Assessment Report 18341).

COMMODITIES: Gold Lead Zinc

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Silica
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated 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>
Jurassic	Ladner	Dewdney Creek	

LITHOLOGY: Tuffaceous Rock
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Gold	0.9600 Grams per tonne

REFERENCE: Assessment Report 18341.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

Mineral occurrences in the area are hosted in the Treasure Mountain fault and in and near subsidiary faults, and comprise one or more quartz-carbonate veins or stringers that branch and split and vary considerably in width and attitude (see Treasure Mountain, 092HSW016).

On the Venus Silver property, a number of rock samples taken from tuffaceous rocks proved to be elevated in gold. The highest value (0.96 gram per tonne gold) was derived from a siliceous horizon that contained up to 40 per cent pyrite. About 250 metres west, a sample of a small sediment-hosted quartz vein yielded 0.28 per cent lead and 0.12 per cent zinc (Assessment Report 18341).

BIBLIOGRAPHY

EMPR ASS RPT 17020, *18341

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1387
REPORT: RGEN0100

BIBLIOGRAPHY

GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47

DATE CODED: 1995/01/09
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW118**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRADY**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 02 N
LONGITUDE: 121 19 14 W
ELEVATION: 230 Metres

NORTHING: 5471489
EASTING: 621889

LOCATION ACCURACY: Within 500M

COMMENTS: Along the Coquihalla River, almost opposite the mouth of Peers (Pierre) Creek (Minister of Mines Annual Report 1915, page 257).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Quaternary

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Placer gravels are underlain by Hozameen Complex rocks.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

From 1914 to 1916, John Brady and L.W. Cherry recovered coarse gold by sluicing gravel taken from shafts and from the bank of the Coquihalla River. A wing-dam and a flume 30 metres long had been constructed by 1915. The operations were located on a bar nearly opposite the mouth of Peers (Pierre) Creek. The rocks underlying the area belong to the Permian-Jurassic Hozameen Complex.

BIBLIOGRAPHY

EMPR AR *1915-257; 1916-264
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1995/01/03
DATE REVISED: 1995/01/03

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW119**

NATIONAL MINERAL INVENTORY:

NAME(S): **LANDEB 1**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 27 N
LONGITUDE: 121 24 33 W
ELEVATION: 200 Metres

NORTHING: 5481385
EASTING: 615247

LOCATION ACCURACY: Within 500M

COMMENTS: Randeb 1 showing, located on the north side of Texas Bar Creek about 500 metres upstream from its confluence with the Fraser River (Assessment Report 10997). Adjacent to a logging road.

COMMODITIES: Gold Copper Silver Nickel

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pentlandite Cubanite Magnetite
ALTERATION: Serpentine
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary _____ _____ Custer Gneiss

LITHOLOGY: Serpentinized Peridotite
Quartz Sericite Biotite Gneiss
Meta Volcanic
Feldspar Porphyry Granodiorite
Quartz Diorite
Ultramafic

HOSTROCK COMMENTS: The Cretaceous-Tertiary age of the Custer Gneiss is the age of the metamorphism; the protolith may be as old as Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl.

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	2.7000	Grams per tonne
Gold	1.8000	Grams per tonne
Copper	0.0600	Per cent

REFERENCE: Assessment Report 10997.

CAPSULE GEOLOGY

The area of the Randeb 1 showing is underlain by mainly quartz-sericite-biotite gneiss and associated lenses of metavolcanic and ultramafic rocks. A lens of serpentinized peridotite is the primary hostrock of the showing. These rocks are part of the Custer Gneiss, a metamorphic package probably derived from lower Mesozoic and possibly Paleozoic and Precambrian rocks and metamorphosed in the Late Cretaceous and early Tertiary. Intrusions of feldspar porphyry granodiorite and quartz diorite occur nearby. Pyrrhotite and chalcopyrite occur in the peridotite. Pentlandite, cubanite and magnetite were also reported from this location. A sample of the peridotite yielded 1.8 grams per tonne gold, 2.7 grams per tonne silver, 0.06 per cent copper and greater than 0.05 per cent nickel (Assessment Report 10997). A sample of the nearby gneiss yielded 1.8 grams per tonne gold, 0.6 gram per tonne silver and negligible copper and nickel. In 1987, the zone was determined to have a maximum north-south extent of 130 metres.

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BIBLIOGRAPHY

EMPR ASS RPT 1226, *10997, 14562, 14857, 16326
EMPR EXPL 1982-172; 1985-C172; 1986-C207; 1987-C170
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
Read, P.B. (1960): The Geology of the Fraser Valley Between Hope
and Emory Creek, British Columbia, unpublished M.Sc. thesis,
University of British Columbia, Vancouver, British Columbia,
p. 145

DATE CODED: 1995/01/03
DATE REVISED: 1995/01/03

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW120**

NATIONAL MINERAL INVENTORY:

NAME(S): **LANDEB 2**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 25 N
LONGITUDE: 121 23 34 W
ELEVATION: 730 Metres

NORTHING: 5483201
EASTING: 616396

LOCATION ACCURACY: Within 500M

COMMENTS: Randeb 2 showing located about 2 kilometres east of the Fraser River (Assessment Report 10997, Figure 8).

COMMODITIES: Gold Silver Nickel

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Serpentinized Peridotite
Gabbro
Quartz Sericite Biotite Gneiss
Meta Volcanic
Ultramafic

HOSTROCK COMMENTS: The Cretaceous-Tertiary age of the Custer Gneiss is the age of the metamorphism; the protolith may be as old as Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl.

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1982
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		2.6000	Grams per tonne
Gold		1.5000	Grams per tonne
Nickel		0.0500	Per cent

REFERENCE: Assessment Report 10997, page 10.

CAPSULE GEOLOGY

The area of the Randeb 2 showing is underlain by mainly quartz-sericite-biotite gneiss and associated lenses of metavolcanic and ultramafic rocks. These rocks are part of the Custer Gneiss, a metamorphic package probably derived from lower Mesozoic and possibly Paleozoic and Precambrian rocks and metamorphosed in the Late Cretaceous and early Tertiary.

A selected sample of "mineralized and serpentinized peridotite-gabbro" rock from the bottom of a trench yielded 1.5 grams per tonne gold, 2.6 grams per tonne silver and greater than 0.05 per cent nickel (Assessment Report 10997). The character of the mineralization was not indicated.

BIBLIOGRAPHY

EMPR ASS RPT 1226, *10997, 14562, 14857, *16326
EMPR EXPL 1982-172; 1985-C172; 1986-C207; 1987-C170
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
Read, P.B. (1960): The Geology of the Fraser Valley Between Hope and Emory Creek, British Columbia, unpublished M.Sc. thesis,

RUN DATE: 26-Jun-2003
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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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BIBLIOGRAPHY

University of British Columbia, Vancouver, British Columbia,
p. 145

DATE CODED: 1995/01/03
DATE REVISED: 1995/01/03

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW121**

NATIONAL MINERAL INVENTORY:

NAME(S): **LANDEB 3**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 29 22 N
LONGITUDE: 121 24 29 W
ELEVATION: 215 Metres

NORTHING: 5483085
EASTING: 615291

LOCATION ACCURACY: Within 500M

COMMENTS: Randeb 3 showing, located about 750 metres east of the Fraser River along "Gate Creek" (Assessment Report 10997).

COMMODITIES: Gold Silver Nickel

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Ultramafic Rock
Ultramafic
Meta Volcanic Rock
Quartz Sericite Biotite Gneiss
Peridotite

HOSTROCK COMMENTS: The Cretaceous-Tertiary age of the Custer Gneiss is the age of the metamorphism; the protolith may be as old as Precambrian.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl.

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The area of the Randeb 3 showing is underlain by mainly quartz-sericite-biotite gneiss and associated lenses of metavolcanic and ultramafic rocks. These rocks are part of the Custer Gneiss, a metamorphic package probably derived from lower Mesozoic and possibly Paleozoic and Precambrian rocks and metamorphosed in the Late Cretaceous and early Tertiary.

A showing, some 3 metres in width, of ultramafic rock is reported to have assays similar to that of Randeb 2 (092HSW120). Randeb 2 yielded values high in silver and nickel and especially high in gold (1.5 grams per tonne).

BIBLIOGRAPHY

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EMPR EXPL 1982-172; 1985-C172; 1986-C207; 1987-C170
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47
Read, P.B. (1960): The Geology of the Fraser Valley Between Hope and Emory Creek, British Columbia, unpublished M.Sc. thesis, University of British Columbia, Vancouver, British Columbia, p. 145

DATE CODED: 1995/01/03
DATE REVISED: 1995/01/03

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW122**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUMALLO RIVER**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 13 10 N
LONGITUDE: 121 05 36 W
ELEVATION: 671 Metres

NORTHING: 5453600
EASTING: 638841

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location based on the centre of a surface trace of a limestone band (GSC Map 12-1969).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE:

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>
Paleozoic-Mesozoic	Hozameen	Undefined Formation	

LITHOLOGY: Limestone
Argillite
Breccia
Quartzite

HOSTROCK COMMENTS: Hozameen Complex is Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

A 213 metre thick bed of massive, bluish grey and white limestone of the Permian to Jurassic Hozameen Complex follows the Sumallo River for 3 kilometres northwestward from its confluence with the Skagit River to Highway 3. The unit is underlain by impure limestone, argillite and breccia and overlain by interbedded quartzite and argillite.

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GSC MAP 12-1969; 737A
GSC OF 980
GSC P 69-47, p. 4
GSC SUM RPT *1911, p. 118

DATE CODED: 1985/07/24
DATE REVISED: 1989/07/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW123**

NATIONAL MINERAL INVENTORY:

NAME(S): **AGASSIZ LIME** AGASSIZ

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 13 16 N
LONGITUDE: 121 48 00 W
ELEVATION: 30 Metres

NORTHING: 5452729
EASTING: 587381

LOCATION ACCURACY: Within 500M

COMMENTS: Location determined from plot on Map 092H/04 (Industrial Mineral File).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Pyrite
MINERALIZATION AGE: Paleozoic
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
SHAPE: Irregular
MODIFIER: Folded
DIMENSION: 21 Metres

Massive
Industrial Min.

STRIKE/DIP: 075/45N

TREND/PLUNGE:

COMMENTS: Attitude on north limb of a west-plunging anticline.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Chilliwack

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

LITHOLOGY:

Limestone
Siliceous Tuff
Quartzite
Greenstone
Mafic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Fraser Lowland

INVENTORY

ORE ZONE: QUARRY

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1947

SAMPLE TYPE: Chip

COMMODITY

Limestone

GRADE

40.2000 Per cent

COMMENTS: Average of 3 samples taken across 21 metres. Grade given for CaO.

REFERENCE: Bulletin 40, page 43.

CAPSULE GEOLOGY

A 9 to 21 metre thick limestone bed of the Devonian-Permian Chilliwack Group outcrops on the south end of a northeast trending ridge on the north bank of the Fraser River, 3 kilometres southwest of Agassiz. The bed is exposed on the crest of a small westerly plunging anticline. The deposit is overlain by siliceous tuff or impure quartzite and underlain by greenstone. The contact between the quartzite and the limestone strikes 075 degrees and dips 45 degrees north on the north limb of the fold. Three steeply dipping mafic dikes striking 000 to 060 degrees are exposed in several quarries.

The limestone is fine grained and light grey to bluish grey in colour, with dark streaks and scattered pyrite grains. Three chip samples taken in succession vertically over a length of 21 metres in the central quarry averaged 40.2 per cent CaO, 0.68 per cent MgO, 15.6 per cent insolubles, 6.83 per cent R2O3, 0.69 per cent Fe2O3, 0.12 per cent MnO, 0.04 per cent P2O5, 0.24 per cent sulphur, 35.5

CAPSULE GEOLOGY

per cent ignition loss and 0.09 per cent water (Bulletin 40, page 43).

Three quarries, arranged in a northwest trending row over a length of 107 metres, produced 21,802 tonnes of limestone between 1941 and 1958. The limestone was used as pulverized stone for agricultural purposes and fertilizer for plants. In 1944, 1947 and 1948 poultry grit was produced.

BIBLIOGRAPHY

EMPR AR 1945-132; 1947-218; 1948-189; 1949-257; 1950-255;
1951-221; 1952-260; 1953-192; 1954-182; 1955-95; 1956-152,
153; 1957-87; 1958-96
EMPR BULL *23, pp. 50,51; *40, pp. 43,44
GSC MAP 12-1969; 737A; 1386A
GSC P 69-47, p. 7
CANMET RPT 811, Part 5, p. 177

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/01

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW124**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAR MOUNTAIN**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 28 N
LONGITUDE: 121 45 05 W
ELEVATION: 610 Metres

NORTHING: 5460568
EASTING: 590792

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centred on the southwest face of Bear Mountain (Bulletin 40, page 44).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Paleozoic
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary

Massive
Industrial Min.

TYPE: R09 Limestone

DIMENSION: 1600 x 76

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Limestone bed strikes northwest, dips steeply to vertically.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Chilliwack

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

LITHOLOGY:

Limestone
Siliceous Argillite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1957

SAMPLE TYPE: Chip

COMMODITY

Limestone

GRADE

51.6000

Per cent

COMMENTS: Across 79 metres. Grade given for CaO.

REFERENCE: Bulletin 40, page 44.

CAPSULE GEOLOGY

A limestone bed of the Devonian-Permian Chilliwack Group, at least 76 metres thick, is exposed for 1600 metres along the steep southwest face of Bear Mountain on the south end of Harrison Lake, just east of Harrison Hot Springs. The limestone and the enclosing siliceous argillite strike northwest and dip steeply to vertically. The bed pinches out to the northwest and is truncated by a mass of granodiorite to the southeast.

The deposit is composed of medium to coarse grained, white to grey to brown limestone with scattered argillaceous interbeds. A chip sample across 79 metres on the south end of the deposit analysed 51.6 per cent CaO, 0.16 per cent MgO, 10.1 per cent insolubles, 0.42 per cent R2O3, 0.19 per cent Fe2O3, 0.007 per cent MnO, 0.025 per cent P2O5, 0.003 per cent sulphur and 37.1 per cent ignition loss (Bulletin 40, page 44).

BIBLIOGRAPHY

EMPR BULL *40, p. 44
GSC MAP 12-1969; 737A

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1398
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 69-47, p. 7

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW125**

NATIONAL MINERAL INVENTORY: 092H5,6 Ni1

NAME(S): **GIANT MASCOT**, GIANT NICKEL, CHOATE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Underground

MINING DIVISION: New Westminster

LATITUDE: 49 29 01 N
LONGITUDE: 121 29 05 W
ELEVATION: 1300 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5482322
EASTING: 609752

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Stulkawhits Creek near Choate (part of Giant Nickel mine (092HSW004)).

COMMODITIES: Nickel Copper Chromium Cobalt

MINERALS

SIGNIFICANT: Pyrrhotite Pentlandite Chalcopyrite Magnetite Chromite

ASSOCIATED: Olivine Enstatite Hypersthene

ALTERATION: Limonite

COMMENTS: Limonite occurs in narrow sinuous veinlets that cut both sulphide and gangue minerals.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Lower Cretaceous

ISOTOPIC AGE: 95-120 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Cretaceous

ISOTOPIC AGE: 95-120 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Hornblende

Pacific Nickel Complex

Mesozoic

Unnamed/Unknown Informal

LITHOLOGY: Hornblende Pyroxenite
Peridotite
Diorite
Quartz Diorite
Norite
Hornblendite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

METAMORPHIC TYPE: Contact Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

Undivided Metamorphic Assembl.

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

SAMPLE TYPE: Chip

YEAR: 1987

COMMODITY

GRADE

Chromium 1.2800 Per cent

Copper 0.4300 Per cent

Nickel 0.8300 Per cent

COMMENTS: Sample JR-86-9.

REFERENCE: Assessment Report 16553.

CAPSULE GEOLOGY

The Choate property lies within an ultrabasic complex between the southern tip of the Coast Plutonic Complex and the northern end of a belt of intrusions termed the Chelan batholith. The intrusive rocks within this belt are granites, granodiorites and quartz diorites of Jurassic age and younger. They form the core of an uplifted block of regionally metamorphosed upper Paleozoic rocks which trend north, and are bounded by the Fraser River fault system on the east and west by somewhat less metamorphosed Mesozoic rocks.

The ultramafic complex hosting the Giant Nickel mine (092HSW004) mineralized zones is composed of hypersthene diorite and quartz

CAPSULE GEOLOGY

diorites, norites and ultrabasic rocks, termed the Pacific Nickel Complex, which intrudes schists and earlier intrusive rocks. The older, noritic rocks are found northwest and southwest of the ultramafic complex. Potassium-argon ages from the ultramafic complex range from about 120 to 95 million years. The older ages were obtained from the hornblende pyroxenite phase with late hornblende dikes having the youngest ages.

The ultramafic rocks of the Pacific Nickel Complex form an irregular stock-like mass about 3.0 kilometres across. The northeast half of the stock consists of barren pyroxenites and peridotites which contain little or no hornblende. The southwest half of the stock is a highly variable, hornblende-rich assemblage of peridotites and pyroxenites which are mineralized and contain some seventeen orebodies associated with the Giant Nickel mine. These orebodies are scattered along a line trending about 285 degrees.

Mineralization occurs within the ultramafic rocks as pipe-like concentrations of enstatite, olivine and hypersthene containing pyrrhotite, pentlandite, chalcopyrite, magnetite with lesser amounts of chromite and cobalt minerals. In the deposits where the sulphides are relatively massive and comprise about 50 per cent of the rock, there is about four times as much pyrrhotite as pentlandite. Chalcopyrite, magnetite and chromite each make up about 2 to 3 per cent of the rock.

Magnetite and chromite occur as the principal metallic minerals in several places within nickeliferous bodies along Stulkawhits Creek near Choate. In particular, this type of mineralization is said to be located near the surface above the north end of the 512 foot crosscut of the No. 1 tunnel.

Both magnetite and chromite occur as small crystals or as rounded grains scattered throughout the sulphide bodies and the hornblende pyroxenite. Both minerals occasionally occur within the silicate minerals and were the first to crystallize from the magma. The concentration of magnetite and chromite either with the sulphide or in separate bodies at certain loci, can be explained as primary magmatic segregation. Limonite occurs in narrow sinuous veinlets that cut both sulphide and gangue minerals.

In 1936, 18 samples of ore were taken by the Mines Branch from several different sulphide bodies and analysed an average of 18.38 per cent iron, 1.89 per cent nickel, 0.14 per cent cobalt, 0.31 per cent chromium, 10.87 per cent sulphur, 0.7 per cent copper and only a trace of arsenic (Minister of Mines Annual Report 1936, page F64).

In 1987, 63 rock samples were collected and all were anomalous for chromium with assays up to 1.28 per cent (Assessment Report 16553).

Production is included with Pride of Emory (092HSW004).

BIBLIOGRAPHY

- EM EXPL 2000-25-32; 2002-29-40,65-80
EMPR AR 1924-137; 1928-227; 1929-239; 1930-204; 1934-F17-F19;
1935-F58; 1936-F64; 1937-F37; 1952-208; 1953-158; *1954-160-163;
1957-66; 1958-55; 1959-124-127; 1960-87; 1961-86-88; 1962-91;
1963-89; *1964-137-142; *1965-213-217; 1966-58; 1967-63; 1968-76
EMPR ASS RPT 5385, *16553
EMPR FIELDWORK *2001, pp. 211-236; 2002, pp. 115-128
EMPR GEM 1969-196; 1970-248; 1971-267; 1972-117; 1973-131,132;
*1974-105-113
EMPR PF (Pride of Emory, Giant Nickel Mine, 092HSW004)
EMR MP CORPFILE (B.C. Nickel Mines Ltd.; Pacific Nickel Mines Ltd.;
Western Nickel Mines Ltd.; Giant Mascot Mines Ltd.; Newmont Mining
Corporation of Canada Ltd.; Granby Mining Company Ltd.)
GSC MAP 12-1969; 737A; 1008A
GSC MEM *190, pp. 1-15, Fig.1
GSC P *36, pp. 4-6; 69-47, pp. 63,64; 72, pp. 53-97
GSC SUM RPT *1924A, pp. 100-105; *1933A, pp. 53-97
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CIM *Vol. 2, 1957, pp. 27-36
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W MINER *Vol. 44, 1971, pp. 23-61; Vol. 42, No. 6, June 1969, pp.
40-46; Vol. 33, Nov. 1960, pp. 39-42
Muir, (1972): A Study of the Petrology and Ore Genesis of the Giant
Nickel 4600 Orebody, Hope, British Columbia, Unpublished M.Sc.
Thesis, University of Toronto, Apr. 1972

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/28

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW126**

NATIONAL MINERAL INVENTORY:

NAME(S): **COQUIHALLA ULTRAMAFICS**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 29 N
LONGITUDE: 121 14 35 W
ELEVATION: 1000 Metres

NORTHING: 5478009
EASTING: 627365

LOCATION ACCURACY: Within 1 KM

COMMENTS: Occurrences occur within ultramafics north of Sowaqua Creek and extend north-northwest past Jessica Station.

COMMODITIES: Chromium Nickel

MINERALS

SIGNIFICANT: Chromite Magnetite Pyrrhotite Pentlandite
ASSOCIATED: Olivine Bastite Enstatite
ALTERATION: Serpentine Talc Carbonate
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M05 Alaskan-type Pt±Os±Rh±Ir

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic
Unknown

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Peridotite
Gabbro
Dunite
Diorite
Diabase
Slate
Chert
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cascade Mountains

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1929

SAMPLE TYPE: Grab

COMMODITY

GRADE

Chromium

0.2300

Per cent

Nickel

0.2100

Per cent

COMMENTS: Two samples taken across widths of several metres.

REFERENCE: GSC Summary Report 1929 Part A, page 182A.

CAPSULE GEOLOGY

The Coquihalla Serpentine Belt forms a narrow, elongate, north-northwest trending steeply dipping unit separating supracrustal rocks of the Lower-Middle Jurassic Ladner Group to the east, from the Permian-Jurassic Hozameen Complex in the west. Dark, highly sheared to massive serpentinite, of probable peridotite parentage, characterizes the belt. It also contains substantial amounts of highly altered gabbro-d diabase rocks.

The eastern margin of the serpentinite belt is sharply delineated by the Hozameen fault. The western boundary is also represented by a major fracture which appears to dip steeply east. This is termed the "West" Hozameen fault and the serpentinites in this vicinity contain highly sheared talcose rocks.

The "East" Hozameen fault separates the serpentinite from the Ladner Group metasediments. The Ladner Group is comprised of a thick

CAPSULE GEOLOGY

section of complexly folded black slate, cherts and intercalated basalts.

The serpentinite, derived from dunite to peridotite, has a complex association with diorite intrusions which occur as dike-like bodies within the ultramafics. The contacts are commonly a locus of shearing. Details of the unsheared contact indicate a gradational change in mineralogy over a few centimetres. Carbonate is a common constituent in such localities, and occurs as both stringers or disseminations throughout the rock. Tabular to lenticular unaltered diorite blocks also occur in the serpentinite.

The serpentinite is typically dark green or in some cases yellowish green, massive and dense with lustrous light green crystalline aggregates of bastite (altered enstatite). Areas of magnetite and chromite occur, but rarely of appreciable size.

Mineralization associated with the main body of serpentinite may be regarded as representing two types: one constituting an integral part of the original rock from which the serpentinite developed; and the other introduced or formed during, or subsequent to, serpentinization.

Minerals of the first type include magnetite, chromite and nickeliferous silicates while those of the second type include talc, asbestos, carbonates and quartz.

Both magnetite and chromite are common accessory minerals disseminated through the serpentinite in black grains or crystals. The magnetite generally occurs in small crystals or in granular masses rarely exceeding a few centimetres in diameter. Chromite, however, may occur in much larger masses, as is apparent from the reported discovery of blocks of the solid mineral up to several centimetres in diameter in serpentinite outcropping on the east side of Sowaqua Creek, on the hillside above the Peer River Place Company camp.

In 1929, two samples of serpentinite taken across widths of several metres near the northeast and southwest contacts of the serpentinite belt, indicated appreciable amounts of both chromium and nickel averaging 0.23 per cent nickel and 0.21 per cent chromium (GSC Summary Report 1929 Part A, page 182A).

The nickel occurs in pyrrhotite with some pentlandite and is thought to be a primary constituent, replacing magnesia of the principal silicates, olivine and enstatite, composing the peridotitic rock subsequently altered to serpentinite.

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- EMPR OF 1986-1D,1F
- GSC MAP 12-1969
- GSC MEM 139
- GSC P 69-47
- GSC SUM RPT *1929A, pp. 176A-184A

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/01

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW127**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOPE FELDSPAR**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 48 N
LONGITUDE: 121 26 20 W
ELEVATION: 60 Metres

NORTHING: 5476430
EASTING: 613195

LOCATION ACCURACY: Within 1 KM

COMMENTS: Along the main line of the Canadian Pacific Railway at American Creek (Industrial Minerals File).

COMMODITIES: Feldspar

MINERALS

SIGNIFICANT: Feldspar

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Discordant
CLASSIFICATION: Pegmatite Industrial Min.
TYPE: O04 Feldspar-quartz pegmatite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cretaceous-Tertiary
Eocene

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Custer Gneiss
Unnamed/Unknown Informal

LITHOLOGY: Pegmatite
Feldspathic Rock
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl.

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

Along the main line of the Canadian Pacific Railway between Hope and Yale, there are many outcrops of a light coloured, highly feldspathic rock. The iron content of the rock is low. A typical locality is reported to be exposed in the bed of American Creek, about 5 kilometres north of Hope. This occurrence is reportedly a pegmatite (Open File 1991-10, page 81).

The country rock underlying the area has been mapped as Custer Gneiss, a metamorphic assemblage probably derived from lower Mesozoic and possibly Paleozoic and Precambrian rocks, and metamorphosed in Late Cretaceous and early Tertiary time (GSC Map 41-1989). In this area, Eocene granodiorite intrudes the package.

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EMPR OF 1991-10, p. 81
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/12/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1404
REPORT: RGEN0100

MINFILE NUMBER: **092HSW128**

NATIONAL MINERAL INVENTORY:

NAME(S): **LITTLE MOUNTAIN**, MOUNT SHANNON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 06 N
LONGITUDE: 121 55 02 W

NORTHING: 5448586
EASTING: 578903

ELEVATION: 50 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The pit is on the north side of Mount Shannon, to the immediate east of Chilliwack (Minister of Mines Annual Report 1955, page 91).

COMMODITIES: Building Stone

MINERALS

SIGNIFICANT: Unknown

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R INDUSTRIAL ROCKS

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Granite

HOSTROCK COMMENTS: The actual type of rock quarried is not well documented.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison

PHYSIOGRAPHIC AREA: Fraser Lowland

CAPSULE GEOLOGY

Mount Shannon, east of Chilliwack, is mapped by Monger as Lower and Middle Jurassic Harrison Lake Formation rock which consists of intermediate to locally felsic flows and pyroclastics, with local argillite and conglomerate (GSC Map 41-1989). Minister of Mines Annual Reports from 1955 to 1959 report a quarry on Mount Shannon, but include it, however, under the "Granite" quarry section. No description of the type of rock is mentioned in the reports. About 34,500 tonnes of rock, used for dike repair, was produced over three years in the late 1950s, and the quarry was in operation at least one more year but production was not reported.

BIBLIOGRAPHY

EMPR AR *1955-71; *1956-149; *1957-78; *1958-87; *1959-153
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/22

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW128**

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1405
REPORT: RGEN0100

MINFILE NUMBER: **092HSW129**

NATIONAL MINERAL INVENTORY:

NAME(S): **SEABIRD BLUFF**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 57 N
LONGITUDE: 121 40 00 W
ELEVATION: 50 Metres

NORTHING: 5463422
EASTING: 596904

LOCATION ACCURACY: Within 1 KM

COMMENTS: Reported to be located between Waleach (at northeast end of Sea Bird Island) and Ruby Creek, on the mainline of the Canadian Pacific Railway.

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Oligocene

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Oligocene			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

CAPSULE GEOLOGY

At the Seabird Bluff showing, the southeast contact of an Oligocene pluton consisting of granodiorite, is exposed along and to the immediate northwest of the Canadian Pacific Railway mainline. The stone along the west end is locally jointed, but the east end is less regularly jointed.

BIBLIOGRAPHY

GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

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

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW129**

MINFILE NUMBER: **092HSW130**

NATIONAL MINERAL INVENTORY:

NAME(S): **SEABIRD ISLAND**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 19 N
LONGITUDE: 121 42 30 W
ELEVATION: 20 Metres

NORTHING: 5462195
EASTING: 593896

LOCATION ACCURACY: Within 1 KM

COMMENTS: North shore of Fraser River opposite Seabird Island (Bulletin 30, page 15).

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Residual Industrial Min.
TYPE: B06 Fireclay E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Clay

HOSTROCK COMMENTS: Fraser River clay deposits.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack
PHYSIOGRAPHIC AREA: Fraser Lowland

CAPSULE GEOLOGY

Extensive stratified deposits of very fine grained, highly plastic blue clay are reported to occur on the north shore of the Fraser River, opposite Seabird Island. In general, this blue clay cracks badly in drying and has a very short firing range. However, this type of clay was used successfully for many years by the Port Haney Brick Company, particularly for the manufacture of structural and drain tile.

Analysis of the same type of clay from the Haney area yielded 58.5 per cent SiO₂, 21 per cent Al₂O₃, 8.6 per cent Fe₂O₃, 6.5 per cent CaO, 0.5 per cent MgO, 46 per cent water and 4.8 per cent ignition loss.

BIBLIOGRAPHY

EMPR BULL *30, p. 15
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/23

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW131**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKAGIT RIVER**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 03 35 N
LONGITUDE: 121 09 28 W
ELEVATION: 1524 Metres

NORTHING: 5435729
EASTING: 634580

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centred on the surface trace of the northeast limb of a limestone band (GSC Map 12-1969).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE: Paleozoic-Mesozoic

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.

TYPE: R09 Limestone

SHAPE: Tabular

MODIFIER: Folded

COMMENTS: Folded into a northwest-trending syncline.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	

LITHOLOGY: Limestone
Greenstone

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic (GSC Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

A limestone bed folded into a northwest-trending syncline, outcrops as a U-shaped band with 8 kilometre long limbs around a ridgetop west of the Skagit River, just north of the U.S. border. The limestone is enclosed in greenstone of the Permian to Jurassic Hozameen Complex.

BIBLIOGRAPHY

EMPR IND MIN FILE ("Limestone Occurrences in British Columbia" by McCammon, J.W. (in Ministry Library))
GSC MAP 12-1969; 737A; 41-1989
GSC P 69-47, p. 4

DATE CODED: 1985/07/24
DATE REVISED: 1989/07/31

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW132**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT COULTER**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 40 N
LONGITUDE: 121 17 04 W
ELEVATION: 1725 Metres

NORTHING: 5461604
EASTING: 624736

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centred on the surface trace of the northeast limb of a limestone band (GSC Map 12-1969).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE: Paleozoic-Mesozoic

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.

TYPE: R09 Limestone

SHAPE: Tabular

MODIFIER: Folded

COMMENTS: Limestone folded into a northwest-trending syncline.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Paleozoic-Mesozoic

Hozameen

Undefined Formation

LITHOLOGY: Limestone
Mafic Volcanic
Chert

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

A limestone bed folded into a northwest-trending syncline, outcrops as a U-shaped band with limbs up to 9 kilometres long on Mount Coulter, west of Nicolum Creek, 14 kilometres southwest of Hope. The limestone is contained within a sequence of mafic volcanics and chert of the Permian to Jurassic Hozameen Complex.

BIBLIOGRAPHY

EMPR IND MIN FILE ("Limestone Occurrences in British Columbia" by McCammon, J.W. 1973, p. 14 (in Ministry Library))
GSC MAP 12-1969; 737A
GSC P 69-47, p. 4

DATE CODED: 1985/07/24
DATE REVISED: 1989/08/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW133**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRETT**, CLOUD, CLOUD 3

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H05W
 BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 38 N
 LONGITUDE: 121 52 56 W
 ELEVATION: 840 Metres

NORTHING: 5469992
 EASTING: 581137

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east flank of Mount Klaudt, about 3.5 kilometres west of Harrison Lake and about 16 kilometres north-northwest of Harrison Mills (Assessment Report 10022).

COMMODITIES: Zinc Copper Lead Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite Galena
 ASSOCIATED: Quartz Barite
 ALTERATION: Pyrite Clay Silica
 ALTERATION TYPE: Pyrite Argillic Silicific'n
 MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
 CLASSIFICATION: Volcanogenic
 TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	
Upper Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Rhyolite
 Rhyodacite
 Quartz Diorite
 Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
 TERRANE: Harrison
 METAMORPHIC TYPE: Contact Regional Plutonic Rocks
 PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
 RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1982
 SAMPLE TYPE: Grab
 COMMODITY GRADE

Silver	0.1000	Grams per tonne
Copper	0.1500	Per cent
Lead	0.0010	Per cent
Zinc	0.5000	Per cent

COMMENTS: Sample from mineralized quartz-barite vein.
 REFERENCE: Assessment Report 10022.

CAPSULE GEOLOGY

The Brett area is underlain by intermediate to acid volcanics of the Lower and Middle Jurassic Harrison Lake Formation. The volcanics are intruded by a Late Jurassic (Arthur, 1987) quartz diorite to monzonite stock, which forms the resistant peak and part of the east flank of Mount Klaudt. A linear feature, thought to be a fault, forms the east boundary of the intrusion and parallels the southern tributary of Brett Creek. East of this fault, rhyolite and rhyodacite, consisting of massive to pyroclastic (lapilli) beds have undergone pyritic and argillic alteration with some silicification. Numerous veins and shears in the rhyolite contain chalcopyrite, sphalerite, galena, barite and quartz. These stringers are found in an area about 1000 by 500 metres. The quartz-sulphide-barite veins range up to 15.2 centimetres in width.

Several rock chip samples were collected in 1981 and 1982. The strongly anomalous samples coincide with stringer zones containing sphalerite, galena, chalcopyrite and barite. Gold values in the

CAPSULE GEOLOGY

rocks range between 1.0 to 115.0 grams per tonne and trace to 11.3 grams per tonne silver. Mean values in rocks are up to 0.06 per cent lead, 0.08 per cent zinc, 0.08 per cent copper and about 0.08 per cent barium. A sample taken from one of the mineralized veins analysed trace gold, 0.1 gram per tonne silver, 0.5 per cent zinc, 0.001 per cent lead, 0.15 per cent copper and 0.58 per cent barium (Assessment Report 10022).

BIBLIOGRAPHY

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EMPR EXPL 1981-48,182; 1982-164,165; *1985-169
EMPR FIELDWORK 1983, pp. 42-53; 1984, pp. 120-131; 1985, pp. 95-97
EMPR GEM 1972-102-108, Fig.6
EMPR OF 1999-2
GSC MAP 12-1969; 737A; 41-1989
GSC P 69-47; 86-1B, pp. 715-720
Arthur, A.J. (1987): Mesozoic Stratigraphy and Paleontology of the West Side of Harrison Lake, Southwest British Columbia, M.Sc. Thesis, University of British Columbia, Dec. 1987
Chevron File
Crickmay, C.H. (1962): Gross Stratigraphy of the Harrison Lake Area, British Columbia, Evelyn de Mille Books, Calgary, Alberta, p. 12
Prospectus (Richland Mines Inc., Dec.16, 1987; Report by Westerman, C.J., (1987): A Summary Report on the Brett Creek Property, Nov.10, 1987)
Ray, G.E. et. al. (1985): Precious Metal Mineralization in Southwest British Columbia, Field Guides to Geology and Mineral Deposits in the South Canadian Cordillera, GAC Section Meeting, Vancouver, British Columbia, May 1985

DATE CODED: 1985/07/24
DATE REVISED: 1995/01/12

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW134**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOOEY**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 10 N
LONGITUDE: 121 51 38 W
ELEVATION: 183 Metres

NORTHING: 5472856
EASTING: 582667

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the west side of Harrison Lake about 12.0 kilometres north of Harrison Hot Springs, near the confluence of Cartmell and Brett creeks.

COMMODITIES: Zinc Lead Copper Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite Pyrite
ASSOCIATED: Quartz
ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	
Jurassic	Undefined Group	Mysterious Creek	

LITHOLOGY: Andesitic Tuff
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
TERRANE: Harrison
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 8.9000 Grams per tonne
Copper 0.1300 Per cent
Lead 0.4900 Per cent
Zinc 0.6800 Per cent
COMMENTS: High grade shear zone, 1.1 metres in width.
REFERENCE: Assessment Report 10661.

CAPSULE GEOLOGY

The area is underlain by acid to intermediate volcanics of the Weaver Lake Member of the Lower-Middle Jurassic Harrison Lake Formation. Pyroclastic rocks appear more abundant than flows and form poorly stratified volcanic breccias to well-bedded tuffs.

Locally, the Hooey property is underlain by sequences of pyroclastics of the Weaver Lake Member and sedimentary rocks comprised of black argillites, tuffs and coarser sandstone units belonging to the Middle-Upper Jurassic Mysterious Creek Formation. The bedding is variable up to several metres in thickness. Fine grained, medium to light green andesitic tuff containing chloritized lapilli fragments of the Harrison Lake Formation comprise the major unit on the property.

Sphalerite, galena, chalcopyrite and pyrite was found in shears and quartz veins within the andesite tuff. The extent of the mineralization is not known but was sporadic over 300 metres. The shear zones or quartz veins averaged 1.0 to 2.0 metres in width along a northwest trend. Rock chip sampling indicated local concentrations of zinc, lead and copper with minor silver values. In 1982, chip

CAPSULE GEOLOGY

sampling across 16.1 metres averaged 4.11 grams per tonne silver, 0.21 per cent zinc, 0.19 per cent lead and 0.05 per cent copper. A higher grade shear zone 1.1 metres in width averaged 8.9 grams per tonne silver, 0.68 per cent zinc, 0.49 per cent lead and 1.3 per cent copper (Assessment Report 10661).

BIBLIOGRAPHY

EMPR ASS RPT *10661, 11683
EMPR EXPL 81982-166; *1983-234
EMPR FIELDWORK 1983, pp. 42-53; 1984, pp. 120-131; 1985, pp. 95-97
GSC MAP 12-1969; 737A
GSC P 69-47; 86-1B, pp. 715-720
Arthur, A.J. (1987): Mesozoic Stratigraphy and Paleontology of the West Side of Harrison Lake, Southwest British Columbia, M.Sc. Thesis, University of British Columbia, Dec. 1987
Crickmay, C.H. (1962): Gross Stratigraphy of the Harrison Lake Area, British Columbia, Evelyn de Mille Books, Calgary, Alberta, p. 12
Ray, G.E. et. al. (1985): Precious Metal Mineralization in Southwest British Columbia, Field Guides to Geology and Mineral Deposits in the South Canadian Cordillera, GAC Section Meeting, Vancouver, British Columbia, May 1985

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/16

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW135**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAX, GWH 2, G 1-2,
NORTH, JESSI**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

MINING DIVISION: New Westminster

LATITUDE: 49 28 59 N
LONGITUDE: 121 16 05 W
ELEVATION: 915 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5482599
EASTING: 625446

LOCATION ACCURACY: Within 500M

COMMENTS: Located north of Fifteen Mile Creek, extending from the Coquihalla River, about 2.5 kilometres to the northwest paralleling the creek.

COMMODITIES: Nickel Cobalt Copper

MINERALS

SIGNIFICANT: Pentlandite Millerite Heazlewoodite Wairauite Magnetite
Pyrite Pyrrhotite Chalcopyrite

ASSOCIATED: Magnetite Spinel

COMMENTS: Chromium spinel.

ALTERATION: Serpentine Magnetite Carbonate

ALTERATION TYPE: Serpentin'zn Carbonate

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Jurassic
Unknown

GROUP

Hozameen
Ladner

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Diorite
Slate
Chert
Basalt
Gabbro
Diabase

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: TRENCHES

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Bulk Sample

COMMODITY

GRADE

Cobalt

0.0150

Per cent

Nickel

0.2400

Per cent

COMMENTS: Bulk samples from trenches in serpentinite.

REFERENCE: Assessment Report 12340.

CAPSULE GEOLOGY

The Coquihalla Serpentine Belt forms a narrow, elongate, north-northwest trending, steeply dipping unit separating supracrustal rocks of the Lower-Middle Jurassic Ladner Group to the east, from the Hozameen Complex in the west. Dark, highly sheared to massive serpentinite, of probable peridotite parentage, characterizes the belt. It also contains substantial amounts of highly altered gabbro-d diabase rocks.

The eastern margin of the serpentinite belt is sharply delineated by the Hozameen fault. The western boundary is also represented by a major fracture which appears to dip steeply east. This is termed the "West" Hozameen fault and the serpentinites in this vicinity contain

CAPSULE GEOLOGY

highly sheared talcose rocks.

The "East" Hozameen fault separates the serpentinite from the Ladner Group metasediments. The Ladner Group is comprised of a thick section of complexly folded black slate, cherts and intercalated basalts.

The serpentinite, derived from dunite to peridotite, has a complex association with diorite intrusions which occur as dike-like bodies within the ultramafics. The contacts are commonly a locus of shearing. Details of the unsheared contact indicate a gradational change in mineralogy over a few centimetres. Carbonate is a common constituent in such localities, and occurs as both stringers or disseminations throughout the rock. Tabular to lenticular, unaltered diorite blocks also occur in the serpentinite.

There are several narrow fault zones developed parallel to the north-northwest regional trend. Most faults developed along the diorite-serpentinite contact or the contact of the Coquihalla Serpentine Belt and the country rocks. It is thought that the consistency of the faulting indicates the mafic-ultramafic complex was emplaced as a solid state fault slice. Complex folding in the Ladner Group is not reflected in the ultramafic rocks so it appears the folding was prior to the ultramafic emplacement, so the ultramafics appear to be younger than the hostrocks.

Mineralization in the ultramafics consists mainly of fine nickel-bearing sulphides with coarse phenocrysts of pyrite. Samples of the serpentinite averaged 0.22 to 0.24 per cent nickel. Petrographic studies indicate the nickel mineralization consists of disseminated pentlandite with rare millerite and heazlewoodite. Secondary magnetite associated with the serpentinization is abundant. In areas that host a high percentage of magnetite, the nickel sulphides are less common. The serpentinite also hosts about 0.015 per cent cobalt in the form of wairauite, a rare, naturally occurring cobalt-iron alloy. Also, chromium spinels are present in the serpentinite but due to the intimate association of chromium with other minerals, metallurgic studies indicated magnetic separation was not possible (Assessment Report 12340). Sulphides associated with the diorite and ultramafics include fine disseminations of pyrite, pyrrhotite and trace chalcopyrite.

In 1986, quartz-sulphide veins which occur along the east contact of the serpentine belt, were examined. Samples yielded less than 0.068 gram per tonne gold (Assessment Report 16245).

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- EMPR FIELDWORK 1982, pp. 62-84
- EMPR GEM 1971-266; 1972-116
- EMPR OF MAP 1986-1D,1F
- GSC MAP 12-1969
- GSC MEM 139
- GSC P 69-47
- GSC SUM RPT 1929A, pp. 144A-198A

DATE CODED: 1985/08/27
DATE REVISED: 1988/01/05

CODED BY: AFW
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW136**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOY, EVE, SOUTH,
JESSI, SERPENTINE, LAKE 1-5,
COQUIHALLA NICKEL**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H06E

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 49 25 56 N
LONGITUDE: 121 14 05 W
ELEVATION: 915 Metres

NORTHING: 5477004
EASTING: 627993

LOCATION ACCURACY: Within 500M
COMMENTS: Covers Serpentine Lake and parallels the tributary that drains the lake into Sowaqua Creek.

COMMODITIES: Nickel Cobalt Copper

MINERALS

SIGNIFICANT: Pentlandite Millerite Heazlewoodite Wairauite Chalcopyrite
ASSOCIATED: Pyrite Spinel Magnetite Pyrrhotite
COMMENTS: Chromium spinel.
ALTERATION: Serpentine Magnetite Carbonate
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Podiform Stratabound Vein
CLASSIFICATION: Magmatic Residual Industrial Min. Hydrothermal
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu 106 Cu±Ag quartz veins
COMMENTS: Quartz veins host chalcopyrite and pyrrhotite.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	
Jurassic	Ladner	Undefined Formation	
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Serpentinite
Diorite
Slate
Chert
Basalt
Gabbro
Diabase
Argillite

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.
Ladner Group rocks are Lower to Middle Jurassic age.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Bulk Sample
COMMODITY GRADE
Cobalt 0.0110 Per cent
Nickel 0.2200 Per cent
COMMENTS: Bulk samples.
REFERENCE: Assessment Report 12340.

CAPSULE GEOLOGY

The Toy prospect is located 4 kilometres northeast of Mount Jarvis near the Coquihalla Highway and 16 kilometres northeast of Hope, British Columbia.

The Coquihalla Serpentine Belt forms a narrow, elongate, north-northwest trending, steeply dipping unit separating supracrustal rocks of the Lower-Middle Jurassic Ladner Group to the east, from the Permian-Jurassic Hozameen Complex in the west. Dark, highly sheared to massive serpentinite, of probable peridotite parentage,

CAPSULE GEOLOGY

characterizes the belt, but it also contains substantial amounts of highly altered gabbro-diabase rocks.

The eastern margin of the serpentine belt is sharply delineated by the Hozameen fault. The western boundary is also represented by a major fracture which appears to dip steeply east. This is termed the 'West' Hozameen fault and the serpentinites in this vicinity contain highly sheared talcose rocks.

The 'East' Hozameen fault separates the serpentinite from the Ladner Group metasediments. The Ladner Group is comprised of a thick section of complexly folded black slate, cherts and intercalated basalts.

The serpentinite, derived from dunite to peridotite, has a complex association with diorite intrusions which occur as dike-like bodies within the ultramafics. The contacts are commonly a locus of shearing. Details of the unshered contact indicate a gradational change in mineralogy over a few centimetres. Carbonate is a common constituent in such localities, and occurs as both stringers or disseminations throughout the rock. Tabular to lenticular, unaltered diorite blocks also occur in the serpentinite.

There are several narrow fault zones developed parallel to the north-northwest regional trend. Most faults developed along the diorite-serpentinite contact or the contact of the Coquihalla Serpentine Belt and the country rocks. It is thought that the consistency of the faulting indicates the mafic-ultramafic complex was emplaced as a solid state fault slice. Complex folding in the Ladner Group is not reflected in the ultramafic rocks so it appears the folding was prior to the ultramafic emplacement, so the ultramafics appear to be younger than the hostrocks.

Mineralization in the ultramafics consists mainly of fine nickel-bearing sulphides with coarse phenocrysts of pyrite. Samples from the serpentinite averaged 0.18 to 0.24 per cent nickel. Petrographic studies indicate the nickel mineralization consists of disseminated pentlandite with rare millerite and heazlewoodite.

Secondary magnetite associated with the serpentinization is abundant. Just east of Serpentine Lake, magnetite blebs from 1 to 3 millimetres in diameter, range up to about 20 per cent. The average magnetite content in the serpentinite is about 5 per cent. In areas where there is a high percentage of magnetite, the nickel sulphides are less common.

The serpentinite hosts between 0.011 to 0.015 per cent cobalt in the form of wairauite, a rare, naturally occurring cobalt-iron alloy. Chromium spinels also occur in the serpentinite but due to the intimate association of chromium with other minerals, metallurgic studies indicated magnetic separation was not possible (Assessment Report 12340).

Border Resources Ltd. has been investigating various recovery processes for nickel. Flotation has been achieved with 77 per cent nickel recovery. However, very fine grinding and high depressant consumption resulted in this method being uneconomic. Bioleaching was investigated with 65 to 87 per cent nickel recovery in tests. However, sulphuric acid consumption was excessive. Heap leaching has been proposed as an economic alternative.

Sulphides associated with the diorite and ultramafics include fine disseminations of pyrite, pyrrhotite and trace chalcopyrite.

Quartz veins associated with pyritiferous argillite occur in the far west corner of the Toy 7 claim. In 1986, a sample from the 1.2 metre wide quartz vein proved to be barren. Just southeast of these veins on the Jessi property (092HSW149), quartz veinlets host minor pyrrhotite and chalcopyrite. Samples analysed less than 0.068 gram per tonne gold (Assessment Report 16245).

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GSC MEM 139
GSC P 69-47
GSC SUM RPT 1929 Part A, pp. 144A-198A

DATE CODED: 1985/08/27
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW137**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAR II**, BEAR, SILVERTIP

MINING DIVISION: New Westminster

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092H03W 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 11 14 N
LONGITUDE: 121 15 45 W
ELEVATION: 1650 Metres

NORTHING: 5449722
EASTING: 626605

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of the Sumallo River.

COMMODITIES: Zinc Lead Copper Silver

MINERALS

SIGNIFICANT: Pyrrhotite Sphalerite Galena Chalcopyrite
ASSOCIATED: Tremolite Calcite Quartz Pyrite Magnetite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation

LITHOLOGY: Greenstone
Chert
Argillite
Pelite
Tuff
Limestone

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: BEAR REPORT ON: Y
CATEGORY: Inferred YEAR: 1966
QUANTITY: 272000 Tonnes
COMMODITY GRADE
Zinc 2.5000 Per cent

COMMENTS: Drill inferred possible ore.

REFERENCE: Prospectus, 1966, Allison Pass Mining - excerpts in Ass. Rpt. 13066.

CAPSULE GEOLOGY

The area of the Bear II prospect is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of greenstone, chert, pelite and minor limestone. The rocks have undergone regional, low grade greenschist facies metamorphism and generally contain fine-grained actinolite, epidote and chlorite. Locally, bedding within the Hozameen Complex strikes 315 degrees and dips moderately to the southwest.

Mineralization occurs within the fractured greenstones. Veinlets of pyrrhotite infill fractures with or without tremolite, sphalerite, galena and chalcopyrite.

Between 1965 and 1966, diamond drilling by Allison Pass Mining resulted in the report of a possible resource of 272,000 tonnes grading 2.5 per cent zinc (Assessment 13066, excerpts of company prospectus). Samples from the drilling indicated coarse crystalline galena, sphalerite and calcite with quartz occurs within the greenstones (Assessment Report 13066). One 2.4 metre drill length from Allison Pass Mining (as quoted in Assessment Report 23026) yielded 0.5 per cent copper, 1.18 per cent lead, 0.093 per cent zinc and 20.57 grams per tonne silver. However, lead and silver values are typically much lower compared to zinc.

In 1993, further prospecting was completed and mineralization

CAPSULE GEOLOGY

was reported to occur in three modes:

- 1) Tuff with a few per cent magnetite as disseminations, fracture filling and blebs; minor chalcopyrite and pyrite.
- 2) Layered cherty argillite with pyrrhotite, sphalerite, chalcopyrite and minor magnetite along bedding? planes.
- 3) Brecciated tuff healed with pyrrhotite, magnetite and minor chalcopyrite.

In 1993, a few samples assayed anomalous gold and silver; one sample yielding 0.2 gram per tonne gold, and another 50 grams per tonne silver (Assessment Report 23026). Copper is also anomalous in rock samples, ranging up to 0.09 per cent.

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DATE CODED: 1985/08/29
DATE REVISED: 1994/10/24

CODED BY: AFW
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW138**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN BEAR**, ALP, PAL

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 28 36 N
LONGITUDE: 121 45 22 W
ELEVATION: 300 Metres

NORTHING: 5481190
EASTING: 590109

LOCATION ACCURACY: Within 500M

COMMENTS: Located along the east shore of Harrison Lake, just north of Bear Creek, near the confluence of Bear Creek and Harrison Lake.

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Pyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Pyrite
ALTERATION TYPE: Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Skarn Epigenetic Hydrothermal
TYPE: K SKARN L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Chilliwack	Undefined Formation	
Upper Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Pelite
Skarn
Slate
Basic Volcanic
Quartz Diorite

HOSTROCK COMMENTS: Quartz diorite intrusions range from Late Cretaceous or older.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Chilliwack Plutonic Rocks
METAMORPHIC TYPE: Contact Regional
PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The Golden Bear showing area is underlain by Devonian-Permian Chilliwack Group basic volcanic rocks and pelites. The rocks are intruded locally by Late Cretaceous or older quartz diorite stocks.

Locally, a mineralized skarn zone occurs along the contact between a quartz diorite intrusion and hydrothermally altered slates and pyritized slates. This skarn unit is locally mineralized with pyrite and chalcopyrite. Elsewhere, quartz veins host disseminated molybdenite and quartz-carbonate veins host blebs of chalcopyrite. These veins crosscut the slaty pelites.

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GSC P 69-47
WWW <http://www.infomine.com/index/>

DATE CODED: 1986/05/06
DATE REVISED: 1988/04/08

CODED BY: AFW
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW139**

NATIONAL MINERAL INVENTORY:

NAME(S): **VENT, T. SENECA WEST,
DOROTHY, SENECA, AGASSIZ-WEAVER,
I AM, EARL, TAKI,
CAROL**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 19 44 N
LONGITUDE: 121 57 52 W
ELEVATION: 280 Metres

NORTHING: 5464534
EASTING: 575243

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1.5 kilometres northwest of the Seneca deposit (092HSW013),
along the east side of Chehalis River about 9.0 kilometres north of
Harrison Mills.

COMMODITIES: Zinc Copper Lead Silver Gold

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Pyrite Galena
ASSOCIATED: Quartz Barite
ALTERATION: Clay Silica Sericite Pyrite
ALTERATION TYPE: Argillic Silicific'n Sericitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stockwork Vein Breccia Disseminated
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Dacite Porphyry
Dacite
Quartz Feldspar Porphyry
Dacitic Breccia
Rhyodacite
Feldspar Hornblende Porphyry
Dacitic Flow
Quartz Feldspar Crystal Tuff
Quartz Feldspar Lapilli Tuff
Tuff Breccia

HOSTROCK COMMENTS: The dacitic intrusion, one of the hostrocks, is a dacite/rhyodacite
porphyry synvolcanic intrusion.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VENT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
COMMODITY

YEAR: 1985

COMMODITY	GRADE	
Silver	35.9100	Grams per tonne
Gold	0.8200	Grams per tonne
Copper	0.2600	Per cent
Lead	1.4500	Per cent
Zinc	4.0900	Per cent

COMMENTS: Drillhole 85-12 on the Vent showing; a 9.60 metre mineralized
intersection.

REFERENCE: Assessment Report 14668.

CAPSULE GEOLOGY

The Vent prospect is located 1.5 kilometres northwest of the
Seneca deposit (092HSW013) along the east side of the Chehalis River,
about 9 kilometres north of Harrison Mill, British Columbia.

The Vent zone is 2 kilometres to the northwest along strike from

CAPSULE GEOLOGY

the Kuroko-type Seneca deposit. The Fleetwood and 33 zones (092HSW165), are about 1.5 kilometres northwest of the Vent zone. For further details on the Seneca deposits readers are referred to the article by McKinley et al. (Fieldwork 1994).

The area is underlain by Lower to Middle Jurassic Harrison Lake Formation rocks comprised mainly of pyroclastic flows and tuffs of intermediate to felsic composition. The Vent prospect is underlain by bedded quartz-feldspar crystal lapilli tuffs, multilithic tuff breccias and very fine grained ash tuffs. Most of the rock exposures are described as feldspar and quartz feldspar porphyry units.

Stockwork and stringer sulphides are the dominant style of mineralization in the Vent zone. The stockwork consists of veinlets up to 1 centimetre wide of sphalerite, pyrite and quartz +/- chalcopyrite in strongly altered dacitic flows, breccias, intrusions and mixed lava clast breccia. Also reported but not common, is barite and galena.

Two copper-zinc showings were initially reported, both appearing to be fault bound. The lower showing is bound by quartz feldspar porphyry and the upper showing exposes both feldspar (hornblende) porphyry and quartz feldspar porphyry on its flanks. Fault zones are characteristically less than 0.3 metre in width and carry pyritic, clay gouge. The faults trend north and northwest and appear to be high-angle faults by fracturing and subsequent hydrothermal alteration, including silicification and pyritization.

Alteration in this area is characterized by intense silicification and sericitization associated with massive to flow banded and flow brecciated dacite porphyry. The stockwork veining is restricted to the dacites but alteration extends 10 to 20 metres into surrounding fragmental rocks.

In 1985, drillhole 85-12 intersected mineralization over 9.6 metres which assayed 0.82 gram per tonne gold, 35.91 grams per tonne silver, 4.09 per cent zinc, 1.45 per cent lead and 0.26 per cent copper. Mineralization in drillhole 85-9 yielded an average of 1.69 per cent zinc over 33.53 metres (Assessment Report 14668).

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EMPR PF (See Seneca - 092HSW013)
EMR MP CORPFILE (Zenith Mining Corporation Ltd.; Chevron Standard Ltd.)
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RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1422
REPORT: RGEN0100

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DATE CODED: 1986/08/01
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW140**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEIKO**, SC 1, JOHN,
 CON, A 1, A 2,
 A 3, WEAVER

MINING DIVISION: New Westminster

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H05W

UTM ZONE: 10 (NAD 83)

BC MAP:
 LATITUDE: 49 20 34 N
 LONGITUDE: 121 51 05 W

NORTHING: 5466196

EASTING: 583433

ELEVATION: 350 Metres
 LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of Harrison Lake, just west of the West Harrison access road. The occurrence is just south of Francis Lake, approximately 6.0 kilometres northeast of Harrison Hot Springs.

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Epigenetic Hydrothermal
 TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn
 DIMENSION: Metres
 COMMENTS: A 1 vein. STRIKE/DIP: 075/85W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Undefined Group	Harrison Lake	Unnamed/Unknown Informal
Tertiary			

ISOTOPIC AGE: 19-26 Ma
 DATING METHOD: Potassium/Argon
 MATERIAL DATED: Biotite and hornblende

LITHOLOGY: Rhyolite
 Rhyolite Tuff
 Andesite
 Argillite
 Quartz Diorite
 Siltstone
 Chert
 Andesite Flow
 Granodiorite

HOSTROCK COMMENTS: Dated by the Ministry of Energy, Mines and Petroleum Resources (Fieldwork 1985, pages 95-97).

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
 TERRANE: Harrison Plutonic Rocks
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1986
 SAMPLE TYPE: Chip
 COMMODITY GRADE
 Silver 614.1000 Grams per tonne
 Gold 0.3350 Grams per tonne
 Copper 0.0060 Per cent
 Lead 0.0460 Per cent
 Zinc 0.0660 Per cent

COMMENTS: Composite chip sample of the A 1 vein.
 REFERENCE: Assessment Report 15579.

CAPSULE GEOLOGY

The Keiko property is underlain by the Weaver Lake Member of the

CAPSULE GEOLOGY

Lower-Middle Jurassic Harrison Lake Formation comprised of basal andesitic to rhyolitic flows, which give way to bedded rhyolite tuffs, black argillite, siltstone and chert overlain by a massive andesite flow. On the north end of the property, the Harrison Formation is overlain by argillites of the Middle-Upper Jurassic Mysterious Creek Formation, and by the Triassic Camp Cove Formation which is comprised of interbedded greywackes, argillites, siltstone, chert, conglomerate and andesitic tuffs and flows.

A major fracture system along Harrison Lake is associated with quartz diorite and granodiorite intrusions of mid-Tertiary age, dated between 19 to 26 million years. A major fault structure apparently passes through Francis Lake dipping steeply to the west.

Mineralization is associated with an intense pyrite-silica and quartz-calcite vein system. The A 1 vein is a quartz-calcite vein which strikes 075 degrees with a near vertical dip and a length of 70 metres ranging between 20 centimetres to 5 metres in width. The vein hosts chalcopyrite, sphalerite, galena and pyrite.

In 1986, a composite chip sample yielded up to 614.1 grams per tonne silver, 0.335 gram per tonne gold, 0.046 per cent lead, 0.066 per cent zinc and 0.006 per cent copper (Assessment Report 15579).

The A 2 vein is comprised of a weakly brecciated quartz vein which strikes east-west and dips 30 degrees north with a 4 metre length and up to 50 centimetres in width. Samples across the vein assayed 3.5 to 89.9 grams per tonne silver, 0.016 to 0.099 gram per tonne gold, 0.02 to 0.059 per cent lead and trace to 0.033 per cent zinc (Assessment Report 15579).

The A 3 vein is a vertical quartz vein 30 centimetres wide, striking 110 degrees. A 30 centimetre chip sample assayed 57.6 grams per tonne silver and 0.075 gram per tonne gold (Assessment Report 15579).

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Falconbridge File

DATE CODED: 1987/09/03
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FIELD CHECK: N
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1425
REPORT: RGEN0100

MINFILE NUMBER: **092HSW141**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOPE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 23 59 N
LONGITUDE: 121 26 05 W
ELEVATION: 100 Metres

NORTHING: 5473071
EASTING: 613567

LOCATION ACCURACY: Within 5 KM

COMMENTS:

COMMODITIES: Radioactive Material

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Quaternary

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			Glacial/Fluvial Gravels

LITHOLOGY: Sand
Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Black sand from the Hope area is reported to contain radioactive material. A sample of concentrate assayed 0.17 per cent equivalent uranium (GSC Economic Geology Report 16, page 45).

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Falconbridge File

DATE CODED: 1987/09/04
DATE REVISED: / /

CODED BY: LDJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **092HSW141**

MINFILE NUMBER: **092HSW142**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRASER RIVER**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 59 N
LONGITUDE: 121 23 05 W
ELEVATION: 610 Metres

NORTHING: 5478705
EASTING: 617076

LOCATION ACCURACY: Within 5 KM

COMMENTS:

COMMODITIES: Garnet

MINERALS

SIGNIFICANT: Garnet
ASSOCIATED: Kyanite Sillimanite
MINERALIZATION AGE: Mesozoic-Cenozoic

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists
SHAPE: Tabular
MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous-Tertiary			Custer Gneiss

LITHOLOGY: Pelitic Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Regional
RELATIONSHIP: Syn-mineralization
GRADE: Amphibolite

CAPSULE GEOLOGY

Pelitic gneisses exposed in the Fraser River valley between Hope and Yale, belong to the Cretaceous and/or Tertiary Custer Gneiss. They locally contain from 3 to 25 per cent almandine, 0 to 8 per cent kyanite and 0 to 10 per cent sillimanite (Read, 1960).

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Falconbridge File

DATE CODED: 1988/03/30
DATE REVISED: / /

CODED BY: JP
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **092HSW143**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZOFKA RIDGE**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 26 59 N
LONGITUDE: 121 31 05 W
ELEVATION: 1370 Metres

NORTHING: 5478507
EASTING: 607412

LOCATION ACCURACY: Within 5 KM

COMMENTS:

COMMODITIES: Sillimanite Garnet

MINERALS

SIGNIFICANT: Sillimanite Garnet
MINERALIZATION AGE: Mesozoic-Cenozoic

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists
SHAPE: Tabular
MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous-Tertiary			Settler Schist

LITHOLOGY: Pelitic Schist

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

Coarse sillimanite prisms, over 5 centimetres in length, are developed in pelitic schists on Zofka Ridge adjacent to a plutonic contact. Within these schists, sillimanite may comprise 14 to 15 per cent of the rock, with garnet accounting for another 22 to 25 per cent (Lowe, 1972). These strata are assigned to the Cretaceous and/or Tertiary Settler Schist.

BIBLIOGRAPHY

EMPR OF *1988-26
*Lowe, B.E. (1972): Metamorphic Petrology & Structural Geology of the Area East of Harrison Lake, British Columbia, Ph.D. thesis, University of Washington

DATE CODED: 1988/03/30
DATE REVISED: / /

CODED BY: JP
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **092HSW144**

NATIONAL MINERAL INVENTORY:

NAME(S): **TIMBERWOLF**, BIG RANGE, TIMBERLINE,
TIMBER WOLF 3

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 17 40 N
LONGITUDE: 121 09 49 W
ELEVATION: 1980 Metres

NORTHING: 5461811
EASTING: 633521

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the northern slopes of Mount Outram, near the headwaters of Matthew Creek, about 6.0 kilometres north of Highway 3.

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite
ASSOCIATED: Quartz
ALTERATION TYPE: Serpentin'zn Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Coquihalla Serpentine Belt
Unknown			Unnamed/Unknown Informal
Cretaceous			

LITHOLOGY: Argillite
Ultramafic
Chert
Basic Volcanic
Greenstone
Argillaceous Chert
Quartz Diorite

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Contact Regional
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Cascade Mountains
GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY
Gold 4.0000 Grams per tonne
Copper 0.0510 Per cent
REFERENCE: Assessment Report 15323.

CAPSULE GEOLOGY

The area is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of interbedded chert, argillite and basic volcanics. The Hozameen rocks are intruded by a Late Cretaceous or older quartz diorite intrusion. The Hozameen fault traverses south-southeast separating the greenschist facies rocks of the Hozameen Complex from unmetamorphosed Mesozoic rocks of the Ladner and Dewdney Creek groups. Ultramafic rocks are cut by greenstones of the Hozameen Complex and generally occur along the fault. There is shearing along this contact and in places the ultramafic rocks appear to be intrusive. The ultramafics which occur along the Hozameen fault are part of the Coquihalla Serpentine Belt.

The Timberwolf zone is underlain by altered Hozameen Complex greenstone and volcanic chert with argillaceous chert and bedded argillite. A major fault/shear trending 350 to 360 degrees with an apparent dip of 75 to 80 degrees west, exposed on the Master Ace

CAPSULE GEOLOGY

claims (092HSW043) to the south, is indicated to extend across the property for some distance to the northeast. The fault is indicated by a strong topographic feature in the form of a steep gully infilled by talus.

The argillites are in fault contact with serpentinized ultramafics with associated quartz veining along the fault. The cherty argillites host disseminated pyrrhotite immediately west of the fault. Scattered anomalous gold values are associated with these argillites. In 1986, a sample of oxidized vein material, as exposed on a steep cliff face, assayed 4.0 grams per tonne gold, 0.1 gram per tonne silver, 0.051 per cent copper, 0.005 per cent zinc and 0.004 per cent arsenic. Vein material to the south of this showing hosts chalcopyrite, pyrrhotite and pyrite (Assessment Report 15323).

BIBLIOGRAPHY

EMPR AR 1932-157
EMPR ASS RPT 14527, 14544, *14570, 14751, *15323
EMPR EXPL 1985-C170; *1986-C203,C204
EMPR FIELDWORK 1982, pp. 62-84
GSC MAP 12-1969
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1922A; 1929A

DATE CODED: 1987/11/30
DATE REVISED: 1995/04/19

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW145**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIG RANGE** RICE CREEK

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 19 54 N
LONGITUDE: 121 07 36 W
ELEVATION: 940 Metres

NORTHING: 5466015
EASTING: 636105

LOCATION ACCURACY: Within 500M

COMMENTS: Located along Sowaqua Creek near the confluence with Rice Creek, about 10 kilometres north of Highway 3.

COMMODITIES: Molybdenum Gold Silver Copper

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Pyrite Arsenopyrite
ASSOCIATED: Quartz Carbonate
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic
Unknown

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Monzonite
Argillite
Siltstone
Greywacke
Conglomerate
Chert
Aplite Sill

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow
METAMORPHIC TYPE: Contact

Bridge River
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Cascade Mountains

GRADE:

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1984

COMMODITY

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	3.0860	Grams per tonne
Gold	0.3090	Grams per tonne
Copper	0.0400	Per cent
Molybdenum	0.0540	Per cent

REFERENCE: Assessment Report 14751.

CAPSULE GEOLOGY

The Hozameen fault traverses south-southeast across the property, separating the greenschist facies rocks of the Permian-Jurassic Hozameen Complex from unmetamorphosed Mesozoic rocks of the Ladner and Dewdney groups. Ultramafic rocks occur along the Hozameen fault and these are part of the Coquihalla Serpentine Belt.

The Big Range showing is hosted by Lower-Middle Jurassic Ladner Group sediments comprised of interbedded argillite, siltstone, wackes and conglomerate. In the Rice Creek zone, the Ladner Group rocks appear to be intruded by a monzonite plug. Xenoliths of chert and argillite occur in the area. In 1984, the intrusion was found to host anomalous arsenic with values of MoS₂ of up to 0.917 per cent. Related aplite sills crosscut cherty argillite in the vicinity of Angus Creek. The argillite is heavily iron stained and hosts disseminated pyrite. In 1932, prospectors found quartz fissures containing pyrite, chalcopyrite, arsenopyrite and molybdenite. A sample from old trenches on the Rice Creek zone assayed 0.917 per

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CAPSULE GEOLOGY

cent MoS₂, 0.02 per cent arsenic, 0.04 per cent copper, 0.309 gram per tonne gold and 3.086 grams per tonne silver (Assessment Report 14751).

A shear zone on Sowaqua Creek occurs in argillite with iron-carbonate lenses. In 1984, samples from the shear assayed 1.04 grams per tonne gold and 0.1 per cent arsenic. A quartz lens within the shear hosts chalcopyrite and molybdenite. Other quartz veins and small-scale fractures infilled by quartz host anomalous gold.

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EMPR EXPL 1985-C170; *1986-C203,C204
EMPR FIELDWORK 1982, pp. 64-84
GSC MAP 12-1969
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1922A; 1929A

DATE CODED: 1987/12/01
DATE REVISED: 1995/04/27

CODED BY: LLC
REVISED BY: GSB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW146**

NATIONAL MINERAL INVENTORY:

NAME(S): **TIMBERLINE**, TIMBERLINE 4-5

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 18 49 N
LONGITUDE: 121 09 16 W
ELEVATION: 1402 Metres

NORTHING: 5463958
EASTING: 634136

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Matthew Creek, on the north slopes of Mount Outram.

COMMODITIES: Molybdenum Copper Gold Silver

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Pyrrhotite Pyrite
ASSOCIATED: Quartz
ALTERATION: Silica Limonite
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Cretaceous

GROUP

Hozameen

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY:

Chert
Argillite
Basic Volcanic
Hornfels
Hornblende Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Contact Regional

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Cascade Mountains

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1984

COMMODITY

COMMODITY	GRADE	
Silver	13.0300	Grams per tonne
Gold	2.7100	Grams per tonne
Copper	0.1900	Per cent
Molybdenum	0.0940	Per cent

COMMENTS: Grab sample from quartz fissure vein.

REFERENCE: Assessment Report 14527.

CAPSULE GEOLOGY

The property is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of interbedded chert, argillite and basic volcanics. To the east, the Hozameen fault traverses south-southeast, separating the greenschist facies rocks of the Hozameen Complex from unmetamorphosed Mesozoic rocks of the Ladner and Dewdney Creek groups.

Locally, the Hozameen Complex is intruded by a Late Cretaceous or older hornblende granodiorite to quartz diorite intrusion. The argillaceous sediments and chert form a hornfels skarn, along the thermal contact. Subparallel quartz fissure veins occur near the contact in the highly silicified chert and argillite. The hornfelsed sediments are iron stained and host fine disseminations of pyrrhotite and pyrite.

Six, subparallel quartz fissure veins host coarse blebs of

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CAPSULE GEOLOGY

molybdenite and chalcopyrite with disseminated pyrite. In 1984, two grab samples assayed 3.6 and 2.71 grams per tonne gold, 6.86 and 13.03 grams per tonne silver, 0.1 and 0.19 per cent copper and 0.095 and 0.157 per cent molybdenite, respectively (Assessment Report 14527).

BIBLIOGRAPHY

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EMPR ASS RPT *14527, 14544, 14570
EMPR EXPL 1985-C171
EMPR FIELDWORK 1982, pp. 64-84
GSC MAP 12-1969
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1922A; 1929A
GCNL #103(May 29), 1985

DATE CODED: 1987/12/21
DATE REVISED: 1995/04/20

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 092HSW147

NATIONAL MINERAL INVENTORY:

NAME(S): FORD, FORD 1-6

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 29 N
LONGITUDE: 121 05 10 W
ELEVATION: 1825 Metres

NORTHING: 5459758
EASTING: 639211

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Eighteen and Twenty Mile creeks,
on the southwestern slopes of Mount Dewdney.

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	
Jurassic	Ladner	Undefined Formation	

LITHOLOGY: Chert
Basic Volcanic
Argillite
Siltstone
Wacke
Conglomerate
Pelite
Sandstone
Diorite Dike
Aplite Dike

HOSTROCK COMMENTS: Hozameen Complex ranges from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River Methow
METAMORPHIC TYPE: Regional RELATIONSHIP: Cascade Mountains
COMMENTS: Straddles the Bridge River and Methow terranes boundary. GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 0.5000 Grams per tonne
Gold 0.1800 Grams per tonne
COMMENTS: Sample No. 75450.
REFERENCE: Assessment Report 13270.

CAPSULE GEOLOGY

The Ford occurrence area is underlain by Permian to Jurassic Hozameen Complex rocks comprised mainly of interbedded chert, pelite and basic volcanics. The Hozameen fault traverses south-southeast separating the lower greenschist facies rocks of the Hozameen Complex from the unmetamorphosed Mesozoic rocks of the Ladner Group to the east.

The Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) consists of a sequence of well-bedded sediments comprised of interbedded argillite, siltstone, wacke, sandstone and conglomerate. Local quartz stockworks and diorite dikes, ranging up to 30 metres in width, crosscut the strata. The siltstone and wacke is highly

CAPSULE GEOLOGY

silicified near the dike contacts. Disseminated pyrite occurs in the silicified siltstone and some beds are heavily oxidized with extensive limonitic staining.

Locally, the Hozameen Complex consists of ribboned cherts with interbedded schistose bands and an andesitic volcaniclastic unit. The rocks have undergone greenschist facies metamorphism and local silicification. In the western part of the property, a chert unit is highly silicified and intruded by aplite dikes. In this sequence, quartz veins up to 15 centimetres in width, crosscut and locally flood the chert. Several rock samples were collected and averaged 0.1 gram per tonne silver, 0.01 gram per tonne gold with traces of copper, lead and zinc. A sample taken near the headwaters of Eighteen Mile Creek assayed 0.18 gram per tonne gold and 0.5 gram per tonne silver (Assessment Report 13270).

BIBLIOGRAPHY

EMPR AR 1932-157
EMPR ASS RPT *13270
EMPR EXPL 1984-178
EMPR FIELDWORK 1982, pp. 62-84
GSC MAP 12-1969; 41-1989
GSC MEM 139
GSC P 69-47

DATE CODED: 1987/12/21
DATE REVISED: 1995/04/20

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW148**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOWAQUA CREEK**, PIERRE CREEK, PEER RIVER,
PEERS CREEK

STATUS: Past Producer Open Pit Underground

MINING DIVISION: New Westminster

REGIONS: British Columbia

UTM ZONE: 10 (NAD 83)

NTS MAP: 092H06E

BC MAP:

LATITUDE: 49 24 29 N

LONGITUDE: 121 13 21 W

ELEVATION: 475 Metres

NORTHING: 5474338

EASTING: 628942

LOCATION ACCURACY: Within 1 KM

COMMENTS: Placer claims located along Sowaqua Creek, beginning about 4.0 kilometres above the mouth of the creek at the Coquihalla River, and extending back about 4.5 kilometres.

COMMODITIES: Gold

Platinum

MINERALS

SIGNIFICANT: Gold Platinum

MINERALIZATION AGE: Quaternary

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			Glacial/Fluvial Gravels
Unknown			Coquihalla Serpentine Belt

LITHOLOGY: Clay
Sand
Gravel
Serpentinite
Diorite Dike
Quartz Porphyry Dike

HOSTROCK COMMENTS: Coquihalla ultramafics underlie the gravels and the placer gold and platinum is probably derived from this hostrock.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

Methow

COMMENTS: The placer claims cover two terrane boundaries.

CAPSULE GEOLOGY

Placer claims extend about 8.0 kilometres along Sowaqua Creek. The creek flows through the Coquihalla Serpentine Belt which is comprised chiefly of serpentinite intersected by a number of both large and small dikes, or less regular masses of diorite and a few dikes of quartz porphyry.

In the 1920s, considerable surface sluicing was done with several opencuts and trenching along the low benches which occur along Sowaqua Creek. Three or more shafts were sunk, the deepest was about 18 metres below the water level of Sowaqua Creek. This shaft consisted of an upper 3.6 metres of blue clay which carried gold values, with the rest of the shaft comprised of well-sorted sands with angular small and coarse gravels. Values of gold and platinum were obtained from these gravels. Other shafts along the north bank of the creek also produced substantial gold.

These operations are reported to have yielded some \$4400 in gold (about 7298 grams of gold) and \$600 in platinum.

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GSC MEM 139, pp. 131,132
GSC SUM RPT *1929A, pp. 173A-176A, 182A

DATE CODED: 1988/01/04
DATE REVISED: 1995/03/30

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW148**

MINFILE NUMBER: **092HSW149**

NATIONAL MINERAL INVENTORY:

NAME(S): **JESSI 2**, JESSI, TOY,
J.P. II

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 25 04 N
LONGITUDE: 121 13 22 W
ELEVATION: 762 Metres

NORTHING: 5475418
EASTING: 628897

LOCATION ACCURACY: Within 500M

COMMENTS: Located along a small tributary of Sowaqua Creek, about 1.5 kilometres southeast of Serpentine Lake.

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite
ASSOCIATED: Quartz
ALTERATION: Quartz Calcite Sericite Chlorite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Epithermal Hydrothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	

LITHOLOGY: Greenstone
Slaty Argillite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Cascade Mountains

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY

YEAR: 1981

Gold
COMMENTS: Sample from a quartz vein.
REFERENCE: Assessment Report 9766.

GRADE
0.0690 Grams per tonne

CAPSULE GEOLOGY

The eastern margin of the Coquihalla Serpentine Belt is sharply delineated by the Hozameen fault which is termed the "East Hozameen fault". The serpentine belt forms an elongate, north-northwest trending, steeply dipping unit separating supracrustal rocks of the Lower-Middle Jurassic Ladner Group in the east, from the Permian-Jurassic Hozameen Complex to the west.

The Ladner Group comprises a sequence of fine grained, poorly to well bedded slaty argillites and siltstones. These metasediments have undergone lower greenschist facies metamorphism. The Ladner Group overlies older greenstones which are traceable discontinuously for more than 15 kilometres along the east side of the East Hozameen fault. The greenstone-Ladner Group contact is commonly marked by faulting and shearing, but in places the sedimentary rocks rest directly on the volcanic rocks with either an unconformable or disconformable relationship. The greenstone, comprised of altered basalts and andesites, represents either the lower part of the Ladner Group or a basement to the Ladner Group sediments.

The Jessi 2 showing, located 1500 metres southeast of Serpentine Lake, consists of minor disseminated pyrrhotite, chalcopyrite and pyrite in the volcanic greenstones and metasediments. Also, pyritiferous argillite hosts minor pyrrhotite and chalcopyrite in

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CAPSULE GEOLOGY

quartz stringers. Alteration minerals consist of quartz, calcite, sericite and chlorite. Samples taken from the showings in 1981 yielded less than 0.07 gram per tonne gold with trace copper (Assessment Report 9766).

BIBLIOGRAPHY

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EMPR EXPL 1979-143
EMPR FIELDWORK 1982, pp. 62-84
EMPR GEM 1971-266
EMPR OF MAP 1986-1D
GSC MAP 12-1969
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1929A, pp. 144A-198A

DATE CODED: 1988/01/04
DATE REVISED: 1995/03/30

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW150**

NATIONAL MINERAL INVENTORY:

NAME(S): **KURO**, KURO 1-4

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 21 29 N
LONGITUDE: 121 51 25 W
ELEVATION: 457 Metres

NORTHING: 5467889
EASTING: 583004

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of Harrison Lake, just east of Weaver Lake, about 11.0 kilometres northwest of Harrison Hot Springs.

COMMODITIES: Copper Zinc Lead

MINERALS

SIGNIFICANT:	Sphalerite	Pyrite	Chalcopyrite	Galena	Chalcocite
ASSOCIATED:	Calcite	Carbonate			
ALTERATION:	Chalcocite	Limonite	Carbonate		
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:					

DEPOSIT

CHARACTER:	Disseminated	Vein		
CLASSIFICATION:	Epigenetic	Hydrothermal		
TYPE:	I05	Polymetallic veins	Ag-Pb-Zn±Au	G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Calcareous Siltstone
Feldspar Porphyry Dike
Rhyolite
Rhyolite Breccia
Gossan

GEOLOGICAL SETTING

TECTONIC BELT:	Coast Crystalline	PHYSIOGRAPHIC AREA:	Fiord Ranges (Southern)
TERRANE:	Harrison	RELATIONSHIP:	GRADE:
METAMORPHIC TYPE:	Regional		

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1986
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Copper		0.0760	Per cent
Lead		0.0280	Per cent

COMMENTS: Grab sample from pyritic rhyolite.
REFERENCE: Assessment Report 15462.

CAPSULE GEOLOGY

The area is underlain by rocks of the Lower to Middle Jurassic Harrison Lake Formation comprised mainly of pyroclastics and rhyolitic to andesitic flows. These overlie Lower Jurassic calcareous siltstones, shales and sandstones of the West Road Member of the Harrison Lake Formation. Triassic Camp Cove Formation rocks are also exposed and comprise andesitic to basaltic flows, siliceous siltstone and sandstone.

There are two bright orange, limonitic gossans located on the Kuro property. Calcareous siltstones host between 1 to 2 per cent sulphides comprised mainly of disseminated pyrite. A feldspar porphyry dike estimated at 15 to 20 metres in thickness and striking about 030 degrees with a dip of 80 degrees northwest, crosscuts the calcareous strata. Associated with the dike are disseminated and blebs of chalcopyrite, pyrite with minor sphalerite and galena. Pyritic veinlets occur in rhyolitic breccia and are associated with low gold values and black chalcocite.

In 1986, a sample of the pyritized rhyolite yielded 0.001 gram per tonne gold, 1.0 grams per tonne silver, 0.076 per cent copper and 0.028 per cent lead. A sample from a calcareous sandstone containing

CAPSULE GEOLOGY

calcite veins analysed 0.001 gram per tonne gold, 0.4 gram per tonne silver and 0.005 per cent copper (Assessment Report 15462).

BIBLIOGRAPHY

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EMPR EXPL 1984-182
EMPR FIELDWORK 1984, pp. 120-131; 1985, pp. 95-97
EMPR GEM 1972-102-108, *Fig.6
EMPR OF 1999-2
GSC P 69-47; 86-1B, pp. 715-720; 12-1969; 737A; 1069A; 41-1989
Arthur, A.J. (1987): Mesozoic Stratigraphy and Paleontology of the West Side of Harrison Lake, Southwest British Columbia, M.Sc. Thesis, University of British Columbia, Dec. 1987
Crickmay, C.H. (1962): Gross Stratigraphy of the Harrison Lake Area, British Columbia, Evelyn de Mille Books, Calgary, Alberta, p. 12
Ray, G.E. et. al. (1985): Precious Metal Mineralization in Southwest British Columbia, Field Guides to Geology and Mineral Deposits in the South Canadian Cordillera, GAC Section Meeting, Vancouver, British Columbia, May 1985

DATE CODED: 1988/04/14
DATE REVISED: 1995/01/12

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW151**

NATIONAL MINERAL INVENTORY:

NAME(S): **K.C.M.**, PUNCH BOWL WEST, KCM WEST,
PUNCH

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E 092H07W
BC MAP:

MINING DIVISION: New Westminster
Similkameen
UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 39 N
LONGITUDE: 121 02 04 W
ELEVATION: 250 Metres

NORTHING: 5460164
EASTING: 642961

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Snass Creek, just west of Punch Bowl Lake on the west flank of Snass Mountain, about 7.0 kilometres north of Highway 3. Associated with the Punch East showing (092HSE083).

COMMODITIES: Lead Silver Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Arsenopyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Carbonate
ALTERATION TYPE: Silicific'n Carbonate
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic
Mesozoic-Cenozoic

GROUP

Ladner

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Sandstone
Siltstone
Argillite
Conglomerate
Diorite

HOSTROCK COMMENTS: Intrusive age ranges between Early Cretaceous to late Tertiary.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver	100.0000	Grams per tonne
Copper	0.0120	Per cent
Lead	0.1700	Per cent
Zinc	0.0600	Per cent

COMMENTS: A 0.4 metre chip sample.
REFERENCE: Assessment Report 14693.

CAPSULE GEOLOGY

The area is underlain by Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) sediments comprised mainly of interbedded sandstone, siltstone, argillite and conglomerate. The bedding generally trends north to northwest with variable dips.

Intruding the sedimentary rocks are dikes, sills and small plugs of diorite. The age of these intrusions ranges between Early Cretaceous to late Tertiary. The diorite is generally fine grained with abundant hornblende, feldspar and minor quartz. Locally, the diorite contains xenoliths or breccia fragments of a slightly more mafic igneous rock. Northwest-trending faults occur adjacent to the diorite intrusions and strong quartz-sulphide is associated with the fault contacts.

Quartz-pyrite-galena mineralization occurs in a vein within a

CAPSULE GEOLOGY

northwest trending fault zone at the diorite/sandstone contact. Disseminated pyrite and arsenopyrite also occurs here. In 1986, six samples were collected and yielded 0.005 to 0.045 gram per tonne gold and trace to 0.4 gram per tonne silver (Assessment Report 14693). In 1987, a 0.4 metre chip sample across the vein assayed 0.19 gram per tonne gold, greater than 100 grams per tonne silver, 0.17 per cent lead, 0.06 per cent zinc, 0.012 per cent copper and 0.57 per cent arsenic (Assessment Report 16279).

Eighty metres to the northwest along the projected trend of the vein, are quartz-calcite veins and siliceous zones near diorite dikes which host traces of precious metals. Mineralization occurs along an east-west trending fault zone which contains abundant orange-brown quartz-carbonate breccia in widths up to 2 metres. Sulphides are scarce, but a sample taken from the east end of the fault in 1987 analysed 0.06 gram per tonne gold (Assessment Report 16279).

BIBLIOGRAPHY

EMPR ASS RPT 14692, *14693, 15212, *16279
EMPR EXPL 1986-C204,C205
GSC MAP 12-1969; 1386A; 41-1989
GSC P 69-47
CJES 23, pp. 1022-1041

DATE CODED: 1987/11/25
DATE REVISED: 1995/04/20

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW152**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEWJAY**, MASTER ACE, TIMBERWOLF,
 MASTER ACE II

MINING DIVISION: New Westminster

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092H06E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 16 27 N
 LONGITUDE: 121 08 19 W
 ELEVATION: 1737 Metres

NORTHING: 5459601
 EASTING: 635394

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Eighteen Mile Creek, about 5.0 kilometres northwest of Highway 3, just southeast of the peak of Mount Outram.

COMMODITIES: Gold Silver Copper Lead Zinc
 Platinum

MINERALS

SIGNIFICANT: Arsenopyrite Argentite Galena Sphalerite Chalcopyrite
 Sperrylite

COMMENTS: Sperrylite (an arsenide of platinum) was reported in the late 1940s.

ASSOCIATED: Quartz Talc

ALTERATION: Talc Serpentine

ALTERATION TYPE: Serpentin'zn

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Shear
 CLASSIFICATION: Epigenetic Hydrothermal Igneous-contact

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: Metres STRIKE/DIP: /75W TREND/PLUNGE: 350/

COMMENTS: Trend of major fault/shear which hosts mineralized vein quartz.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Hozameen	Undefined Formation	Coquihalla Serpentine Belt
Unknown			Unnamed/Unknown Informal
Upper Cretaceous			

LITHOLOGY: Talc Schist
 Greenstone
 Chert
 Argillaceous Chert
 Basic Volcanic
 Pelite
 Serpentinite
 Quartz Diorite
 Limestone
 Mylonite

HOSTROCK COMMENTS: Hozameen Complex rocks range from Permian to Jurassic.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

METAMORPHIC TYPE: Contact Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Grab

COMMODITY

GRADE

COMMODITY	GRADE	Units
Silver	152.3000	Grams per tonne
Gold	0.5850	Grams per tonne
Copper	0.0450	Per cent
Lead	0.4970	Per cent
Zinc	0.0450	Per cent

COMMENTS: Grab samples from decomposed talc schist.

REFERENCE: Newjay Resources Ltd., Statement of Material Facts, 92/87, July 1987.

CAPSULE GEOLOGY

The area is underlain by Permian to Jurassic Hozameen Complex

CAPSULE GEOLOGY

rocks comprised mainly of interbedded chert, pelite, basic volcanics and minor limestone. These are intruded by a Late Cretaceous or older quartz diorite intrusion. To the northeast of the showing, the Hozameen fault traverses south-southeast and separates the low greenschist facies rocks of the Hozameen Complex from unmetamorphosed Mesozoic rocks. Ultramafic rocks are cut by greenstones of the Hozameen Complex and generally occur along the fault. There is shearing along this contact and in places the ultramafic rocks appear to be intrusive. The ultramafic rocks which occur along the Hozameen fault are part of the Coquihalla Serpentine Belt.

The Newjay showing is underlain by altered Hozameen Complex greenstone and volcanic chert with argillaceous chert and mylonite. A major fault/shear structure trending 350 to 360 degrees with an apparent dip of 75 to 80 degrees west, traverses the property. The fault/shear is represented by a serpentized ultramafic which in places is up to 100 metres in width. The west contact is associated with intense shearing and hosts a bleached and oxidized zone of talc schist with mineralized quartz veins. The eastern contact is comprised of an irregular serpentinite, cherty volcanic-greenstone contact. Both the east and west contacts are associated with quartz veining.

Several old trenches and opencuts occur along the west contact which follows a talc shear zone. The zone extends for several kilometres. The Master Ace zone (092HSW043) is located 914 metres north of the Newjay zone and is outlined for 762 metres. The Newjay zone has been traced for about 450 metres along the talc shear zone. The shear hosts 1.0 metre wide quartz veins mineralized with ribbons and bands of arsenopyrite, argentite, and lesser galena, sphalerite and chalcopyrite. In 1940, a mining consultant reported "ribboned" or "banded" arsenopyrite in the quartz and also reported the occurrence of sperrylite, an arsenide of platinum. In 1986, the Newjay zone was reported to host anomalous gold, silver, arsenic and copper as well as lead and zinc. Gold values ranged from 0.135 to 0.585 gram per tonne.

In 1986, mineralized trench samples assayed 0.17 to 1.58 grams per tonne gold and 78.51 to 219.77 grams per tonne silver. Anomalous copper, nickel, chromium and platinum were indicated. Samples obtained from decomposed rusty talc schist yielded 0.585 gram per tonne gold, 152.3 grams per tonne silver, 0.045 per cent copper, 0.497 per cent lead, 0.045 per cent zinc and 0.311 per cent arsenic (Newjay Resources Ltd., Statement of Material Facts, #92/87, July 6, 1987).

BIBLIOGRAPHY

EM GEOFILE 2000-2; 2000-5
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EMPR ASS RPT *15086, *16342, *16730
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EMPR MER 1987-1, pp. 26,71
GSC MAP 12-1969
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1922A; 1929A
GCNL #107,#154,#163, 1986
N MINER Aug.11, Oct.13, Jul.4,25, 1986
V STOCKWATCH Jul.17, 1987
Newjay Resources Ltd., Statement of Material Facts (92/87),
Jul.6, 1987

DATE CODED: 1987/11/26
DATE REVISED: 1995/04/20

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW153**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARGENTUM**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 24 56 N
LONGITUDE: 121 06 36 W
ELEVATION: 1767 Metres

NORTHING: 5475370
EASTING: 637082

LOCATION ACCURACY: Within 500M

COMMENTS: Sheared outcrop, 3.5 kilometres west of the summit of Treasure Mountain, near the crest of a ridge between two forks of Dewdney Creek (Assessment Report 14714).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Sphalerite Galena
ASSOCIATED: Quartz Pyrrhotite Pyrite
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	

LITHOLOGY: Sandstone
Conglomerate
Agglomerate
Tuff
Argillaceous Tuff
Diorite Sill
Diorite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 70.9500 Grams per tonne

COMMENTS: Sample of sphalerite and galena in rusty bands.
REFERENCE: Assessment Report 14714.

CAPSULE GEOLOGY

The Treasure Mountain region is underlain by northwest striking, moderate to steeply southwest dipping volcanic and sedimentary rocks of the Lower-Middle Jurassic Dewdney Creek Formation (Ladner Group) and Lower-Upper Cretaceous Pasayten Group, intruded by numerous dikes and sills. The Dewdney Creek Formation comprises volcanic rocks and a minor amount of sediments and consists of tuff, breccia and agglomerate with interbedded argillite and conglomerate. The Dewdney Creek Formation is considerably altered; pyrite is commonly present and many outcrops are rusty. The Pasayten Group includes predominantly arkose, argillite and conglomerate. Locally, the two sequences are separated by a northwest striking, northeast dipping fault, but in large part are conformable.

The Argentum occurrence is underlain by north-northwest striking (340-350 degrees), west dipping (60 degrees) volcanic sediments consisting of sandstone, conglomerate, agglomerate, tuff and argillaceous tuff intruded by dioritic sills and dikes. Shearing along dike contacts is sometimes accompanied by a narrow zone of quartz veinlets. The hostrocks belong to the Dewdney Creek

CAPSULE GEOLOGY

Formation. Pyrrhotite and lesser pyrite are commonly disseminated throughout these lithologies. The tuffs and argillaceous tuffs are distinctive units in that they contain limonite coatings along fracture planes and have a higher percentage of pyrrhotite and pyrite. A fault is evidenced by offsets of some rock units.

Some minor shears occur in the volcanic sandstone, tuffaceous argillite and argillite units. The shears are highly fractured and oxidized and contain sparse pyrite, sphalerite and galena. Locally, unmineralized quartz veins to 25 centimetres wide also occur. Rock chip samples from the mineralized shear zones assayed up to 70.95 grams per tonne silver (Assessment Report 14714).

BIBLIOGRAPHY

EMPR ASS RPT 14714, *17117
EMPR EXPL 1986-C203
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC MEM 139
GSC P 69-47
GSC SUM RPT 1910, pp. 118,119; 1922 Part A, pp. 95-102,106,107

DATE CODED: 1989/08/24
DATE REVISED: 1989/08/24

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1447
REPORT: RGEN0100

MINFILE NUMBER: **092HSW154**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARBLE HILL TRAVERTINE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:
LATITUDE: 49 07 54 N
LONGITUDE: 121 49 41 W
ELEVATION: 229 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location determined from plot on map (Industrial Minerals File - Map 092H04).

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5442754
EASTING: 585492

COMMODITIES: Travertine

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: H01 Travertine
SHAPE: Tabular
DIMENSION: 3 Metres
COMMENTS: Flat-lying layer at least 3 metres thick.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Quaternary

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Travertine
Tufa

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Chilliwack

PHYSIOGRAPHIC AREA: Cascade Mountains

INVENTORY

ORE ZONE: QUARRY

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1957

SAMPLE TYPE: Channel

COMMODITY

GRADE

Travertine

48.9000

Per cent

COMMENTS: Sample (channel assumed) taken across a quarry face. Grade is for CaO.
REFERENCE: Bulletin 40, pages 100-101.

CAPSULE GEOLOGY

A layer of travertine (tufa), at least 3 metres thick, is exposed in the gully of Marble Creek, 10 kilometres southeast of Chilliwack, 5.5 kilometres south-southwest of Rosedale. A sample taken across a quarry face analysed 48.9 per cent CaO, 0.26 per cent MgO, 8.1 per cent insolubles, 0.94 per cent R2O3, 0.57 per cent Fe2O3, 0.004 per cent MnO, 0.025 per cent P2O5, 0.20 per cent sulphur and 40.7 per cent ignition loss (Bulletin 40, pages 100, 101).

The travertine was quarried in 1955 and 1956 by Marble Hill Lime Products for agricultural purposes, but no production figures are available.

BIBLIOGRAPHY

EMPR BULL *40, pp. 100-101
GSC MAP 12-1969; 737A; 1386A
GSC P 69-47

DATE CODED: 1989/08/01
DATE REVISED: 1989/08/01

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW154**

MINFILE NUMBER: **092HSW155**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSEBANK MARL LIME**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 10 22 N
LONGITUDE: 121 46 39 W
ELEVATION: 30 Metres

NORTHING: 5447382
EASTING: 589106

LOCATION ACCURACY: Within 500M

COMMENTS: Location determined from plot on map (Industrial Minerals File - 092H/04).

COMMODITIES: Travertine

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: H01 Travertine
SHAPE: Tabular
DIMENSION: 30 x 23 x 8 Metres
COMMENTS: Flat lying fan-shaped mound.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Quaternary

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Travertine

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
COMMENTS: Quaternary sediments.

PHYSIOGRAPHIC AREA: Fraser Lowland

INVENTORY

ORE ZONE: QUARRY

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1957

SAMPLE TYPE: Rock

COMMODITY

GRADE

Travertine

47.9000

Per cent

COMMENTS: Taken across quarry face. Grade given for calcium oxide.

REFERENCE: Bulletin 40, page 100.

CAPSULE GEOLOGY

A fan-shaped mound of travertine 30 metres long, 23 metres wide and up to 7.6 metres thick is situated against the base of a low ridge on the south side of the Fraser Valley, 12 kilometres due east of Chilliwack.

A sample taken across a quarry face analysed 47.9 per cent CaO, 0.42 per cent MgO, 10.2 per cent insolubles, 0.96 per cent R2O3, 0.69 per cent Fe2O3, 0.007 per cent MnO, 0.032 per cent P2O5, 0.08 per cent sulphur and 39.70 per cent ignition loss (Bulletin 40, page 100).

The travertine was quarried during 1954 by C.C. Shaver for agricultural purposes, but no production figures are available.

BIBLIOGRAPHY

EMPR BULL *40, p. 100
GSC MAP 12-1969; 737A; 1386A
GSC P 69-47

DATE CODED: 1989/08/01
DATE REVISED: 1992/01/07

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW156**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHILLIWACK DIATOMITE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 05 01 N
LONGITUDE: 121 57 36 W
ELEVATION: 198 Metres

NORTHING: 5437271
EASTING: 575940

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located in a swamp at Williams farm, 9.7 kilometres south of Chilliwack. Description from CANMET Report 691 (1928), page 82.

COMMODITIES: Diatomite

MINERALS

SIGNIFICANT: Diatomite
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: F06 Lacustrine diatomite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Quaternary	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Diatomite

HOSTROCK COMMENTS: Diatomaceous mud.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Overlap Assemblage
COMMENTS: Quaternary, fresh water diatomaceous mud.

PHYSIOGRAPHIC AREA: Fraser Lowland

CAPSULE GEOLOGY

A small, impure diatomite deposit has been reported in a swamp at the Williams farm, 9.7 kilometres south of Chilliwack. The fresh water diatomaceous mud is comprised of 46 centimetres of gritty diatomite over an area of 16.7 square metres (CANMET Report 691, page 82).

BIBLIOGRAPHY

EMPR IND MIN FILE (Diatomite Occurrences in British Columbia (in Ministry Library))
EMPF PF (Mines Branch Report Canmet 691, 1928, page 82)
CANMET RPT 691, p. 82

DATE CODED: 1990/01/06
DATE REVISED: 1995/04/20

CODED BY: LLD
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW157**

NATIONAL MINERAL INVENTORY:

NAME(S): **VALLEY GRANITE** CHEAM VIEW

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H05E
BC MAP:

Open Pit

MINING DIVISION: New Westminster

LATITUDE: 49 15 29 N
LONGITUDE: 121 40 50 W
ELEVATION: 120 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5456981
EASTING: 596007

LOCATION ACCURACY: Within 500M

COMMENTS: Location from descriptions and map (Industrial Mineral File).

COMMODITIES: Granite Building Stone Dimension Stone Aggregate

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Miocene

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

R15 Crushed rock

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Miocene			Mount Barr Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

Granite was quarried 16 kilometres southwest of Hope along the west side of the Trans-Canada Highway. The quarry is developed in quartz diorite of the Miocene Mount Barr batholith. The quarry was likely operated between 1953 and 1972 by Valley Granite Products Ltd. along with another quarry at Bridal Falls (092HSW104). Granite was crushed and ground for poultry grit, stucco dash, sand blasting material and filler in asphalt roofing.

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EMPR AR 1953-186; 1954-177; 1955-91; 1956-149; 1957-78; 1958-86;
*1959-152; 1960-136; 1961-142; 1962-148; 1963-139; 1964-182;
1965-260; *1966-262; 1967-301; 1968-297
EMPR GEM 1969-385; 1970-494; 1971-458; 1972-581; 1973-542
GSC MAP 737A; 1386A; 12-1969; 41-1989
GSC P 69-47; 89-1E; 90-1E

DATE CODED: 1991/03/19
DATE REVISED: 1991/03/19

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW158**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHILLIWACK LAKE**, CHILLIWACK LAKE GRANITE, SUMAS SKY,
MARGRANITE, QUARRY PACIFIC

STATUS: Past Producer Open Pit

MINING DIVISION: New Westminster

REGIONS: British Columbia

NTS MAP: 092H03W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 49 05 48 N

LONGITUDE: 121 26 00 W

ELEVATION: 1006 Metres

NORTHING: 5439384

EASTING: 614366

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry, at the north end of Chilliwack Lake on the east side,
approximately 38 kilometres east-southeast of the community of
Chilliwack (Property File - Claim map; Notice of Work application).

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Biotite

COMMENTS: Masses of biotite and 5 per cent disseminated biotite give the
otherwise evenly textured rock some character.

ALTERATION: Chlorite

COMMENTS: Some biotite altered to chlorite?

ALTERATION TYPE: Chloritic

MINERALIZATION AGE: Oligocene

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Magmatic Industrial Min.

TYPE: R03 Dimension stone - granite

SHAPE: Tabular

MODIFIER: Fractured

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Oligocene			Chilliwack Batholith

LITHOLOGY: Granite
Quartz Monzonite
Dike
Diorite
Biotite Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Plutonic Rocks

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

At the Chilliwack Lake quarry, the rock is a fine grained, equigranular, light grey granite to quartz monzonite of the Oligocene Chilliwack batholith. Common irregularly-shaped masses of biotite and 5 per cent disseminated biotite (altered to chlorite?) give the otherwise evenly textured rock some character. Pale pink to white potassium feldspar, plagioclase and grey quartz comprise the bulk of the rock. Xenoliths of fine-grained diorite also occur.

The quarry is located 200 metres north of a main haulage road actively being used by the forest industry. A forest "buffer" about 100 to 200 metres in width shields the active area from the road. At present (August 1992), the quarry is L-shaped. Each side is about 3.6 to 4.2 metres in length and a maximum of 3.0 metres high. Fractures are evident, but are widely spaced and will permit extracting of blocks 1.5 metres on a side by 3.0 metres in length. The quarry face exhibits unhomogeneity of the rocks in the form of occasional dark inclusions and crosscutting dikes.

Quarry Pacific Industries Ltd. is test marketing the stone as tiles which are being produced at the Margranite Industry Ltd. facility in Surrey. Production statistics are not available.

BIBLIOGRAPHY

EMPR OF 1994-1
EMPR PF (Notice of Work form - October 29, 1992; Claim map; Property description)

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1452
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 1712A; 41-1989
GSC MEM 38

DATE CODED: 1992/08/31
DATE REVISED: 1995/12/20

CODED BY: RAL
REVISED BY: RAL

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092HSW159**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKAGIT VALLEY**, QUARRY PACIFIC, ROBSON ROSE,
VALLEY ROSE, CASCADE CORAL, MARGRANITE

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

Open Pit

MINING DIVISION: New Westminster

LATITUDE: 49 07 15 N
LONGITUDE: 121 12 50 W
ELEVATION: 609 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5442424
EASTING: 630321

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry, 500 metres south of the Klesilkwa River and approximately
32.5 kilometres south-southeast of the community of Hope.

COMMODITIES: Granite

Dimension Stone

Building Stone

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Oligocene

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Oligocene

Chilliwack Batholith

LITHOLOGY: Granite
Biotite Granite
Hornblende Biotite Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Skagit Valley occurrence is underlain by granite of the Oligocene Chilliwack batholith.

At present, Quarry Pacific Industries shapes square blocks from the boulder train of an ancient rock slide. Blocks are spread throughout the flat valley bottom. The source is probably from massive outcrops on the west side of the valley. There are two granite phases - attractive pink, quite homogeneous which is intruding grey greenish coloured rock more susceptible to weathering. Rock is processed by Margranite Industry Inc. into granite tile in Surrey. Production statistics are not available.

BIBLIOGRAPHY

EMPR OF 1994-1
GSC MAP 1712A; 41-1989
GSC MEM 38
WWW <http://www.ceramstone.com>

DATE CODED: 1993/02/22
DATE REVISED: 1996/11/13

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW160**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOPE**, HOPE GRANITE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092H06W
BC MAP:

Open Pit

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 22 18 N
LONGITUDE: 121 21 14 W

NORTHING: 5470077
EASTING: 619500

ELEVATION: 457 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry, 750 metres north of Highway 3, south of the Coquihalla River and about 6 kilometres east of the community of Hope. Access is from the ramp between Highway 3 and Highway 5, near the Nicolum Provincial Park. The site is part of the Ministry of Highways right-of-way.

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Tertiary

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The Hope occurrence is underlain by early Tertiary intrusions of granodioritic and intermediate composition.

The B.C. Granite company produces a medium grained grey granite stone product from its quarry. The stone has very wide fracture density of more than 2 metres between joints. The quarry face of approximately 3 by 7 metres exhibits numerous round-shaped inclusions of darker rock 5 to 20 centimetres in diameter. Production statistics are not available.

BIBLIOGRAPHY

EMPR OF 1994-1
GSC MAP 1712A; 41-1989
Falconbridge File
Falconbridge File

DATE CODED: 1993/02/22
DATE REVISED: 1996/11/13

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW161**

NATIONAL MINERAL INVENTORY:

NAME(S): **NO. 1, GIANT COPPER**

MINING DIVISION: New Westminster

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 10 14 N
LONGITUDE: 121 01 40 W
ELEVATION: 1550 Metres

NORTHING: 5448288
EASTING: 643756

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 1.75 kilometres southeast from the top of Silverdaisy Mountain (Assessment Report 18340).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite
COMMENTS: Minerals inferred from assays and AM deposit (092HSW001) association.
ALTERATION: Pyrite Biotite Tourmaline
ALTERATION TYPE: Deuteric
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Breccia Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic Igneous-contact
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Ladner	Undefined Formation	
Oligocene			Invermay Stock

LITHOLOGY: Argillite
Siltstone
Greywacke
Breccia
Felsic Tuff
Diorite
Granodiorite
Diorite Pyroxenite Dike
Hornfels

HOSTROCK COMMENTS: The Invermay stock is thought to be Oligocene. The undivided Ladner Group rock is Lower to Middle Jurassic (GSC Map 41-1989).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Methow
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1989	
SAMPLE TYPE: Drill Core		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	247.5400	Grams per tonne
Copper	0.6700	Per cent
Lead	2.6800	Per cent
Zinc	1.7600	Per cent

COMMENTS: Rotary drill material over a 27.4-metre interval.
REFERENCE: Assessment Report 19878.

CAPSULE GEOLOGY

The No. 1 prospect has been explored as part of the Giant Copper property (092HSW001, 2, 27), a property which straddles the Hozameen fault. West of the fault, the property is underlain by mafic volcanics and lesser sedimentary rocks of the Permian-Jurassic Hozameen Complex. East of the fault, it is underlain by younger sedimentary rocks of the Lower and Middle Jurassic Ladner Group. Both packages have been intruded by many plutons of early-middle Tertiary age.

The prospect is hosted in steeply dipping and tightly folded rocks of the Ladner Group, consisting mainly of argillites and

CAPSULE GEOLOGY

siltstones with minor greywacke and felsic tuff. Intruding this package is the Invermay stock, a medium-grained diorite to granodiorite body thought to be Oligocene in age. Numerous dikes and sills ranging from diorite to pyroxenite also intrude but pre-date the deformation and metamorphism.

Within the stock, deuteric alteration of the feldspars, hornblende and biotite is moderate to strong and accessory tourmaline is abundant. The argillites and siltstone have been strongly altered to pyritic biotite hornfels over an area several hundred metres wide surrounding the stock. The hornfels contains local concentrations of thin tourmaline veinlets containing minor pyrite and chalcopyrite.

The No. 1 occurrence is located in a breccia zone about 330 metres northeast of the AM deposit (092HSW001). It is very similar in terms of mineralization, hostrocks and geochemical signature to the AM and is thought to represent a faulted segment of that deposit (Exploration in B.C. 1989, page 93). Both occurrences are located within a few hundred metres of the Invermay stock, within the contact metamorphic halo. The No. 1 and most of the smaller breccia zones on the Giant Copper property are interpreted as explosive diatreme breccias related to the intrusion of the stock.

The No. 1 breccia, occurring within the Ladner sediments, typically contains low values in copper, lead, zinc, gold and silver. However, a 1989 rotary drilling program on the western portion of the breccia intersected a higher grade structure, possibly a vein. One interval yielded 0.67 per cent copper, 2.68 per cent lead, 1.76 per cent zinc, and 247.54 grams per tonne silver over 27.4 metres (Assessment Report 19878). This higher grade structure was reported to be open to the west.

BIBLIOGRAPHY

EMPR ASS RPT 18340, 19045, *19878
EMPR EXPL *1989-91-93
GSC BULL 238
GSC MAP 12-1969; 737A; 1069A; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/10/19

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 10:48:34

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1457
REPORT: RGEN0100

MINFILE NUMBER: **092HSW162**

NATIONAL MINERAL INVENTORY:

NAME(S): **CL**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 01 08 N
LONGITUDE: 121 23 59 W
ELEVATION: 760 Metres

NORTHING: 5430789
EASTING: 617002

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 400 metres up the east side Chilliwack Lake from the lakes head (Minister of Mines Annual Report 1930, page 315).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP
Oligocene

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Chilliwack Batholith

LITHOLOGY: Quartz Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

A wide belt of quartz porphyry, within the Oligocene Chilliwack batholith, contains scattered small patches and crystals of chalcopyrite.

BIBLIOGRAPHY

EMPR AR *1930-315
EMPR PF ((General File - Reports on proposed Sapper Park, J.T. Fyles, 1971))
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1985/07/24
DATE REVISED: 1994/11/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW162**

MINFILE NUMBER: **092HSW163**

NATIONAL MINERAL INVENTORY:

NAME(S): **TROOPER**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 07 41 N
LONGITUDE: 121 34 18 W
ELEVATION: 600 Metres

NORTHING: 5442674
EASTING: 604202

LOCATION ACCURACY: Within 500M

COMMENTS: Located at the eastern end of Foley Lake (Assessment Report 19699).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Sollicum Schist

LITHOLOGY: Dacite
Andesite
Argillite
Graphitic Phyllite
Microdiorite Dike
Serpentinized Ultramafic
Dacitic Andesitic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Undivided Metamorphic Assembl.

PHYSIOGRAPHIC AREA: Cascade Mountains

CAPSULE GEOLOGY

The area around Foley Lake is mapped by Monger as the Sollicum Schist, a metamorphic assemblage metamorphosed in the Cretaceous. At the Trooper showing, rocks are described as fine grained, green dacitic to andesitic tuffs interbedded with black argillites and graphitic phyllites. One microdiorite dike was observed as was a large fault-bound mass of serpentinized ultramafic rock.

Mineralization consists of disseminations and clots of pyrrhotite with lesser amounts of chalcopyrite at two localities at the eastern end of Foley Lake.

BIBLIOGRAPHY

EMPR ASS RPT *19699
EMPR FIELDWORK 1985, pp. 95-97
GSC MAP 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1994/11/16
DATE REVISED: 1995/04/20

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW164**

NATIONAL MINERAL INVENTORY:

NAME(S): **WR**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H05W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 26 N
LONGITUDE: 121 51 37 W
ELEVATION: 250 Metres

NORTHING: 5465940
EASTING: 582792

LOCATION ACCURACY: Within 500M

COMMENTS: Location of the galena showing (Assessment Report 4375).

COMMODITIES: Zinc Copper Lead

MINERALS

SIGNIFICANT: Sphalerite Malachite Galena
ALTERATION: Pyrite Limonite Malachite
ALTERATION TYPE: Pyrite Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Dacite
Dacitic Flow
Dacitic Flow Breccia
Tuff
Tuff Breccia
Breccia
Cherty Dacite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Harrison

PHYSIOGRAPHIC AREA: Fjord Ranges (Southern)

CAPSULE GEOLOGY

The area of the WR occurrence is underlain by rocks of the Lower to Middle Jurassic Harrison Lake Formation. In the property area, these consist of massive dacitic flows and flow breccias, minor breccia, tuff breccia and tuff, and cherty fractured limonitic dacite.

Alteration and pyritization in the WR area are reported to increase northeastwards. Other than pyrite, mineralization is sparse, consisting of some very thin veinlets containing minor sphalerite, two small patches of malachite staining and one location where a specimen contained fine-grained galena (Assessment Report 4375).

BIBLIOGRAPHY

EMPR ASS RPT *4375
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EMPR GEM 1973-129
GSC P 69-47; 86-1B, pp. 715-720; 12-1969; 737A; 1069A; 41-1989
Arthur, A.J. (1987): Mesozoic Stratigraphy and Paleontology of the West Side of Harrison Lake, Southwest British Columbia, M.Sc. Thesis, University of British Columbia, Dec. 1987
Crickmay, C.H. (1962): Gross Stratigraphy of the Harrison Lake Area, British Columbia, Evelyn de Mille Books, Calgary, Alberta, p. 12
Ray, G.E. et. al. (1985): Precious Metal Mineralization in Southwest British Columbia, Field Guides to Geology and Mineral Deposits in the South Canadian Cordillera, GAC Section Meeting, Vancouver, British Columbia, May 1985

DATE CODED: 1995/01/12
DATE REVISED: 1995/03/30

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW165**

NATIONAL MINERAL INVENTORY:

NAME(S): **FLEETWOOD, 33, SENECA,**
AGASSIZ-WEAVER, DOROTHY, I AM,
EARL, TAKI, CAROL,
LUCKY JIM

MINING DIVISION: New Westminster

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092H05W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 20 10 N
 LONGITUDE: 121 58 43 W
 ELEVATION: 200 Metres

NORTHING: 5465322
 EASTING: 574202

LOCATION ACCURACY: Within 500M

COMMENTS: Location of drillholes 92-39 and 92-40 in the 33 zone (Assessment Report 22915). The 33 zone occurs within a few hundred metres to the west of the Fleetwood zone which are here treated as one occurrence.

COMMODITIES: Zinc Copper Lead Gold

MINERALS

SIGNIFICANT: Sphalerite Pyrite Chalcopyrite Galena
 ASSOCIATED: Quartz Anhydrite Carbonate Chlorite Barite
 ALTERATION: Silica Sericite Chlorite Carbonate
 ALTERATION TYPE: Silicific'n Sericitic
 MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stockwork Massive Stratiform Stratabound
 CLASSIFICATION: Volcanogenic Syngenetic Hydrothermal
 TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Undefined Group	Harrison Lake	

LITHOLOGY: Dacite
 Volcaniclastic
 Felsic Lava
 Rhyolite
 Volcaniclastic Breccia
 Dacite Porphyry
 Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Fiord Ranges (Southern)
 TERRANE: Harrison
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Zeolite

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1992
 SAMPLE TYPE: Drill Core
 COMMODITY GRADE
 Gold 4.0000 Grams per tonne
 Copper 2.2000 Per cent
 Zinc 28.0000 Per cent

COMMENTS: From a 2 metre massive sulphide drill intersection in the 33 zone.
 REFERENCE: Assessment Report 22915, page 7.

CAPSULE GEOLOGY

The Fleetwood and 33 zones are located 3 kilometres northwest of the Seneca deposit (092HSW013) along the east side of the Chehalis River, about 9 kilometres north of Harrison Mill, British Columbia. The area of the Seneca deposit and its related occurrences the Vent (092HSW139) and the Fleetwood/33 zones are underlain primarily by volcanic rocks of the Lower to Middle Jurassic Harrison Lake Formation. McKinley et al. (1995) subdivided the stratigraphy into three principal volcanic facies as follows:
 1) Facies 1 - Lavas (vent-proximal facies) consist of basaltic to rhyolitic composition flows, domes and associated in situ hyaloclastites and autoclastic breccias
 2) Facies 2 - Volcaniclastic rocks (vent-proximal to distal)

CAPSULE GEOLOGY

facies) consist of juvenile to reworked coarse volcanic breccia and tuffs to fine-grained siltstone
3) Facies 3 - Synvolcanic intrusions consist of basaltic to rhyolitic sills and dikes that have intruded lavas and volcaniclastic sediments
A fourth facies consists of an argillite that often contains flattened pumice clasts and is often in close proximity to mineralization. This fourth facies is restricted to the main Seneca deposit, also referred to as the Pit area, and does not correlate across the property.

In general, the strata on the property strike approximately northwest and are essentially flat lying or moderately east dipping. The stratigraphy has undergone very little deformation or metamorphism and retains pristine volcanic textures. Metamorphic grade in the area is zeolite facies.

Three types of mineralized zones are present in the Seneca area:

- 1) Conformable massive sulphide lenses
- 2) Semimassive and disseminated sulphides associated with volcaniclastic rocks
- 3) Stockwork and stringer mineralized zones

Stockwork and stringer sulphides are the dominant style of mineralization in the Fleetwood zone. A drillhole intersected 1.1 metres of massive sphalerite, pyrite and chalcocopyrite, immediately above about 30 metres of stockwork sphalerite-pyrite-chalcocopyrite-quartz-anhydrite veinlets in altered dacite and fine volcaniclastics similar to the Vent zone. Shorter intersections of similar stockwork mineralization occur in drillholes between the Fleetwood and Vent zones. All the mineralized zones in the Fleetwood area occur at the same stratigraphic level and have similar lithologic associations. The stockwork zones are most commonly hosted by felsic lavas and autobreccias which immediately overlie mafic lavas and reworked mafic-dominated volcaniclastic rocks, and which occur below the fine grained volcaniclastic rocks. These overlying fine volcaniclastics are essentially unmineralized and unaltered except for occasional fine sulphide laminations. The mineralized zones are often associated with narrow fault zones and moderate to strong, fine anhydrite veining.

Conformable, stratabound lenses of semimassive sphalerite, pyrite and chalcocopyrite with lesser galena are exhibited chiefly in the main Seneca deposit or Pit area, but also to a lesser degree in the 33 zone of the Fleetwood area. The sulphides are hosted by fragmental rocks and occur as discontinuous pods. In the 33 zone, a 2 metre intersection of massive sulphides is underlain by a quartz-carbonate-chlorite zone and a dacite porphyry intrusion, and is sharply overlain by a cherty sulphide layer and a zone of strongly chloritized fragmental material. Blades of barite are intergrown with the sulphides. A drillhole intercept of 2 metres of massive sulphide at 170 metres depth analysed 2.2 per cent copper, 28 per cent zinc and 4 grams per tonne gold (Assessment Report 22915, page 7).

Generally, most of the rocks at the Seneca occurrences are relatively unaltered, exhibiting pristine preservation of volcanic textures. Macroscopically recognizable alteration is restricted to the Vent and Fleetwood zones where it is characterized by intense silicification and sericitization associated with massive to flow banded and flow brecciated dacite porphyry. The stockwork veining is restricted to the dacites but alteration extends 10 to 20 metres into the surrounding fragmental rocks, obliterating original textures.

BIBLIOGRAPHY

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EMPR ASS RPT 2833, 2998, 5233, 5476, 5627, 6058, 6135, 6328, 6453, 7053, 7632, 9844, 10894, 12322, *14668, *15459, *15734, 17496, 18261, 20289, 21015, 22171, 22915, 23417, 24318
EMPR EXPL 1975-E62; 1976-E77; 1977-E122; 1978-E141; 1982-165; 1983-234; 1986-C201,202
EMPR FIELDWORK 1984, pp. 120-131; 1985, pp. 95-97; *1993, pp. 345-350
*1994, pp. 503-512
EMPR GEM 1971-265; *1972-102-114; *1973-125-128; 1974-102
EMPR MAP 65 (1989)
EMPR OF 1992-1; 1999-2
EMR MIN BULL MR 223 B.C. 111
EMR MP CORPFILE (Zenith Mining Corporation Ltd.; Chevron Standard Ltd.)
GSC EC GEOL Vol.60, No.5 (1965), p. 955
GSC MAP 12-1969; 737A; 41-1989
GSC MEM 335, p. 276
GSC P 69-47, p. 67; 86-1B, pp. 715-720

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#224, 1986; #116(Jun.15), 1990; #44(Mar.4),#157(Aug.15),
#186(Sept.26),#215(Nov.7), 1991; #72(Apr.10),#112(June 10), 1992
GSA Vol.72 (1961), p. 1409
N MINER Mar.18,Jun.3, 1976; Feb.3, 1986; Aug.5, Sept.9, Oct.7, 1991;
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Arthur, A.J. (1987): Mesozoic Stratigraphy and Paleontology of the
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DATE CODED: 1995/01/15
DATE REVISED: 1997/07/30

CODED BY: GJP
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092HSW166**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVERTIP**, ALLISON PASS

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092H03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 49 10 26 N
LONGITUDE: 121 14 23 W
ELEVATION: 1524 Metres

NORTHING: 5448278
EASTING: 628299

LOCATION ACCURACY: Within 500M

COMMENTS: The approximate location of an abandoned drillhole (Assessment Report 23026).

COMMODITIES: Zinc Lead Copper Silver

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Galena
COMMENTS: Mineralization occurs in three distinct modes.
ASSOCIATED: Pyrite Pyrrhotite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn
DIMENSION: 183 x 4 Metres STRIKE/DIP:
COMMENTS: Surface showings have been traced for 183 metres and sampled across 4.33 metres width. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Hozameen Undefined Formation

LITHOLOGY: Cherty Argillite
Tuff
Chert
Greenstone
Limestone

HOSTROCK COMMENTS: The Hozameen Complex is Permian to Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1965
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 20.5800 Grams per tonne
Copper 0.0500 Per cent
Lead 1.1800 Per cent
Zinc 0.9300 Per cent

COMMENTS: The reported results over 2.44 metres from drillhole 1A, drilled between 1965 and 1966 by Allison Pass Mining Ltd.
REFERENCE: Assessment Report 23026.

CAPSULE GEOLOGY

The Silvertip showing is located in the southern headwaters of the Sumallo River, 1.5 kilometres northeast of Mount Rideout and 2 kilometres northwest of Silvertip Mountain (Assessment Report 23026). Mineralization was apparently discovered in the Silvertip showing area in the early 1960s. A diamond drilling program was carried out between 1965 and 1966 by Allison Pass Mining Ltd. Two holes were drilled for a total length of 405 metres. Suecon Development Corp. evaluated the property in 1983 and 1984. In 1993, A.E. Angus staked the Silvertip claim and requested the services of W.C. Day to conduct geochemical sampling and prospecting on the property. The Silvertip showing is underlain by the Hozameen Group, composed predominantly of ribbon chert, greenstone, tuff, limestone

CAPSULE GEOLOGY

and argillite.

Mineralization at the Silvertip showing consists of sphalerite and lesser chalcopyrite and galena occurring in three distinct modes. Layered cherty argillite carries pyrrhotite, sphalerite, chalcopyrite and minor magnetite along bedding? planes. Tuffs host up to 2 per cent disseminated magnetite with fracture fillings and blebs of chalcopyrite and pyrite. The last mode of mineralization consists of brecciated tuff healed with pyrrhotite, magnetite and minor chalcopyrite.

Several samples (samples 48654, 48657, 48658, 48661 and 48663) yielded greater than 2 per cent zinc (Assessment Report 23026). Sample 48660 yielded greater than 2 per cent lead, 1.88 per cent zinc and greater than 50 grams per tonne silver (Assessment Report 23026). Sample 48655 yielded the highest copper value of 0.09 per cent copper (Assessment Report 23026).

Surface showings were reported traced for 183 metres. A surface sample (sample 17) across 4.88 metres was reported to have yielded 3.42 per cent zinc, 0.1 per cent lead and 0.08 per cent copper

The results of samples from two drillholes indicated significant mineralization intersected at depth. Drillhole 1A yielded 1.18 per cent lead, 0.93 per cent zinc, 20.58 grams per tonne silver and 0.05 per cent copper over 2.44 metres (Assessment Report 23026). Drillhole 2A yielded 0.28 per cent lead, 0.07 per cent zinc and 0.7 per cent copper over 30.48 metres (Assessment Report 23026).

BIBLIOGRAPHY

EMPR ASS RPT *23026
EMPR OF 1999-2; 1999-14
GSC BULL 238
GSC MAP 56A; 737A; 1069A; 12-1969; 41-1989
GSC P 69-47

DATE CODED: 1997/07/30
DATE REVISED: 1997/11/20

CODED BY: KJM
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
 RUN TIME: 10:55:48

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 1
 REPORT: RGEN0200

MINFILE NUMBER: 092HNE014		NAME: RABBITT		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>	
1941	45	45	Silver	1,120		
			Gold	1,400		
1940	1,235	1,235	Silver	16,298		
			Gold	28,739		
1939	19	19	Silver	746		
			Gold	2,737		
1938	5	5	Gold	640		

SUMMARY TOTALS: 092HNE014

NAME: **RABBITT**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,304 tonnes	1,437 tons
Milled:	1,304 tonnes	1,437 tons
Silver:	18,164 grams	584 ounces
Gold:	33,516 grams	1,078 ounces

Recovery:

Comments:

1938: Geological Survey of Canada Memoir 243, page 99.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092HNE022** NAME: **EL ALAMEIN** 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			Silver	560	
			Gold	2,986	
1950	1	1	Gold	2,022	
1949			Silver	218	
			Gold	1,244	

SUMMARY TOTALS: 092HNE022

NAME: **EL ALAMEIN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1 tonnes	1 tons
Milled:	1 tonnes	1 tons
Recovery:		
Silver:	778 grams	25 ounces
Gold:	6,252 grams	201 ounces

Comments:

1951: No record of ore milled or mined.
 1950: Ore milled: 0.236 tonnes (Minister of Mines Annual Report 1950).
 1949: No record of ore milled or mined.

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MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 3
REPORT: RGEN0200

MINFILE NUMBER: 092HNE023	NAME: TOTEM POLE	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1916	25	25	Silver Copper	746	1,011

SUMMARY TOTALS: 092HNE023

	NAME: TOTEM POLE	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 25 tonnes	28 tons
	Milled: 25 tonnes	28 tons
Recovery:	Silver: 746 grams	24 ounces
	Copper: 1,011 kilograms	2,229 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNE036	NAME: COPPER STAR	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1915	41	41
		Commodity
		Silver Copper
		Grams Recovered
		3,076
		Kilograms Recovered
		3,550

SUMMARY TOTALS: 092HNE036

NAME: **COPPER STAR**

		<u>Metric</u>		<u>Imperial</u>
Mined:	41	tonnes	45	tons
Milled:	41	tonnes	45	tons
Recovery:	Silver:	3,076	grams	99
	Copper:	3,550	kilograms	7,826
				ounces pounds

Comments: 1915: Hand-sorted ore (Minister of Mines Annual Report 1915).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>092HNE047</u>	NAME:	<u>BRENDA</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>
1990	4,281,870	4,281,870	Silver	3,326,932	
			Gold	50,978	
			Copper		6,183,110
			Molybdenum		1,262,692
1989	11,562,626	11,562,626	Silver	8,681,935	
			Gold	147,425	
			Copper		16,373,520
			Molybdenum		3,275,369
1988	11,286,146	11,286,146	Silver	9,229,595	
			Gold	142,123	
			Copper		18,133,120
			Molybdenum		3,368,315
1987	10,500,400	10,291,405	Silver	8,963,675	
			Gold	134,837	
			Copper		17,725,664
			Molybdenum		4,361,280
1986	10,322,720	10,203,918	Silver	9,151,163	
			Gold	131,085	
			Copper		16,996,076
			Molybdenum		4,361,280
1985	3,006,313	3,006,313	Silver	2,488,182	
			Gold	34,229	
			Copper		4,692,860
			Molybdenum		1,926,185
1984	6,109,067	6,109,067	Silver	4,488,838	
			Gold	79,505	
			Copper		7,790,650
			Molybdenum		2,755,942
1983	8,185,403	8,185,403	Silver	5,883,743	
			Gold	99,798	
			Copper		9,831,329
			Molybdenum		2,250,143
1982	9,484,562	9,484,562	Silver	5,783,839	
			Gold	91,457	
			Copper		10,690,976
			Molybdenum		2,473,945
1981	10,199,317	10,199,317	Silver	5,877,521	
			Gold	102,452	
			Copper		11,225,206
			Molybdenum		3,134,312
1980	9,126,860	9,126,860	Silver	4,816,579	
			Gold	77,494	
			Copper		9,152,418
			Molybdenum		1,855,166
1979	9,286,700	9,075,723	Silver	5,727,844	
			Gold	101,289	
			Copper		10,626,562
			Molybdenum		2,536,180
1978	10,002,567	9,995,736	Silver	7,140,191	
			Gold	111,629	
			Copper		14,072,630
			Molybdenum		3,310,663
1977	9,806,253	9,634,421	Silver	8,017,576	
			Gold	102,080	
			Copper		16,133,570
			Molybdenum		3,866,503
1976	10,182,642	10,047,565	Silver	7,891,360	
			Gold	123,697	
			Copper		14,562,834
			Molybdenum		3,705,953
1975	9,324,813	9,115,839	Silver	7,872,511	
			Gold	125,718	
			Copper		15,101,190
			Molybdenum		4,074,073
1974	8,863,149	8,663,195	Silver	9,017,226	
			Gold	138,315	
			Copper		17,699,681
			Molybdenum		3,214,459
1973	8,137,314	8,044,695	Silver	8,075,210	
			Gold	108,767	
			Copper		15,465,648

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MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

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MINFILE NUMBER: <u>092HNE047</u>		NAME: <u>BRENDA</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>	
1973	8,137,314	8,044,695	Molybdenum		5,037,531	
1972	8,102,206	8,621,106	Silver	8,911,289		
			Gold	132,810		
			Copper		15,209,576	
			Molybdenum		6,078,002	
1971	8,038,068	8,153,017	Silver	10,431,728		
			Gold	155,017		
			Copper		16,813,998	
			Molybdenum		2,180,226	
1970	6,831,495	6,646,508	Silver	6,268,779		
			Gold	91,163		
			Copper		11,746,486	
			Molybdenum		2,900,490	

SUMMARY TOTALS: 092HNE047

NAME: BRENDA

	<u>Metric</u>	<u>Imperial</u>
Mined:	182,640,491 tonnes	201,326,677 tons
Milled:	181,735,292 tonnes	200,328,866 tons
Recovery:		
Silver:	148,045,716 grams	4,759,773 ounces
Gold:	2,281,868 grams	73,364 ounces
Copper:	276,227,104 kilograms	608,976,350 pounds
Molybdenum:	67,928,709 kilograms	149,757,126 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 10:55:48

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0200

MINFILE NUMBER: 092HNE064	NAME: ST. GEORGE (L.259)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1916	27	27	Silver	14,494	
			Gold	933	
			Copper		394

SUMMARY TOTALS: 092HNE064

NAME: **ST. GEORGE (L.259)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	27 tonnes	30 tons
Milled:	27 tonnes	30 tons
Recovery:		
Silver:	14,494 grams	466 ounces
Gold:	933 grams	30 ounces
Copper:	394 kilograms	869 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 10:55:48

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0200

MINFILE NUMBER:	092HNE072	NAME:	GOLDEN SOVEREIGN (L.1528)	STATUS:	Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1916	9	9	Copper		454
SUMMARY TOTALS: 092HNE072		NAME:	GOLDEN SOVEREIGN (L.1528)		
		<u>Metric</u>		<u>Imperial</u>	
	Mined:	9 tonnes		10 tons	
	Milled:	9 tonnes		10 tons	
Recovery:	Copper:	454 kilograms		1,001 pounds	

RUN DATE: 26-Jun-2003
RUN TIME: 10:55:48

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0200

MINFILE NUMBER: 092HNE073	NAME: <u>BIG SIOUX</u>	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1918	44	44	Silver Copper	2,986	4,301

SUMMARY TOTALS: 092HNE073

	NAME: <u>BIG SIOUX</u>	
	<u>Metric</u>	<u>Imperial</u>
	44 tonnes	49 tons
	44 tonnes	49 tons
Recovery:	Silver: 2,986 grams	96 ounces
	Copper: 4,301 kilograms	9,482 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 10:55:48

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0200

MINFILE NUMBER: 092HNE092	NAME: SHAMROCK	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1929	27	27	Silver Copper	218	1,552

SUMMARY TOTALS: 092HNE092

	NAME: SHAMROCK
	<u>Metric</u>
	27 tonnes
	27 tonnes
Recovery:	218 grams
	1,552 kilograms
	<u>Imperial</u>
	30 tons
	30 tons
	7 ounces
	3,422 pounds

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNE094	NAME: COLLINS GULCH	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1951	207	207	Coal		206,838

SUMMARY TOTALS: 092HNE094

NAME: **COLLINS GULCH**

Metric Imperial

Mined: 207 tonnes 228 tons
Milled: 207 tonnes 228 tons

Recovery:

Coal: 206,838 kilograms 456,000 pounds

Comments:

1951: Minister of Mines Annual Report 1951, page 249.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092HNE096** NAME: **ELK** 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>
1995	1,840		Silver	185,000	
			Gold	118,400	
1994	10,400	10,400	Silver	1,220,000	
			Gold	932,000	
1993	3,850	3,850	Silver	498,000	
			Gold	404,000	
1992	480	480	Gold	64,377	

SUMMARY TOTALS: 092HNE096

NAME: **ELK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	16,570 tonnes	18,265 tons
Milled:	14,730 tonnes	16,237 tons
Silver:	1,903,000 grams	61,183 ounces
Gold:	1,518,777 grams	48,830 ounces

Recovery:

Comments:

1995: Bulk Sampling (Information Circular 1997-1, page 21).
 1994: Bulk sampling (Information Circular 1996-1, page 18).
 1993: Information Circular 1995-1, page 15.
 1992: Bulk sample shipment (Northern Miner - November 23, 1992).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNE165	NAME: RENFREW	STATUS: Prospect
Production Year	Tonnes Mined	Tonnes Milled
1926	24	24
		Commodity
		Silver
		Gold
		Lead
		Grams Recovered
		105,099
		93
		Kilograms Recovered
		716

SUMMARY TOTALS: 092HNE165

	NAME: RENFREW	
	<u>Metric</u>	<u>Imperial</u>
Mined:	24 tonnes	26 tons
Milled:	24 tonnes	26 tons
Recovery:		
Silver:	105,099 grams	3,379 ounces
Gold:	93 grams	3 ounces
Lead:	716 kilograms	1,579 pounds
Comments:		
1926:	Minister of Mines Annual Report 1927, page 247.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNE192	NAME: BEAR CREEK PLACER	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1886	1	
		Commodity
		Gold
		Grams Recovered
		1,800
		Kilograms Recovered

SUMMARY TOTALS: 092HNE192

NAME: **BEAR CREEK PLACER**

	Mined:	1 tonnes	1 tons
Recovery:	Milled:	tonnes	tons
	Gold:	1,800 grams	58 ounces
Comments:	1886:	Minister of Mines Annual Report 1886, Table 1.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNE193		NAME: BOULDER CREEK PLACER		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>
1900	1		Gold	340	
1893	1		Gold	440	
1892	1		Gold	1,200	
1891	1		Gold	1,750	
1890	1		Gold	3,500	
1889	1		Gold	6,700	
1888	1		Gold	14,000	
1887	1		Gold	2,500	
1886	1		Gold	1,800	

SUMMARY TOTALS: 092HNE193

NAME: **BOULDER CREEK PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	9 tonnes	10 tons
Milled:	tonnes	tons
Gold:	32,230 grams	1,036 ounces

Recovery:

Comments:

1900: Bulletin 28, page 55. Production for 1896 to 1900.
 1893: Minister of Mines Annual Reports 1893-1886, Table 1.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNE194	NAME: CEDAR CREEK PLACER	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1886	1	
		Commodity
		Gold
		Grams Recovered
		1,800
		Kilograms Recovered

SUMMARY TOTALS: 092HNE194

NAME: **CEDAR CREEK PLACER**

	Mined:	1 tonnes	1 tons
Recovery:	Milled:	tonnes	tons
	Gold:	1,800 grams	58 ounces
Comments:	1886:	Minister of Mines Annual Report 1886, Table 1.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092HNE195** NAME: **COLLINS GULCH PLACER** 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>
1890	1		Gold	350	
1889	1		Gold	880	
1888	1		Gold	1,750	
1886	1		Gold	3,660	

SUMMARY TOTALS: 092HNE195

NAME: **COLLINS GULCH PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4 tonnes	4 tons
Milled:	tonnes	tons
Gold:	6,640 grams	213 ounces

Recovery:

Comments:

1890: Minister of Mines Annual Reports 1890-1886, Table 1.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNE198		NAME: SLATE CREEK PLACER		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>
1900	1		Gold	4,600	
1894	1		Gold	4,800	
1892	1		Gold	2,600	
1891	1		Gold	4,400	
1890	1		Gold	4,400	
1889	1		Gold	4,400	
1888	1		Gold	3,500	
1887	1		Gold	3,600	
1886	1		Gold	5,500	

SUMMARY TOTALS: 092HNE198

NAME: **SLATE CREEK PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	9 tonnes	10 tons
Milled:	tonnes	tons
Gold:	37,800 grams	1,215 ounces

Recovery:

Comments:

1900: Bulletin 28, page 55. Production for 1896 to 1900.
 1894: Minister of Mines Annual Reports 1894-1886, Table 1.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	092HNE199		NAME:	TULAMEEN RIVER PLACER		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	1		Gold	7,455			
1941	760		Gold	1,534			
			Platinum	420			
1940	1		Gold	2,740			
1935	1		Gold	2,150			
1932	1		Platinum	1,560			
1928	1		Gold	435			
			Platinum	1,590			
1927	1		Gold	156			
			Platinum	930			
1926	1		Gold	930			
			Platinum	2,600			
1925	1		Gold	7,300			
1920	1		Gold	1,460			
1916	1,500		Gold	620			
1915	1		Gold	6,660			
1910	1		Gold	30			
1900	1		Gold	4,900			
1895	1		Gold	13,350			
1894	1		Gold	400			
1893	1		Gold	13,150			
1892	1		Gold	14,000			
1891	1		Gold	7,000			
1890	1		Gold	10,500			
1889	1		Gold	26,300			
1888	1		Gold	14,000			
1887	1		Gold	21,650			
1886	1		Gold	27,400			
1885	1		Gold	113,000			

SUMMARY TOTALS: 092HNE199

NAME: **TULAMEEN RIVER PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,283 tonnes	2,517 tons
Milled:	tonnes	tons
Gold:	297,120 grams	9,553 ounces
Platinum:	7,100 grams	228 ounces

Comments:

- 1945: Bulletin 28, page 55. Production for 1942 to 1945.
- 1941: Minister of Mines Annual Report 1941, page 140.
- 1940: Bulletin 28, page 55. Production is for 1936 to 1940.
- 1935: Bulletin 28, page 55. Production is for 1931 to 1935.
- 1932: Minister of Mines Annual Report 1932, page 140.
- 1928: Minister of Mines Ann Rpt 1928, p. 271; N.C. Stines, 1929, p. 26.
- 1927: N.C. Stines, 1929, page 26.
- 1926: Minister of Mines Ann Rpt 1926, p. 230; N.C. Stines 1929, p. 26.
- 1925: Bulletin 28, page 55. Production is for 1921 to 1925.
- 1920: Bulletin 28, page 55. Production is for 1917 to 1920.
- 1916: Minister of Mines Ann Rpt 1916, p. 261. Ore mined is cubic metres.
- 1915: Bulletin 28, page 55. Production for 1911 to 1915.
- 1910: Bulletin 28, page 55. Production for 1906 to 1910.
- 1900: Bulletin 28, page 55. Production for 1896 to 1900.
- 1895: Minister of Mines Annual Reports 1895-1885, Table 1.

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MINFILE NUMBER: 092HNW002	NAME: GISBY (L.1078)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1923	91		Talc		91,000

SUMMARY TOTALS: 092HNW002

NAME: **GISBY (L.1078)**

<u>Metric</u>		<u>Imperial</u>
91 tonnes		100 tons
Milled:		tons

Recovery:

Talc:	91,000 kilograms	200,621 pounds
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Comments:

1923: Open File 1988-19.

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MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
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REPORT: RGEN0200

MINFILE NUMBER: **092HNW003** NAME: **AURUM MINE** 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>
1942	181	181	Gold	280	
1939	227	227	Gold	2,799	
1932	7		Silver	124	
			Gold	404	
1931	20		Silver	156	
			Gold	1,120	
1930	59		Silver	2,737	
			Gold	11,975	

SUMMARY TOTALS: 092HNW003

NAME: **AURUM MINE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	494 tonnes	545 tons
Milled:	408 tonnes	450 tons
Recovery:		
Silver:	3,017 grams	97 ounces
Gold:	16,578 grams	533 ounces

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **092HNW007** NAME: **LADNER 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>
1988			Silver	2,728	
			Gold	12,462	
1984	327,110	292,560	Silver	34,479	
			Gold	576,471	
1983	387,922	346,949	Silver	62,746	
			Gold	597,443	
1982	303,393	262,057	Silver	12,493	
			Gold	275,806	

SUMMARY TOTALS: 092HNW007

NAME: **LADNER CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,018,425 tonnes	1,122,621 tons
Milled:	901,566 tonnes	993,806 tons
Recovery:	Silver: 112,446 grams	3,615 ounces
	Gold: 1,462,182 grams	47,010 ounces

Comments: 1988: Custom ore from tailings (tonnage unknown).

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MINFILE NUMBER:	092HNW008	NAME:	MONTANA	STATUS:	Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1925	2		Gold	1,151	
SUMMARY TOTALS: 092HNW008		NAME:	MONTANA		
		<u>Metric</u>		<u>Imperial</u>	
	Mined:	2 tonnes		2 tons	
	Milled:	tonnes		tons	
Recovery:	Gold:	1,151 grams		37 ounces	

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MINFILE NUMBER: <u>092HNW011</u>		NAME: <u>PIPESTEM</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>	
1937	318		Silver	187		
			Gold	1,275		
			Copper			13
1936	953		Silver	746		
			Gold	5,070		
			Copper			27
1935	227		Silver	218		
			Gold	2,115		
			Copper			15

SUMMARY TOTALS: 092HNW011

NAME: PIPESTEM

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,498 tonnes	1,651 tons
Milled:		
Recovery:		
Silver:	1,151 grams	37 ounces
Gold:	8,460 grams	272 ounces
Copper:	55 kilograms	121 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HNW015	NAME: WARD	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1905	1	
		Commodity
		Gold
		Grams Recovered
		4,199
		Kilograms Recovered

SUMMARY TOTALS: 092HNW015

	NAME: WARD	
	<u>Metric</u>	<u>Imperial</u>
Mined:	1 tonnes	1 tons
Milled:	tonnes	tons
Recovery:		
Gold:	4,199 grams	135 ounces
Comments:		
1905:	Unknown quantity of ore (Bulletin 79).	

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HNW030	NAME: PROVIDENCE (L.1737)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1896	91		Gold	4,665	

SUMMARY TOTALS: 092HNW030

	NAME: PROVIDENCE (L.1737)	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 91 tonnes	100 tons
	Milled: tonnes	tons
Recovery:	Gold: 4,665 grams	150 ounces

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HNW036	NAME: GEORGIA NO. 2	STATUS: Prospect
Production Year	Tonnes Mined	Tonnes Milled
1925	1	
		Commodity
		Gold
		Grams Recovered
		1,151
		Kilograms Recovered

SUMMARY TOTALS: 092HNW036

NAME: **GEORGIA NO. 2**

	<u>Metric</u>		<u>Imperial</u>
Mined:	1 tonnes	1 tons	tons
Milled:	tonnes	tons	tons
Recovery:			
	Gold:	1,151 grams	37 ounces
Comments:			
	1925:	Ministry of Mines Annual Report 1925, page A167	

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MINFILE NUMBER: 092HNW043	NAME: SIWASH CREEK	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1911	1		Gold	529	

SUMMARY TOTALS: 092HNW043

	NAME: SIWASH CREEK	
	<u>Metric</u>	<u>Imperial</u>
Mined:	1 tonnes	1 tons
Milled:	tonnes	tons
Recovery:	Gold: 529 grams	17 ounces
Comments:	1911: From Bulletin 28, page 42. Actual production date(s) unknown.	

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MINFILE NUMBER: **092HNW062** NAME: **SADDLE ROCK** 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	113		Limestone		113,398
1937	132		Limestone		132,449

SUMMARY TOTALS: 092HNW062

NAME: **SADDLE ROCK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	245 tonnes	270 tons
Milled:		
Recovery: Limestone:	245,847 kilograms	542,000 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: <u>092HSE001</u>		NAME: <u>SIMILCO</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>	
1996	10,853,451	6,489,393	Silver	2,673,126		
			Gold	915,126		
			Copper		18,429,472	
1995	15,341,782	8,126,584	Silver	2,972,071		
			Gold	736,593		
			Copper		17,097,802	
1994	2,756,027	2,752,398	Silver	1,021,096		
			Gold	229,917		
			Copper		5,359,766	
1993	13,442,449	6,747,128	Silver	11,582,044		
			Gold	441,732		
			Copper		23,670,547	
1992	6,124,132	7,377,408	Silver	9,781,740		
			Gold	498,869		
			Copper		25,757,591	
1991	3,938,000	3,859,454	Silver	5,702,947		
			Gold	236,915		
			Copper		14,486,107	
1990	6,750,340	6,750,340	Silver	9,693,710		
			Gold	423,536		
			Copper		25,590,729	
1989	7,508,777	7,508,777	Silver	12,406,000		
			Gold	511,092		
			Copper		26,310,097	
1988	7,278,145	7,189,690	Silver	12,685,957		
			Gold	524,529		
			Copper		27,195,638	
1987	6,974,560	6,974,560	Silver	12,352,964		
			Gold	448,668		
			Copper		23,803,935	
1986	6,876,042	6,876,042	Silver	12,006,533		
			Gold	419,679		
			Copper		23,664,723	
1985	6,881,099	6,881,099	Silver	8,294,240		
			Gold	539,708		
			Copper		23,902,186	
1984	6,516,307	6,516,307	Silver	6,435,247		
			Gold	526,489		
			Copper		21,677,799	
1983	6,850,166	6,850,166	Silver	5,687,955		
			Gold	613,018		
			Copper		21,577,679	
1982	6,704,021	6,704,021	Silver	5,383,576		
			Gold	623,563		
			Copper		22,098,129	
1981	6,868,587	6,868,587	Silver	4,527,422		
			Gold	837,648		
			Copper		23,146,864	
1980	6,612,035	6,612,035	Silver	4,860,882		
			Gold	1,168,495		
			Copper		26,258,573	
1962	26	26	Silver	871		
			Gold	93		
			Copper		2,351	
1960	37	37	Silver	7,309		
			Gold	16,733		
			Copper		8,264	
1959	99	99	Silver	15,614		
			Gold	560		
			Copper		27,242	
1958	98	98	Silver	4,790		
			Gold	13,716		
			Copper		3,848	
1957	515,284	515,284	Silver	1,163,066		
			Gold	81,365		
			Copper		3,235,788	
1956	1,753,754	1,753,754	Silver	4,091,320		
			Gold	197,597		
			Copper		9,092,771	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE001		NAME: SIMILCO		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>	
1955	1,784,422	1,784,422	Silver Gold Copper	4,823,795 215,544	9,638,733	
1954	1,696,774	1,696,774	Silver Gold Copper	5,441,750 247,580	11,072,549	
1953	1,645,431	1,645,431	Silver Gold Copper	5,678,506 226,679	11,578,327	
1952	1,589,110	1,589,110	Silver Gold Copper	5,267,853 246,429	11,204,616	
1951	1,628,281	1,579,288	Silver Gold Copper	5,360,011 247,176	11,781,571	
1950	1,632,790	1,587,532	Silver Gold Copper	5,663,701 272,151	11,786,694	
1949	1,636,477	1,573,294	Silver Gold Copper	8,407,016 383,344	16,506,358	
1948	1,547,308	1,499,595	Silver Gold Copper	6,252,792 268,543	12,300,953	
1947	1,209,701	1,172,387	Silver Gold Copper	4,894,555 165,281	9,858,331	
1946	542,202	524,052	Silver Gold Copper	2,367,436 77,353	4,820,774	
1945	713,067	712,707	Silver Gold Copper	2,904,616 143,727	6,474,963	
1944	1,250,585	1,254,898	Silver Gold Copper	4,835,521 183,321	10,278,718	
1943	1,238,301	1,236,800	Silver Gold Copper	5,124,033 207,799	10,584,944	
1942	1,544,490	1,546,971	Silver Gold Copper	6,792,087 267,735	14,710,057	
1941	1,599,819	1,597,214	Silver Gold Copper	8,311,313 407,014	17,138,039	
1940	1,497,288	1,497,087	Silver Gold Copper	8,771,886 476,498	17,604,051	
1939	1,316,764	1,315,730	Silver Gold Copper	7,907,036 395,319	15,412,208	
1938	1,109,927	1,109,673	Silver Gold Copper	7,010,927 280,331	13,675,159	
1937	410,365	403,289	Silver Gold Copper	1,908,418 67,462	3,545,979	
1930	634,603	637,958	Silver Gold Copper	3,751,862 139,559	7,591,094	
1929	834,381	841,748	Silver Gold Copper	5,255,940 185,840	10,374,043	
1928	803,409	806,501	Silver Gold Copper	4,689,555 163,851	9,701,260	
1927	686,412	687,302	Silver Gold Copper	4,383,252 129,357	8,176,207	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: <u>092HSE001</u>		NAME: <u>SIMILCO</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>	
1926	603,736	607,181	Silver	4,547,601		
			Gold	125,003		
			Copper		8,165,363	
1925	104,434	111,580	Silver	636,741		
			Gold	7,527		
			Copper		1,571,640	
1920	17,152	17,152	Silver	103,449		
			Gold	2,146		
			Copper		209,580	
1919	15	15	Silver	995		
			Copper		2,350	
1918	15	15	Silver	342		
			Copper		586	
1917	816	816	Silver	7,403		
			Gold	156		
			Copper		18,903	
1908	52	52	Silver	715		
			Copper		1,483	

SUMMARY TOTALS: 092HSE001

NAME: **SIMILCO**

	<u>Metric</u>	<u>Imperial</u>
Mined:	159,823,345 tonnes	176,175,079 tons
Milled:	142,389,861 tonnes	156,957,953 tons
Recovery:		
Silver:	264,451,587 grams	8,502,304 ounces
Gold:	15,538,366 grams	499,569 ounces
Copper:	648,183,434 kilograms	1,428,999,459 pounds

Comments:

1996: 10.5 months operation. Closed November 1996.
 1995: Milled ore from low-grade stockpile & Ingebelle East pit 92HSE004.
 1994: 4.5 months operation (Aug. to Dec.) from stockpile.
 1993: 11 months operation.
 1991: Shutdown from June to October 1991.
 1908: Production from Triangle Fraction (formerly 092HSE010).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSE004		NAME: INGERBELLE		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>	
1979	6,951,938	6,898,844	Silver	4,316,292		
			Gold	1,185,509		
			Copper		26,506,197	
1978	6,906,996	6,779,045	Silver	4,347,297		
			Gold	1,152,926		
			Copper		24,725,222	
1977	6,473,909	7,135,737	Silver	3,980,500		
			Gold	969,169		
			Copper		20,596,981	
1976	6,355,874	6,355,874	Silver	4,814,153		
			Gold	1,198,523		
			Copper		25,045,931	
1975	3,693,900	3,693,900	Silver	2,551,006		
			Gold	574,783		
			Copper		12,768,721	
1974	4,613,997	4,613,997	Silver	3,580,266		
			Gold	871,071		
			Copper		18,699,882	
1973	4,859,608	4,859,608	Silver	4,153,121		
			Gold	900,183		
			Copper		18,961,254	
1972	2,769,621	2,769,621	Silver	2,039,921		
			Gold	450,434		
			Copper		9,324,588	

SUMMARY TOTALS: 092HSE004

NAME: **INGERBELLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	42,625,843 tonnes	46,986,948 tons
Milled:	43,106,626 tonnes	47,516,921 tons
Recovery:		
Silver:	29,782,556 grams	957,530 ounces
Gold:	7,302,598 grams	234,784 ounces
Copper:	156,628,776 kilograms	345,307,245 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSE006		NAME: RED BUCK (L.279)		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>	
1939		1	Silver	1,244		
			Gold	218		
			Copper		4,356	
1915	27	27	Silver	902		
			Gold	62		
			Copper		1,693	
1910	36	36	Silver	1,866		
			Gold	174		
			Copper		2,406	

SUMMARY TOTALS: 092HSE006

NAME: **RED BUCK (L.279)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	63 tonnes	69 tons
Milled:	64 tonnes	71 tons
Recovery:		
Silver:	4,012 grams	129 ounces
Gold:	454 grams	15 ounces
Copper:	8,455 kilograms	18,640 pounds

Comments:

1939: No record of ore mined; 31 tonnes of concentrate.
 1910: Sorted ore (Minister of Mines Annual Report 1927, page 253).

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MINFILE NUMBER: 092HSE020	NAME: VOIGT	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1920	24	24	Silver Copper	156	590

SUMMARY TOTALS: 092HSE020

	NAME: VOIGT	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 24 tonnes	26 tons
	Milled: 24 tonnes	26 tons
Recovery:	Silver: 156 grams	5 ounces
	Copper: 590 kilograms	1,301 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE036		NAME: MASCOT FRACTION (L.642S)		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>	
1987	481,454	481,454	Silver	832,389		
			Gold	1,512,428		
1949	12,483	12,483	Silver	42,424		
			Gold	161,114		
			Copper		16,446	
1948	38,816	38,816	Silver	113,184		
			Gold	431,710		
			Copper		53,863	
1947	26,445	26,445	Silver	65,005		
			Gold	333,922		
			Copper		19,482	
1946	29,436	29,436	Silver	73,839		
			Gold	281,482		
			Copper		32,681	
1945	51,238	51,258	Silver	124,785		
			Gold	519,669		
			Copper		55,503	
1944	36,442	38,360	Silver	119,933		
			Gold	417,838		
			Copper		54,785	
1943	43,244	43,407	Silver	89,328		
			Gold	408,134		
			Copper		29,537	
1942	59,954	59,954	Silver	89,950		
			Gold	699,102		
			Copper		23,044	
1941	60,193	61,829	Silver	109,203		
			Gold	678,978		
			Copper		31,609	
1940	57,406	56,982	Silver	92,594		
			Gold	709,739		
			Copper		28,115	
1939	62,223	61,300	Silver	204,689		
			Gold	492,889		
			Copper		106,033	
1938	57,940	57,940	Silver	221,764		
			Gold	715,462		
			Copper		141,466	
1937	55,361	53,628	Silver	212,558		
			Gold	666,288		
			Copper		181,056	
1936	27,456	27,181	Silver	147,739		
			Gold	420,637		
			Copper		97,197	

SUMMARY TOTALS: 092HSE036

NAME: **MASCOT FRACTION (L.642S)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,100,091 tonnes	1,212,643 tons
Milled:	1,100,473 tonnes	1,213,064 tons
Recovery:		
Silver:	2,539,384 grams	81,643 ounces
Gold:	8,449,392 grams	271,654 ounces
Copper:	870,817 kilograms	1,919,822 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE038		NAME: NICKEL PLATE		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>	
1996	978,698	978,698	Silver	596,993		
			Gold	2,173,574		
1995	1,462,080	1,326,123	Silver	891,447		
			Gold	3,033,764		
1994	1,409,116	1,328,621	Gold	2,543,269		
1993	1,280,842	1,280,842	Silver	985,000		
			Gold	2,161,376		
1992	1,559,010	1,234,051	Silver	751,584		
			Gold	2,633,624		
1991	1,333,956	1,122,730	Silver	677,682		
			Gold	2,842,733		
1990	1,262,348	1,141,255	Silver	844,596		
			Gold	2,382,130		
1989	925,168	1,065,026	Silver	3,246,000		
			Gold	2,463,800		
1988	970,836	879,645	Silver	2,955,710		
			Gold	2,714,889		
1987	436,684	333,814	Silver	832,389		
			Gold	1,512,428		
1963	1	1	Silver	93		
			Gold	218		
			Zinc			4
1962		104	Silver	3,452		
			Gold	8,958		
1961		23	Silver	1,773		
			Gold	24,416		
1958		16	Silver	964		
			Gold	4,354		
			Copper			59
1957		127	Silver	2,924		
			Gold	13,281		
			Copper			429
1956		170	Silver	6,221		
			Gold	21,337		
			Copper			1,935
1955	82,165	82,165	Silver	109,980		
			Gold	1,198,119		
1954	113,604	113,604	Silver	144,816		
			Gold	1,438,358		
1953	109,907	109,907	Silver	163,011		
			Gold	1,567,156		
			Copper			2,212
1952	109,575	109,575	Silver	448,972		
			Gold	1,463,645		
			Copper			87,204
1951	104,768	104,768	Silver	322,040		
			Gold	1,350,772		
			Copper			66,275
1950	112,208	112,208	Silver	279,367		
			Gold	1,387,723		
			Copper			57,704
1949	110,433	110,433	Silver	214,828		
			Gold	1,338,238		
			Copper			66,156
1948	104,830	104,830	Silver	155,888		
			Gold	1,318,674		
			Copper			42,767
1947	93,074	93,074	Silver	148,299		
			Gold	1,138,028		
			Copper			37,195
1946	42,178	42,178	Silver	29,703		
			Gold	575,126		
			Copper			23,597
1945	90,158	90,158	Silver	125,221		
			Gold	1,075,604		
			Copper			53,333
1944	80,277	80,277	Silver	160,803		
			Gold	1,011,656		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE038		NAME: NICKEL PLATE		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>	
1944	80,277	80,277	Copper		64,979	
1943	61,362	61,362	Silver	127,149		
			Gold	726,068		
			Copper		34,850	
1942	90,251	90,009	Silver	110,011		
			Gold	1,008,515		
			Copper		30,140	
1941	88,421	88,428	Silver	107,025		
			Gold	1,053,801		
			Copper		36,160	
1940	74,742	74,987	Silver	121,986		
			Gold	880,992		
			Copper		64,784	
1939	81,874	81,831	Silver	141,954		
			Gold	1,000,024		
			Copper		71,845	
1938	80,464	80,409	Silver	123,230		
			Gold	951,472		
			Copper		82,669	
1937	70,631	70,658	Silver	149,170		
			Gold	930,882		
			Copper		81,633	
1936	58,598	58,834	Silver	92,220		
			Gold	703,332		
			Copper		68,807	
1935	50,180	49,017	Silver	22,550		
			Gold	436,126		
			Copper		5,771	
1930	35,988	35,988	Silver	8,895		
			Gold	381,696		
			Copper		287	
1929	33,536	33,536	Silver	6,905		
			Gold	441,663		
1928	41,195	41,195	Silver	6,905		
			Gold	367,824		
			Copper		239	
1927	40,741	40,741	Silver	3,452		
			Gold	399,705		
1926	45,047	43,726	Silver	21,337		
			Gold	505,206		
1925	46,148	46,148	Silver	24,291		
			Gold	604,020		
1924	43,817	43,817	Silver	18,631		
			Gold	594,378		
1923	39,998	39,998	Silver	19,502		
			Gold	427,791		
1922	37,429	37,429	Silver	14,463		
			Gold	556,184		
1920	35,743	35,743	Silver	24,540		
			Gold	576,650		
1919	57,068	57,068	Gold	750,671		
1918	61,065	61,065	Gold	993,585		
1917	64,598	64,598	Silver	68,333		
			Gold	1,111,777		
1916	66,670	66,670	Silver	236,725		
			Gold	1,116,940		
1915	67,372	67,372	Silver	23,047		
			Gold	1,363,835		
1914	71,208	71,208	Gold	1,199,798		
1913	64,225	64,225	Gold	1,240,388		
1912	63,916	63,916	Gold	1,163,470		
1911	52,179	52,179	Gold	1,014,798		
1910	42,481	42,481	Silver	146,868		
			Gold	794,308		
1909	28,216	28,216	Silver	58,847		
			Gold	502,780		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	092HSE038		NAME:	NICKEL PLATE		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>		
1908	38,195	38,195	Silver	88,644			
			Gold	620,940			
1907	28,808	28,808	Gold	700,377			
1906	32,341	32,341	Gold	775,304			
1905	29,453	29,453	Silver	75,083			
			Gold	672,260			
1904	9,072	9,072	Gold	202,170			

SUMMARY TOTALS: 092HSE038

NAME: **NICKEL PLATE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14,604,948 tonnes	16,099,199 tons
Milled:	13,675,146 tonnes	15,074,268 tons
Recovery:		
Silver:	15,941,519 grams	512,531 ounces
Gold:	66,166,980 grams	2,127,315 ounces
Copper:	981,030 kilograms	2,162,800 pounds
Zinc:	4 kilograms	9 pounds

Comments:

- 1996: Stopped mining in August and milling in October 1996.
- 1994: Information Circular 1996-1, p. 7; minor silver produced.
- 1987: Operated by Mascot Gold Mines Ltd. Milling began April 1987.
- 1963: Mill clean-up. 0.3 tonnes.
- 1962: Tailings.
- 1961: Concentrate; gold bullion.
- 1958: Clean-up.
- 1957: Clean-up.
- 1956: Mill clean-up.
- 1955: Operated by Kelowna Mines Hedley Ltd. - closed September 30, 1955.
- 1951: Operated by Kelowna Mines - Hedley.
- 1935: Operated by Kelowna Exploration Co.
- 1910: Operated by Hedley Gold Mining Co.
- 1904: Operated by Yale Mining Co. & Daily Reduction Co.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE046		NAME: BANBURY		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>	
1937	5,897	5,897	Silver	13,374		
			Gold	29,423		
			Copper		846	
			Lead		891	

SUMMARY TOTALS: 092HSE046

NAME: **BANBURY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,897 tonnes	6,500 tons
Milled:	5,897 tonnes	6,500 tons
Recovery:		
Silver:	13,374 grams	430 ounces
Gold:	29,423 grams	946 ounces
Copper:	846 kilograms	1,865 pounds
Lead:	891 kilograms	1,964 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE059		NAME: FRENCH		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>	
1983	3,394	3,394	Silver	116,668		
			Gold	23,606		
			Copper			17,635
1982	1,044	1,044	Silver	18,600		
			Gold	2,790		
			Copper			2,900
1961	4,868	4,868	Silver	9,735		
			Gold	59,935		
1960	12,295	12,295	Silver	9,922		
			Gold	198,219		
1959	14,471	14,471	Silver	21,959		
			Gold	231,095		
1957	3,986	3,986	Silver	3,732		
			Gold	60,340		
1955	2,948	2,948	Gold	68,986		
1954	5,232	5,232	Gold	145,002		
1953	5,920	5,920	Gold	148,890		
1952	6,126	6,126	Gold	155,950		
1951	6,738	6,738	Gold	168,485		
1950	2,486	2,486	Gold	99,094		

SUMMARY TOTALS: 092HSE059

NAME: **FRENCH**

	<u>Metric</u>	<u>Imperial</u>
Mined:	69,508 tonnes	76,619 tons
Milled:	69,508 tonnes	76,619 tons
Recovery:		
Silver:	180,616 grams	5,807 ounces
Gold:	1,362,392 grams	43,802 ounces
Copper:	20,535 kilograms	45,272 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE060		NAME: GOOD HOPE		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>	
1982	6,874	6,874	Silver	119,539		
			Gold	77,410		
			Copper		602	
1948	361	361	Gold	5,694		
1947	2,280	2,280	Gold	48,696		
1945	1,600	1,600	Gold	35,115		

SUMMARY TOTALS: 092HSE060

NAME: **GOOD HOPE**

	<u>Metric</u>		<u>Imperial</u>
Mined:	11,115 tonnes		12,252 tons
Milled:	11,115 tonnes		12,252 tons
Recovery:	Silver:	119,539 grams	3,843 ounces
	Gold:	166,915 grams	5,366 ounces
	Copper:	602 kilograms	1,327 pounds

Comments:

1948: 1945-1948: Financial Post Review of Mines 1950, page 93.

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	092HSE064	NAME:	CANTY	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1941	1,457	1,457	Gold	15,485	
1939	26	26	Silver	31	
			Gold	995	

SUMMARY TOTALS: 092HSE064

NAME: **CANTY**

	Mined:	1,483 tonnes	<u>Imperial</u>	1,635 tons
	Milled:	1,483 tonnes		1,635 tons
Recovery:	Silver:	31 grams		1 ounces
	Gold:	16,480 grams		530 ounces

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **092HSE067** NAME: **RED STAR** 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>
1965	11	11	Silver	311	
			Copper		244
			Zinc		2,932
1964	25	25	Silver	2,302	
			Gold	31	
			Copper		2,101

SUMMARY TOTALS: 092HSE067

NAME: **RED STAR**

	<u>Metric</u>	<u>Imperial</u>
Mined:	36 tonnes	40 tons
Milled:	36 tonnes	40 tons
Recovery:		
Silver:	2,613 grams	84 ounces
Gold:	31 grams	1 ounces
Copper:	2,345 kilograms	5,170 pounds
Zinc:	2,932 kilograms	6,464 pounds

Comments: 1964: Operated by Garibaldi Copper Mines Ltd.

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MINFILE NUMBER:	092HSE071	NAME:	SILVER MOON	STATUS:	Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1940	1	1	Silver	31	
			Gold	31	
1939	5	5	Silver	187	
			Gold	529	
1938	1	1	Silver	156	
			Gold	467	

SUMMARY TOTALS: 092HSE071

NAME: **SILVER MOON**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7 tonnes	8 tons
Milled:	7 tonnes	8 tons
Recovery:		
Silver:	374 grams	12 ounces
Gold:	1,027 grams	33 ounces

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSE073		NAME: S AND M		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>	
1969	32	32	Silver	17,480		
			Gold	31		
			Lead		4,361	
			Zinc		1,908	

SUMMARY TOTALS: 092HSE073

		NAME: S AND M	
		<u>Metric</u>	<u>Imperial</u>
Recovery:	Mined:	32 tonnes	35 tons
	Milled:	32 tonnes	35 tons
	Silver:	17,480 grams	562 ounces
	Gold:	31 grams	1 ounces
	Lead:	4,361 kilograms	9,614 pounds
	Zinc:	1,908 kilograms	4,206 pounds

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MINFILE NUMBER: 092HSE079	NAME: SHAMROCK	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1913	9	9	Silver Copper	311	1,353

SUMMARY TOTALS: 092HSE079

	NAME: SHAMROCK	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 9 tonnes	10 tons
	Milled: 9 tonnes	10 tons
Recovery:	Silver: 311 grams	10 ounces
	Copper: 1,353 kilograms	2,983 pounds

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MINFILE NUMBER: 092HSE081	NAME: MAZIE	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1963	3	3	Silver Lead	124	62

SUMMARY TOTALS: 092HSE081

	NAME: MAZIE	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 3 tonnes	3 tons
	Milled: 3 tonnes	3 tons
Recovery:	Silver: 124 grams	4 ounces
	Lead: 62 kilograms	137 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092HSE089		NAME: PRINCETON COLLIERY		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	301		Coal		301,185
1950	1,197		Coal		1,197,484
1949	87		Coal		86,636
1933	76		Coal		76,204
1926	826		Coal		826,049
1925	7,193		Coal		7,192,618
1924	10,020		Coal		10,020,285
1923	16,912		Coal		16,912,152
1922	19,730		Coal		19,729,658
1921	14,190		Coal		14,190,154
1920	21,050		Coal		21,049,507
1919	22,549		Coal		22,549,197
1918	39,294		Coal		39,293,701
1917	42,571		Coal		42,570,549
1916	29,931		Coal		29,930,800
1915	15,798		Coal		15,797,545
1914	19,849		Coal		19,848,536
1913	29,675		Coal		29,674,756
1912	28,626		Coal		28,626,192
1911	23,772		Coal		23,771,505
1910	12,058		Coal		12,058,481

SUMMARY TOTALS: 092HSE089

NAME: **PRINCETON COLLIERY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	355,705 tonnes	392,098 tons
Milled:	tonnes	tons
Recovery:	Coal: 355,703,194 kilograms	784,191,087 pounds

Comments:

- 1951: Minister of Mines Annual Report 1951, page 279.
- 1950: Minister of Mines Annual Report 1950, page 265.
- 1949: Minister of Mines Annual Report 1949, page 301.
- 1933: Minister of Mines Annual Report 1933, page 279.
- 1926: Minister of Mines Annual Report 1926, page 410.
- 1925: Minister of Mines Annual Report 1925, page 410.
- 1924: Minister of Mines Annual Report 1924, page 345.
- 1923: Minister of Mines Annual Report 1923, page 359.
- 1922: Minister of Mines Annual Report 1922, page 333.
- 1921: Minister of Mines Annual Report 1921, page 326.
- 1920: Minister of Mines Annual Report 1920, page 318.
- 1919: Minister of Mines Annual Report 1919, page 341.
- 1918: Minister of Mines Annual Report 1918, page 443.
- 1917: Minister of Mines Annual Report 1917, page 422.
- 1916: Minister of Mines Annual Report 1916, page 490.
- 1915: Minister of Mines Annual Report 1915, page 416.
- 1914: Minister of Mines Annual Report 1914, page 478.
- 1913: Minister of Mines Annual Report 1913, page 379.
- 1912: Minister of Mines Annual Report 1912, page 290.
- 1911: Minister of Mines Annual Report 1911, page 247.
- 1910: Minister of Mines Annual Report 1910, page 204.

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MINFILE NUMBER: 092HSE091	NAME: COPPER FARM	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1919	15	15	Silver Copper	995	2,349

SUMMARY TOTALS: 092HSE091

NAME: **COPPER FARM**

		<u>Metric</u>	<u>Imperial</u>
	Mined:	15 tonnes	17 tons
	Milled:	15 tonnes	17 tons
Recovery:	Silver:	995 grams	32 ounces
	Copper:	2,349 kilograms	5,179 pounds
Comments:	1919:	From National Mineral Inventory card.	

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MINFILE NUMBER: **092HSE119** NAME: **IOTA** 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	36	36	Silver	14,929	
			Gold	69	
			Lead		2,123
			Zinc		468
1950	32	32	Silver	17,915	
			Gold	69	
			Lead		1,655
			Zinc		266

SUMMARY TOTALS: 092HSE119

NAME: **IOTA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	68 tonnes	75 tons
Milled:	68 tonnes	75 tons
Recovery:		
Silver:	32,844 grams	1,056 ounces
Gold:	138 grams	4 ounces
Lead:	3,778 kilograms	8,329 pounds
Zinc:	734 kilograms	1,618 pounds

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSE124		NAME: GOLDROP		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>	
1974	112	112	Silver	10,979		
			Gold	933		
			Copper			11
			Lead			225
			Zinc			112
1973	233	233	Silver	33,902		
			Gold	3,515		
			Lead			712
			Zinc			233

SUMMARY TOTALS: 092HSE124

NAME: **GOLDROP**

	<u>Metric</u>	<u>Imperial</u>
Mined:	345 tonnes	380 tons
Milled:	345 tonnes	380 tons
Recovery:		
Silver:	44,881 grams	1,443 ounces
Gold:	4,448 grams	143 ounces
Copper:	11 kilograms	24 pounds
Lead:	937 kilograms	2,066 pounds
Zinc:	345 kilograms	761 pounds

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	092HSE131	NAME:	PRINCETON	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1990	140		Pyrophyllite		140,000
SUMMARY TOTALS: 092HSE131		NAME:	PRINCETON		
		<u>Metric</u>		<u>Imperial</u>	
	Mined:	140 tonnes		154 tons	
	Milled:			tons	
Recovery:	Pyrophyllite:	140,000 kilograms		308,647 pounds	
Comments:	1990:	B. Warner, personal communication, 1991.			

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **092HSE144** NAME: **HEDLEY TAILINGS** 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>
1993			Gold	37,867	
1991		1	Gold	74,648	
1990		1	Silver	11,800	
			Gold	295,483	
1989		97,000	Gold	68,428	
1988		22,000	Gold	3,600	

SUMMARY TOTALS: 092HSE144

NAME: **HEDLEY TAILINGS**

	<u>Metric</u>		<u>Imperial</u>
Mined:	tonnes		tons
Milled:	119,002 tonnes		131,177 tons
Recovery:	Silver: 11,800 grams		379 ounces
	Gold: 480,026 grams		15,433 ounces

Comments:
 1993: Heap leaching; unknown tonnage.
 1991: Heap leach. Tonnage unknown.
 1990: 1988-1990: Tailings retreated. Tonnage unknown in 1990.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSE149		NAME: HEDLEY LIMESTONE			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>	
1937	110	110	Limestone		110,000	
1936	218	218	Limestone		218,000	
1935	218	218	Limestone		218,000	
1934	80	80	Limestone		80,000	
1930	265	265	Limestone		265,000	
1929	270	270	Limestone		270,000	
1928	416	416	Limestone		416,000	
1927	304	304	Limestone		304,000	
1926	504	504	Limestone		504,000	

SUMMARY TOTALS: 092HSE149

NAME: **HEDLEY LIMESTONE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,385 tonnes	2,629 tons
Milled:	2,385 tonnes	2,629 tons
Recovery:	Limestone: 2,385,000 kilograms	5,258,023 pounds

Comments:

1926: 1926 to 1934: estimated by multiplying lime production by 2.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **092HSE151** NAME: **PRINCETON BENTONITE** 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>
1934	286		Bentonite		286,000
1933	247		Bentonite		247,000
1932	32		Bentonite		32,000
1931	640		Bentonite		640,000
1929	547		Coal		546,635
1928	18		Bentonite		18,000
1926	27		Bentonite		27,000

SUMMARY TOTALS: 092HSE151

NAME: **PRINCETON BENTONITE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,797 tonnes	1,981 tons
Milled:	tonnes	tons

Recovery:

Bentonite:	1,250,000 kilograms	2,755,778 pounds
Coal:	546,635 kilograms	1,205,124 pounds

Comments:

- 1934: Minister of Mines Annual Report 1934, page A20.
- 1933: Minister of Mines Annual Report 1933, page 24.
- 1932: Minister of Mines Annual Report 1932, page 22.
- 1931: Minister of Mines Annual Report 1931, page 20.
- 1929: Minister of Mines Annual Report 1929, page 406.
- 1928: Minister of Mines Annual Report 1928, page 19.
- 1926: Minister of Mines Annual Report 1926, page 202.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>092HSE157</u>	NAME:	<u>BASIN COAL</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>
1957	14,601		Coal		14,601,137
1956	62,170		Coal		62,170,274
1955	55,819		Coal		55,819,000
1954	15,678		Coal		15,677,965
1940	22,809		Coal		22,809,306
1939	76,058		Coal		76,058,000
1938	81,097		Coal		81,097,046
1937	95,647		Coal		95,646,882
1936	95,202		Coal		95,201,852
1935	85,115		Coal		85,114,508
1934	80,028		Coal		80,028,162
1933	78,330		Coal		78,330,342
1932	97,442		Coal		97,442,243
1931	101,413		Coal		101,412,960
1930	105,673		Coal		105,673,260
1929	152,153		Coal		152,153,480
1928	167,461		Coal		167,461,290
1927	155,044		Coal		155,044,140
1926	123,407		Coal		123,407,400
1925	119,769		Coal		119,768,920
1924	151,473		Coal		151,472,730
1923	132,932		Coal		132,931,850
1922	145,098		Coal		145,098,030
1921	64,361		Coal		64,360,671
1920	9,127		Coal		9,127,177
1919	10,353		Coal		10,352,533
1918	5,836		Coal		5,836,191
1914	4,928		Coal		4,927,843
1913	51		Coal		50,803
1912	5,893		Coal		5,893,090

SUMMARY TOTALS: 092HSE157

NAME: **BASIN COAL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,314,968 tonnes	2,551,815 tons
Milled:	tonnes	tons
Recovery:	Coal: 2,314,969,085 kilograms	5,103,631,774 pounds

Comments:

- 1957: Minister of Mines Annual Report 1957, page 135.
- 1956: Minister of Mines Annual Report 1956, page 215.
- 1955: Minister of Mines Annual Report 1955, page 151.
- 1954: Minister of Mines Annual Report 1954, page 235.
- 1940: Minister of Mines Annual Report 1940, page 103.
- 1939: Minister of Mines Annual Report 1939, page 117.
- 1938: Minister of Mines Annual Report 1938, page G6.
- 1937: Minister of Mines Annual Report 1937, page G7.
- 1936: Minister of Mines Annual Report 1936, page G6.
- 1935: Minister of Mines Annual Report 1935, page G4.
- 1934: Minister of Mines Annual Report 1934, page G4.
- 1933: Minister of Mines Annual Report 1933, page 279.
- 1932: Minister of Mines Annual Report 1932, page 230.
- 1931: Minister of Mines Annual Report 1931, page 180.
- 1930: Minister of Mines Annual Report 1930, page 320.
- 1929: Minister of Mines Annual Report 1929, page 406.
- 1928: Minister of Mines Annual Report 1928, page 481.
- 1927: Minister of Mines Annual Report 1927, page 444.
- 1926: Minister of Mines Annual Report 1926, page 409.
- 1925: Minister of Mines Annual Report 1925, page 408.
- 1924: Minister of Mines Annual Report 1924, page 343.
- 1923: Minister of Mines Annual Report 1923, page 356.
- 1922: Minister of Mines Annual Report 1922, page 330.
- 1921: Minister of Mines Annual Report 1921, page 323.
- 1920: Minister of Mines Annual Report 1920, page 316.
- 1919: Minister of Mines Annual Report 1919, page 343.
- 1918: Minister of Mines Annual Report 1918, page 444.
- 1914: Minister of Mines Annual Report 1914, page 481.

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MINFILE NUMBER: **092HSE157**

NAME: **BASIN COAL**

STATUS: Past Producer

Comments:

1913: Minister of Mines Annual Report 1913, page 383.
1912: Minister of Mines Annual Report 1912, page 190.

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MINFILE NUMBER: 092HSE166	NAME: BROMLEY VALE ZEOLITE	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
2000	2,000		Zeolite		2,000

SUMMARY TOTALS: 092HSE166

	NAME: BROMLEY VALE ZEOLITE		
	<u>Metric</u>	<u>Imperial</u>	
	2,000 tonnes	2,205 tons	
Recovery:	Mined:		
	Milled:		
	Zeolite:	2,000 kilograms	4,409 pounds

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MINFILE NUMBER: 092HSE170	NAME: ROANY CREEK	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1948	741	736	Marl		735,727
1947	113	113	Marl		113,398
1946	264	264	Marl		263,991

SUMMARY TOTALS: 092HSE170

NAME: **ROANY CREEK**

		<u>Metric</u>		<u>Imperial</u>
	Mined:	1,118 tonnes		1,232 tons
	Milled:	1,113 tonnes		1,227 tons
Recovery:	Marl:	1,113,116 kilograms		2,454,000 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **092HSE209** NAME: **PRINCETON (TULAMEEN COAL)** 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>
1944	18,328	18,328	Coal		18,327,509
1943	30,863	30,863	Coal		30,862,518
1942	27,778	27,778	Coal		27,777,790
1941	26,535	26,535	Coal		26,535,161
1940	23,974	23,974	Coal		21,885,717
1939	16,283	16,283	Coal		16,283,217
1938	17,656	17,656	Coal		17,655,900
1937	12,901	12,901	Coal		12,900,786
1936	682	682	Coal		681,770
1935	189	189	Coal		188,985

SUMMARY TOTALS: 092HSE209

NAME: **PRINCETON (TULAMEEN COAL)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	175,189 tonnes	193,113 tons
Milled:	175,189 tonnes	193,113 tons
Recovery:	Coal: 173,099,353 kilograms	381,618,642 pounds

Comments:

- 1944: Minister of Mines Annual Report 1944, page 88.
- 1943: Minister of Mines Annual Report 1943, page 91.
- 1942: Minister of Mines Annual Report 1942, page 96.
- 1941: Minister of Mines Annual Report 1941, page 98.
- 1940: Minister of Mines Annual Report 1940, page 103.
- 1939: Minister of Mines Annual Report 1939, page 117.
- 1938: Minister of Mines Annual Report 1938, page G6.
- 1937: Minister of Mines Annual Report 1937, page G7.
- 1936: Minister of Mines Annual Report 1936, page G6.
- 1935: Minister of Mines Annual Report 1935, page G4.

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MINFILE NUMBER: 092HSE210		NAME: TULAMEEN COLLIERIES			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>	
1946	38,485	38,485	Coal		38,484,925	
1945	52,633	52,633	Coal		52,633,422	
1944	48,452	48,452	Coal		48,452,376	
1943	15,951	15,951	Coal		15,950,968	
1942	10,508	10,508	Coal		10,507,989	
1941	2,929	2,929	Coal		2,929,272	
1936	10,814	10,814	Coal		10,428,737	
1935	8,711	8,711	Coal		8,710,597	
1934	19,464	19,464	Coal		19,464,469	
1933	49,036	49,036	Coal		49,035,589	
1932	53,104	53,104	Coal		53,103,853	
1931	58,851	58,851	Coal		58,850,632	
1930	37,168	37,168	Coal		37,168,125	
1929	38,036	38,036	Coal		38,035,831	
1928	18,173	18,173	Coal		17,596,969	
1927	14,637	14,637	Coal		14,637,216	
1926	13,437	13,437	Coal		12,141,797	
1925	6,961	6,961	Coal		5,502,927	
1924	1,092	1,092	Coal		1,092,254	

SUMMARY TOTALS: 092HSE210

NAME: **TULAMEEN COLLIERIES**

	<u>Metric</u>	<u>Imperial</u>
Mined:	498,442 tonnes	549,438 tons
Milled:	498,442 tonnes	549,438 tons
Recovery:	Coal: 494,727,948 kilograms	1,090,688,118 pounds

Comments:

- 1946: Minister of Mines Annual Report 1946, page 218.
- 1945: Minister of Mines Annual Report 1945, page 139.
- 1944: Minister of Mines Annual Report 1944, page 88.
- 1943: Minister of Mines Annual Report 1943, page 91.
- 1942: Minister of Mines Annual Report 1942, page 96.
- 1941: Minister of Mines Annual Report 1941, page 98.
- 1936: Minister of Mines Annual Report 1936, page G6.
- 1935: Minister of Mines Annual Report 1935, page G4.
- 1934: Minister of Mines Annual Report 1934, page G4.
- 1933: Minister of Mines Annual Report 1933, page 279.
- 1932: Minister of Mines Annual Report 1932, page 230.
- 1931: Minister of Mines Annual Report 1931, page 180.
- 1930: Minister of Mines Annual Report 1930, page 320.
- 1929: Minister of Mines Annual Report 1929, page 406.
- 1928: Minister of Mines Annual Report 1928, page 482.
- 1927: Minister of Mines Annual Report 1927, page 446.
- 1926: Minister of Mines Annual Report 1926, page 411.
- 1925: Minister of Mines Annual Report 1925, page 411.
- 1924: Minister of Mines Annual Report 1924, page 346.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	092HSE211		NAME:	PLEASANT VALLEY COAL		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>		
1950	10,023	10,023	Coal		10,022,576		
1949	27,012	27,012	Coal		27,012,331		
1948	20,484	20,484	Coal		20,484,230		
1947	42,302	42,302	Coal		42,302,225		
1937	4,767	4,767	Coal		4,422,866		
1936	6,533	6,533	Coal		6,533,202		
1935	5,796	5,796	Coal		5,795,549		
1934	4,189	4,189	Coal		4,189,174		
1933	8,602	8,602	Coal		8,601,879		
1932	14,563	14,563	Coal		14,563,044		
1931	13,128	13,128	Coal		13,128,382		
1930	20,887	20,887	Coal		20,886,939		
1929	3,500	3,500	Coal		3,500,292		
1928	71	71	Coal		71,124		

SUMMARY TOTALS: 092HSE211

NAME: **PLEASANT VALLEY COAL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	181,857 tonnes	200,463 tons
Milled:	181,857 tonnes	200,463 tons
Recovery:	Coal: 181,513,813 kilograms	400,169,345 pounds

- Comments:
- 1950: Minister of Mines Annual Report 1950, page 244.
 - 1949: Minister of Mines Annual Report 1949, page 278.
 - 1948: Minister of Mines Annual Report 1948, page 204.
 - 1947: Minister of Mines Annual Report 1947, page 238.
 - 1937: Minister of Mines Annual Report 1937, page G7.
 - 1936: Minister of Mines Annual Report 1936, page G6.
 - 1935: Minister of Mines Annual Report 1935, page G4.
 - 1934: Minister of Mines Annual Report 1934, page G4.
 - 1933: Minister of Mines Annual Report 1933, page 279.
 - 1932: Minister of Mines Annual Report 1932, page 230.
 - 1931: Minister of Mines Annual Report 1931, page 180.
 - 1930: Minister of Mines Annual Report 1930, page 320.
 - 1929: Minister of Mines Annual Report 1929, page 406.
 - 1928: Minister of Mines Annual Report 1928, page 485.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSE212		NAME: BLACK		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	4	4	Coal		3,629
1950	23	23	Coal		22,680
1949	14,168	14,168	Coal		14,168,410
1948	21,981	21,981	Coal		21,981,085
1947	25	25	Coal		25,401
1943	2,290	2,290	Coal		2,290,177
1941	30	30	Coal		30,482
1939	12	12	Coal		12,193
1938	433	433	Coal		432,837
1937	82	82	Coal		82,300
1929	943	943	Coal		942,894

SUMMARY TOTALS: 092HSE212

NAME: **BLACK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	39,991 tonnes	44,083 tons
Milled:	39,991 tonnes	44,083 tons
Recovery:	Coal: 39,992,088 kilograms	88,167,437 pounds

Comments:

- 1951: Minister of Mines Annual Report 1951, page 249.
- 1950: Minister of Mines Annual Report 1950, page 244.
- 1949: Minister of Mines Annual Report 1949, page 278.
- 1948: Minister of Mines Annual Report 1948, page 204.
- 1947: Minister of Mines Annual Report 1947, page 238.
- 1943: Minister of Mines Annual Report 1943, page 119.
- 1941: Minister of Mines Annual Report 1941, page 121.
- 1939: Minister of Mines Annual Report 1939, page 117.
- 1938: Minister of Mines Annual Report 1938, page G6.
- 1937: Minister of Mines Annual Report 1937, page G7.
- 1929: Minister of Mines Annual Report 1929, page 406.

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MINFILE NUMBER: 092HSE213	NAME: TAYLOR BURSON COAL	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1948	2,766	2,766	Coal		2,766,006
1947	2,418	2,418	Coal		2,418,199
1946	1,028	1,028	Coal		1,028,243

SUMMARY TOTALS: 092HSE213

NAME: **TAYLOR BURSON COAL**

		<u>Metric</u>		<u>Imperial</u>
	Mined:	6,212 tonnes		6,848 tons
	Milled:	6,212 tonnes		6,848 tons
Recovery:	Coal:	6,212,448 kilograms		13,696,100 pounds

Comments:

1948: Minister of Mines Annual Report 1948, page 204.
1947: Minister of Mines Annual Report 1947, page 238.
1946: Minister of Mines Annual Report 1946, page 218.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSE214		NAME: JACKSON NO. 1		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	1,499	1,499	Coal		1,498,669
1950	3,992	3,992	Coal		3,991,613
1949	3,697	3,697	Coal		3,696,778
1948	2,766	2,766	Coal		2,766,006
1945	143	143	Coal		143,263
1944	237	237	Coal		236,740

SUMMARY TOTALS: 092HSE214

NAME: **JACKSON NO. 1**

	<u>Metric</u>	<u>Imperial</u>
Mined:	12,334 tonnes	13,596 tons
Milled:	12,334 tonnes	13,596 tons
Recovery:	Coal: 12,333,069 kilograms	27,189,755 pounds

Comments:

- 1951: Minister of Mines Annual Report 1951, page 249.
- 1950: Minister of Mines Annual Report 1950, page 244.
- 1949: Minister of Mines Annual Report 1949, page 278.
- 1948: Minister of Mines Annual Report 1948, page 204.
- 1945: Minister of Mines Annual Report 1945, page 139.
- 1944: Minister of Mines Annual Report 1944, page 88.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSE215		NAME: BROMLEY VALE COLLIERIES		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	63,254	63,254	Coal		63,254,192
1942	75,553	75,553	Coal		75,553,478
1941	70,894	70,894	Coal		70,893,872
1940	83,093	83,093	Coal		83,092,569
1939	81,719	81,719	Coal		81,718,869
1938	63,924	63,924	Coal		63,923,769
1937	19,176	19,176	Coal		19,175,911
1936	1,097	1,097	Coal		1,097,334
1935	799	799	Coal		798,615
1934	1,077	1,077	Coal		1,077,013
1933	1,079	1,079	Coal		1,079,045
1932	418	418	Coal		417,597

SUMMARY TOTALS: 092HSE215

NAME: **BROMLEY VALE COLLIERIES**

	<u>Metric</u>	<u>Imperial</u>
Mined:	462,083 tonnes	509,359 tons
Milled:	462,083 tonnes	509,359 tons
Recovery:	Coal: 462,082,264 kilograms	1,018,716,725 pounds

Comments:

- 1943: Minister of Mines Annual Report 1943, page 91.
- 1942: Minister of Mines Annual Report 1942, page 96.
- 1941: Minister of Mines Annual Report 1941, page 98.
- 1940: Minister of Mines Annual Report 1940, page 103.
- 1939: Minister of Mines Annual Report 1939, page 117.
- 1938: Minister of Mines Annual Report 1938, page G6.
- 1937: Minister of Mines Annual Report 1937, page G7.
- 1936: Minister of Mines Annual Report 1936, page G6.
- 1935: Minister of Mines Annual Report 1935, page G4.
- 1934: Minister of Mines Annual Report 1934, page G4.
- 1933: Minister of Mines Annual Report 1933, page 279.
- 1932: Minister of Mines Annual Report 1932, page 230.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	092HSE216		NAME:	BLUE FLAME COLLIERY		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>		
1961	314	314	Coal		313,886		
1960	1,083	1,083	Coal		1,083,179		
1959	1,053	1,053	Coal		1,053,241		
1958	132	132	Coal		132,449		
1957	1,452	1,452	Coal		1,452,403		
1956	2,792	2,792	Coal		2,792,315		
1955	10,699	10,699	Coal		10,699,336		
1954	11,277	11,277	Coal		11,277,213		
1953	6,393	6,393	Coal		6,392,931		
1952	5,724	5,724	Coal		5,724,335		
1951	1,533	1,533	Coal		1,533,142		
1937	6,105	6,105	Coal		5,680,736		
1936	19,571	19,571	Coal		17,195,630		
1935	22,454	22,454	Coal		22,453,688		
1934	13,104	13,104	Coal		13,103,996		
1933	9,549	9,549	Coal		9,548,838		
1932	11,085	11,085	Coal		11,085,105		
1931	12,511	12,511	Coal		12,510,623		
1930	10,766	10,766	Coal		10,766,065		
1929	6,462	6,462	Coal		6,462,078		
1928	18,693	18,693	Coal		18,216,760		
1927	2,814	2,814	Coal		2,814,459		

SUMMARY TOTALS: 092HSE216

NAME: **BLUE FLAME COLLIERY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	175,566 tonnes	193,528 tons
Milled:	175,566 tonnes	193,528 tons
Recovery:	Coal: 172,292,408 kilograms	379,839,633 pounds

Comments:

- 1961: Minister of Mines Annual Report 1961, page 266.
- 1960: Minister of Mines Annual Report 1960, page 230.
- 1959: Minister of Mines Annual Report 1959, page 266.
- 1958: Minister of Mines Annual Report 1958, page 135.
- 1957: Minister of Mines Annual Report 1957, page 136.
- 1956: Minister of Mines Annual Report 1956, page 198.
- 1955: Minister of Mines Annual Report 1955, page 151.
- 1954: Minister of Mines Annual Report 1954, page 234.
- 1953: Minister of Mines Annual Report 1953, page 246.
- 1952: Minister of Mines Annual Report 1952, page 311.
- 1951: Minister of Mines Annual Report 1951, page 249.
- 1937: Minister of Mines Annual Report 1937, page G7.
- 1936: Minister of Mines Annual Report 1936, page G6.
- 1935: Minister of Mines Annual Report 1935, page G4.
- 1934: Minister of Mines Annual Report 1934, page G4.
- 1933: Minister of Mines Annual Report 1933, page 279.
- 1932: Minister of Mines Annual Report 1932, page 230.
- 1931: Minister of Mines Annual Report 1931, page 180.
- 1930: Minister of Mines Annual Report 1930, page 320.
- 1929: Minister of Mines Annual Report 1929, page 406.
- 1928: Minister of Mines Annual Report 1928, page 484.
- 1927: Minister of Mines Annual Report 1927, page 448.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSE217 NAME: ASHINGTON COAL 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>
1929	22	22	Coal		22,353

SUMMARY TOTALS: 092HSE217

NAME: ASHINGTON COAL

	<u>Metric</u>		<u>Imperial</u>
	Mined:	22 tonnes	24 tons
	Milled:	22 tonnes	24 tons
Recovery:	Coal:	22,353 kilograms	49,280 pounds

Comments: 1929: Minister of Mines Annual Report 1929, page 406.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSE218		NAME: UNITED EMPIRE COLLIERY			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>	
1933	91	91	Coal		91,445	
1932	152	152	Coal		152,408	
1913	1,780	1,780	Coal		1,780,120	
1912	508	508	Coal		508,025	

SUMMARY TOTALS: 092HSE218

NAME: **UNITED EMPIRE COLLIERY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,531 tonnes	2,790 tons
Milled:	2,531 tonnes	2,790 tons
Coal:	2,531,998 kilograms	5,582,098 pounds

Comments:

- 1933: Minister of Mines Annual Report 1933, page 279.
- 1932: Minister of Mines Annual Report 1932, page 230.
- 1913: Minister of Mines Annual Report 1913, page 381.
- 1912: Minsiter of Mines Annual Report 1912, page 292.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>092HSE230</u>	NAME:	<u>GRANITE CREEK PLACER</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>
1945	1		Gold	1,648	
1940	1		Gold	7,838	
1935	1		Gold	6,096	
1930	1		Gold	3,639	
1925	1		Gold	62	
1915	1		Gold	3,359	
1910	1		Gold	280	
1905	1		Gold	4,292	
1900	1		Gold	1,711	
1895	1		Gold	40,300	
1894	1		Gold	4,700	
1893	1		Gold	2,600	
1892	1		Gold	7,900	
1891	1		Gold	17,500	
1890	1		Gold	10,500	
1889	1		Gold	17,500	
1888	1		Gold	120,900	
1887	1		Gold	162,300	
1886	1		Gold	311,000	
1885	1		Gold	100,300	

SUMMARY TOTALS: 092HSE230

NAME: **GRANITE CREEK PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	20 tonnes	22 tons
Milled:	tonnes	tons
Recovery:	Gold: 824,425 grams	26,506 ounces

Comments:

- 1945: Bulletin 28, page 55. Production for 1941 to 1945.
- 1940: Bulletin 28, page 55. Production for 1936 to 1940.
- 1935: Bulletin 28, page 55. Production for 1931 to 1935.
- 1930: Bulletin 28, page 55. Production for 1926 to 1930.
- 1925: Bulletin 28, page 55. Production for 1921 to 1925.
- 1915: Bulletin 28, page 55. Production for 1911 to 1915.
- 1910: Bulletin 28, page 55. Production for 1906 to 1910.
- 1905: Bulletin 28, page 55. Production for 1901 to 1905.
- 1900: Bulletin 28, page 55. Production for 1866 to 1900.
- 1895: Minister of Mines Annual Report 1895, Table 1.
- 1894: Minister of Mines Annual Report 1894, Table 1.
- 1893: Minister of Mines Annual Report 1893, Table 1.
- 1892: Minister of Mines Annual Report 1892, Table 1.
- 1891: Minister of Mines Annual Report 1891, Table 1.
- 1890: Minister of Mines Annual Report 1890, Table 1.
- 1889: Minister of Mines Annual Report 1889, Table 1.
- 1888: Minister of Mines Annual Report 1888, Table 1.
- 1887: Minister of Mines Annual Report 1887, Table 1.
- 1886: Minister of Mines Annual Report 1886, Table 1.
- 1885: Minister of Mines Annual Report 1885, Table 1.

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MINFILE NUMBER: **092HSE232** NAME: **NEWTON CREEK PLACER** 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>
1893	1		Gold	500	
1892	1		Gold	3,500	
1891	1		Gold	700	
1890	1		Gold	1,700	

SUMMARY TOTALS: 092HSE232

NAME: **NEWTON CREEK PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4 tonnes	4 tons
Milled:	tonnes	tons
Gold:	6,400 grams	206 ounces

Recovery:

Comments:

- 1893: Minister of Mines Annual Report 1893, Table 1.
- 1892: Minister of Mines Annual Report 1892, Table 1.
- 1891: Minister of Mines Annual Report 1891, Table 1.
- 1890: Minister of Mines Annual Report 1890, Table 1.

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MINFILE NUMBER:	<u>092HSE233</u>	NAME:	<u>SIMILKAMEEN RIVER PLACER</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>
1950	115,000		Gold	2,261	
			Platinum	3,452	
1949	204,616		Silver	2,488	
			Gold	19,377	
			Platinum	3,110	
1948	229,317		Silver	3,732	
			Gold	30,668	
			Platinum	7,527	
1945	1		Gold	1,150	
1941	1		Gold	5,723	
			Platinum	824	
1940	7,600		Gold	5,600	
1939	1		Gold	3,760	
1935	1		Gold	7,900	
1900	1		Gold	8,700	
1895	1		Gold	19,600	
1894	1		Gold	10,500	
1893	1		Gold	8,390	
1892	1		Gold	7,900	
1891	1		Gold	5,250	
1890	1		Gold	8,800	
1889	1		Gold	7,000	
1888	1		Gold	12,900	
1887	1		Gold	18,600	
1886	18,300		Gold	18,300	
1885	1		Gold	6,600	

SUMMARY TOTALS: 092HSE233

NAME: **SIMILKAMEEN RIVER PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	574,848 tonnes	633,661 tons
Milled:		
Recovery:		
Silver:	6,220 grams	200 ounces
Gold:	208,979 grams	6,719 ounces
Platinum:	14,913 grams	479 ounces

Comments:

- 1950: Minister of Mines Annual Report 1950, p. 203; cubic metres mined.
- 1949: Minister of Mines Annual Report 1949, p. 229; cubic metres mined.
- 1948: Minister of Mines Annual Report 1949, p. 229; cubic metres mined.
- 1945: Bulletin 28, page 55. Production for 1942 to 1945.
- 1941: Minister of Mines Annual Report 1949, page 228.
- 1940: Minister of Mines Annual Report 1949, p. 228; cubic metres mined.
- 1939: Bulletin 28, page 55. Production for 1936 to 1939.
- 1935: Bulletin 28, page 55. Production for 1931 to 1935.
- 1900: Bulletin 28, page 55. Production for 1896 to 1900.
- 1895: Minister of Mines Annual Report 1895, Table 1.
- 1894: Minister of Mines Annual Report 1894, Table 1.
- 1893: Minister of Mines Annual Report 1893, Table 1.
- 1892: Minister of Mines Annual Report 1892, Table 1.
- 1891: Minister of Mines Annual Report 1891, Table 1.
- 1890: Minister of Mines Annual Report 1890, Table 1.
- 1889: Minister of Mines Annual Report 1889, Table 1.
- 1888: Minister of Mines Annual Report 1888, Table 1.
- 1887: Minister of Mines Annual Report 1887, Table 1.
- 1886: Minister of Mines Annual Report 1886, Table 1.
- 1885: Minister of Mines Annual Report 1885, Table 1.

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MINFILE NUMBER: **092HSE236** NAME: **WHIPSAW CREEK PLACER** 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	1		Gold	156	
1900	1		Gold	467	
1895	1		Gold	267	
1894	1		Gold	489	
1892	1		Gold	440	
1891	1		Gold	340	
1890	1		Gold	1,300	

SUMMARY TOTALS: 092HSE236

NAME: **WHIPSAW CREEK PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7 tonnes	8 tons
Milled:	tonnes	tons
Recovery: Gold:	3,459 grams	111 ounces

Comments:

1935: Bulletin 28, page 55. Production for 1931 to 1935.
 1900: Bulletin 28, page 55. Production for 1896 to 1900.
 1895: Minister of Mines Annual Report 1895, Table 1.
 1894: Minister of Mines Annual Report 1894, Table 1.
 1892: Minister of Mines Annual Report 1892, Table 1.
 1891: Minister of Mines Annual Report 1891, Table 1.
 1890: Minister of Mines Annual Report 1890, Table 1.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSE244	NAME: MASCOT TAILINGS	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1995		42,640
		Commodity
		Silver
		Gold
		Grams Recovered
		9,953
		93,311
		Kilograms Recovered

SUMMARY TOTALS: 092HSE244

	NAME: MASCOT TAILINGS
	<u>Metric</u>
Mined:	42,640 tonnes
Milled:	47,003 tons
Recovery:	
Silver:	9,953 grams
Gold:	93,311 grams
	<u>Imperial</u>
	320 ounces
	3,000 ounces
Comments:	
1995:	Processing to tailings completed in October 1996.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **092HSW002** NAME: **INVERMAY** 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>
1947	4	4	Silver Lead Zinc	4,945	134 316
1941	67	67	Silver Gold Lead Zinc	192,217 218	6,901 6,490
1937	4	4	Silver Gold	124 498	
1936	19	19	Silver Lead Zinc	115,734	2,619 3,813

SUMMARY TOTALS: 092HSW002

NAME: **INVERMAY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	94 tonnes	104 tons
Milled:	94 tonnes	104 tons
Recovery:		
Silver:	313,020 grams	10,064 ounces
Gold:	716 grams	23 ounces
Lead:	9,654 kilograms	21,283 pounds
Zinc:	10,619 kilograms	23,411 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: <u>092HSW004</u>		NAME: <u>PRIDE OF EMORY</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>	
1974	142,185	142,185	Copper		530,935	
			Nickel		765,733	
1973	320,015	320,015	Cobalt		18,555	
			Copper		852,775	
			Nickel		1,271,848	
1972	353,650	353,650	Cobalt		70,642	
			Copper		1,184,102	
			Nickel		1,670,294	
1971	236,085	236,085	Cobalt		51,503	
			Copper		812,988	
			Nickel		1,311,077	
1970	193,436	193,436	Copper		998,874	
			Nickel		1,759,012	
1969	305,770	305,770	Copper		830,206	
			Nickel		1,535,589	
1968	306,936	306,936	Copper		643,055	
			Nickel		1,709,816	
1967	307,454	307,454	Copper		895,626	
			Nickel		2,154,998	
1966	296,798	296,798	Copper		826,441	
			Nickel		1,643,093	
1965	300,236	300,236	Copper		907,180	
			Nickel		1,710,043	
1964	290,119	290,119	Copper		885,408	
			Nickel		1,751,774	
1963	284,707	284,707	Copper		929,688	
			Nickel		1,906,842	
1962	282,536	282,536	Copper		819,382	
			Nickel		1,791,931	
1961	236,397	236,397	Copper		786,581	
			Nickel		2,154,913	
1960	227,033	227,033	Copper		715,907	
			Nickel		1,948,355	
1959	112,945	112,945	Copper		255,853	
			Nickel		554,442	
1958	118,962	118,962	Silver	16,516		
			Gold	1,026		
			Copper		337,769	
			Nickel		805,663	
1937	3,141	3,141	Nickel		51,743	
1936	1,571	1,571	Nickel		75,924	

SUMMARY TOTALS: 092HSW004

NAME: PRIDE OF EMORY

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,319,976 tonnes	4,761,958 tons
Milled:	4,319,976 tonnes	4,761,958 tons
Recovery:		
Silver:	16,516 grams	531 ounces
Gold:	1,026 grams	33 ounces
Cobalt:	140,700 kilograms	310,190 pounds
Copper:	13,212,770 kilograms	29,129,163 pounds
Nickel:	26,573,090 kilograms	58,583,619 pounds

Comments:

1961: Operator name changed to Giant Mascot Mines Ltd.
 1959: Operated by Giant Nickel Mines Ltd.
 1958: Operated by Western Nickel Ltd.
 1937: Development ore; B.C. Nickel Mines Ltd.
 1936: Development ore; B.C. Nickel Mines Ltd.

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MINFILE NUMBER: 092HSW008	NAME: EMPRESS	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1917	91		Copper		6,350
SUMMARY TOTALS: 092HSW008		NAME: EMPRESS			
	Mined:	<u>Metric</u>	<u>Imperial</u>		
	Milled:	91 tonnes	100 tons		
Recovery:	Copper:	6,350 kilograms	13,999 pounds		

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	092HSW009		NAME:	POPKUM LIMESTONE		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>		
1970	8,010		Limestone		8,010,444		
1969	6,946		Limestone		6,946,316		
1968	5,999		Limestone		5,999,214		
1967	6,232		Limestone		6,232,361		
1966	5,680		Limestone		5,679,885		
1965	5,156		Limestone		5,156,438		
1964	4,310		Limestone		4,310,040		
1963	4,462		Limestone		4,462,443		
1962	6,031		Limestone		6,030,966		
1961	8,242		Limestone		8,241,776		
1960	6,746		Limestone		6,745,825		
1959	6,659		Limestone		6,658,736		
1958	7,167		Limestone		7,166,759		
1957	6,341		Limestone		6,341,221		
1956	4,264		Limestone		4,263,768		
1955	3,582		Limestone		3,581,565		
1954	2,767		Limestone		2,766,913		
1953	2,818		Limestone		2,817,716		
1952	1,862		Limestone		1,862,450		
1951	2,613		Limestone		2,612,693		
1950	2,106		Limestone		2,106,030		
1947	247		Limestone		246,754		
1936	1,559		Limestone		1,559,450		
1935	1,341		Limestone		1,340,819		
1926	1,442		Limestone		1,441,516		
1924	907		Limestone		907,185		
1917	272		Limestone		272,155		

SUMMARY TOTALS: 092HSW009

NAME: **POPKUM LIMESTONE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	113,761 tonnes	125,400 tons
Milled:	tonnes	tons
Recovery:	Limestone: 113,761,438 kilograms	250,800,969 pounds

Comments:

- 1970: Quarry closed March 1970.
- 1967: Includes other sources.
- 1966: Includes other sources.
- 1965: Includes 795 tonnes trucked in from other sources.
- 1964: Includes 2609 tonnes trucked in from other sources.
- 1947: Adanac Lime Corporation Limited.
- 1936: Western Canada Lime Company Limited.
- 1935: Western Canada Lime Company Limited.
- 1926: Western Canada Lime Company Limited.
- 1924: Western Canada Lime Company Limited.
- 1917: Western Canada Lime Company Limited.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSW013		NAME: SENECA		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>	
1962	260		Silver	29,828		
			Gold	529		
			Copper		3,229	
			Zinc		18,442	

SUMMARY TOTALS: 092HSW013

		NAME: SENECA	
		<u>Metric</u>	<u>Imperial</u>
Recovery:	Mined:	260 tonnes	287 tons
	Milled:	tonnes	tons
	Silver:	29,828 grams	959 ounces
	Gold:	529 grams	17 ounces
	Copper:	3,229 kilograms	7,119 pounds
Zinc:	18,442 kilograms	40,658 pounds	

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MINFILE NUMBER: 092HSW015	NAME: VALLEY VIEW	STATUS: Showing			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1961	45	45	Silver Copper	1,555	518

SUMMARY TOTALS: 092HSW015

	NAME: VALLEY VIEW	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 45 tonnes	50 tons
	Milled: 45 tonnes	50 tons
Recovery:	Silver: 1,555 grams	50 ounces
	Copper: 518 kilograms	1,142 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSW016		NAME: TREASURE 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>	
1988	362	362	Silver Lead Zinc	1,266,000	120,190 24,460	
1939			Silver Lead Zinc	16,236	1,488 351	
1934			Silver Lead Zinc	154,115	21,100 3,504	
1932	117	117	Silver Gold Lead Zinc	148,956 31	64,276 11,984	
1931	44	44	Silver Gold Lead Zinc	148,765 31	21,710 2,989	
1930	907	680	Silver Gold Lead Zinc	260,954 31	37,911 4,618	
1929	80	80	Silver Lead Zinc	191,346	25,667 16,676	

SUMMARY TOTALS: 092HSW016

NAME: **TREASURE MOUNTAIN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,510 tonnes	1,664 tons
Milled:	1,283 tonnes	1,414 tons
Recovery:		
Silver:	2,186,372 grams	70,293 ounces
Gold:	93 grams	3 ounces
Lead:	292,342 kilograms	644,504 pounds
Zinc:	64,582 kilograms	142,379 pounds

Comments:

1988: Custom ore; bulk sample (Northern Miner - August 29, 1988).
 1939: No record of ore mined or milled.
 1934: No record of ore mined or milled.
 1932: Lead concentrates.

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MINFILE NUMBER: 092HSW018	NAME: EUREKA (L.1210)	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1927	21		Silver Lead Zinc	12,286	2,739 3,504

SUMMARY TOTALS: 092HSW018

	NAME: EUREKA (L.1210)	
	<u>Metric</u>	<u>Imperial</u>
Mined:	21 tonnes	23 tons
Milled:	tonnes	tons
Recovery:		
Silver:	12,286 grams	395 ounces
Lead:	2,739 kilograms	6,038 pounds
Zinc:	3,504 kilograms	7,725 pounds

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MINFILE NUMBER: 092HSW023	NAME: SUMMIT	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1951	18	18	Silver Lead Zinc	14,867	3,079 2,675

SUMMARY TOTALS: 092HSW023

	NAME: SUMMIT	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 18 tonnes	20 tons
	Milled: 18 tonnes	20 tons
Recovery:	Silver: 14,867 grams	478 ounces
	Lead: 3,079 kilograms	6,788 pounds
	Zinc: 2,675 kilograms	5,897 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSW025		NAME: SILVER DAISY		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>
1929	19		Silver	32,938	
			Gold	31	
			Lead		1,071
			Zinc		1,621
1916	6		Silver	21,274	
			Gold	31	
			Lead		843

SUMMARY TOTALS: 092HSW025

NAME: **SILVER DAISY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	25 tonnes	28 tons
Milled:	tonnes	tons
Recovery:		
Silver:	54,212 grams	1,743 ounces
Gold:	62 grams	2 ounces
Lead:	1,914 kilograms	4,220 pounds
Zinc:	1,621 kilograms	3,574 pounds

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MINFILE NUMBER: 092HSW026	NAME: FAITH	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1926	1		Silver Copper	3,577	22

SUMMARY TOTALS: 092HSW026

	NAME: FAITH		
	<u>Metric</u>	<u>Imperial</u>	
	1 tonnes	1 tons	
	Milled:	tons	
Recovery:	Silver:	3,577 grams	115 ounces
	Copper:	22 kilograms	49 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSW034		NAME: EMANCIPATION		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>
1941	526		Silver	1,804	
			Gold	9,144	
1940	47		Gold	2,084	
1938	8		Silver	218	
			Gold	591	
1934	7		Silver	218	
			Gold	2,115	
1933	9		Silver	840	
			Gold	404	
1932	127		Silver	2,457	
			Gold	10,295	
1931	27		Silver	653	
			Gold	3,888	
1930	9		Silver	871	
			Gold	404	
			Lead		61
			Zinc		85
1926	290		Silver	529	
			Gold	1,835	
1924	1		Silver	62	
			Gold	280	
1922	21		Silver	1,058	
			Gold	4,821	
1920	1		Silver	93	
			Gold	560	
1919	10		Silver	902	
			Gold	5,256	
1918	17		Silver	2,488	
			Gold	14,245	
1917	55		Silver	6,625	
			Gold	34,089	
1916	3		Gold	93	

SUMMARY TOTALS: 092HSW034

NAME: **EMANCIPATION**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,158 tonnes	1,276 tons
Milled:	tonnes	tons
Recovery:		
Silver:	18,818 grams	605 ounces
Gold:	90,104 grams	2,897 ounces
Lead:	61 kilograms	134 pounds
Zinc:	85 kilograms	187 pounds

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MINFILE NUMBER: 092HSW036		NAME: AUFEAS		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>	
1941	28		Silver	2,550		
			Gold	964		
			Copper			797
1940	94		Silver	4,479		
			Gold	2,738		
			Copper			1,196
1939	292		Silver	9,051		
			Gold	8,087		
			Copper			2,199
1938	68		Silver	2,022		
			Gold	1,773		
			Copper			309
1937	5		Silver	124		
			Gold	124		
			Copper			25

SUMMARY TOTALS: 092HSW036

NAME: **AUFEAS**

	<u>Metric</u>	<u>Imperial</u>
Mined:	487 tonnes	537 tons
Milled:	tonnes	tons
Recovery:	Silver: 18,226 grams	586 ounces
	Gold: 13,686 grams	440 ounces
	Copper: 4,526 kilograms	9,978 pounds
Comments:	1941: Star (MM00230).	
	1940: Anfeas, 55 tonnes; Star 39 tonnes operated Sep.-Dec. by L.A. Morin	

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MINFILE NUMBER: 092HSW042	NAME: B.B.	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1915	7		Silver	12	
SUMMARY TOTALS: 092HSW042		NAME: B.B.			
		<u>Metric</u>	<u>Imperial</u>		
Recovery:	Mined:	7 tonnes	8 tons		
	Milled:	tonnes	tons		
	Silver:	12 grams	ounces		

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MINFILE NUMBER: **092HSW092** NAME: **HARRISON GOLD** 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>
1979	37		Gold	1,147	
1972	643		Silver	10,139	
			Gold	30,443	
			Copper		616

SUMMARY TOTALS: 092HSW092

NAME: **HARRISON GOLD**

	<u>Metric</u>	<u>Imperial</u>
Mined:	680 tonnes	750 tons
Milled:	tonnes	tons
Recovery:		
Silver:	10,139 grams	326 ounces
Gold:	31,590 grams	1,016 ounces
Copper:	616 kilograms	1,358 pounds

Comments:

1979: Bulk sample taken in 1987 (1053 tonnes); commodities not reported.
 1972: Assessment Report 15745.

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MINFILE NUMBER: 092HSW104	NAME: ROSEDALE GRANITE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1951	1,800		Granite		1,800,000

SUMMARY TOTALS: 092HSW104

	NAME: ROSEDALE GRANITE	
	<u>Metric</u>	<u>Imperial</u>
	1,800 tonnes	1,984 tons
Mined:		
Milled:		
Recovery:	Granite: 1,800,000 kilograms	3,968,320 pounds

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MINFILE NUMBER: **092HSW105** NAME: **AGASSIZ GRANITE** 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>
1963	89		Granite		100
1962	188		Granite		100

SUMMARY TOTALS: 092HSW105

NAME: **AGASSIZ GRANITE**

<u>Metric</u>		<u>Imperial</u>
Mined:	277 tonnes	305 tons
Milled:	tonnes	tons
Granite:	200 kilograms	441 pounds

Recovery:

Comments:

1962: Only 170 tonnes shipped of the 188 tonnes mined.

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MINFILE NUMBER: **092HSW106** NAME: **CHEAM MARL** 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>
1987	7,020		Marl		7,020,000
1986	9,103		Marl		9,103,000
1985	8,009		Marl		8,009,000
1984	7,994		Marl		7,994,000
1983	9,057		Marl		9,057,000
1982	11,703		Marl		11,703,000
1981	7,813		Marl		7,813,000
1980	12,818		Marl		12,818,000
1979	15,664		Marl		15,664,000
1978	13,029		Marl		13,029,000
1977	12,425		Marl		12,424,805
1976	11,034		Marl		11,034,000
1975	10,886		Marl		10,886,216
1974	14,515		Marl		14,514,955
1973	21,884		Marl		21,884,016
1972	21,464		Marl		21,463,990
1971	20,522		Marl		20,522,332
1970	22,954		Marl		22,953,587
1969	15,517		Marl		15,517,394
1968	16,645		Marl		16,645,024
1967	24,392		Marl		24,392,382
1966	25,818		Marl		25,818,476
1965	34,216		Marl		34,216,285
1964	19,534		Marl		19,534,408
1961	34,410		Marl		34,410,422
1960	29,124		Marl		29,124,257
1959	19,941		Marl		19,940,826
1958	24,360		Marl		24,360,000
1957	23,587		Marl		23,586,802
1956	10,433		Marl		10,432,627
1955	8,390		Marl		8,389,644
1954	13,089		Marl		13,089,772
1953	11,070		Marl		11,070,378
1952	12,961		Marl		12,960,947
1951	13,831		Marl		13,830,937
1950	10,405		Marl		10,404,504
1949	750		Marl		750,242
1948	145		Marl		145,150

SUMMARY TOTALS: 092HSW106

NAME: **CHEAM MARL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	586,512 tonnes	646,519 tons
Milled:	tonnes	tons
Recovery:	Marl: 586,514,378 kilograms	1,293,042,501 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSW108		NAME: CHANNEL BAR		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>
1971	7		Silver	62	
			Gold	187	
			Lead		1
			Zinc		1

SUMMARY TOTALS: 092HSW108

		NAME: CHANNEL BAR	
		<u>Metric</u>	<u>Imperial</u>
Recovery:	Mined:	7 tonnes	8 tons
	Milled:	tonnes	tons
	Silver:	62 grams	2 ounces
	Gold:	187 grams	6 ounces
	Lead:	1 kilograms	2 pounds
	Zinc:	1 kilograms	2 pounds

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MINFILE NUMBER: 092HSW109	NAME: COTTERELL	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1942	34	34	Silver	1,431	
			Gold	995	
			Copper		407

SUMMARY TOTALS: 092HSW109

NAME: **COTTERELL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	34 tonnes	37 tons
Milled:	34 tonnes	37 tons
Recovery:		
Silver:	1,431 grams	46 ounces
Gold:	995 grams	32 ounces
Copper:	407 kilograms	897 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 092HSW123		NAME: AGASSIZ LIME		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>
1958	850		Limestone		850,032
1957	1,567		Limestone		1,566,708
1956	1,270		Limestone		1,270,059
1951	1,201		Limestone		1,201,113
1949	2,714		Limestone		2,714,297
1948	2,952		Limestone		2,951,979
1947	2,771		Limestone		2,770,547
1946	1,955		Limestone		1,954,983
1945	1,161		Limestone		1,161,196
1944	1,113		Limestone		1,113,116
1943	1,526		Limestone		1,525,885
1942	1,481		Limestone		1,480,525
1941	1,241		Limestone		1,241,029

SUMMARY TOTALS: 092HSW123

NAME: **AGASSIZ LIME**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21,802 tonnes	24,033 tons
Milled:	tonnes	tons
Recovery: Limestone:	21,801,469 kilograms	48,063,998 pounds

Comments:

- 1948: Pulverized stone, agricultural use; 72.6 tonnes of poultry grit.
- 1947: Pulverized stone, agricultural use; 72.6 tonnes of poultry grit.
- 1944: Pulverized stone, agricultural use; 47 tonnes of poultry grit.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 092HSW157		NAME: VALLEY GRANITE			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>	
1972	3,525	3,525	Granite		3,525,000	
1971	3,180	3,180	Granite		3,180,000	
1970	4,500	4,500	Granite		4,500,000	
1969	4,990	4,990	Granite		4,990,000	
1968	4,500	4,500	Granite		4,500,000	
1967	5,260	5,260	Granite		5,260,000	
1966	7,260	7,260	Granite		7,260,000	
1964	6,530	6,530	Granite		6,530,000	
1963	7,260	7,260	Granite		7,260,000	
1962	7,260	7,260	Granite		7,260,000	
1961	7,260	7,260	Granite		7,260,000	
1960	6,800	6,800	Granite		6,800,000	

SUMMARY TOTALS: 092HSW157

NAME: **VALLEY GRANITE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	68,325 tonnes	75,315 tons
Milled:	68,325 tonnes	75,315 tons
Recovery: Granite:	68,325,000 kilograms	150,630,798 pounds