

MINFILE NUMBER: **092INE001**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARPER RANCH**, KAMLOOPS, LAFARGE CANADA

STATUS: Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I09E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 40 15 N

NORTHING: 5617327

LONGITUDE: 120 04 00 W

EASTING: 707266

ELEVATION: 549 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on quarry 18 kilometres due east of Kamloops (NTS Map 92I/09).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

ASSOCIATED: Silica Quartz Siderite Limonite

MINERALIZATION AGE: Pennsylvan.-Permian

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Conodonts/Fusulinids

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.

TYPE: R09 Limestone

SHAPE: Tabular

MODIFIER: Folded Faulted

DIMENSION: 3000 x 2500 Metres

STRIKE/DIP: 020/40E

TREND/PLUNGE:

COMMENTS: Attitude of east limb of southward plunging syncline.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Harper Ranch

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil

MATERIAL DATED: Conodonts/Fusulinids/Corals

LITHOLOGY: Limestone

Chert

Sandstone

Conglomerate

Argillite

Quartzite

HOSTROCK COMMENTS: Harper Ranch limestones in Ashcroft map sheet are Mississippian to Permian in age.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Harper Ranch

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: HARPER RANCH

REPORT ON: Y

CATEGORY: Proven

YEAR: 1993

QUANTITY: 6000000 Tonnes

COMMODITY

GRADE

Limestone

50.0000

Per cent

COMMENTS: Reserves are estimated to last for 23 years at the current extraction rate of 260,000 tonnes per year. Grade given is CaO.

REFERENCE: Assessment Report 24554.

CAPSULE GEOLOGY

An irregular, north trending mass of Permian-Mississippian limestone of the Devonian to Triassic Harper Ranch Group, 3 kilometres in length and up to 2.5 kilometres in width, outcrops on the north side of the South Thompson River, 18 kilometres due east of Kamloops. To the east the limestone is overlain by sandstone and conglomerate containing clasts of andesitic to basaltic volcanics of the Upper Triassic Nicola Group. To the west the limestone contacts argillite and quartzite of the Harper Ranch Group. The limestone mass appears to be situated along the crest of an anticline plunging 20 degrees south. Bedding on the east limb of the fold strikes 020 degrees and dips 40 degrees east. Conodont sampling in the quarry on the south end of the deposit reveals the limestone is broken up into

CAPSULE GEOLOGY

at least two sequences dipping 50 to 80 degrees southeast that are repeated by a fault on the west margin of the quarry. The quarry exposes a number of basaltic and lamprophyric dikes 0.15 to 3.0 metres wide striking 090 degrees and dipping 70 degrees north.

The mass is made up of fine to medium grained, light to dark grey limestone with abundant white to grey chert as nodules, irregular patches up to 0.6 metre wide, and as discontinuous bands 0.1 to 0.6 metre thick. The chert is more frequent near the margins of the deposit. A 60 to 90 metre wide central zone is relatively free of chert. Quartz tends to occur as fine, silty aggregates that form up to 50 per cent of the rock. The limestone in the quarry is commonly veined with iron carbonate (siderite) and cut by faults containing hydrous iron oxides (limonite). In places, the limestone grades up to 95 per cent CaCO₃ within the quarry (John Wong, personal communication, 1989). A chip sample taken across a 91.4 metre thick section of purer limestone northeast of the quarry analysed 55.04 per cent CaO, 0.46 per cent MgO, 0.42 per cent SiO₂, 0.09 per cent Al₂O₃, 0.07 per cent Fe₂O₃ and nil sulphur (CANMET Report 811, page 184, Sample 49).

Lafarge Canada Inc. began quarrying the south end of the Harper Ranch deposit in 1970 to supply an adjacent cement plant. In 1976, 23 percussion-drill holes totalling 1347 metres were drilled on behalf of Lafarge Canada Ltd. In 1993, a long-term mining plan was defined on behalf of Lafarge Canada Inc.

Remaining reserves are 6 million tonnes grading 50 per cent CaO and represents a 23 year supply at a current production rate of approximately 260,000 tonnes per year (Assessment Report 24554).

BIBLIOGRAPHY

- EM EXPL 1996-A13; 1998; 2000-34; 2001-35
EMPR AR *1959-167-170; 1966-267; 1968-321
EMPR ENG INSP Annual Report 1989
EMPR GEM 1969-397,398; 1970-500; 1971-467; 1972-601; 1973-543,549;
1974-384
EMPR INF CIRC 1991-1, p. 59; 1994-1, p. 20; 1995-1, p. 9; 1996-1,
p. 9; 1997-1, p. 12; 1998-1, p. 13
EMPR MAP 65 (1989)
EMPR Mineral Market Update July, 1991
EMPR MINING 1975-1980 Vol.I, p. 46; 1981-1985, p. 65; 1986-1987, p.
89; 1988, p. 89
EMPR OF 1988-13; 1992-1; 1992-9; 1992-18; 1994-1
EMPR ASS RPT 6013, 24554
EMPR MER 1996; 1997; 1998; 1999, p. 11; 2000, p. 8; 2001, p. 15
GSC OF 165; 637; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 84-1B, pp. 207-215; 85-1A, pp. 349-
358; 88-8, pp. 2,3
GSC MEM 249, p. 7
CANMET RPT *811, Part 5, p. 184
N MINER Oct. 18, 1998

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE002**

NATIONAL MINERAL INVENTORY: 092I9 Cu6

NAME(S): **PYTHON (L.2565)**, COPPER HEAD (L.2564), NOONDAY (L.2563),
PYTHON-NOONDAY, NOONDAY-COPPER HEAD, MAKAAO,
LOST CHORD (L.2561), PYTHON NO. 2 (L.2562), COPPERHEAD,
JET

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Open Pit Underground

MINING DIVISION: Kamloops

LATITUDE: 50 38 37 N
LONGITUDE: 120 23 52 W
ELEVATION: 915 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5613426
EASTING: 683980

LOCATION ACCURACY: Within 500M

COMMENTS: Python shaft on the Python Crown grant Lot 2565 on Coal Hill, about 5 kilometres southwest of Kamloops (Property File - Plan of workings, 1956).

COMMODITIES: Copper Gold Palladium Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Calcite Epidote Magnetite K-Feldspar Fluorite
 Tremolite Pyrite
ALTERATION: Epidote Calcite Chlorite K-Feldspar Albite
 Malachite Azurite

ALTERATION TYPE: Propylitic Potassic Albitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Porphyry
 TYPE: L03 Alkalic porphyry Cu-Au
 DIMENSION: Metres
COMMENTS: Copper Head shear zone.

STRIKE/DIP: 320/70S 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	Iron Mask Batholith

LITHOLOGY: Diorite
Picrite
Norite Breccia Pipe
Norite
Andesitic Volcanic

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: COPPER HEAD	REPORT ON: Y
CATEGORY: Indicated	YEAR: 1980
QUANTITY: 104316 Tonnes	
COMMODITY: Copper	GRADE: 1.1300 Per cent
REFERENCE: Report by Pasieka in SMF 27/08/80, International Makoo Limited.	
ORE ZONE: NOONDAY	REPORT ON: Y
CATEGORY: Indicated	YEAR: 1972
QUANTITY: 544260 Tonnes	
COMMODITY: Copper	GRADE: 0.7400 Per cent
REFERENCE: Report by Pasieka in SMF 6/11/78, Makaoo Development Company Limited.	

INVENTORY

ORE ZONE: PYTHON

REPORT ON: Y

CATEGORY: Indicated YEAR: 1970

QUANTITY: 199562 Tonnes

COMMODITY: Copper GRADE: 1.1100 Per cent

REFERENCE: Report by Seraphim in SMF 4/07/72, Makaoo Development Company Limited.

CAPSULE GEOLOGY

The Iron Mask batholith lies in the southern part of the Quesnel Trough, also known as the Nicola Belt. The most important pre-Tertiary rocks in this belt are Upper Triassic volcanic and sedimentary rocks of the Nicola Group. The batholith is a subvolcanic, multiple intrusion which is comagmatic and coeval with the Nicola rocks. It is situated along the southwest side of a regional northwest trending fracture zone and is itself cut by numerous northwesterly faults. The batholith comprises two major northwest trending plutons separated by 6 kilometres of Eocene Kamloops Group volcanic and sedimentary rocks. The Tertiary rocks occupy what appears to be a graben structure resulting from renewed fault movement around the margins of the plutons during Paleocene or Early Eocene time (Bulletin 77). The larger pluton, the 18 kilometre long southern part of the batholith, is called the Iron Mask pluton. The smaller Cherry Creek pluton farther northwest, outcrops on either side of Kamloops Lake. The combined exposure of the batholith, including the intervening younger rocks, is about 33 kilometres long and 5 kilometres wide. Sedimentary and volcanic rocks of the Kamloops Group unconformably overlie the Nicola rocks and the Iron Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte.

In the vicinity of the batholith, the Nicola Group is dominated by volcanic and volcanoclastic sedimentary rocks. They are generally recognized by albitization of feldspars, occurrence of patchy epidote, and/or rare hematite alteration. On the southwestern flank of the Iron Mask pluton, well-indurated, massive and bedded tuff, breccia and interbedded flows and flow breccia are prominent and are weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt.

The Iron Mask pluton comprises four major, successively emplaced units designated as the Iron Mask Hybrid, Pothook, Sugarloaf and Cherry Creek units. Locally, an additional Picrite unit also occurs which is probably not genetically related to the batholith. The smaller Cherry Creek pluton consists entirely of the Cherry Creek unit. Isotopic dates (194 to 204 Ma +/- 6 Ma) indicate that all of these units are of Late Triassic or earliest Jurassic age (Bulletin 77). The component units (except the Picrite unit) of the multiphase batholith are largely controlled by major systems of northwesterly, northerly and northeasterly trending fractures or faults. Most units show some degree of alteration and/or contamination which may be intense locally. Weak to moderate saussuritization is ubiquitous in all batholithic rocks while potassium feldspathization is more prominent in rocks of the Cherry Creek unit. The units are briefly described in order of oldest to youngest (determined mainly on crosscutting relationships). The Iron Mask Hybrid unit forms the spine of the Iron Mask pluton. It is mostly agmatitic, consisting of rounded to angular fragments of various sizes, texture and composition in a dioritic matrix. The fragments include mainly coarse and fine-grained diorite and coarse-grained gabbro with lesser amounts of medium to coarse-grained hornblendite and scattered xenoliths of Nicola Group volcanic rocks. All rock varieties in the unit contain magnetite which is often more than 10 per cent by volume. Mineralization, particularly of iron and copper, is almost ubiquitous in this unit. The Pothook unit occurs mainly in the northwestern half of the Iron Mask pluton, appearing frequently as narrow, gradational zones between the Iron Mask Hybrid and Cherry Creek units. Rocks of this unit are uniformly of dioritic composition and are medium to coarse grained. The Pothook unit is locally mineralized with copper and iron. The Picrite unit consists of rocks of basaltic composition with abundant clinopyroxene and serpentinized olivine phenocrysts. These rocks generally occur as steeply dipping, poorly exposed and relatively small lenticular bodies in many parts of the batholith. They appear to be associated

CAPSULE GEOLOGY

with recurring, northwesterly trending fracture systems and copper mineralization frequently occurs in their vicinity. Because picrite basalt has been observed far from the two component plutons of the batholith, it is probable that this unit is not part of the batholith. The Sugarloaf unit occurs mainly along the southwest side of the Iron Mask pluton and as small enclosed bodies in the southern half of the pluton. Rocks of this unit are mainly porphyritic with hornblende, minor clinopyroxene and plagioclase in a greyish green matrix. They are of fairly uniform diorite-andesite composition. Several copper occurrences are hosted by the Sugarloaf rocks. The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine-grained equivalents as well as local intrusive breccias. Copper and minor iron mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism.

The majority of the Python property is underlain by the Iron Mask Hybrid unit. In the northern portion of the property, a 30 to 100 metre wide, southeast trending and west dipping band of picrite basalt is found within the hybrid unit. The hangingwall picrite-diorite contact is demarked by a significant shear zone, known as the Copper Head shear. Three major zones of copper mineralization were identified by previous workers and are known as the Python, Copper Head and Noonday. Copper mineralization consists mainly of chalcopyrite with lesser malachite and azurite.

The Python zone is best described as a breccia pipe zone hosted by norites. The breccia pipe has ill-defined margins and grades into less altered diorite. Copper mineralization is found as fracture fillings and lenses with accompanying low gold values. In the breccia, pink feldspar veins are non-systematic; elsewhere they are wider, more persistent, and tend to adopt one or more distinct attitudes. Where more massive veining occurs, mineralization is purely local and is confined to the immediate vicinity of the pink veins. Epidote, calcite, magnetite and chalcopyrite occur within or at the margins of many veins, either singly or as a varied assemblage of these minerals. In many instances they fill fractures within a vein. The same minerals also occur disseminated in the adjacent altered diorite. The breccia in which the Python mineralized zone occurs probably forms a steeply dipping tabular lens or pipe. In plan it is elongate approximately east-west. Chalcopyrite is essentially the only sulphide present. It occurs as stringers and lenses of varied orientation and as disseminations in the feldspathized diorite. The larger lenses have a thickness of 30 centimetres. In places the ore is vuggy, with calcite, epidote and some fluorite in the cavities. Quartz is virtually lacking. Magnetite lenses, nodules and disseminations are common. Some oxidation of the sulphide to carbonates has occurred. The ore is brecciated and dragged by steep faults striking north-northeast and west-northwest. The northerly faults offset those of the other set with small apparent displacements. A green muddy breccia as much as 30 centimetres wide is commonly present along parts of the faults. Specks of chalcopyrite in the green breccia probably represent mechanically incorporated material. The walls of the breccia are coated with a brown gouge and are polished and slickensided in a manner indicating horizontal and oblique movement, probably subsequent to formation of the breccia. In 1970, estimated reserves of the Python were 199,562 tonnes grading 1.11 per cent copper.

The Lost Chord workings are a short distance east of the Python group but no semblance of the structures seen on the Python group is apparent at these old showings on which work was recorded in 1903 and 1913. Of two short adits, one is southwest of and about 21 metres higher than the other. The upper adit is 1.8 metres long and exposes a steep 10 centimetre wide fault striking 070 degrees and carrying copper carbonates. The lower adit is driven southwestward 6 metres into partly altered diorite. Both north and northwesterly shears occur but are not mineralized. The diorite contains a trace of disseminated chalcopyrite. No pink veins occur in the general vicinity. Bornite was reported in the showings on which there were once a number of opencuts.

The Copper Head zone is a structurally related zone which contains disseminated and fracture filling chalcopyrite mineralization with accompanying gold and minor palladium values. The mineralization is found dominantly within the Copper Head shear and its hangingwall diorites. Locally, mineralization is present within the footwall picrites. The shearing is 1.8 metres wide and has an overall trend of 320 degrees, but in the Copper Head workings it strikes 335 degrees. The dip is 70 degrees or more to the south. The picrite is pulverized within the shear zone, and in the footwall

CAPSULE GEOLOGY

is less broken up but contains some strongly sheared sections. The hangingwall diorite contains pink veins of orthoclase feldspar and is traversed by numerous chloritic fractures. Chalcopyrite is strongly disseminated in the shear zone and in the footwall. Gangue minerals are not abundant. Lenses of calcite and occasionally of tremolite occur, and contain small stringers of chalcopyrite. Small crystals of white fluorite line cavities within the mineralized rock. Little pyrite is present, and little oxidation of the chalcopyrite has occurred. On the hangingwall, diorite contains disseminated chalcopyrite for 30 centimetres or so from the shear zone and at greater distances where brecciated pink veins occur. Several steep faults pass from diorite into the shear zone and apparently displace it. A shallow west-dipping fault cuts the shear zone in the No. 1 crosscut. The greatest width of mineralized shear zone was 7 metres in No. 1 crosscut. In 1980, estimated reserves were 104,316 tonnes grading 1.13 per cent copper.

The Noonday zone is also related to the same sheared picrite-diorite contact as the Copper Head zone. This zone is found along the fault offset picrite-diorite section to the southeast of the Copper Head. The zone contains disseminated and fracture filling chalcopyrite mineralization with accompanying gold and palladium values. In 1972, estimated reserves were 544,260 tonnes grading 0.74 per cent copper, which included 117,923 tonnes grading over 1.0 per cent copper. The Copper Head shear zone between the Copper Head and Noonday zones is also mineralized with disseminated and fracture filling chalcopyrite with accompanying gold and palladium values. Where exposed, the style of mineralization is identical to that of the Copper Head zone. Along strike, to the northwest of the Copper Head zone, in the area of the Orphan Boy shaft (092INE003), the picrite-diorite contact zone is relatively unmineralized.

Across section in the Noonday-Copper Head areas, the footwall diorites are unmineralized while the hangingwall diorites contain minor chalcopyrite mineralization. This mineralization consists of local and discontinuous fracture fillings and disseminations. The exposed Nicola volcanics are well fractured and contain local minor chalcopyrite fracture fillings. In the Jet area, local and discontinuous fracture fillings and disseminations of chalcopyrite are hosted by the hybrid unit. The isolated, small lenses of highly albitized hybrid rocks commonly contain erratic copper mineralization.

The major structures on the property appear to be northwest and north to northeast trending recurring faults which are prominent in the Copper Head-Noonday area. Airphoto lineaments indicate numerous similar trending structures to the south. The Copper Head shear zone, a northwest trending recurring fault, is the best exposed structure. The shear is fairly regular with widths of 1.5 to 6 metres and dips of 16 to 82 degrees to the southwest. It overprints the intercalated diorite-picrite contact. This zone is accompanied by abundant chlorite-saussurite-biotite and carbonate and minor talc and serpentine fracture filling. The shear is poorly to not exposed in the Noonday area and along strike to the southeast. To the northwest, in the Orphan Boy shaft area, the hangingwall diorites display moderate to intense K-feldspar alteration.

Propylitic alteration is ubiquitous. Moderate to intense K-feldspar alteration was noted in the Orphan Boy shaft and Python zone areas. Albitization was observed as extensive patches proximal to the Python zone and as small, discontinuous lenses in the Jet area.

In 1987, BP Resources sampled old core from 14 previously drilled diamond-drill holes to evaluate the potential of the Copper Head and Noonday zones enhancement in gold, palladium and platinum. Generally, there is a rough but erratic correlation between the copper, gold and palladium levels; platinum levels are very low. A 1.8 metre intercept from DDH 78-1 in the Copper Head zone analysed 5.05 grams per tonne palladium, 2.24 grams per tonne gold and 0.55 per cent copper. A 3.6 metre intercept from DDH 72-3 in the Noonday zone analysed 0.62 gram per tonne palladium, 1.2 grams per tonne gold and 0.73 per cent copper. Results from the 1987-88 exploration indicate that significant copper-gold-palladium mineralization is restricted to the sheared picrite-diorite contact zone and its immediate hangingwall and/or footwall. This mineralization has been concentrated within the Copper Head and Noonday zones and their intervening section (Assessment Report 17946).

This property is located on the north slope of Coal Hill, about 5 kilometres southwest of Kamloops. The Python and Noonday claims were the first staked on Coal Hill in August 1896 by Robert Buchanan of Kamloops, and work was begun in sinking a shaft. Ownership of the property in 1897 was given as W.F. Wood and associates. The Python Mining Company, Limited, was incorporated in May 1899 and development

CAPSULE GEOLOGY

work was carried on until 1902. During 1908 the property was under option to W.O. Young and drifting was in progress in one adit. Intermittent work by Mr. Wood and associates was carried out during the period 1909 through 1911. By 1910 the underground workings totalled 327.6 metres in two shafts and an adit. The Granby Consolidated Mining, Smelting and Power Company, Limited, optioned the property in 1916. Some diamond drilling was reported but results are not known. In 1922, the Lost Chord, Python No. 2, Noonday, Copper Head and Python claims (Lots 2561 2565, respectively) were Crown granted to John Beaton, W.W. Wood, J.R. Hall and Susan Wood. No further activity was recorded until 1954 when the property was reported held for a short time by the Canadian Mining and Smelting Company and selected areas of the property were covered by an electromagnetic survey (no record has been found of a company by that name). Makaoo Development Company Limited in 1955 acquired, in consideration of 1,200,000 shares, the 5 Crown-granted claims and 62 located claims and fractional claims in the Jet, Python, Dot, Pie, and other groups. From 1955 to 1963 the company spent in excess of \$300,000 on exploration and development work, inclusive of shaft sinking, drifting, crosscutting, diamond drilling, trenching, geological mapping, and geophysical surveys. By an agreement of March 1963 Quamco Limited was granted an option on the property. By an agreement dated February 1964 Quamco Limited assigned its interest in the earlier agreement to Rolling Hills Copper Mines Limited. Rolling Hills at that time acquired an additional 183 recorded claims. Work during 1964 included electromagnetic and induced polarization surveys, and 3616.4 metres of percussion drilling above the Python adit. During 1965 Vanco Explorations Limited held an option on this and a number of adjacent properties. On this property a geochemical survey was made and several drillholes put down to test the resulting anomalies. Rolling Hills resumed work on the property in 1966. During the period 1966 to 1970, inclusive, further geophysical surveys were carried out and drilling totalled 731.5 metres in 5 diamond-drill holes and 1100.3 metres in more than 13 percussion holes. The geochemical and geophysical surveys to 1966 outlined a number of anomalies. Drilling and underground work to 1970 has outlined the following mineralized zones: Python zone, 199,562 tonnes at 1.11 per cent copper; Copper Head zone, 81,639 tonnes at 1.13 per cent copper (R.H. Seraphim, Report 1/05/72 in VSE Statement of Material Facts 4/07/72, Makaoo Development Company Limited). By an agreement dated October 2, 1972, Makaoo granted an option as to Teck Corporation Limited (65 per cent) and Iso Mines Limited (35 per cent) to acquire a share interest in the company. Work by Teck in 1972 included geological mapping, an induced polarization survey over 5.6 line kilometres, a geochemical survey (560 samples), 974.4 metres of surface diamond drilling in 7 holes on the Noonday claim, and percussion drilling in 41 holes totalling 3825.2 metres over various parts of the property. Percussion and minor diamond drilling in the Noonday zone to the end of 1972 indicated 544,260 tonnes of 0.74 per cent copper (C.T. Pasieka, Report 13/07/78 in VSE Statement of Material Facts 6/11/78, Makaoo Development Company Limited). For this work Makaoo issued to Teck 100,000 shares in the company. Teck carried out an induced polarization survey in this vicinity in 1973. The option agreement subsequently expired. In 1976, the property was optioned to a private interest. In 1976, Makaoo Development Co. Ltd. did 243.8 metres of percussion drilling and also diamond drilled seven holes totalling 558.2 metres in the Noonday and Copper Head areas during 1978 and 1979. In 1980, Makaoo completed bulldozer stripping, percussion drilling (amount unknown) on the Python zone and attempted (in vain) to rehabilitate the 2519 adit. Reserves in the Copper Head zone were reported as 104,316 tonnes at 1.13 per cent copper (C.T. Pasieka, 06/06/80, in International Makoo Limited Statement of Material Facts 27/08/80). The company name (Makoo) was changed in January 1980 to International Makoo Limited. In 1987-88, BP Resource Canada Ltd. conducted a field exploration program consisting of underground rehabilitation, geological mapping and rock sampling, diamond drill core analysis (336), grid construction, and soil geochemical sampling (210). The exploration target was economic porphyry-type and/or shear related copper-gold-palladium mineralization. In 1996, three diamond-drill holes were completed on the Jet 7 fraction and Jet 10 claims with attention to emplacement, albitization, fracturing and sulphide showings. No economic copper mineralization was intersected although drillhole number 3 intersected 0.17 per cent copper over 24 metres at depth. In 1999, work by DRC Resources involved geological mapping, surveying, prospecting, reclamation, reviewing previous exploration data and diamond drilling with the emphasis on finding an extension or similar geological setting as that on the Ajax East pit. Three diamond-drill

CAPSULE GEOLOGY

holes totalling 302 metres were drilled on the Jet 7 Fraction adjacent to the Ajax East pit.

BIBLIOGRAPHY

- EM GEOFILE 2000-2; 2000-5
EMPR AR 1896-566; 1897-613; 1898-1102; 1899-605,729-731; 1900-888, 889; 1901-1078,1187; 1902-H191; 1903-H180; 1904-G231; 1905-J256; 1906-H176; 1907-L131; 1908-J121; 1909-K139; 1910-K127; 1911-K181; 1913-K188-K190; 1915-K215; 1916-K266; 1922-N355; 1923-A150; 1925-A171; 1955-38; *1956-47-69; 1957-29,30; 1958-29; 1961-46; 1963-58, 59; 1964-98; 1966-148; 1967-137-141,147; 1968-172
EMPR ASS RPT 604, 605, 640, 742, 4317, 6275, 7507, 9955, *17120, *17946, 24755, 25963
EMPR BC METAL MM00409
EMPR EXPL 1976-E99; 1979-175
EMPR GEM 1969-235; 1970-321; 1972-196; 1973-198
EMPR BULL 77
EMPR PF (Summary Report on Percussion Drilling 1964 Season; Various letters and correspondence from Makaoo Development Company Limited; Summary of Exploration and Development Work forms; Assay plan of diamond-drill holes and cuts above workings, 1956; Geology maps of workings, J.M. Carr, 1956; Plan map of trenching, drillholes and underground workings; Property description; Seraphim, R.H. (1971): Report on Rolling Hills Copper Mines Ltd. Kamloops Claims)
EMR MP RESFILE (Python)
EMR MP CORPFILE (Makaoo Development Company Limited; Rolling Hills Copper Mines Limited)
EMR MR 223 (BC 143)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
GSC MEM 249, pp. 111,112
CIM Spec. Vol. 46, pp. 565-580, 581-592, 593-608
GCNL #223(Dec.18), 1972; #243, 1978; #72, 1979; #227, 1980; *#52(Mar.13), 1996
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C., unpub. M.Sc. Thesis, The University of British Columbia, 196 pp.

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/20

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE003**

NATIONAL MINERAL INVENTORY:

NAME(S): **ORPHAN BOY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 38 51 N
LONGITUDE: 120 24 05 W
ELEVATION: 853 Metres

NORTHING: 5613849
EASTING: 683709

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, 350 metres southwest of Pothook Lake and just west of the west boundary of the Copper Head Crown grant Lot 2564 of the Python property (092INE002), about 5 kilometres west-southwest of Kamloops (Property File - see 092INE002, Python location map of workings).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: K-Feldspar
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
Picritic Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

A shaft at the Orphan Boy showing, now flooded (ca. 1903), was reported to be 12 metres deep with a crosscut at the bottom exposing a body of pyritic ore 6 metres wide between well defined diorite walls, assaying well in copper, gold and silver. The hostrock diorite is part of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith. Mineralization consisted of a massive chalcopyrite vein (2.1 metres wide) and disseminated pyrite (Minister of Mines Annual Reports 1903, 1907). In 1956, opencutting about 6 metres from the shaft has exposed an oxidized vein of sulphides that follows an east-striking shear. Fifteen metres north of the vein, which occurs in diorite with pink veins, a sheared contact of picritic basalt (Picrite unit of the Iron Mask batholith) and diorite is exposed. This contact is again visible 122 metres to the southeast, but at neither place is mineralization evident. Makaoo Development Company Limited drilled two surface holes (Nos. 23 and 24) northeastward to test this contact at greater depth. The core of No. 23, the only one examined, failed to show appreciable mineralization. The shear zone was intersected in this hole at a vertical depth of 61 metres (Minister of Mines Annual Report 1956). A large number of trenches have been dug across the prevailing strike between the Orphan Boy workings and a point 792 metres easterly of the Python shaft (092INE002).

See the adjacent Python property (092INE002) located 250 metres east for a detailed work history of the area.

In 1964-65, Rolling Hills Copper Mines Limited conducted 14.9 line kilometres of induced polarization survey over widely spaced lines (914 metres apart), 102.8 kilometres of ground magnetometer survey and 68.4 kilometres of linecutting on their large holding of claims.

BIBLIOGRAPHY

EMPR AR *1903-H180; *1904-G231; 1906-H176; *1907-L131; *1956-47-54,

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 10
REPORT: RGEN0100

BIBLIOGRAPHY

56,57
EMPR GEM 1973-198
EMPR BULL 77
EMPR ASS RPT 605, 640, 742
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE004**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAP 4 FR.**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 47 N
LONGITUDE: 120 21 59 W
ELEVATION: 945 Metres

NORTHING: 5610107
EASTING: 686320

LOCATION ACCURACY: Within 500M

COMMENTS: Percussion-drill holes along a road, 3 kilometres west of Knutsford Hill, about 7 kilometres south of Kamloops (Assessment Report 8512).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite Magnetite
ALTERATION: Chlorite Epidote Albite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY: Dioritic Intrusive
Diorite

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
SAMPLE TYPE: Chip
COMMODITY: Copper

YEAR: 1980

GRADE: 0.1200 Per cent

COMMENTS: A 3-metre intersection.
REFERENCE: Assessment Report 8512.

CAPSULE GEOLOGY

In 1980, Cominco Ltd. drilled four vertical percussion-drill holes totalling 366 metres on the Map 4 Fr. claim to test a weak induced polarization conductor. The four holes intersected dioritic intrusive rock of the Iron Mask Hybrid unit of the Late Triassic-Early Jurassic Iron Mask batholith. The dioritic rocks are mineralized with sufficient amounts of disseminated pyrite, magnetite and chalcopyrite to explain the induced polarization anomaly. The rocks are weak to moderately propylitically altered in the form of chlorite, epidote and albite. Drillhole WT80-156 intersected 3 metres grading 0.12 per cent copper (Assessment Report 8512).

BIBLIOGRAPHY

EMPR ASS RPT *8512
EMPR BULL 77
EMPR AR 1956-47-54
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/19
DATE REVISED: 2003/02/19

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE005**

NATIONAL MINERAL INVENTORY:

NAME(S): **DCE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 26 N
LONGITUDE: 120 26 06 W
ELEVATION: 945 Metres

NORTHING: 5611141
EASTING: 681424

LOCATION ACCURACY: Within 500M

COMMENTS: Showing A located about 800 metres south-southeast of Wallender Lake,
9 kilometres southwest of Kamloops (Assessment Report 26720).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite Epidote Calcite Quartz Carbonate
ALTERATION: Epidote Calcite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE: Upper Triassic
Triassic-Jurassic

GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER: Iron Mask Batholith

LITHOLOGY: Diorite
Andesitic Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

Three small (less than 10 square metres) areas of sulphide mineralization were found on the DCE claims located at the western contact of the Late Triassic-Early Jurassic Iron Mask batholith with Upper Triassic Nicola Group volcanics. Showing A is at the faulted contact of Cherry Creek unit diorite and Pothook unit diorite, both of the Iron Mask batholith. Showing C, located about 650 metres west of showing A, is at the fault contact between Nicola Group andesitic volcanic rocks and Iron Mask Hybrid unit diorite. Showing B is about 1500 metres south of showing A, near the west shore of Jacko Lake. At the A and B showings the hostrocks are highly fractured and altered and contain less than 5 per cent pyrite with trace chalcopyrite associated with epidote and calcite in thin fracture fillings and veinlets. The B showing consists of an open-cut about 3 metres deep and 3 metres wide on a 20 centimetre wide quartz-carbonate vein containing clots of pyrite and trace chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT *26720
EMPR BULL 77
EMPR AR 1956-47-54
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/19
DATE REVISED: 2003/02/19

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE006**

NATIONAL MINERAL INVENTORY:

NAME(S): **O.K.**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 39 13 N
LONGITUDE: 120 24 53 W
ELEVATION: 869 Metres

NORTHING: 5614496
EASTING: 682743

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft located about 1300 metres west-northwest of Pothook Lake and the Python workings (092INE002), 6 kilometres west-southwest of Kamloops (Minister of Mines Annual Report 1956, Figure 3).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Chrysocolla K-Feldspar
ALTERATION TYPE: Oxidation Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY: Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The O.K. workings are about 1100 metres northwest of the Orphan Boy shaft (092INE003) and are reported to consist of an adit and two shafts that explore two mineralized zones. One shaft was sunk to a depth of 26 metres with east-west crosscuts at the 15-metre level aggregating 19.8 metres. In the west crosscut a body of chrysocolla was intersected. The second shaft is 6 metres deep with crosscuts along the surface. An adit was driven to crosscut the upper ore zone and intersected it 10.6 metres down and 4.5 metres in. The entire work is in dark green, medium-grained diorite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith. Mineralization consisted of bunches and streaks of chalcopyrite containing gold values.

Makaoo Development Company trenched in the vicinity of an old shaft about 3 metres deep, exposing several narrow oxidized sulphide veins near a fault that strikes 070 degrees and dips northward. The hostrock is Cherry Creek unit diorite with pink feldspar veins (Minister of Mines Annual Report 1956).

In 1964-65, Rolling Hills Copper Mines Limited conducted 14.9 line kilometres of induced polarization survey over widely spaced lines (914 metres apart), 102.8 kilometres of ground magnetometer survey and 68.4 kilometres of linecutting on their large holding of claims.

BIBLIOGRAPHY

EMPR AR *1899-605,731; *1904-G232; 1906-H176; *1956-47-54,57
EMPR ASS RPT 605, 640, 742
EMPR BULL 77
EMPR PF (Map of geology of lower workings, 1956)
GSC MEM 249, p. 112
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE006**

CAPSULE GEOLOGY

Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte.

In the vicinity of the batholith, the Nicola Group is dominated by volcanic and volcanoclastic sedimentary rocks. They are generally recognized by albitization of feldspars, occurrence of patchy epidote, and/or rare hematite alteration. On the southwestern flank of the Iron Mask pluton, well-indurated, massive and bedded tuff, breccia and interbedded flows and flow breccia are prominent and are weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt.

The Iron Mask pluton comprises four major, successively emplaced units designated as the Iron Mask Hybrid, Pothook, Sugarloaf and Cherry Creek units. Locally, an additional Picrite unit also occurs which is probably not genetically related to the batholith. The smaller Cherry Creek pluton consists entirely of the Cherry Creek unit. Isotopic dates (194 to 204 Ma +/- 6 Ma) indicate that all of these units are of Late Triassic or earliest Jurassic age (Bulletin 77).

The component units (except the Picrite unit) of the multiphase batholith are largely controlled by major systems of northwesterly, northerly and northeasterly trending fractures or faults. Most units show some degree of alteration and/or contamination which may be intense locally. Weak to moderate saussuritization is ubiquitous in all batholithic rocks while potassium feldspathization is more prominent in rocks of the Cherry Creek unit. The units are briefly described in order of oldest to youngest (determined mainly on crosscutting relationships). The Iron Mask Hybrid unit forms the spine of the Iron Mask pluton. It is mostly agmatitic, consisting of rounded to angular fragments of various sizes, texture and composition in a dioritic matrix. The fragments include mainly coarse and fine-grained diorite and coarse-grained gabbro with lesser amounts of medium to coarse-grained hornblende and scattered xenoliths of Nicola Group volcanic rocks. All rock varieties in the unit contain magnetite which is often more than 10 per cent by volume. Mineralization, particularly of iron and copper, is almost ubiquitous in this unit. The Iron Mask mine (092INE010), a former copper producer, is located in this unit, but is also associated with picrite.

The Pothook unit occurs mainly in the northwestern half of the Iron Mask pluton, appearing frequently as narrow, gradational zones between the Iron Mask Hybrid and Cherry Creek units. Rocks of this unit are uniformly of dioritic composition and are medium to coarse grained. The Pothook unit is locally mineralized with copper and iron.

The Picrite unit consists of rocks of basaltic composition with abundant clinopyroxene and serpentinized olivine phenocrysts. These rocks generally occur as steeply dipping, poorly exposed and relatively small lenticular bodies in many parts of the batholith. They appear to be associated with recurring, northwesterly trending fracture systems and copper mineralization frequently occurs in their vicinity. Because picrite basalt has been observed far from the two component plutons of the batholith, it is probable that this unit is not part of the batholith.

The Sugarloaf unit occurs mainly along the southwest side of the Iron Mask pluton and as small enclosed bodies in the southern half of the pluton. Rocks of this unit are mainly porphyritic with hornblende, minor clinopyroxene and plagioclase in a greyish green matrix. They are of fairly uniform diorite-andesite composition. Several copper occurrences are hosted by the Sugarloaf rocks. The Ajax deposit (092INE012) east of Jacko Lake is located within brecciated and albitized Sugarloaf rocks.

The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine-grained equivalents as well as local intrusive breccias. Copper and minor iron mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism. Afton mine lies at the western termination of a narrow, 4 kilometre long, easterly trending zone of intense intrusive brecciation that is located at the northern edge of the Iron Mask pluton. The brecciation is considered to have resulted from high-level venting events.

CAPSULE GEOLOGY

The Galaxy zone, a small, alkaline-type porphyry copper-gold deposit, is hosted within a fault-bounded pendant composed mainly of dioritic phases of the Iron Mask batholith and volcanic and sedimentary rocks of the Nicola Group. In 1956, Galaxy Copper Limited carried out extensive diamond drilling and surface trenching which essentially identified the present limits of the zone. The deposit has received underground development and extensive surface work culminating in some ore shipments being made.

Mineralization consists of chalcopyrite, pyrite and pyrrhotite with local bornite as fracture fillings and veinlets and as very fine-grained disseminations adjacent to fractures. Locally, veins of semimassive to massive chalcopyrite-pyrite-pyrrhotite exceed 1 metre widths. There is only very minor oxidation of sulphides within the zone below 3 metres.

The Galaxy zone is estimated to contain 3,174,850 tonnes grading 0.65 per cent copper (Assessment Report 20242). Reserve estimates are based on earlier drilling programs and underground exploration work and are hampered by a lack of complete assay data and by very poor core recoveries. In 1985, Abermin reported indicated reserves of 2,267,750 tonnes grading 0.6 per cent copper and 0.5 gram per tonne gold. In 1988, Abermin reported inferred reserves of 3,492,335 tonnes grading 0.63 per cent copper.

Teck Corporation, under an option agreement with Getchell Resources Inc., completed a 32-hole diamond drilling program on the property. The estimated resource is 3.2 million tonnes grading 0.65 per cent copper and 0.34 gram per tonne gold (Information Circular 1997-1).

The Afton deposit (092INE023) is 9 kilometres west-northwest of the Galaxy zone and the Ajax deposit (092INE012) is 4 kilometres south-southeast.

The property is located at Galaxy Lake approximately 8 kilometres west southwest of Kamloops. Workings on the Golden Star claim (Lot 845) in 1899 included opencuts, shallow shafts and an 26.2 metre long adit. The claim was Crown granted to The Kamloops Copper Mining Company Limited in 1900. Workings on the Evening Star claim (Lot 1013) in 1899 included opencuts, pits and a short adit. During 1905-06, a shaft was sunk to 27.4 metres and 6 metres of drifting carried out at the 17-metre level. In 1906, the Evening Star group comprised 3 claims, the Evening Star, Golden Star, and Bill Nye, owned by J.H. Morrison, A.S. McArthur and J.M. Harper. The Evening Star claim was Crown granted to the above in 1912. The Granby Consolidated Mining, Smelting and Power Company, Limited is reported to have optioned this and other nearby properties in 1916 and carried out diamond drilling. Some ore was shipped by the owners in 1916 and 1917. No further activity was reported until 1956 when Galaxy Minerals Ltd. acquired 46 located claims and 6 Crown granted claims, including the Evening Star and Golden Star. Trenching and 441 metres of diamond drilling was carried out during 1956-57. Exploration work was resumed in 1961 and geophysical surveys, trenching and extensive diamond drilling were carried out. The company name was changed in 1964 to Galaxy Copper Ltd. Vanco Explorations Limited optioned the Galaxy ground and a number of adjacent properties in 1965. Geophysical, geochemical and geological surveys and some diamond drilling was carried out by Sulmac Exploration Services Limited on Galaxy ground. The option was dropped in May 1966. Galaxy Copper Ltd. amalgamated with Bata Resources Ltd. and Stampede Oils Ltd. to form United Bata Resources Limited in October 1968. By an agreement dated January 1, 1969 United Bata optioned a 50 per cent interest in the property to Kimberley Copper Mines Ltd. Work by Kimberley during the latter part of 1969 included rehabilitation of the old Evening Star shaft and drifting to the south, east and north at 24.3 metres below the shaft collar; a total of 188.9 metres of drifting was reported. Surface diamond drilling was done in 16 holes totalling 1524 metres. This work confirmed: "3,628,400 tonnes proven and 1,814,200 tonnes indicated of mineralization which has an average assay value of 0.58 per cent copper" (United Bata Resources Limited, Report, May 15, 1969). United Bata was acquired as a subsidiary of Pan Ocean Oil Corporation. The option agreement with Kimberley Copper was transferred to a new subsidiary United Bata Resources (Canada) Ltd., which was incorporated in December 1970. The latter company name was changed in July 1971 to Pan Ocean Oil Ltd. Kimberley Copper Mines underwent a change of name in February 1971 to Nor West Kim Resources Ltd. Work under the option agreement was resumed in 1971. The northwest drift was extended to a point 365 metres northwest of the shaft where a raise was put up 31 metres to the surface. A total of 401.1 metres of drifting, 1333.2 metres of surface and 327.3 metres of underground diamond drilling was carried out, all on the Evening Star claim; the option was subsequently abandoned. Pan Ocean optioned the property to Canadian Superior

CAPSULE GEOLOGY

Exploration Limited, who during 1977 carried out a magnetometer survey, and percussion drilling 731 metres in 8 holes. Aberford Resources Ltd was incorporated in April 1982 to acquire the mineral assets of Pan Ocean Oil and of other companies. Aberford, in October 1985, incorporated Abermin Corporation to continue the mineral exploration activities of Aberford. The company owns 100 per cent interest in the Galaxy property which has indicated some 2,267,750 tonnes at 0.6 per cent copper 0.51 gram per tonne gold (Abermin Corporation, Information Booklet, 30/12/85, page 53).

BIBLIOGRAPHY

EMPR AR 1899-605,731,732; 1900-991; 1902-191; 1903-180; 1904-231;
1905-195; 1906-174; 1908-122; 1912-327; 1913-188; 1916-216,518;
1917-450; 1956-47-54,57; 1957-30; 1961-46; 1962-59; 1963-58;
1964-97; 1967-137-144
EMPR ASS RPT 4013, 4316, 4317, 5933, 6864, 16334, 17780, 18611, 20241,
*20242, 20663
EMPR BC METAL MM00389
EMPR FIELDWORK 1992, pp. 439-443; 2002, pp. 129-132
EMPR BULL 77
EMPR EXPL 1977-E152
EMPR GEM 1969-235; 1971-296; 1973-198
EMPR INF CIRC 1997-1, p. 19
EMPR MAP 26; 48
EMPR OF 1992-1
EMPR PF (Maps of Induced Polarization surveys 1964-65; Nicholls, E.B.
(1965): Geophysical Report on the Property of Galaxy Copper
Limited; Drill sections, geology maps, location maps)
EMR MIN BULL MR 223 B.C. 141
EMR MP CORPFILE (Galaxy Copper Ltd.; Vanco Explorations Limited;
Nor-West Kim Resources Ltd.; Pan Ocean Oil Ltd.; Abermin
Corporation)
EMR MP RESFILE (Evening Star Resources)
GSC MAP 886A; 887A; 9-1963; 42-1989
GSC MEM 249
GSC OF 980
GSC P 44-20
CIM Spec. Vol. 46, pp. 565-580, 581-592, 593-608
GCNL #92(May 12), 1972; #16(Jan.23),#87(May 6), 1991; #223(Nov.22),
2000
WWW <http://www.infomine.com/>
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of
Magnetite-apatite Lodes in the Iron Mask Batholith, B.C. Unpub.
M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE008**

NATIONAL MINERAL INVENTORY: 092I9 Cu 2

NAME(S): **LUCKY STRIKE (L.1036)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 38 59 N
LONGITUDE: 120 26 00 W
ELEVATION: 869 Metres

NORTHING: 5614017
EASTING: 681443

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft about 800 metres south of the Iron Mask workings (092INE010) on Iron Mask Hill, 7 kilometres west-southwest of Kamloops (Minister of Mines Annual Report 1956, Figure 3).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Calcite Magnetite
ALTERATION: K-Feldspar
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

Sinking the Lucky Strike shaft began in 1897. It is flooded (ca. 1956) and located 823 metres south of the Iron Mask shaft (092INE010). At a depth of 18 metres a drift of unknown direction is reported to extend 36.5 metres on a vein said to be 0.9 to 1.2 metres wide. Recorded production is 27 tonnes in 1901, containing about 20 per cent copper with minor gold and silver values. The shaft was retimbered in 1951. A small dump shows disseminated chalcopyrite in diorite. The sulphide is not intimately related to pink feldspar veins, but occurs close to calcite-filled fractures. Magnetite veinlets also occur. The diorite is part of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith.

Three inclined holes were diamond drilled in the vicinity by Berens River Mines Limited through short, induced polarization conductive zones trending east-northeast, and all intersected faults in diorite with only minor mineralization (Minister of Mines Annual Report 1956). See Iron Mask (092INE010) for a detailed work history and geology of the area.

In 1965, a ground magnetometer survey (62.7 kilometres) was conducted on a group of Iron Mask claims on behalf of Kamloops Copper Consolidated Limited.

BIBLIOGRAPHY

EMPR AR 1896-566; *1897-612; 1899-605; *1901-1078,1230; 1915-K210; 1951-A125; *1956-47-54,57-59,63
EMPR ASS RPT 655
EMPR BC METAL MM00401
EMPR BULL 77
GSC MEM 249, p. 106
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE008**

MINFILE NUMBER: **092INE009**

NATIONAL MINERAL INVENTORY:

NAME(S): **WINDSOR, SUN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 00 N
LONGITUDE: 120 22 43 W
ELEVATION: 948 Metres

NORTHING: 5608625
EASTING: 685506

LOCATION ACCURACY: Within 500M

COMMENTS: Inclined shaft and pit south of Peterson Creek, about 1.5 kilometres south of the Ajax East deposit (092INE013), 9 kilometres south of Kamloops (Assessment Report 6123).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY: Andesitic Volcanic
Greenstone
Andesite
Microdiorite
Picrite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Copper

YEAR: 1956

GRADE: 1.5000 Per cent

REFERENCE: Minister of Mines Annual Report 1956.

CAPSULE GEOLOGY

The Windsor showing is underlain by intrusive rocks of the Late Triassic-Early Jurassic Iron Mask batholith and andesitic volcanics of the Upper Triassic Nicola Group. Old workings spaced along a line 79 metres long trending 280 degrees consist of an inclined shaft more than 6 metres deep and several trenches and shallow pits. Hostrock is Nicola andesitic volcanics. The exposures in the workings indicate that a fault, striking 280 degrees and mineralized across a width of 0.9 metre, gives place westward to two or more fractures whose strike is 300 degrees. The fractures dip about 60 degrees to the north. Mineralization consists of chalcopyrite and abundant coarsely crystalline pyrite in calcite and quartz gangue. The sulphides extend into the adjacent sheared greenstone. Samples of the best material on the dumps at the shaft and the large pit assayed 1.5 and 0.69 per cent copper respectively (Minister of Mines Annual Report 1956).

In 1956, Inland Copper Mines Ltd. drilled two shallow AX diamond-drill holes to test the showing. Minor pyrite-magnetite mineralization was intersected in drillhole W2, 91 metres northwest of the shaft. The hole passes from greenstones into strongly albited and brecciated diorite of microdiorite of the Cherry Creek

CAPSULE GEOLOGY

unit of the Iron Mask batholith. Drillhole W1 passes through picrite basalt into greenstones and back into picrite. The picrite is part of the Picrite unit of the batholith.

In 1964, Rolling Hills Copper Mines Limited conducted a widely spaced induced polarization survey totalling 37.5 line kilometres over several claim groups. In 1976, four percussion-drill holes totalling 365.7 metres were drilled, 24 kilometres of induced polarization survey and a soil geochemical survey completed on the Sun claim on behalf of L.M.C. Resources Ltd.

BIBLIOGRAPHY

EMPR AR *1956-47-54,58
EMPR ASS RPT 605, 6123
EMPR BULL 77
EMPR PF (White, G.E. (1976): Geophysical Report, Induced Polarization Survey on the Sun Claim; Pasioka, C.T. (1976): Property Report on the Dave, Don, Map and Sun Claims; Induced polarization survey map, 1972)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

in contact with picrite basalt has been mined to within 2.4 metres of the surface. The exposed contact is irregular in detail, being essentially breccia of mineralized white rock and unmineralized picrite basalt. It strikes about 055 degrees and dips 60 degrees southeast. Chalcopyrite occurs as disseminations and stringers. Iron oxide is abundant in a small vein in the northern wall of the breccia zone. At the shaft itself, a mineralized fault zone in diorite 1.5 metres wide strikes 060 degrees and dips at about 60 degrees to the southeast. The footwall of this zone is poorly defined and contains another mineralized zone that dips at 35 degrees to the southwest.

There is little record of the mineralogy of the Iron Mask ore. On the dump, the only mineralized material seen is diorite carrying disseminated chalcopyrite. Ore mined in 1923 was stated to carry pyrite. The reported association of gypsum and talc in fracture planes in diorite near the bottom of the Iron Mask shaft is similar to the Larsen workings (092INE011). Gypsum gangue occurred in one of the late developed orebodies in the eastern workings. The oxidized material of the Erin orebody contained chalcopyrite with some malachite, azurite and cuprite. A little bornite was seen on the dump. The Erin orebody was oxidized at least to the 30 metre level. On the 183 metre level about 100 metres north of the Erin shaft station, a vein 35 centimetres wide was followed 137 metres in a drift. In 1928, production was principally from an orebody about 274 metres northwest of the Erin orebody. It was worked on the 228 metre level to a width of 3.6 metres, a length of 36.5 metres and a height of 27.4 metres. Much of the material was low in grade.

The greater part of the production was from the Iron Mask orebody, and, in addition to the Iron Mask and Erin orebodies, smaller ones were worked south and east of the Iron Mask shaft. Mining was by shrinkage stoping; some of the ore was hand sorted for direct shipment.

The Iron Mask shaft is located on the north side of Iron Mask hill, about 8 kilometres west of Kamloops; the Erin shaft lies about 396 metres to the northeast and the Norma shaft about 548 metres to the north. The Iron Mask showing was staked in August 1896 by G. Breedsen, W.H. Ford and R.H. Loyn. The Erin showing was staked shortly thereafter by a Mr. Beattie and associates. By 1898 the Erin shaft had been sunk to 29 metres and several crosscuts driven. The Norma shaft (092INE011) is on Lot 1066 (Erin Fr.) about 244 metres south of the Larsen shaft (092INE011). This shaft is sunk vertically to a single level 61 metres below the collar. A raise connects this level with the Iron Mask 228 metre level, which is estimated to be 49 metres lower in elevation. The Iron Mask, Erin and Norma workings are interconnected. The Iron Mask was bonded to The B.C. Exploring Syndicate, Limited, of London, England, and subsequently disposed of to the Cole Hill Gold, Silver and Copper Mining Company, Limited. The Iron Mask (Lot 878), Sunrise (Lot 879), Bonnie Jean (Lot 850) and Copper Queen (Lot 880) were Crown granted to the company in 1900. Shaft sinking and drifting were in progress and in 1903 a 100 ton-per-day concentrator was completed. The company was reorganized in 1904 under the name Kamloops Mines, Limited, and the Erin and adjacent claims were bonded. The concentrator was expanded to 200 tons-per-day and operations continued into 1908. The property, comprising some 16 claims and fractions, was purchased in 1909 by E.G. Wallinder and associates, of Duluth, who incorporated the Kamloops Copper Company. The mine was reopened in 1910. A new 150 ton-per-day mill was built in 1917 and expanded to 300 tons-per-day in 1918. The operation became unprofitable and the mine closed in 1920. To that date the underground workings totalled over 4877 metres. The Iron Mask shaft, inclined at 68 degrees, was sunk to 238 metres and seven levels established, the lowest at 229 metre slope depth below the collar. The Erin shaft, inclined at 70 degrees, was sunk to 100 metres and levels established at vertical depths of 30 and 91 metres. A raise connecting the 228 metre level of the Iron Mask with the 91 metre level of the Erin was completed in about 1916. The mine reopened in 1922 but was forced to close in 1924 due to financial difficulties. The company was then reorganized under the name Continental Copper Co., Limited, with head office in Chicago. The mine was reopened in 1925 and a program of underground exploration began. The Norma shaft was sunk to a single level 61 metres below the collar; a raise was driven from the Iron Mask 228 metre level to connect with this level. From 1925 until November 1928 when the mine closed, extensive development work was accompanied by some production, largely from smaller orebodies. After World War II quantities of explosives were jettisoned in the Iron Mask and Erin shafts, wrecking and caving the collars. The Iron Mask and Erin claims were acquired in about 1946 by W.A. Urquhart, G.F. Dickson and associates. Kamloops Copper Company Ltd. was incorporated in October

CAPSULE GEOLOGY

1951 to acquire some 40 claims and fractions, including most of the original Iron Mask holdings. In 1952, the property was optioned to Berens River Mines Limited and an electromagnetic survey carried out. Further electromagnetic surveying was done in 1956 over an area measuring 4877 by 1829 metres that extends immediately north of the Iron Mask shaft. The mine was dewatered in 1961 and about 3352.8 metres of diamond drilling completed in the old workings. The company name was changed in 1964 to Kamloops Copper Consolidated Ltd. Vanco Explorations Limited held an option on the property in 1965-66 and some geophysical work was carried out. Kamloops Copper in 1972 amalgamated with Midland Petroleum, Ltd. and Consolidated Prudential Mines Ltd. to form Davenport Oil & Mining Ltd. In March 1972, the property was optioned to Comet Industries Ltd. In December 1972, Getty Mining Pacific, Limited optioned 120 contiguous claims in the combined properties (Victor, 092INE011, Iron Mask, Iron Cap, 092INE018 and DM, 092INE030) held by Comet, Initial and Davenport. Work by Getty in 1973 included an induced polarization survey over 93.3 line kilometres, a magnetometer survey over 86.9 line kilometres, 2084.5 metres of rotary drilling in 8 holes, 564.4 metres of diamond drilling in 2 holes, and 15,513.4 metres of percussion drilling in 159 holes. Among these holes, 25 were spaced over a 3.2 by 4.8 kilometre area. The option was given up in 1974. Davenport Oil & Mining changed its name in 1973 to Davenport Industries Ltd. Initial Developers Corporation in May 1974 amalgamated with North Pacific Mines Ltd. under the name Initial Developers Limited. Canadian Superior Exploration Limited optioned the above combined properties (some 2185 hectares) in 1975. Work in 1976-78 included a magnetometer survey over 89 line kilometres, 8064 metres of diamond drilling in 47 holes and 4211 metres of percussion drilling in 48 holes. The option was terminated in 1978. Craigmont Mines Limited in February 1981 obtained an exploration agreement on the above four properties and on the adjacent Rainbow property (092INE028) of Pacific Seadrift Resources. Work by Craigmont included diamond drilling, mainly on the Victor and Rainbow properties. This work indicated insufficient tonnage and the option was terminated in September 1981. In 1986, the property was owned by Comet Industries Ltd. (40 per cent), Davenport Industries Ltd. (30 per cent) and Initial Developers Limited (30 per cent). Work over the Iron Mask and/or adjacent ground in 1983 included 13 kilometres of geophysical surveys and 294 metres of drilling to further delineate reserves; an additional 400 metres of drilling was reported in 1986; drilling may have been in part on the "Tailing Zone". Teck Corporation and Metall Mining Corporation, through Afton Operating Corporation, in August 1987 obtained from Comet, Davenport and Initial a 10 year exploration option (to earn a 75 per cent interest if production is achieved) on the Iron Mask and adjacent properties comprising 25 Crown grants, ten two-post claims, and 8 located claims (86 units).

BIBLIOGRAPHY

- EMPR AR 1896-567; 1897-612; 1898-1103; 1899-605,730; 1900-889,991; 1901-1077,1078; 1902-H190; 1903-H179,H180; 1904-G229; 1905-J194; J195; 1906-H174; 1907-L215; 1908-J121; 1909-K139; 1910-K127,K128; 1911-K285; 1913-K182,K185-K187,K191,K421; 1914-K361; *1915-K210-K215,K446; 1916-K266,K428,K429,K518; 1917-F235,F236; 1918-K233, K234; 1919-N178,N179; 1920-N168,N254; 1921-G198,G268; 1922-N147, N149; 1923-A149,A150; 1924-B146,B296; 1925-A167,A362; *1926-A184, A185,A447; 1927-C185,C198; 1928-C208,C209; 1951-A125; 1952-A114, A115; *1956-47-54,58-63; *1961-47,48; 1962-60; 1967-137-141
- EMPR BC METAL MM00398
- EMPR EXPL 1976-E99; 1978-E167,E168
- EMPR BULL 77
- EMPR GEM 1973-199; 1974-150,151
- EMPR PF (Livingston, E. (1960): Geology and Economic Geology of Kamloops Area; Rock photographs; Map showing sample locations and results; Field notes, 1956; Drillholes sections and location maps; Claim location maps; Geology maps; Plan of workings, 1926; Correspondence and memos to Department of Mines staff; Plan map of underground workings; Induced polarization survey maps by Galaxy Copper; Magnetometer survey, soil geochemical, geological and induced polarization survey maps by Royal Canadian Ventures Ltd.; Geophysical Report by Sulmac Exploration Services Limited; Geologic and Drill Hole Plan by Canadian Superior Exploration Limited; Drill Hole Plan and Ground Magnetics by Getty Mines, Limited)
- EMPR ASS RPT 655, 5998
- EMPR FIELDWORK 2002, pp. 129-132
- EMPR MP CORPFILE (Continental Copper Co., Limited; Kamloops Copper Consolidated Ltd.; Davenport Oil & Mining Ltd.; Comet Industries Ltd.; Teck Corporation)

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 24
REPORT: RGEN0100

BIBLIOGRAPHY

WWW <http://www.infomine.com/>
GCNL #22,#169, 1987; #181, 1988
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 106-108
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of
Magnetite-apatite Lodes in the Iron Mask Batholith, B.C., unpub.
M.Sc. Thesis, The University of British Columbia, 196 pp.
CIM Special Volume 46, pp. 593-608

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

faulted contact with picrite basalt which is altered to pyroxene, hornblende and biotite. The diorite is brecciated and flooded with K-feldspar-magnetite-chalcopyrite veins. Chalcopyrite veins range up to 15 centimetres or more. Gangue mineralogy also includes calcite, epidote and gypsum with occasional well-crystallized fluorite, prehnite and zeolite. Talc and gypsum occur on slips in the diorite. Locally on the Night Hawk claim (Lot 1747) diorite contains disseminated chalcopyrite. The Larsen shaft is located on the Night Hawk claim and was deepened from 10.6 to 27.4 metres slope depth in 1951. In 1952, the shaft was again deepened, a first level station cut at 27.4 metres slope depth, and a drift run west for 19.8 metres.

Minor chalcocite is reported to occur in material on the dump.

The Night Hawk shaft is located on Lot 5622 (Champion No. 1) about 46 metres south-southeast of the Larsen shaft and exposes diorite mineralized with disseminated chalcopyrite.

The Bonnie Etta workings (adit and shaft) are on an easterly striking fault zone about 1.8 metres wide located on Lot 5623 (Champion No. 2 Fr.) about 335 metres east of the Larsen shaft. The workings are in diorite intersected by K-feldspar and chalcopyrite veins. In 1929, 30 tonnes of ore was shipped from the Bonnie Etta claim yielding 249 grams gold, 809 grams silver and 2897 kilograms copper.

The Norma shaft is on Lot 1066 (Erin Fr.) about 244 metres south of the Larsen. This shaft is sunk vertically to a single level 61 metres below the collar. A raise connects this level with the Iron Mask 228 metre level (092INE010), which is estimated to be 49 metres lower in elevation. The Iron Mask, Erin and Norma workings are interconnected.

On the Big Onion property, reserves are stated to be 3,266,000 tonnes grading 0.71 per cent copper and 0.44 gram per tonne gold (Lang, pers. comm., 1994 in CIM Special Volume 46).

The property is located west and south of Bowers Lake, about 7 kilometres west of Kamloops. The claims adjoin the Iron Mask mine (092INE010) on the north. The Bonnie Etta claim was staked in about 1897 and Crown granted (Lot 881) to J. Armstrong and B. Wallace in 1902. The workings include an adit 16.7 metres long and a shaft of unknown depth. Ore was shipped from these workings in 1929. The Victor (Lot 1340) and Norma (Lot 1302) claims were Crown granted in 1905 to The British Columbia Trust Co. Ltd. The Night Hawk claim (Lot 1747) was owned in 1899 by O.S. Batchelor and J.C. McLaren and reported to be under bond to G.F. Monckton, representing English capital; the workings at that time included a 15 metre adit. By 1905 the claim was owned by J. Fenton and under option to Messrs. Gwin, Shaw, Jowell and McGee. A shaft (Larsen shaft) had been sunk and a drift run on the vein. The claim was Crown granted in 1915 to J.F. Shaw. Kamloops Copper Company Ltd. was incorporated in October 1951 to acquire about 40 claims, including the above Crown grants and the adjacent Iron Mask property. Early in 1952 Berens River Mines Limited, a Newmont Mining Corporation subsidiary, optioned the property. The Larsen shaft, inclined 60 degrees south, was deepened to 30 metres. At 27 metres a drift was driven westerly for 19.8 metres and 121.9 metres of diamond drilling done from the face. An electromagnetic survey was carried out and four surface diamond-drill holes put down in the vicinity of the Larsen and Bonnie Etta workings. This work failed to find ore and the option was dropped. In 1956, the company dewatered the Larsen shaft and from the 27 metre level drove a crosscut southwesterly for 88 metres. Drifts were run 30 metres east and two others, 19.8 metres and 41 metres west, respectively. Four holes totalling 426.7 metres were diamond drilled from the end of the crosscut. An electromagnetic survey was carried out over an area measuring 1829 by 1829 metres. The company name was changed in 1964 to Kamloops Copper Consolidated Ltd. Vanco Explorations Limited optioned this and a number of adjacent properties in September 1965. A ground magnetometer survey (62.7 kilometres) and diamond drilling were carried out until May 1966 when the option was terminated. The company, Kamloops Copper Consolidated, amalgamated with Midland Petroleums, Ltd. and Consolidated Prudential Mines Ltd., in February 1972 to form Davenport Oil & Mining Ltd. In March 1972, an exploration and development option was given to Comet Industries Ltd. and a subsidiary company, Initial Developers Corporation Limited. A large anomaly was outlined by an induced polarization survey and confirmed by magnetometer and electromagnetic surveys. The anomaly, referred to as the Big Onion zone, is located between Ironmask and Bowers lakes on Lots 1302 (Norma) and 1342 (Mint Fr.) and extends from the Davenport property westerly into the adjoining property of Comet Industries. Drilling to October 1972 indicated reserves of 3,628,400 tonnes averaging 0.6 per cent copper (Western Miner, October 1972, page 85). The 1972 work included 1981.2 metres of surface diamond

CAPSULE GEOLOGY

drilling in 13 holes, 365.7 metres of rotary drilling in 2 holes, and 1280.1 metres of percussion drilling in 12 holes. In December 1972, Getty Mining Pacific, Limited optioned 120 contiguous claims in the combined properties (Victor, Iron Mask, 092INE010, Iron Cap, 092INE018 and DM, 092INE030) held by Comet, Initial and Davenport. Work by Getty in 1973 included an induced polarization survey over 93.3 line kilometres, a magnetometer survey over 86.9 line kilometres, 2084.5 metres of rotary drilling in 8 holes, 564.4 metres of diamond drilling in 2 holes, and 15,513.4 metres of percussion drilling in 159 holes. Among these holes, 25 were spaced over a 3.2 by 4.8 kilometre area. The option was given up in 1974. Davenport Oil & Mining changed its name in 1973 to Davenport Industries Ltd. Initial Developers Corporation in May 1974 amalgamated with North Pacific Mines Ltd. under the name Initial Developers Limited. Canadian Superior Exploration Limited optioned the above combined properties and the adjacent Rainbow property for a total of some 2185 hectares. Work in 1976-78 included a magnetometer survey over 89 line kilometres, 8064 metres of diamond drilling in 47 holes and 4211 metres of percussion drilling in 48 holes. The option was terminated in 1978. Craigmont Mines Limited in February 1981 obtained an exploration agreement on the above four properties and on the adjacent Rainbow property (092INE028) of Pacific Seadrift Resources. Craigmont completed some 5579 metres of diamond drilling in 34 holes. This work indicated insufficient tonnage and the option was terminated in September 1981. Kamloops Copper in 1972 amalgamated with others to form Davenport Industries Ltd. Ownership of the property was subsequently held by Davenport (30 per cent) and associate companies Comet Industries Ltd. (40 per cent) and Initial Developers Limited (30 per cent). Work by the owners in 1983 included geophysical surveys over 13 kilometres and diamond drilling. Work to date by owners and optionees has been interpreted to give the Big Onion zone an estimated reserve of 2,400,000 tonnes at 0.84 per cent copper, 0.4 gram per tonne gold and 8 grams per tonne silver (Initial Developers Limited, Filing Statement 164/86). Teck Corporation and Metall Mining Corporation, through Afton Operating Corporation, in August 1987 obtained from Davenport, Comet and Initial a 10 year exploration option on the Victor property and adjacent ground.

BIBLIOGRAPHY

- EMPR AR 1897-612; 1899-732; 1905-J195,J256; 1915-K450; 1929-C217;
1951-A125; *1956-47-63; 1967-137-147
EMPR ASS RPT 655, 6538, 8960
EMPR BC METAL MM00381
EMPR BULL 77
EMPR EXPL 1976-E99; 1977-E154; 1978-E167; 1981-38
EMPR FIELDWORK 2002, pp. 129-132
EMPR GEM 1972-197; 1973-199; 1974-150
EMPR OF 1998-8-F, pp. 1-60
EMPR PF (Field notes and map of Larsen workings, 1956; Filing
Statement 05/88, Davenport Industries Ltd.)
EMR MP CORPFILE (Comet Industries Ltd.; Initial Developers Limited;
Davenport Industries Ltd.; Getty Mining Pacific Limited; Canadian
Superior Exploration Limited; Canadian Superior Oil Ltd.; Teck
Corporation)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CIM Special Volume *46, pp. 565-608
GCNL #169, 1987; #181, 1988
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of
Magnetite-apatite Lodes in the Iron Mask Batholith, B.C., unpub.
M.Sc. Thesis, The University of British Columbia, 196 pp.

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/21

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE012**

NATIONAL MINERAL INVENTORY: 092I9 Cu4

NAME(S): **AJAX (WEST)**, AJAX (AFTON), AJAX (L.4710),
AJAX WEST, AFTON (AJAX)

STATUS: Past Producer Open Pit
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 29 N
LONGITUDE: 120 24 16 W
ELEVATION: 919 Metres

NORTHING: 5609456
EASTING: 683647

LOCATION ACCURACY: Within 500M

COMMENTS: West zone on Lot 4710, 750 metres east of Jacko Lake, 9 kilometres south of Kamloops (Assessment Report 17199). See also Ajax East (092INE 013) and Afton (092INE 023).

COMMODITIES: Copper Gold Silver Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite Molybdenite
COMMENTS: Trace and minor amounts of bornite, chalcocite and molybdenite.
ASSOCIATED: Albite Pyrite Magnetite
ALTERATION: Albite Chlorite Epidote Carbonate Biotite
K-Feldspar Malachite Azurite
ALTERATION TYPE: Albitic Propylitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork Breccia
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Iron Mask Batholith
Upper Triassic			Iron Mask Pluton

ISOTOPIC AGE: 194-204 Ma +/- 6 Ma

LITHOLOGY: Diorite
Porphyritic Diorite
Diorite Breccia
Andesite

HOSTROCK COMMENTS: Sugarloaf unit diorite is a phase of the Iron Mask pluton which forms part of the Iron Mask batholith. Age date from Bulletin 77.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: WEST

REPORT ON: Y

CATEGORY: Proven YEAR: 1997
QUANTITY: 1217000 Tonnes
COMMODITY GRADE
Gold 0.3400 Grams per tonne
Copper 0.4900 Per cent

COMMENTS: Estimated reserves as of January 1, 1997. These may have been mined out.

REFERENCE: Information Circular 1998-1, page 11.

CAPSULE GEOLOGY

The Iron Mask batholith lies in the southern part of the Quesnel trough, also known as the Nicola belt. The most important pre-Tertiary rocks in this belt are Upper Triassic volcanic and sedimentary rocks of the Nicola Group. The batholith is a subvolcanic, multiple intrusion which is comagmatic and coeval with the Nicola rocks. It is situated along the southwest side of a regional northwest trending fracture zone and is itself cut by numerous northwesterly faults. The batholith comprises two major northwest trending plutons separated by 6 kilometres of Eocene Kamloops Group volcanic and sedimentary rocks. The Tertiary rocks occupy what appears to be a graben structure resulting from renewed

CAPSULE GEOLOGY

fault movement around the margins of the plutons during Paleocene or Early Eocene time (Bulletin 77). The larger pluton, the 18 kilometre long southern part of the batholith, is called the Iron Mask pluton. The smaller Cherry Creek pluton farther northwest, outcrops on either side of Kamloops Lake. The combined exposure of the batholith, including the intervening younger rocks, is about 33 kilometres long and 5 kilometres wide. Sedimentary and volcanic rocks of the Kamloops Group unconformably overlie the Nicola rocks and the Iron Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte. In the vicinity of the batholith, the Nicola Group is dominated by volcanic and volcanoclastic sedimentary rocks. They are generally recognized by albitization of feldspars, occurrence of patchy epidote, and/or rare hematite alteration. On the southwestern flank of the Iron Mask pluton, well-indurated, massive and bedded tuff, breccia and interbedded flows and flow breccia are prominent and are weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt. The Iron Mask pluton comprises four major, successively emplaced units designated as the Iron Mask Hybrid, Pothook, Sugarloaf and Cherry Creek units. Locally, an additional Picrite unit also occurs which is probably not genetically related to the batholith. The smaller Cherry Creek pluton consists entirely of the Cherry Creek unit. Isotopic dates (194 to 204 Ma +/- 6 Ma) indicate that all of these units are of Late Triassic or earliest Jurassic age (Bulletin 77).

The component units (except the Picrite unit) of the multiphase batholith are largely controlled by major systems of northwesterly, northerly and northeasterly trending fractures or faults. Most units show some degree of alteration and/or contamination which may be intense locally. Weak to moderate saussuritization is ubiquitous in all batholithic rocks while potassium feldspathization is more prominent in rocks of the Cherry Creek unit. The units are briefly described in order of oldest to youngest (determined mainly on crosscutting relationships).

The Iron Mask Hybrid unit forms the spine of the Iron Mask pluton. It is mostly agmatitic, consisting of rounded to angular fragments of various sizes, texture and composition in a dioritic matrix. The fragments include mainly coarse and fine-grained diorite and coarse-grained gabbro with lesser amounts of medium to coarse-grained hornblende and scattered xenoliths of Nicola Group volcanic rocks. All rock varieties in the unit contain magnetite which is often more than 10 per cent by volume. Mineralization, particularly of iron and copper, is almost ubiquitous in this unit. The Iron Mask mine (092INE010), a former copper producer, is located in this unit, but is also associated with picrite.

The Pothook unit occurs mainly in the northwestern half of the Iron Mask pluton, appearing frequently as narrow, gradational zones between the Iron Mask Hybrid and Cherry Creek units. Rocks of this unit are uniformly of dioritic composition and are medium to coarse grained. The Pothook unit is locally mineralized with copper and iron.

The Picrite unit consists of rocks of basaltic composition with abundant clinopyroxene and serpentinized olivine phenocrysts. These rocks generally occur as steeply dipping, poorly exposed and relatively small lenticular bodies in many parts of the batholith. They appear to be associated with recurring, northwesterly trending fracture systems and copper mineralization frequently occurs in their vicinity. Because picrite basalt has been observed far from the two component plutons of the batholith, it is probable that this unit is not part of the batholith.

The Sugarloaf unit occurs mainly along the southwest side of the Iron Mask pluton and as small enclosed bodies in the southern half of the pluton. Rocks of this unit are mainly porphyritic with hornblende, minor clinopyroxene and plagioclase in a greyish green matrix. They are of fairly uniform diorite-andesite composition. Several copper occurrences are hosted by the Sugarloaf rocks. The Ajax deposit is located within brecciated and albitized Sugarloaf rocks.

The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine-grained equivalents as well as local intrusive breccias. Copper and minor iron

CAPSULE GEOLOGY

mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism. Afton mine (092INE023) lies at the western termination of a narrow, 4 kilometre long, easterly trending zone of intense intrusive brecciation that is located at the northern edge of the Iron Mask pluton.

On the Ajax property, intrusive rocks are represented primarily by the Iron Mask Hybrid and Sugarloaf units. The Iron Mask Hybrid unit appears to have been emplaced as intrusive breccias cut and healed by mesocratic to leucocratic diorite. The younger Sugarloaf unit is directly associated with copper mineralization. It is typically a fine to medium-grained porphyritic diorite whose characteristic feature is a subparallel alignment of hornblende and augite phenocrysts. The bulk of this unit on the Ajax property seems to be from a single intrusive phase associated with the alteration and mineralizing events. However, at least one phase of post-ore, very fine-grained microdiorite is observed in drill core. This phase has little or no copper mineralization and occurs as bodies of limited size and extent, most notably in the hanging wall area of the West zone. The Picrite unit has been noted in drill core. Ore at the Ajax deposit is developed along the Iron Mask Hybrid/Sugarloaf units contact and forms relatively linear zones.

Sodium metasomatism (albitization) is widespread and has caused extensive alteration of both Sugarloaf and Iron Mask Hybrid rocks. The degree of alteration ranges from minor fracture envelopes to total replacement of the original minerals resulting in a brittle, hard, porcellaneous white rock composed largely of secondary albite. Albitization is most intense in the contact area between Sugarloaf and Iron Mask Hybrid units. In detail, however, the albitized zones are variable, transitional and difficult to correlate between sections. Albitization as well as epidote-chlorite-carbonate alteration are important in the mineralized zones.

Volcanic rocks of the Nicola Group underlie the south portion of the property. Close to the intrusive contact the rocks consist primarily of andesitic flows. Toward the southeast boundary tuffs are dominant. The Nicola rocks can be weakly albitized and cut by rare potassium feldspar veinlets but are never mineralized to ore grades.

In the Ajax (West) zone, a linear body of Sugarloaf diorite, with a northwest trending axis and steep southerly dip, has been emplaced along the contact between Nicola volcanics and Iron Mask Hybrid diorite. The Sugarloaf unit has stoped out and assimilated substantial areas of Iron Mask Hybrid diorite creating a contact area with undulating embayment features. Numerous fragments of Iron Mask Hybrid diorite and breccia were noted in sections of Sugarloaf core. More mafic or volcanic-rich sections tend to remain as large unassimilated blocks within the Sugarloaf unit. Hydrothermal solutions associated with the Sugarloaf intrusive have extensively altered both the host diorite and the bounding Iron Mask Hybrid diorite. Albitization is predominant, but additional propylitic and potassic alteration minerals occur as well. Fracturing and alteration of the Iron Mask Hybrid diorite persist well away from the immediate contact area allowing copper mineralization to penetrate well into that unit. A large mass of Iron Mask Hybrid breccia located on the north or footwall side of the Iron Mask Hybrid diorite is seemingly impervious to significant alteration or mineralization.

Nicola Group volcanics form the hanging wall of the West zone. In the hanging wall area, the volcanics are intruded by at least one phase of post-ore Sugarloaf unit microdiorite.

Local faulting and brecciation mark contacts between units but no dominant through-going structures were identified in the West zone. Economic mineralization is confined to the main phase of Sugarloaf unit diorite and the bounding Iron Mask Hybrid unit diorite. Two and possibly three areas of intense albitization, carbonatization and brecciation within the West zone mark the location of likely breccia pipes. Mineralization is not controlled by any particular vein or fracture sets.

At the Ajax (East) zone on Lot 2126 (092INE013), 1000 metres east-northeast of the West zone, mineralization occurs along the northeast trending and west dipping contact zone between Iron Mask Hybrid unit diorite to the northwest and the main lobe of Sugarloaf unit diorite to the south and east. Again, intense albite alteration is concentrated in the vicinity of the contact zone and affects both Sugarloaf and Iron Mask Hybrid rocks. Hydrothermal biotite is also abundant around the East pit area.

Unique to the East zone is the presence of bands of very mafic to ultramafic rocks in the contact area. Drill core suggests they are intercalated with the Iron Mask Hybrid unit and are possibly a mafic or volcanic component of that unit. The occasional presence of

CAPSULE GEOLOGY

serpentinized olivine suggests that the rocks might also be Picrite unit remnants sited on a deep-seated contact fault. The ultramafic rocks can be weakly albitized.

This central contact area dips 40 to 50 degrees to the west-northwest and is strongly sheared and brecciated. Iron Mask Hybrid and Sugarloaf units become more massive and less altered away from the contact area. Copper mineralization is localized about the contact but occurs predominantly in the footwall Sugarloaf rocks and is bounded by stronger pyrite mineralization on the east. Distribution of mineralization is similar to the West zone, being a combination of disseminations and fracture-fillings. However, trench mapping indicated that north trending fracture and joint sets with steep westerly dips may be preferentially mineralized.

Other known but less persistent mineralized zones occur to the southeast in an "en echelon" fashion and fall outside the initial East zone pit. At the north end of the zone, the Iron Mask Hybrid unit and included ultramafic rocks expand to the north and east cutting off both the Sugarloaf unit diorite and the copper mineralization.

In both the West and East zones, chalcopyrite is the predominant copper mineral and the only one of economic significance. It occurs as blebs and disseminations, in fractures, veinlets and microveinlets, and occasionally in breccias and vugs with accompanying calcite. Pyrite is ubiquitous; it occurs with chalcopyrite in similar proportions but also exists separately, notably peripheral to copper mineralization. Overall pyrite content does not exceed 1 to 2 per cent. Bornite and chalcocite are present in trace amounts only.

Malachite and azurite are noted in outcrop areas with spotty distribution at depth. Leaching and removal of copper have been minimal. Alteration tends to be spotty and incomplete with pyrite and chalcopyrite present as well.

Molybdenite occurrences are widespread but values are generally quite low. Magnetite is present primarily as disseminations; large scale magnetite veining is absent.

Gold mineralization is closely associated with chalcopyrite mineralization. Except in rare cases, gold values do not occur on the Ajax property except in conjunction with copper mineralization. Gold-copper ratios do vary however. Only one phase of mineralization is present in the East zone but in the West zone several pulses are indicated by the spatial distribution of copper-gold ratios.

Seven holes drilled in 1973 and 1980 outlined a "reserve" of 5.9 million tons grading 1.55 per cent copper, 1.6 grams per tonne gold and 6.86 grams per tonne silver (Afton Annual Report, 1980). One hole hit 2.5 per cent copper and 1.06 grams per tonne gold over 200 metres. Another hole assayed 3.3 per cent copper over 85 metres, including 5.6 per cent copper over 32 metres. The mineralization is hypogene ore and has a true width of approximately 90 metres.

In 1988, measured recoverable reserves for a two-stage West pit and a single stage East pit are as follows (Assessment Report 17199):

	Pit	Tonnes	Cu %	Au g/t
Stage 1	West	3,847,011	0.57	0.41
Stage 2	West	14,473,687	0.44	0.30
Total	West	18,320,698	0.47	0.34
	East	6,366,027	0.44	0.34
Total Reserves		24,686,725	0.46	0.34

Mining of the Ajax deposit began after the depletion of economic open pit reserves at Afton in early 1989 (see Afton, 092INE023).

In June 1989, mining commenced at the Ajax deposit (West and East pits), 10 kilometres south-southeast of the Afton open pit. Ore is hauled via a new road to the Afton mill complex. The Ajax mining operations ceased in August 1991. See Afton (092INE023) for production figures. In 1995, Afton Operating Corporation, a subsidiary of Teck Corp., re-opened the Ajax West pit, with about 9 million tonnes of the same grade as Ajax East (i.e. 0.46 per cent copper and 0.34 gram per tonne gold), extending the mine life from December 1996 to its closing in May 1997.

Reserves for the Ajax West deposit estimated by the company at January 1, 1996 were 3,613,700 tonnes grading 0.48 per cent copper, 0.38 gram per tonne gold and 0.86 gram per tonne silver. During 1996, mining took place in the Ajax West pit; much of the Ajax East pit has been backfilled with waste from the West pit. Production in 1996 totalled 11,517 tonnes of copper, 813 kilograms of gold and 1690 kilograms of silver from 2,972,500 tonnes of ore milled.

During 1996, copper and gold production were above both planned and 1995 levels primarily as a result of improved recovery. However, the fall in copper prices and the low grade of the remaining ore made

CAPSULE GEOLOGY

it uneconomical to continue operations; closure was June 1997. Reserves as of January 1, 1997 were estimated at 1,217,000 tonnes grading 0.34 gram per tonne gold and 0.49 per cent copper (Information Circular 1998-1, page 11).

This property extends easterly from Jacko Lake, about 9 kilometres southwest of Kamloops. The Ajax claim (Lot 4710) is located about 500 metres east of the lake; the Wheal Tamar claim (Lot 2126) is located 2000 metres east northeast of the Ajax; the Monte Carlo (Lot 4176, 092INE014) is about 500 metres east of the Wheal Tamar. The first report of underground exploration work on the Wheal Tamar claim was in 1898. The claim was at that time owned by O.S. Batchelor and the Boillot Bros. By 1904, three groups of claims had been located. These were the Wheal Tamar, Tamar Fraction, Blizzard Fraction; the Monte Carlo, Sultan, Anaconda, Whitecap Fraction; the Ajax, Hercules, Jupiter, Neptune, Mars. The first development work reported on the Monte Carlo was in 1905, and on the Ajax in 1906. The Kamloops Queen, located adjacent to the Wheal Tamar claim in 1908, subsequently lapsed. The Wheal Tamar and Forlorn (Lot 3016) claims were Crown granted to O.S. Batchelor in 1912 and 1916 respectively. The Granby Consolidated Mining, Smelting and Power Company, Limited optioned the Wheal Tamar group in 1916 and carried out diamond drilling, but the results of this work are not recorded. Ownership of the Monte Carlo and Ajax groups was not recorded, other than that G.J. Rogers, of Knutsford, owned the Monte Carlo in 1913 and acquired the Ajax prior to 1923. Exploration work was carried out on an annual basis to 1914, and sporadically thereafter. The original workings on the Wheal Tamar include 6 shafts and an adit; in 1909 the adit was 143 metres long and shafts and adit totalled over 213 metres. The Monte Carlo workings included an adit, and a shaft said in 1924 to be 18 metres. The Ajax was explored by two adits. The Consolidated Mining and Smelting Company of Canada (Limited) (Cominco Ltd. since 1966) optioned 13 claims in the Ajax and Monte Carlo groups from Mr. Rogers late in 1928. Diamond drilling during 1929 was done in 10 holes on the Ajax group. The results indicated sparse mineralization in a zone approximately 76 metres wide and trending 295 degrees with steep dips to the north. On the Monte Carlo, 27 metres of drift was driven, and 243.8 metres of diamond drilling was done in 3 holes. Berens River Mines Limited in 1952 held an option on several of these claims. Diamond drilling was done in 4 holes midway between the Wheal Tamar and Monte Carlo claims. No mineralization was encountered and the option was dropped. Cominco Ltd. resumed work on the property in 1954. The company at that time held 4 Crown grants under lease and 16 full and fractional claims. A number of claims were subsequently acquired until in 1967 the property comprised the Jacko group of recorded claims and 8 Crown grants including, in addition to those mentioned above, the Copper Star (Lot 3015), Grass Roots (Lot 1496), Sultan (Lot 4717), and Neptune (Lot 4712). An electromagnetic survey was carried out in 1954 and further geophysical work was reported in 1958, and in 1967 (magnetometer survey). Diamond drilling by Cominco to the end of 1967 totalled over 7620 metres in 56 holes. Most of this drilling has been concentrated on the Ajax showings. Drilling was reported in 1967 on the Wheal Tamar and Monte Carlo showings. Drilling to 1967 is reported to have developed 9,710,000 tonnes grading 0.5 per cent copper (Prendergast, J.B., Summary Report on Property of Pinnacle Mines Ltd., January 30, 1969). No further activity was reported until 1973 when exploration work carried out by Attan Mines Ltd. included an induced polarization survey over 15.1 line kilometres, and percussion drilling in 28 holes totalling 2197.6 metres on the Ajax, 23 holes totalling 2103.1 metres on the Wheal Tamar, and 4 holes totalling 365.7 metres on Jacko 10 Fr. In 1980, Cominco Ltd. carried out magnetometer and induced polarization surveys over 66 kilometres and 14,347 metres of percussion drilling in 190 holes; E&B Canada Resources Ltd. provided \$1,000,000 in financing for this project, thereby earning a 6 per cent interest in the property; E&B was subsequently acquired by Imperial Metals Corporation. Drill indicated reserves were reported at 95,245,500 tonnes grading 0.32 per cent copper, 0.27 gram per tonne gold (Joint Management Information Circular, Royex Sturgex Mining Limited and Cullaton Lake Gold Mines Ltd., April 27, 1984). Teck Corporation and Metall Mining corporation, through Afton Operating Corporation, in November 1986, obtained an option to earn a 70 per cent interest from owners Cominco Ltd. and Imperial Metals Corporation. Work by Teck in 1987 included 11,582 metres of diamond drilling in 77 holes. Reserves were reported as 95,245,500 tonnes at 0.51 per cent copper equivalent (Imperial Metals, 1987 Annual Report) or 24,673,120 tonnes at 0.46 per cent copper, 0.34 gram per tonne gold (Imperial Metals, 1988 Annual Report). Work in 1988 included development of the East (092INE013) and West (092INE012) open pits, and construction of a

CAPSULE GEOLOGY

haul road to transport the ore to the Afton mill, some 10 kilometres to the northwest. DRC Resources Corporation optioned the property in October 1999 and planned drilling the downdip extension of the Afton orebody (092INE023) beneath the pit floor. In 2001, DRC Resources Corporation conducted geological mapping and 0.6 kilometre of ground magnetic survey.

BIBLIOGRAPHY

EMPR AR 1899-731; 1901-1078; 1904-G230,G231; 1905-J194,J195; 1906-H174,H176; 1908-J121; 1910-K128; 1913-K190,K191; 1916-K266; 1923-A150; 1924-B146,B147; 1928-C209; 1929-C226-C228; 1956-47-54,63-67; 1957-30; 1958-66; 1961-48; 1967-137-142
EMPR ASS RPT 108, 8079, 8512, 9166, 16740, *17198, *17199, 17965, 26650
EMPR BULL 77
EMPR EXPL 1980-235; 1996-D6; 1997-34; 2001-38
EMPR FIELDWORK 1974, pp. 22-26; 1976, pp. 41-46; 1977, pp. 37,38, 86-88; 1982, pp. 267-284; 2002, pp. 129-132
EMPR GEM 1973-197
EMPR INF CIRC 1996-1, p. 7; 1997-1, p. 9; 1998-1, p. 11
EMPR MAP 26; 48; 65 (1989)
EMPR OF 1992-1
EMPR PF (Imperial Metals Corporation Annual Report 1989; News Release - Feb.2, 1989; Drill hole location maps, drill section, geology maps, magnetometer and induced polarization maps)
EMR MP CORPFILE (Imperial Metals Corporation; Teck Corporation; Metall Mining Corporation)
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358; *92-1A, pp. 179-183
GCNL #29(Feb.10), 1989
N MINER Feb.23, 1998
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C. Unpub. M.Sc. Thesis, University of British Columbia
Teck Corporation 1996 Annual Report
WWW <http://www.drcresources.com/>
http://www.infomine.com/index/properties/AFTON_MINE-MILL.html
<http://www.amemining.com>
CIM Special Volume *46, pp. 565-580

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INE013**

NATIONAL MINERAL INVENTORY: 09219 Cu4

NAME(S): **AJAX (EAST)**, AFTON (AJAX), AJAX (AFTON),
WHEAL TAMAR (L.2126), KAMLOOPS QUEEN, AJAX EAST

STATUS: Past Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I09W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 36 43 N

LONGITUDE: 120 23 25 W

ELEVATION: 969 Metres

NORTHING: 5609924

EASTING: 684634

LOCATION ACCURACY: Within 500M

COMMENTS: East zone on Lot 2126, 1.75 kilometres east of Jacko Lake, 7.5 kilometres south of Kamloops and 1000 metres east-northeast of the Ajax (West) pit (092INE012) (Assessment Report 17198). See also Afton (092INE023).

COMMODITIES: Copper

Gold

Silver

Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Chalcocite Molybdenite

COMMENTS: Trace bornite, chalcocite and molybdenite.

ASSOCIATED: Albite Pyrite Magnetite

ALTERATION: Albite Biotite Chlorite Epidote Carbonate

Malachite Azurite

ALTERATION TYPE: Albitic Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork

CLASSIFICATION: Porphyry Hydrothermal

TYPE: L03 Alkaline porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY: Diorite

HOSTROCK COMMENTS: Sugarloaf unit diorite of the Iron Mask pluton which forms part of the Iron Mask batholith. Age date from Bulletin 77.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Iron Mask batholith lies in the southern part of the Quesnel trough, also known as the Nicola belt. The most important pre-Tertiary rocks in this belt are Upper Triassic volcanic and sedimentary rocks of the Nicola Group. The batholith is a subvolcanic, multiple intrusion which is comagmatic and coeval with the Nicola rocks. It is situated along the southwest side of a regional northwest trending fracture zone and is itself cut by numerous northwesterly faults. The batholith comprises two major northwest trending plutons separated by 6 kilometres of Eocene Kamloops Group volcanic and sedimentary rocks. The Tertiary rocks occupy what appears to be a graben structure resulting from renewed fault movement around the margins of the plutons during Paleocene or Early Eocene time (Bulletin 77). The larger pluton, the 18 kilometre long southern part of the batholith, is called the Iron Mask pluton. The smaller Cherry Creek pluton farther northwest, outcrops on either side of Kamloops Lake. The combined exposure of the batholith, including the intervening younger rocks, is about 33 kilometres long and 5 kilometres wide. Sedimentary and volcanic rocks of the Kamloops Group unconformably overlie the Nicola rocks and the Iron Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte.

In the vicinity of the batholith, the Nicola Group is dominated by volcanic and volcanoclastic sedimentary rocks. They are generally recognized by albitization of feldspars, occurrence of patchy epidote, and/or rare hematite alteration. On the southwestern flank of the Iron Mask pluton, well-indurated, massive and bedded tuff, breccia and interbedded flows and flow breccia are prominent and are

CAPSULE GEOLOGY

weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt.

The Iron Mask pluton comprises four major, successively emplaced units designated as the Iron Mask Hybrid, Pothook, Sugarloaf and Cherry Creek units. Locally, an additional Picrite unit also occurs which is probably not genetically related to the batholith. The smaller Cherry Creek pluton consists entirely of the Cherry Creek unit. Isotopic dates (194 to 204 Ma +/- 6 Ma) indicate that all of these units are of Late Triassic or earliest Jurassic age (Bulletin 77).

The component units (except the Picrite unit) of the multiphase batholith are largely controlled by major systems of northwesterly, northerly and northeasterly trending fractures or faults. Most units show some degree of alteration and/or contamination which may be intense locally. Weak to moderate saussuritization is ubiquitous in all batholithic rocks while potassium feldspathization is more prominent in rocks of the Cherry Creek unit. The units are briefly described in order of oldest to youngest (determined mainly on crosscutting relationships).

The Iron Mask Hybrid unit forms the spine of the Iron Mask pluton. It is mostly agmatitic, consisting of rounded to angular fragments of various sizes, texture and composition in a dioritic matrix. The fragments include mainly coarse and fine-grained diorite and coarse-grained gabbro with lesser amounts of medium to coarse-grained hornblende and scattered xenoliths of Nicola Group volcanic rocks. All rock varieties in the unit contain magnetite which is often more than 10 per cent by volume. Mineralization, particularly of iron and copper, is almost ubiquitous in this unit. The Iron Mask mine (092INE010), a former copper producer, is located in this unit, but is also associated with picrite.

The Pothook unit occurs mainly in the northwestern half of the Iron Mask pluton, appearing frequently as narrow, gradational zones between the Iron Mask Hybrid and Cherry Creek units. Rocks of this unit are uniformly of dioritic composition and are medium to coarse grained. The Pothook unit is locally mineralized with copper and iron.

The Picrite unit consists of rocks of basaltic composition with abundant clinopyroxene and serpentinized olivine phenocrysts. These rocks generally occur as steeply dipping, poorly exposed and relatively small lenticular bodies in many parts of the batholith. They appear to be associated with recurring, northwesterly trending fracture systems and copper mineralization frequently occurs in their vicinity. Because picrite basalt has been observed far from the two component plutons of the batholith, it is probable that this unit is not part of the batholith.

The Sugarloaf unit occurs mainly along the southwest side of the Iron Mask pluton and as small enclosed bodies in the southern half of the pluton. Rocks of this unit are mainly porphyritic with hornblende, minor clinopyroxene and plagioclase in a greyish green matrix. They are of fairly uniform diorite-andesite composition. Several copper occurrences are hosted by the Sugarloaf rocks. The Ajax deposit (West and East zones) east of Jacko Lake is located within brecciated and albitized Sugarloaf rocks.

The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine-grained equivalents as well as local intrusive breccias. Copper and minor iron mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism. Afton mine (092INE023) lies at the western termination of a narrow, 4 kilometre long, easterly trending zone of intense intrusive brecciation that is located at the northern edge of the Iron Mask pluton.

On the Ajax (East) property, intrusive rocks are represented primarily by the Iron Mask Hybrid and Sugarloaf units. The Iron Mask Hybrid unit appears to have been emplaced as intrusive breccias cut and healed by mesocratic to leucocratic diorite. The younger Sugarloaf unit is directly associated with copper mineralization. It is typically a fine to medium-grained porphyritic diorite whose characteristic feature is a subparallel alignment of hornblende and augite phenocrysts. The bulk of this unit on the property seems to be from a single intrusive phase associated with the alteration and mineralizing events. However, at least one phase of post-ore, very

CAPSULE GEOLOGY

fine-grained microdiorite is observed in drill core. This phase has little or no copper mineralization and occurs as bodies of limited size and extent, most notably in the hanging wall area of the West zone (092INE012). The Picrite unit has been noted in drill core.

Sodium metasomatism (albitization) is widespread and has caused extensive alteration of both Sugarloaf and Iron Mask Hybrid rocks. The degree of alteration ranges from minor fracture envelopes to total replacement of the original minerals resulting in a brittle, hard, porcellaneous white rock composed largely of secondary albite. Albitization is most intense in the contact area between Sugarloaf and Iron Mask Hybrid units. In detail, however, the albitized zones are variable, transitional and difficult to correlate between sections. Albitization as well as epidote-chlorite-carbonate alteration are important in the mineralized zones.

Volcanic rocks of the Nicola Group underlie the south portion of the property. Close to the intrusive contact the rocks consist primarily of andesitic flows. Toward the southeast boundary tuffs are dominant. The Nicola rocks can be weakly albitized and cut by rare potassium feldspar veinlets but are never mineralized to ore grades.

At the Ajax East zone, located 1000 metres east-northeast of the Ajax West zone, mineralization occurs along the northeast trending and west dipping contact zone between Iron Mask Hybrid unit diorite to the northwest and the main lobe of Sugarloaf unit diorite to the south and east. Again, intense albite alteration is concentrated in the vicinity of the contact zone and affects both Sugarloaf and Iron Mask Hybrid rocks. Hydrothermal biotite is also abundant around the East pit area. Unique to the Ajax East zone is the presence of bands of very mafic to ultramafic rocks in the contact area. Drill core suggests they are intercalated with the Iron Mask Hybrid unit and are possibly a mafic or volcanic component of that unit. The occasional presence of serpentinized olivine suggests that the rocks might also be Picrite unit remnants sited on a deep-seated contact fault. The ultramafic rocks can be weakly albitized. This central contact area dips 40 to 50 degrees to the west-northwest and is strongly sheared and brecciated. Iron Mask Hybrid and Sugarloaf units become more massive and less altered away from the contact area. Copper mineralization is localized about the contact but occurs predominantly in the footwall Sugarloaf rocks and is bounded by stronger pyrite mineralization on the east.

Distribution of mineralization is similar to the Ajax West zone (see 092INE012) being a combination of disseminations and fracture-fillings. However, trench mapping indicated that north trending fracture and joint sets with steep westerly dips may be preferentially mineralized. Other known but less persistent mineralized zones occur to the southeast in an en echelon fashion and fall outside the initial East zone pit. At the north end of the Ajax East zone, the Iron Mask Hybrid unit and included ultramafic rocks expand to the north and east, cutting off both the Sugarloaf unit diorite and the copper mineralization.

In both the Ajax West and Ajax East zones, chalcopyrite is the predominant copper mineral and the only one of economic significance. It occurs as blebs and disseminations, in fractures, veinlets and microveinlets, and occasionally in breccias and vugs with accompanying calcite. Pyrite is ubiquitous; it occurs with chalcopyrite in similar proportions but also exists separately, notably peripheral to copper mineralization. Overall pyrite content does not exceed 1 to 2 per cent. Bornite and chalcocite are present in trace amounts only. Malachite and azurite are noted in outcrop areas with spotty distribution at depth. Leaching and removal of copper have been minimal. Alteration tends to be spotty and incomplete with pyrite and chalcopyrite present as well.

Molybdenite occurrences are widespread but values are generally quite low. Magnetite is present primarily as disseminations; large scale magnetite veining is absent. Gold mineralization is closely associated with chalcopyrite mineralization. Except in rare cases, gold values do not occur on the Ajax property except in conjunction with copper mineralization. Gold-copper ratios do vary however. Only one phase of mineralization is present in the East zone but in the West zone several pulses are indicated by the spatial distribution of copper-gold ratios.

Measured recoverable reserves for a two-stage West pit and a single stage East pit are as follows (Assessment Report 17199):

	Pit	Tonnes	Cu %	Au g/t
Stage 1	West	3,847,011	0.57	0.41
Stage 2	West	14,473,687	0.44	0.30
Total	West	18,320,698	0.47	0.34
	East	6,366,027	0.44	0.34

CAPSULE GEOLOGY

Total Reserves 24,686,725 0.46 0.34

Mining of the Ajax deposit began after the depletion of economic open pit reserves at Afton in early 1989 (see Afton, 092INE023).

In June 1989, mining commenced at the Ajax deposit (West and East pits), 10 kilometres to the south-southeast of the Afton open pit. Ore is hauled via a new road to the Afton mill complex. The Ajax mining operations ceased in August 1991. See Afton (092INE023) for production figures.

Afton Operating Corporation, a subsidiary of Teck Corp., resumed production in September, 1994 after a three-year suspension in operations because of depressed metal prices. Production from the Ajax East pit, which contained approximately 3.63 million tonnes of ore grading 0.46 per cent copper and 0.34 gram per tonne gold, totalled 3600 tonnes of copper and 245 kilograms of gold from 931,000 tonnes milled at a daily throughput of 8700 tonnes. Reserves for the Afton-Ajax deposits estimated by the company at January 1, 1995 were 13.2 million tonnes grading 0.42 per cent copper and 0.34 gram per tonne gold (Information Circular 1996-1, page 7).

In 1995, Afton announced that it would re-open the Ajax West pit (092INE012), with about 9 million tonnes of the same grade as Ajax East, extending the mine life from December 1996 to about December 1998. Pushback stripping of the Ajax West pit began, and ore was milled (Information Circular 1996-1, page 7). See Ajax (West) (092INE012).

Production in 1995 from the Ajax East pit totalled 11,824 tonnes of copper, 830 kilograms of gold and 1559 kilograms of silver from 2,928,922 tonnes milled at a daily throughput of 8770 tonnes. During 1996, mining took place in the Ajax West pit; much of the Ajax East pit was backfilled with waste from the West pit. Closure of the West pit operation was June 1997 due to low copper prices and the low grade of the remaining ore.

This property extends easterly from Jacko Lake, about 9 kilometres southwest of Kamloops. The Ajax claim (Lot 4710) is located about 500 metres east of the lake; the Wheal Tamar claim (Lot 2126) is located 2000 metres east northeast of the Ajax; the Monte Carlo (Lot 4176, 092INE014) is about 500 metres east of the Wheal Tamar. The first report of underground exploration work on the Wheal Tamar claim was in 1898. The claim was at that time owned by O.S. Batchelor and the Boillot Bros. By 1904, three groups of claims had been located. These were the Wheal Tamar, Tamar Fraction, Blizzard Fraction; the Monte Carlo, Sultan, Anaconda, Whitecap Fraction; the Ajax, Hercules, Jupiter, Neptune, Mars. The first development work reported on the Monte Carlo was in 1905, and on the Ajax in 1906. The Kamloops Queen, located adjacent to the Wheal Tamar claim in 1908, subsequently lapsed. The Wheal Tamar and Forlorn (Lot 3016) claims were Crown granted to O.S. Batchelor in 1912 and 1916 respectively. The Granby Consolidated Mining, Smelting and Power Company, Limited optioned the Wheal Tamar group in 1916 and carried out diamond drilling, but the results of this work are not recorded. Ownership of the Monte Carlo and Ajax groups was not recorded, other than that G.J. Rogers, of Knutsford, owned the Monte Carlo in 1913 and acquired the Ajax prior to 1923. Exploration work was carried out on an annual basis to 1914, and sporadically thereafter. The original workings on the Wheal Tamar include 6 shafts and an adit; in 1909 the adit was 143 metres long and shafts and adit totalled over 213 metres. The Monte Carlo workings included an adit, and a shaft said in 1924 to be 18 metres. The Ajax was explored by two adits. The Consolidated Mining and Smelting Company of Canada (Limited) (Cominco Ltd. since 1966) optioned 13 claims in the Ajax and Monte Carlo groups from Mr. Rogers late in 1928. Diamond drilling during 1929 was done in 10 holes on the Ajax group. The results indicated sparse mineralization in a zone approximately 76 metres wide and trending 295 degrees with steep dips to the north. On the Monte Carlo, 27 metres of drift was driven, and 243.8 metres of diamond drilling was done in 3 holes. Berens River Mines Limited in 1952 held an option on several of these claims. Diamond drilling was done in 4 holes midway between the Wheal Tamar and Monte Carlo claims. No mineralization was encountered and the option was dropped. Cominco Ltd. resumed work on the property in 1954. The company at that time held 4 Crown grants under lease and 16 full and fractional claims. A number of claims were subsequently acquired until in 1967 the property comprised the Jacko group of recorded claims and 8 Crown grants including, in addition to those mentioned above, the Copper Star (Lot 3015), Grass Roots (Lot 1496), Sultan (Lot 4717), and Neptune (Lot 4712). An electromagnetic survey was carried out in 1954 and further geophysical work was reported in 1958, and in 1967 (magnetometer survey). Diamond drilling by Cominco to the end of 1967 totalled over 7620 metres in 56 holes. Most of this drilling

CAPSULE GEOLOGY

has been concentrated on the Ajax showings. Drilling was reported in 1967 on the Wheal Tamar and Monte Carlo showings. Drilling to 1967 is reported to have developed 9,710,000 tonnes grading 0.5 per cent copper (Prendergast, J.B., Summary Report on Property of Pinnacle Mines Ltd., January 30, 1969). No further activity was reported until 1973 when exploration work carried out by Attan Mines Ltd. included an induced polarization survey over 15.1 line kilometres, and percussion drilling in 28 holes totalling 2197.6 metres on the Ajax, 23 holes totalling 2103.1 metres on the Wheal Tamar, and 4 holes totalling 365.7 metres on Jacko 10 Fr. Seven holes drilled in 1973 and 1980 outlined a "reserve" of 5.9 million tonnes grading 1.55 per cent copper, 1.6 grams per tonne gold and 6.86 grams per tonne silver (Afton Annual Report, 1980). One hole intersected 2.5 per cent copper and 1.06 grams per tonne gold over 200 metres. Another hole assayed 3.3 per cent copper over 85 metres, including 5.6 per cent copper over 32 metres. The mineralization is in hypogene (sulphides) and has a true width of approximately 90 metres. In 1980, Cominco Ltd. carried out magnetometer and induced polarization surveys over 66 kilometres and 14,347 metres of percussion drilling in 190 holes; E&B Canada Resources Ltd. provided \$1,000,000 in financing for this project, thereby earning a 6 per cent interest in the property; E&B was subsequently acquired by Imperial Metals Corporation. Drill indicated reserves were reported at 95,245,500 tonnes grading 0.32 per cent copper, 0.27 gram per tonne gold (Joint Management Information Circular, Royex Sturgex Mining Limited and Cullaton Lake Gold Mines Ltd., April 27, 1984). Teck Corporation and Metall Mining corporation, through Afton Operating Corporation, in November 1986 obtained an option to earn a 70 per cent interest from owners Cominco Ltd. and Imperial Metals Corporation. Work by Teck in 1987 included 11,582 metres of diamond drilling in 77 holes. Reserves were reported as 95,245,500 tonnes at 0.51 per cent copper equivalent (Imperial Metals, 1987 Annual Report) or 24,673,120 tonnes at 0.46 per cent copper, 0.34 gram per tonne gold (Imperial Metals, 1988 Annual Report). Work in 1988 included development of the East (092INE013) and West (092INE012) open pits, and construction of a haul road to transport the ore to the Afton mill, some 10 kilometres to the northwest. In 2001, DRC Resources Corporation conducted geological mapping and 0.6 kilometre of ground magnetic survey.

BIBLIOGRAPHY

- EMPR AR 1899-605,731; 1900-889; 1901-1078; 1904-G229,G230,G231; 1905-J194,J195; 1906-H174,H176; 1907-L131; 1908-J121; 1909-K140; 1910-K127,K128; 1911-K181; 1913-K190,K191; 1916-K266; 1923-A150; 1924-B146,B147; 1928-C209; 1929-C226-C228; 1956-47-54,63-67; 1957-30; 1958-66; 1961-48; 1967-137-142
- EMPR ASS RPT 108, 8079, 8512, 9166, 16740, *17198, *17199, 17964, 17965, 26650
- EMPR BULL 77
- EMPR EXPL 1980-235; 1996-D6; 1997-34; 2001-38
- EMPR FIELDWORK 1974, pp. 22-26; 1976, pp. 41-46; 1977, pp. 37,38, 86-88; 1982, pp. 267-284; 2002, pp. 129-132
- EMPR GEM 1973-197
- EMPR INF CIRC 1994-19, p. 8; 1995-9, p. 7; 1996-1, p. 7; 1997-1, p. 9
- EMPR MAP 26; 48; 65 (1989)
- EMPR PF ((see Ajax property file - 092INE012, Imperial Metals Corporation Annual Report 1989; News Release - Feb.2, 1989; Drill hole location maps, drill section, geology maps, magnetometer and induced polarization maps))
- EMR MP CORPFILE (Imperial Metals Corporation; Teck Corporation; Metall Mining Corporation)
- GSC OF 165; 980; 2490
- GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
- GSC MEM 249
- GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358; *93-1A, pp. 87-95
- CIM Special Volume *46, pp. 565-580
- Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C. Unpub. M.Sc. Thesis, University of British Columbia
- Northern Miner, Nov.10, 1997
- Teck Corporation, Annual Report 1996
- WWW <http://www.drresources.com>;
- http://www.infomine.com/index/properties/AFTON_MINE-MILL.html
- <http://www.amemining.com>

MINFILE NUMBER: **092INE014**

NATIONAL MINERAL INVENTORY: 092I9 Cu4

NAME(S): **MONTE CARLO (L.4716)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 36 N
LONGITUDE: 120 22 59 W
ELEVATION: 922 Metres

NORTHING: 5609726
EASTING: 685153

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on Lot 4716 (Monte Carlo) about 550 metres southeast of the Ajax East deposit (092INE013), 8 kilometres south of Kamloops (Minister of Mines Annual Report 1956, Showing 13, Figure 3).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite Magnetite
ALTERATION: Albitic
ALTERATION TYPE: Albitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Porphyritic Microdiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

At the Monte Carlo showing, disseminations and veinlets of pyrite, chalcopyrite and magnetite occur in partly albitized porphyritic microdiorite. The intrusive rocks are part of the Sugarloaf unit of the Late Triassic-Early Jurassic Iron Mask batholith.

By 1904, three groups of claims were located in the area of which the Monte Carlo formed part. The first development work reported on the Monte Carlo was in 1905. G.J. Rogers, of Knutsford, owned the Monte Carlo claim in 1913. A shaft was sunk to a depth of 18.2 metres. In 1929, The Consolidated Mining and Smelting Company of Canada, Limited completed 27.4 metres of drifting in an adit. The shaft is about 55 metres southeast of the adit. In the same year, three diamond-drill holes totalling 243.8 metres were drilled between the shaft and adit but mineralization was not intersected due to crossfaulting. In 1952, four diamond-drill holes were drilled in the vicinity of the Monte Carlo claim by Berens River Mines Limited. At least two of the holes were drilled midway between the Wheel Tamar (092INE013) and Monte Carlo adits. None of the holes intersected significant mineralization. In 1967, Cominco Ltd., as part of a larger program on the Ajax East or Wheel Tamar deposit, drilled one hole (No. 52) on the Monte Carlo claim and intersected low grade copper mineralization in altered porphyritic Sugarloaf unit microdiorite at 5.7 to 23.7, 35.0 to 49.9, 71.0 to 89.0, and 115.2 to 124.3 metres. The hole was drilled to 154.5 metres depth in a northeasterly direction and ended in picrite basalt. In 1967, drilling was reported on the Wheel Tamar and Monte Carlo showings. In 1980, Cominco Ltd. completed seventy-four percussion-drill holes on their Ajax property of which eight holes were drilled on the Monte Carlo claim. All eight holes intersected varying amounts of copper mineralization.

BIBLIOGRAPHY

EMPR AR 1904-G230; 1905-J194; 1906-H176; 1908-J122; 1913-K191; 1923-

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 40
REPORT: RGEN0100

BIBLIOGRAPHY

A150; 1924-B146,B147; 1928-C209; *1956-47-54,67; *1967-142
EMPR ASS RPT 8079, 8666, 9166
EMPR BULL 77
EMPR GEM 1973-197
EMPR PF (Property description)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Abacus Mining & Exploration Corp., Jan.27, 2003
WWW <http://www.amemining.com>

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE015**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOKER, A, CLE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 31 N
LONGITUDE: 120 18 01 W
ELEVATION: 899 Metres

NORTHING: 5606076
EASTING: 691149

LOCATION ACCURACY: Within 500M

COMMENTS: A caved adit on the bank of Anderson Creek, 1 kilometre south of Separation Lake, about 11 kilometres south of Kamloops (Assessment Report 23894).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite Bornite Copper
ASSOCIATED: Specularite Pyrite
ALTERATION: K-Feldspar Epidote Albite Chlorite Carbonate

ALTERATION TYPE: Potassic Propylitic Albitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Iron Mask Batholith

LITHOLOGY: Diorite
Diorite Breccia
Syeno Diorite
Monzodiorite
Monzonite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Indicated YEAR: 1955
QUANTITY: 68032 Tonnes
COMMODITY GRADE
Copper 0.6000 Per cent
REFERENCE: Property File - Report by Millar, 1966.

CAPSULE GEOLOGY

The Joker prospect area is underlain by strongly jointed Iron Mask Hybrid unit diorite breccia and Cherry Creek unit diorite, monzodiorite and monzonite, of the Late Triassic-Early Jurassic Iron Mask batholith. Alteration is weak within the diorite breccia with variable concentrations of fracture-controlled epidote and carbonate. Moderate chlorite alteration is present throughout the unit. Albite is variable and ranges from locally moderate pervasive to absent. Mineralization is weak and erratic and consists of local pyrite, chalcopyrite and malachite. The Cherry Creek unit rocks also exhibit weak fracture-controlled epidote, carbonate and chlorite alteration. Potassic alteration is concentrated in the Joker adit area where disseminated mineralization consists of malachite, chalcopyrite, chalcocite, pyrite and bornite concentrated in a low angle fault and fracture system. Native copper was reported in 1955 diamond drilling by Commercial Minerals Limited. Local malachite and chalcopyrite mineralization and sporadic potassium feldspar and epidote alteration is found along the 200 metre plus long trench cut into the bank of Anderson Creek south from the adit. The average of six 0.5-metre chip samples over a total length of 3 metres from the Joker adit

CAPSULE GEOLOGY

yielded 2.2 per cent copper (Assessment Report 6717).

Drilling in 1955 by Commercial Minerals Limited in a small area to the west of the Joker adit has indicated about 68,032 tonnes grading 0.6 per cent copper. The tonnage estimate is based on eighteen drillholes. Native copper and chalcocite is associated with specular hematite lenses. The zone occurs as a gently dipping zone of intense chlorite-albite alteration in syenodiorite. The zone averages 106 metres long, 36 metres wide and of varying thickness (Report by J.B. Prendergast, 1969 and C.F. Millar, 1966).

In 1955, Commercial Minerals Limited conducted a program of 1676 metres of diamond drilling and minor bulldozer trenching in the vicinity of the Joker adit. In 1965, Mineral Mountain Mines Ltd. completed 18 kilometres of magnetometer survey and 13.2 kilometres of VLF-EM survey on the Bee group of claims. In 1966, Fidelity Mining Investments Ltd. conducted a 21 kilometre induced polarization survey over the Pinnacle claim group which also covered the And (092INE124), Joker and Grey Mask (092INE016) showings. In 1968, Pinnacle Mines Limited took 1785 soil samples over the A, C, Cle and Pin claims which also covered the And, Grey Mask and Joker showings. In 1969, Pinnacle Mines Ltd. completed eight diamond-drill holes totalling 1111.9 metres to test induced polarization anomalies and surface showings; no report was filed. In 1972, geological mapping, soil sampling and 15.9 kilometres of ground magnetometer survey was undertaken on the large holding of JD claims on behalf of Flagstone Mines Ltd. The JD claims also covered the Joker, Grey Mask and And showings. In 1977, Cominco Ltd. conducted geological mapping and rock sampling on the Lark claims. In 1978, Cominco Ltd. completed 6.5 kilometres of induced polarization and ground magnetometer survey over the And/Lark claim group. In 1994, Teck Corporation completed six diamond-drill holes totalling 690.7 metres, 21 kilometres of VLF-EM and ground magnetometer surveys, geological mapping and soil sampling (389) on the Joke and Ace claims which cover the Joker, Grey Mask and Phil showings.

BIBLIOGRAPHY

- EMPR AR 1955-38; *1956-47-54,67,68; 1967-141,142
EMPR ASS RPT 772, 965, 1746, 4160, 6717, 6739, 11336, *23894
EMPR BULL 77
EMPR EXPL 1978-E166,E167
EMPR GEM 1972-191; 1973-195,196
EMPR PF (Mitchell, J.A. (1972): Report on the Property of Pinnacle Mines Ltd. and Report on Data Supplied Concerning A,C, Cle, Pin and Art Groups of Claims; *Prendergast, J.B. and Pasioka, C.T. (1969): Summary Report on Property of Pinnacle Mines Limited; *Millar, C.F. (1966): Summary Report on A, Cle and C Claims; Bacon, W.R. and Delane, G.D. (1969): Report on the Property of Pinnacle Mines Ltd.; Letter from J. Kwong to G. White, Kamloops District Geologist, 1984; *Phelan, L.G. (1967): Report on Pinnacle Mines Limited Kamloops Lake Property; Drillhole location map on Joker and Grey Mask areas, 1967; Letter from Commercial Minerals Limited concerning drilling and assay results; Drillhole location maps and drill sections on Joker showing, 1966)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Abacus Mining & Exploration Corp., Dec.17, 2002, Jan.27, 2003
WWW <http://www.amemining.com>

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/07

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE016**

NATIONAL MINERAL INVENTORY:

NAME(S): **GREY MASK, AMAKUA, C,
GREYMASK, PIN, ART**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 34 53 N
LONGITUDE: 120 17 51 W
ELEVATION: 896 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5606762
EASTING: 691321

LOCATION ACCURACY: Within 500M

COMMENTS: The Grey Mask shaft is located on the west side and adjacent to Highway 5A, south of Separation Lake, about 10 kilometres south of Kamloops (Assessment Report 23894).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Copper
ASSOCIATED: Specularite Pyrite Magnetite
ALTERATION: K-Feldspar Epidote Carbonate Hematite Malachite
ALTERATION TYPE: Potassic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY: Diorite Breccia
Diorite
Andesitic Volcanic
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
SAMPLE TYPE: Drill Core

YEAR: 1994

COMMODITY

Gold

GRADE

3.2800

Grams per tonne

Copper

1.1000

Per cent

COMMENTS: Across 2.35 metres.

REFERENCE: Assessment Report 23894.

CAPSULE GEOLOGY

The Grey Mask shaft is located on the west side and adjacent to Highway 5A, south of Separation Lake, about 10 kilometres south of Kamloops. The shaft explores a north trending shear zone in microdiorite of the Late Triassic-Early Jurassic Iron Mask batholith. The shear zone is mineralized with chalcopyrite, specular hematite, pyrite and some native copper. Occasional magnetite veinlets and malachite were noted and sparse disseminated native copper also occurs in sheared diorite outside the mineralized shear zone.

In 1994, drilling south of the shaft intersected weak to strongly potassic, epidote, carbonate and hematite altered diorite breccias. Mineralization consisted of narrow zones/bands of massive specular hematite with local 1-3 per cent fracture-controlled chalcopyrite. Mineralized intervals containing greater than 0.5 per cent copper were generally narrow with the best results of 1.1 per cent copper and 3.28 grams per tonne gold over 2.35 metres (Assessment Report 23894). The bottom of drillholes JK-94-03, 4 and possibly 5 intersected non-mineralized andesitic volcanics of the

CAPSULE GEOLOGY

Upper Triassic Nicola Group in fault contact with the overlying diorite breccias (Assessment Report 23894).

The principal working is a shaft stated to be 8.5 metres deep, with a drift 12 metres to the south at the bottom. The working was inaccessible in the early 1940s. Similar mineralization in diorite was found in a well 42 metres to the southwest of the shaft and consisted of some coarsely intergrown calcite and specular hematite with chalcopyrite and quartz. A filled-in opencut is located between the well and shaft. Another caved shaft is located about 200 metres south of the Grey Mask shaft (Assessment Report 6717). In 1956, Commercial Minerals Limited conducted some diamond drilling in the Grey Mask shaft area. Two drillholes intersected 38 metres grading 0.18 per cent copper and 32 metres grading 0.27 per cent copper, respectively (Report by L.G. Phelan, 1967).

The Grey Mask group was staked by J. Surina but work on the claims has been abandoned and believed to be lapsed (ca. early 1940s). In 1956, eight short diamond-drill holes totalling 398 metres were drilled by Commercial Minerals Limited in the immediate vicinity of the filled-in Grey Mask shaft. In 1965, Mineral Mountain Mines Ltd. completed 18 kilometres of ground magnetometer survey and 13.1 kilometres of VLF-EM survey on the Bee claim group. In 1966, Fidelity Mining Investments Ltd. conducted a 21 kilometre induced polarization survey over the Pinnacle claim group which also covered the And (092INE124), Joker (092INE015) and Grey Mask showings. In 1968, Pinnacle Mines Limited took 1785 soil samples over the A, C, Cle and Pin claims which covered the And, Grey Mask and Joker showings. In 1972, geological mapping, soil sampling and 15.9 kilometres of ground magnetometer survey was completed on the large holding of JD claims on behalf of Flagstone Mines Ltd. The JD claims cover the Joker, Grey Mask and And showings. In 1977, Cominco Ltd. conducted geological mapping and rock sampling on the Lark claims which cover the Joker and Grey Mask showings. In 1978, Cominco Ltd. completed 6.5 kilometres of induced polarization and ground magnetometer survey on the And and Lark claims. In 1994, Teck Corporation completed six diamond-drill holes totalling 690.7 metres, 21 kilometres of VLF-EM and ground magnetometer surveys, geological mapping and soil sampling (389) on the Joke and Ace claims which cover the Joker, Grey Mask and Phil showings.

BIBLIOGRAPHY

- EMPR AR *1956-47-54,68
EMPR ASS RPT 772, 965, 1746, 4160, *6717, 6739, *23894
EMPR BULL 77
EMPR EXPL 1978-E166,E167
EMPR GEM 1969-237
EMPR PF (see Joker, 092INE015 - Drillhole location map, Pinnacle Mines Ltd., 1967, *Phelan, L.G. (1967): Report on Pinnacle Mines Limited Kamloops Area Property)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 115
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Abacus Mining & Exploration Corp., Jan.27, 2003
WWW <http://www.amemining.com>

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/07

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

owners, Messrs. Fowler and Carter, carried out exploration and development work until 1900. Most of this work was done on the Charlotte claim (Lot 1448) and included a 68.5 metre long adit, a 5.4 metre deep shaft and numerous opencuts. The Kimberley Copper Mines Ltd. was formed in July 1900 to purchase the property. Some exploration work was reported by the company in 1900 and 1901; the adit was reportedly extended a further 53 metres. The claims were apparently under option to a Mr. Beckman, of Cleveland, Ohio, in 1908 and further trenching was reported at that time. Three claims, the Morning Star (Lot 1450), Stem Winder (Lot 1451), and Keystone Fractional (Lot 1453) were Crown granted to the company in 1911; the company charter was surrendered in 1912. The property was subsequently acquired by Angelo Sartorio and in 1929 the following claims were Crown granted to him: Kimberley, Charlotte and Last Chance (Lots 1447 1449), and Occidental (Lot 1452). No work was reported at that time. In about 1940, the property was owned by Baroness Sartorio. New Jersey Zinc Exploration Company (Canada) Limited held the property, probably under option, in 1964 and completed 6 BX diamond-drill holes totalling 621.7 metres. Owner F. Sanft did a limited amount of diamond drilling in 1965. Kimberley Copper Mines Ltd. optioned the Crown-granted claims from F. Sanft in April 1966 and acquired the Kim group of 5 claims by staking. An additional 20 claims in the Alf, Jeep and Don groups were purchased at this time. Initial work by the company included geological mapping, geochemical and magnetometer surveys, and 276.1 metres of diamond drilling in 3 holes. Percussion drilling totalling 1176.8 metres was done in 42 holes, of which 9 failed to reach bedrock. Most of the holes drilled on the Crown-granted claims cut only minor amounts of copper. The best hole cut 18.2 metres averaging 0.54 per cent copper, including 6 metres of 1.07 per cent copper. Some 609 metres northwest, a drillhole cut 15.2 metres of 0.30 per cent copper. Phillips Petroleum Company sub-optioned the property from Kimberley Copper in July 1968. Work by the company included induced polarization and geochemical surveys, 2444.8 metres of diamond drilling in 20 holes and 1798.3 metres of percussion drilling in 23 holes. The sub-option was dropped in 1969. Kimberley Copper Mines changed its name in February 1971 to Nor-West Kim Resources Ltd; the company abandoned its option in about 1973. In 1985 or 1986, Teck Corporation carried out a VLF electromagnetic survey over 10.7 kilometres and a geochemical soil survey (148 samples) on the Kim claims in this vicinity. In October 1986, Glitter Gold Mines Ltd. optioned 100 per cent interest in the MD 1-6 claims covering this property from M. McElgunn, of Kamloops. The company reported that past work had outlined 362,840 tonnes grading 0.35 per cent copper (Glitter Gold Mines, Filing Statement 76/87).

BIBLIOGRAPHY

EMPR AR 1898-1102; 1899-605,730; 1900-889; 1901-1078; 1904-G229;
1906-H177; 1908-J122; 1909-K139; 1913-K191; 1929-C509; 1956-47-54,
69; 1964-98; 1966-148; 1967-141; *1968-169-172
EMPR ASS RPT 993
EMPR BULL 77
EMPR EXPL 1986-C236
EMPR GEM 1969-236
EMPR OF 1998-8-F, pp. 1-60
EMPR PF (Trench and drillhole location maps, 1967; Geology map, 1959;
Drill logs and assay results)
EMR MP CORPFILE (Kimberley Copper Mines Ltd.; Phillips Petroleum
Company; Glitter Gold Mines Ltd.)
EMR MR 223 (BC 142)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 112
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

sample of 26.2 grams per tonne gold over 1.0 metre was likely from oxidized dump material (Canada Stockwatch, November 7, 2002).

The Iron Cap Crown-granted claim (Lot 875) is located on the southwest side of Ironmask Lake, approximately 9 kilometres west of Kamloops. The claim was staked in about 1897 and a 21 metre inclined shaft was sunk at that time and 4.5 tonnes of ore sent to Everett smelter which yielded \$58 in gold and silver. The claim subsequently reverted to the Crown for taxes. The claim was leased by G.C. Scatchard and several adjoining claims staked. The property was prospected under lease by D.B. Sterritt, of Kamloops, at intervals from 1937 to 1940 where 234 tonnes of ore were mined and produced 13,499 grams silver, 6501 grams gold and 4800 kilograms copper. The shaft was extended down the dip of the zone to a depth of 38 metres. Levels have been driven at 18 and 36 metres. The 18-metre level extends about 7.6 metres southeast of the shaft and 25.9 metres northwest. The ore above the level was stoped to the surface. The level was later backfilled with waste. The 38-metre level is reported to be 10.6 metres long southeast of the shaft and 18.2 metres long northwest of it. To the northwest the drifts followed ore for about 27 metres to a fault and this was stoped out to the surface. Opencuts and short drifts southeast from the shaft failed to find ore. Berens River Mines Limited, a subsidiary of Newmont Mining Corporation, held the Iron Cap and a number of adjacent claims in 1952. An electromagnetic survey was carried out and five diamond-drill holes were put down on the Iron Cap and adjacent claims. In all cases the conductors proved to be unmineralized faults. Comet Mining Corporation Ltd., incorporated December 1964, leased the Iron Cap (Mineral Lease No. 21-0) and acquired a number of adjacent claims by option and by staking and in 1965 conducted a magnetometer survey. In May 1966 the company amalgamated with Krain Copper Resources Ltd. to form Comet Krain Mining Corp. Ltd. and conducted an induced polarization survey. The company name was changed in April 1971 to Comet Industries Ltd. An induced polarization survey was completed by Initial Developers Corporation in 1972 over their Kamloops property claims. In December 1972, Getty Mining Pacific, Limited optioned 120 contiguous claims in the combined properties (Victor, Iron Mask, 092INE010, Iron Cap and DM, 092INE030) held by Comet, Initial and Davenport. Work by Getty in 1973 included an induced polarization survey over 93.3 line kilometres, a magnetometer survey over 86.9 line kilometres, 2084.5 metres of rotary drilling in 8 holes, 564.4 metres of diamond drilling in 2 holes, and 15,513.4 metres of percussion drilling in 159 holes. Among these holes, 25 were spaced over a 3.2 by 4.8 kilometre area. The option was given up in 1974. Davenport Oil & Mining changed its name in 1973 to Davenport Industries Ltd. Initial Developers Corporation in May 1974 amalgamated with North Pacific Mines Ltd. under the name Initial Developers Limited. Canadian Superior Exploration Limited optioned the above combined properties (some 2185 hectares) in 1975. Work in 1976-78 included a magnetometer survey over 89 line kilometres, 8064 metres of diamond drilling in 47 holes and 4211 metres of percussion drilling in 48 holes. The option was terminated in 1978. Craigmont Mines Limited in February 1981 obtained an exploration agreement on the above four properties and on the adjacent Rainbow property (092INE028) of Pacific Seadrift Resources. Most of the work by Craigmont was on the adjacent Victor and Rainbow properties. This work indicated insufficient tonnage and the option was terminated in September 1981. Comet Industries Ltd in 1983 carried out exploration on the combined Iron Cap, Lorna (092INE026) and DM properties, including magnetometer and electromagnetic surveys over 13 kilometres and 294 metres of diamond drilling in 3 holes. The property was owned in 1986 by Comet (40 per cent), Davenport Industries Ltd. (30 per cent) and Initial Developers Limited (30 per cent). Teck Corporation and Metall Mining Corporation, through Afton Operating Corporation, in August 1987 obtained from Comet, Davenport, and Initial a 10 year exploration option on the Iron Cap property and adjacent ground.

BIBLIOGRAPHY

EMPR AR 1897-612,613; 1940-A60; *1956-47-54,68
EMPR ASS RPT 727, 891, 3554, 5180, 6805, 12096
EMPR EXPL 1978-E167,E168; 1983-282,283
EMPR GEM 1973-199
EMPR BULL 77
EMPR FIELDWORK 2002, pp. 129-132
WWW <http://www.amemining.com>
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, p. 110,111
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 49
REPORT: RGEN0100

BIBLIOGRAPHY

Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C., unpub. M.Sc. Thesis, The University of British Columbia, 196 pp.
EMR MP CORPFILE (Comet Industries Ltd.; Initial Developers Limited; Teck Corporation)
GCNL #169, 1987; #181, 1988
STOCKWATCH Nov.7, 2002

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE019**

NATIONAL MINERAL INVENTORY:

NAME(S): **ACE, KINGPIN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 07 N
LONGITUDE: 120 19 06 W

NORTHING: 5607141
EASTING: 689831

ELEVATION: 937 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Caved adit adjacent the road to the Grandview Ski Hill site, about 9.5 kilometres south of Kamloops (Assessment Report 8038).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ALTERATION: Albite Clay Carbonate K-Feldspar Epidote

Limonite Malachite Azurite

ALTERATION TYPE: Albitic Potassic Propylitic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear

CLASSIFICATION: Porphyry

TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY: Monzonite
Diorite
Hornblende Diorite

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: 1991

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

0.3800

Per cent

COMMENTS: Over 52 metres.

REFERENCE: Assessment Report 21468.

CAPSULE GEOLOGY

The Ace showing is located on the Grandview Ski Hill site about 9 kilometres south of Kamloops. The area is underlain by Cherry Creek unit diorite to monzonite and Sugarloaf unit hornblende diorite porphyry of the Late Triassic-Early Jurassic Iron Mask batholith. In 1979, a percussion-drill hole by Cominco, in the vicinity of the adit on the Ace 1 claim, intersected 15.2 metres grading 0.29 per cent copper (Assessment Report 8038). At the collar of this hole, a zone of malachite, azurite and limonite was exposed while digging for water. The fracture-controlled mineralization occurs in a 9 metre wide, strong fault zone striking 220 degrees and dipping 70 degrees westerly. The original Ace adit was driven on this structure and is now caved. Hostrock is Cherry Creek unit diorite containing traces of chalcopyrite and heavy pyrite. Strong K-feldspar development and epidote alteration is evident. In 1991, Cominco Ltd. drilled four percussion-drill holes to test an overburden covered area immediately north and east of the adit. One hole (91-3), about 175 metres north of the adit, intersected 52 metres averaging 0.38 per cent copper in pyritic and intensely albitized Cherry Creek unit monzonite with significant clay and carbonate alteration (Assessment Report 21468). All drillholes intersected monzonite and diorite of the Cherry Creek unit. Propylitic alteration consisting predominantly of epidote, chlorite and carbonate alteration minerals were noted in all the

CAPSULE GEOLOGY

holes.

In 1969, Great Plains Development Company of Canada Ltd. conducted geological mapping, soil sampling (290), 8.8 kilometres of ground magnetometer survey and 44.4 kilometres of induced polarization survey on the Byr and Ace No. 1 claim group which also covered the Fargo (092INE051), B (092INE118) and Dewey(092INE21) showings. In 1978, Cominco Ltd. drilled seven percussion-drill holes totalling 488 metres on the Reg and Ace claims on behalf of Great Plains Development, 4.5 line kilometres of induced polarization and ground magnetometer survey over the Reg and Byr claims, and 6.5 kilometres of induced polarization and magnetometer survey over the And and Lark claims. In 1979, Cominco Ltd. drilled 14 vertical percussion-drill holes totalling 829 metres on the Reg and Ace claims. In 1991, Cominco Ltd. drilled four percussion-drill holes totalling 359 metres on the Ace and Reg claims.

BIBLIOGRAPHY

EMPR AR 1956-47-54,69
EMPR ASS RPT 2143, 2144, 6739, 6767, 6803, *8038, 11838, *21468
EMPR EXPL 1978-E167; 1979-174,175
EMPR GEM 1969-236,237
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
WWW <http://www.amemining.com>

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/10

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE020**

NATIONAL MINERAL INVENTORY:

NAME(S): **UTOPIA**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092109W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 32 N
LONGITUDE: 120 20 00 W
ELEVATION: 1094 Metres

NORTHING: 5606022
EASTING: 688808

LOCATION ACCURACY: Within 500M

COMMENTS: Adit about 600 metres northeast of Edith Lake on an east-facing slope to Anderson Creek, about 10.5 kilometres south of Kamloops (Assessment Report 2143).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Magnetite
ALTERATION: Malachite Azurite Albite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Utopia showings consist of mineralized shears in diorite of the Late Triassic-Early Jurassic Iron Mask batholith. Shafts, opencuts, pits and an adit explore the shear zones which vary from 0.3 to 2.6 metres wide. The shears strike from 350 to 050 degrees and dip steeply southwest and northwest. Mineralization consists of disseminations and veinlets of primarily pyrite with chalcopyrite, malachite and azurite. Quartz is sparse and magnetite is locally present. Some of the shears exhibit albite alteration. Assays reported from one of the zones yielded a high of 1.37 grams per tonne gold. It is also reported that some ore was shipped from a 6-metre adit and that the best gold assays obtained ran \$21 per ton (ca. early 1940s, Geological Survey of Canada Memoir 249).

The Utopia claim was originally staked by T. Ray and it is stated that the claim has lapsed (ca. early 1940s). In 1969, Great Plains Development Company of Canada Ltd. conducted geological mapping, soil sampling (290), 8.8 kilometres of ground magnetometer survey and 7.9 kilometres of induced polarization survey on the Byr and Ace No. 1 claim group which also covered the Fargo (092INE051), B (092INE118), Kingpin (092INE019) and Dewey(092INE21) showings. In 1972, Flagstone Mines Ltd. conducted geological mapping and soil sampling over the JD and Pin claims. The JD 54 claim appears to cover the Utopia showing. In 1978, Cominco Ltd. completed 4.5 line kilometres of induced polarization and ground magnetometer survey over the Reg and Byr claims.

BIBLIOGRAPHY

EMPR ASS RPT 2143, 4160, 6803
EMPR BULL 77
EMPR GEM 1969-236,237
EMPR AR 1956-47-54, Fig.3
GSC MEM *249, pp. 113,114
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 53
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/10

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE021**

NATIONAL MINERAL INVENTORY:

NAME(S): **ADMIRAL DEWEY (L.1561)**, CYCLONE (L.1562), BLACK BEAUTY (L.1560),
 DEWEY, PAIN, ACE,
 REG

STATUS: Prospect	Underground	MINING DIVISION: Kamloops
REGIONS: British Columbia		
NTS MAP: 092I09W		UTM ZONE: 10 (NAD 83)
BC MAP:		
LATITUDE: 50 35 20 N		NORTHING: 5607521
LONGITUDE: 120 19 36 W		EASTING: 689226
ELEVATION: 972 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: A caved adit on the Admiral Dewey Crown grant (Lot 1561) located on the Grandview Ski Hill site, under the ski lift, about 9 kilometres south of Kamloops (Assessment Report 2143).		

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite	Chalcopyrite				
ASSOCIATED: Quartz	Magnetite				
ALTERATION: Chlorite	Epidote	Albite	K-Feldspar	Carbonate	
	Azurite				
ALTERATION TYPE: Propylitic		Albitic	Potassic	Oxidation	
MINERALIZATION AGE: Unknown					

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Monzonite
 Intrusive Breccia
 Diorite

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: 1989
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Copper	0.1900 Per cent
COMMENTS: Over 18 metres.	
REFERENCE: Assessment Report 18873.	

CAPSULE GEOLOGY

The Admiral Dewey showing is located on the Grandview Ski Hill site about 9 kilometres south of Kamloops. The area is underlain by Cherry Creek unit monzonite and Sugarloaf unit hornblende diorite of the Late Triassic-Early Jurassic Iron Mask batholith. The Admiral Dewey workings were inaccessible in the early 1940s and an adit reported to be 26 metres long is caved at the portal, and a shallow shaft was partly filled with water. Minister of Mines Annual Reports stated there is a vein 0.9 to 1.2 metres wide mineralized with chalcopyrite and carrying low values in gold. From dump material it appears that the hostrock is diorite and the ore carries a little quartz, chalcopyrite, azurite and malachite. A sample of picked ore is stated to have assayed 2.7 grams per tonne gold and 13.7 grams per tonne silver (Geological Survey of Canada Memoir 249).

Mineralization on the property is generally localized in zones of intense fracturing and alteration in monzonite and intrusive breccia. Pyrite is the predominant sulphide mineral and occurs as fine fracture fillings and as disseminations. Chalcopyrite occurs mainly as disseminations and fine fracture coatings. Local

CAPSULE GEOLOGY

concentrations of magnetite also occurs. Malachite and lesser azurite are widespread and occur in practically every old cut, trench and adit on the property. Chlorite, epidote, albite, K-feldspar, quartz and carbonate are the most commonly observed alteration minerals. Alteration on the property is generally moderate to intense in the immediate vicinity of mineralization.

An induced polarization anomaly 350 by 350 metres in area has been tested by percussion drilling which intersected scattered intersections of interesting copper mineralization in fractured Cherry Creek unit monzonite. In 1979, fourteen percussion-drill holes were put down south of the Admiral Dewey Crown grant on the adjoining Black Beauty Crown grant. Three holes intersected pyritic diorite to monzonite intrusive rocks sparsely mineralized with disseminated chalcopyrite; minor magnetite also occurs. Drillhole 79-3 intersected 7.9 metres grading 0.33 per cent copper, drillhole 79-8 intersected 9.1 metres grading 0.41 per cent copper and drillhole 79-10 intersected 3.1 metres grading 0.31 per cent copper (Assessment Report 8038). The most significant copper mineralization is hosted in the monzonite. Alteration consists of slight chloritization of mafic minerals in the intrusive rocks. In 1989, a percussion-drill hole near the Admiral Dewey adit intersected 57.9 metres grading 0.11 per cent copper including 18 metres grading 0.19 per cent copper and 3 metres grading 0.34 per cent copper (Assessment Report 21468).

In 1969, Great Plains Development Company of Canada Ltd. conducted geological mapping, soil sampling (290), 8.8 kilometres of ground magnetometer survey and 44.4 kilometres of induced polarization survey on the Byr and Ace No. 1 claim group which also covered the Fargo (092INE051) and B (092INE118) showings. In 1978, Cominco Ltd. completed 6.6 kilometres of induced polarization and magnetometer survey over the And and Lark claims which just cover the south portion of the Admiral Dewey property. In 1978, Cominco Ltd. drilled seven percussion-drill holes totalling 488 metres on the Reg and Ace claims on behalf of Great Plains Development Company of Canada Ltd. and 4.5 line kilometres of induced polarization and ground magnetometer survey over the Reg and Byr claims. Also in 1978, Cominco Ltd. drilled five vertical percussion-drill holes totalling 382 metres on the Black Beauty Crown grant (Lot 1560) which adjoins the Admiral Dewey Crown grant to the south. Short intersections of copper grades normally considered significant in a porphyry environment were intersected in most of the drillholes. In 1979, Cominco Ltd. drilled 14 vertical percussion-drill holes totalling 829 metres on the Reg and Ace claims. Several drillholes intersected copper mineralization. In 1980, Cominco Ltd. drilled thirteen vertical percussion-drill holes totalling 1079 metres on the Reg property which covers the Crown grants. In 1989, Cominco Ltd. drilled 41 percussion-drill holes totalling 3507 metres on the Edith property which covers the Fargo, B and Admiral Dewey showings. In 1991, Cominco Ltd. drilled four percussion-drill holes totalling 359 metres on the Ace and Reg claims.

BIBLIOGRAPHY

EMPR AR 1898-1103; 1899-731; 1901-1078; 1904-G230; 1956-47-54, Fig.3
EMPR ASS RPT 2143, 2144, 6739, 6767, 6803, *6860, *8038, 8127,
*11838, *18873, 21468
EMPR EXPL 1978-E167; 1979-174,175
EMPR GEM 1969-236,237
EMPR BULL 77
EMPR PF (Soil sample survey map, 1970)
GSC MEM *249, p. 114
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/11

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE022**

NATIONAL MINERAL INVENTORY: 092I9,10 Fe1

NAME(S): **CLIFF (L.899)**, GIFT (L.4798), MAGNET,
ANVIL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I09W 092I10E
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 39 21 N
LONGITUDE: 120 29 55 W
ELEVATION: 747 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5614539
EASTING: 676806

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft located very near the common boundary of Crown grant Lot 4798 (Gift) and Lot 899 (Cliff) just 200 metres northeast of the Pothook open pit (092INE023), about 11 kilometres west of Kamloops (Property File - Sketch map).

COMMODITIES: Magnetite Iron Gold Copper

MINERALS

SIGNIFICANT: Magnetite
ASSOCIATED: Apatite Epidote Pyrite Chalcopyrite
ALTERATION: Apatite Epidote Amphibole Pyroxene
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Skarn Industrial Min.
TYPE: L03 Alkalic porphyry Cu-Au K03 Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Iron Mask Batholith

LITHOLOGY: Diorite
Monzonite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

A shaft, stripping and shallow trenches expose several magnetite veins that occur in diorite and monzonite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith. Several (7) massive magnetite veins trend east and dip moderately to steeply north. Some are continuous for up to 274 metres having widths up to 9 metres.

The principal veins on the Cliff and Gift Crown grants (Lots 899 and 4798 respectively) are the Nos. 3 and 4. They strike east-southeast and dip either vertically or steeply north. The walls are generally sharply defined, but in places the veins either split or enclose sheets of country rock. The estimated magnetite content of the veins at the surface ranges between 50 and 90 per cent, and averages about 70 per cent. Other minerals include apatite, epidote, and possibly amphibole or pyroxene. Very small amounts of sulphides are present, with pyrite in excess of chalcopyrite. Vein No. 3 is intermittently exposed for 274 metres and has widths varying between 1.8 and 9.1 metres. Omitting sheets of country rock, the maximum and average width of this vein are 3.9 metres and approximately 2.4 metres respectively. Vein No. 4 is 2.1 metres wide at a point 18 metres north-northeast of the most easterly exposure of vein No. 3. It can be followed for 91 metres west-northwest, where its width is reported to increase to 9 metres. Because of caving of the trenches, only a vein 1.2 metres wide is now visible in that direction. In 1957, two holes were diamond drilled at minus 45 degrees to intersect the veins from the north-northeast. Drillhole No. 1, 184.4 metres long, is drilled from a point 91 metres slightly east of north of the caved shaft and at about 6 metres less elevation. It intersects two veins whose apparent widths are 1.6 and 2.7 metres respectively, five other veins of widths between 0.45 and 0.6 metres, and numerous veinlets less than 0.3 metre wide. The 1.6 metre intersection at 7.9 metres depth contains an estimated 80 per cent magnetite. The 2.7

MINFILE NUMBER: **092INE022**

CAPSULE GEOLOGY

metre intersection at 137.7 metres depth contains an estimated 75 per cent magnetite and lies nearly vertically below an outcrop of vein No. 3, whose width is 3.6 metres. Two smaller veins at 82 metres depth have a combined apparent width of 1.8 metres, which includes 0.6 metre of country rock. Their estimated contents of magnetite are 75 and 60 per cent respectively. Drillhole No. 2, 146.3 metres long, is drilled parallel to and approximately 126 metres east-southeast of hole No. 1 from a point whose elevation is about 12 metres less than that of the nearby showings. It intersects one 5.4 metre section of diorite containing an estimated 40 per cent magnetite, five veins of apparent width between 0.8 and 1.4 metres, seven veins of width between 0.3 and 0.6 metres, and numerous veinlets. The 5.4 metre intersection at 139.2 metres depth is vertically below the eastern showing of vein No. 4. It contains small amounts of chalcopyrite and is bounded by rock with little magnetite. The five veins of moderate width are intersected in the interval 72.8 to 105.4 metres. All but one have magnetite contents estimated between 70 and 80 per cent (Minister of Mines Annual Report 1957).

Assuming a 305 metre strike length, minimum width of 3 metres to a depth of 45 to 61 metres, No. 3 vein would contain not less than 181,420 tonnes of magnetite. Assuming a 4.5 metre width over a strike length of 76 metres, No. 4 vein would have a minimum of 45,355 tonnes (Geological Survey of Canada Economic Geology 3).

In 1926, a sample of a magnetite vein from the Magnet claim by the Department of Mines in Victoria analysed 50.7 per cent iron, 10.4 per cent insoluble, trace sulphur, 1.6 per cent phosphorus and 2.5 per cent lime (Geological Survey of Canada Economic Geology 3).

This property is located south of the Trans Canada Highway 1/97 about 11 kilometres west of Kamloops and 2.5 kilometres northwest of Sugarloaf Hill. The Cliff claim (Lot 899) was staked in the 1890s as part of the Pothook property (092INE023). The Pothook property was Crown granted in 1901 to The Scottish Copper Mines of British Columbia, Limited, and apparently abandoned shortly thereafter. In subsequent years four adjacent or nearby claims, the Magnet, Moose, Signal and Anvil, were staked and considerable exploration work done in stripping and trenching; a shaft was sunk on the Magnet claim in search for copper. Several hundred tons of iron (magnetite) ore were reported shipped during this period of activity. The four claims, held by George McDonald & associates of Kamloops in the 1920s subsequently lapsed. The Gift claim (Lot 4798), staked adjoining the Cliff claim on the east, was Crown granted to F.P. Newcome in 1942. The claim included showings formerly covered by the Magnet claim. In 1957, work on the Cliff and Gift claims, owned by F.P. Newcome, included diamond drilling in 2 holes totalling 330.7 metres. A small shipment of ore was made in 1960. Williams Crook Gold Quartz Mining Co. Limited acquired the Cliff and Gift claims in 1972.

BIBLIOGRAPHY

- EMPR AR 1901-1229; *1957-30,31; 1960-A53
- EMPR BC METAL MM00418
- EMPR PF (Carr, J.M. (1957): Report on the Cliff and Gift Mineral Claims)
- EMPR BULL 77
- GSC EC GEOL *3, pp. 115-128
- GSC MEM *249, pp. 135-137
- GSC OF 165; 980; 2490
- GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
- GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

INVENTORY

ORE ZONE: SOUTHWEST	REPORT ON: Y
CATEGORY: Inferred	YEAR: 2002
QUANTITY: 3980000 Tonnes	
COMMODITY	GRADE
Silver	1.7100 Grams per tonne
Gold	1.0300 Grams per tonne
Copper	1.1900 Per cent
Palladium	0.2000 Grams per tonne
REFERENCE: WWW http://www.drcresources.com	
ORE ZONE: SOUTHWEST	REPORT ON: Y
CATEGORY: Indicated	YEAR: 2002
QUANTITY: 10010000 Tonnes	
COMMODITY	GRADE
Silver	2.7400 Grams per tonne
Gold	1.0300 Grams per tonne
Copper	1.5800 Per cent
Palladium	0.2060 Grams per tonne
REFERENCE: WWW http://www.drcresources.com	
ORE ZONE: NORTHEAST	REPORT ON: Y
CATEGORY: Inferred	YEAR: 2002
QUANTITY: 1930000 Tonnes	
COMMODITY	GRADE
Silver	4.1100 Grams per tonne
Gold	0.3400 Grams per tonne
Copper	0.7700 Per cent
Palladium	0.0340 Grams per tonne
REFERENCE: WWW http://www.drcresources.com	
ORE ZONE: NORTHEAST	REPORT ON: Y
CATEGORY: Indicated	YEAR: 2002
QUANTITY: 1100000 Tonnes	
COMMODITY	GRADE
Silver	5.4900 Grams per tonne
Gold	0.8600 Grams per tonne
Copper	1.0200 Per cent
Palladium	0.1000 Grams per tonne
REFERENCE: Stockwatch - October 25, 2002.	
ORE ZONE: TOTAL	REPORT ON: Y
CATEGORY: Inferred	YEAR: 2002
QUANTITY: 5910000 Tonnes	
COMMODITY	GRADE
Silver	3.5000 Grams per tonne
Gold	0.7900 Grams per tonne
Copper	1.0500 Per cent
Palladium	0.1370 Grams per tonne
REFERENCE: WWW http://www.drcresources.com	
ORE ZONE: TOTAL	REPORT ON: Y
CATEGORY: Indicated	YEAR: 2002
QUANTITY: 34070000 Tonnes	
COMMODITY	GRADE
Silver	5.4900 Grams per tonne
Gold	1.3700 Grams per tonne
Copper	1.8300 Per cent
Palladium	0.1030 Grams per tonne
REFERENCE: WWW http://www.drcresources.com	

CAPSULE GEOLOGY

The Iron Mask batholith lies in the southern part of the Quesnel trough, also known as the Nicola belt. The most important pre-Tertiary rocks in this belt are Upper Triassic volcanic and sedimentary rocks of the Nicola Group. The batholith is a subvolcanic, multiple intrusion which is comagmatic and coeval with the Nicola rocks. It is situated along the southwest side of a regional northwest trending fracture zone and is itself cut by numerous northwesterly faults. The batholith comprises two major northwest trending plutons separated by 6 kilometres of Eocene

CAPSULE GEOLOGY

Kamloops Group volcanic and sedimentary rocks. The Tertiary rocks occupy what appears to be a graben structure resulting from renewed fault movement around the margins of the plutons during Paleocene or Early Eocene time (Bulletin 77). The larger pluton, the 18 kilometre long southern part of the batholith, is called the Iron Mask pluton. The smaller Cherry Creek pluton farther northwest, outcrops on either side of Kamloops Lake. The combined exposure of the batholith, including the intervening younger rocks, is about 33 kilometres long and 5 kilometres wide. Sedimentary and volcanic rocks of the Kamloops Group unconformably overlie the Nicola rocks and the Iron Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte.

In the vicinity of the batholith, the Nicola Group is dominated by volcanic and volcanoclastic sedimentary rocks. They are generally recognized by albitization of feldspars, occurrence of patchy epidote, and/or rare hematite alteration. On the southwestern flank of the Iron Mask pluton, well-indurated, massive and bedded tuff, breccia and interbedded flows and flow breccia are prominent and are weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt.

The Iron Mask pluton comprises four major, successively emplaced units designated as the Iron Mask Hybrid, Pothook, Sugarloaf and Cherry Creek units. Locally, an additional Picrite unit also occurs which is probably not genetically related to the batholith. The smaller Cherry Creek pluton consists entirely of the Cherry Creek unit. Isotopic dates (194 to 204 Ma +/- 6 Ma) indicate that all of these units are of Late Triassic or earliest Jurassic age (Bulletin 77).

The component units (except the Picrite unit) of the multiphase batholith are largely controlled by major systems of northwesterly, northerly and northeasterly trending fractures or faults. Most units show some degree of alteration and/or contamination which may be intense locally. Weak to moderate saussuritization is ubiquitous in all batholithic rocks while potassium feldspathization is more prominent in rocks of the Cherry Creek unit. The units are briefly described in order of oldest to youngest (determined mainly on crosscutting relationships). The Iron Mask Hybrid unit forms the spine of the Iron Mask pluton. It is mostly agmatitic, consisting of rounded to angular fragments of various sizes, texture and composition in a dioritic matrix. The fragments include mainly coarse and fine-grained diorite and coarse-grained gabbro with lesser amounts of medium to coarse-grained hornblende and scattered xenoliths of Nicola Group volcanic rocks. All rock varieties in the unit contain magnetite which is often more than 10 per cent by volume. Mineralization, particularly of iron and copper, is almost ubiquitous in this unit. The Iron Mask mine (092INE010), a former copper producer, is located in this unit, but is also associated with picrite.

The Pothook unit occurs mainly in the northwestern half of the Iron Mask pluton, appearing frequently as narrow, gradational zones between the Iron Mask Hybrid and Cherry Creek units. Rocks of this unit are uniformly of dioritic composition and are medium to coarse grained. The Pothook unit is locally mineralized with copper and iron.

The Picrite unit consists of rocks of basaltic composition with abundant clinopyroxene and serpentinized olivine phenocrysts. These rocks generally occur as steeply dipping, poorly exposed and relatively small lenticular bodies in many parts of the batholith. They appear to be associated with recurring, northwesterly trending fracture systems and copper mineralization frequently occurs in their vicinity. Because picrite basalt has been observed far from the two component plutons of the batholith, it is probable that this unit is not part of the batholith.

The Sugarloaf unit occurs mainly along the southwest side of the Iron Mask pluton and as small enclosed bodies in the southern half of the pluton. Rocks of this unit are mainly porphyritic with hornblende, minor clinopyroxene and plagioclase in a greyish green matrix. They are of fairly uniform diorite-andesite composition. Several copper occurrences are hosted by the Sugarloaf rocks. The Ajax deposit (092INE012) east of Jacko Lake is located within brecciated and albitized Sugarloaf rocks.

The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The

CAPSULE GEOLOGY

unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine-grained equivalents as well as local intrusive breccias. Copper and minor iron mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism. Afton mine lies at the western termination of a narrow, 4 kilometre long, easterly trending zone of intense intrusive brecciation that is located at the northern edge of the Iron Mask pluton. The brecciation is considered to have resulted from high-level venting events.

The Afton orebody lies completely within the Cherry Creek unit of the Iron Mask pluton. Salient characteristics of the deposit include two unique features; these are the absence of a well-defined hypogene alteration pattern about the orebody, and the abundance of native copper in the supergene zone without apparent copper enrichment (Bulletin 77). The orebody is separated from the Tertiary rocks to the north mainly by faults and locally by a rather flat-lying unconformity which postdates the supergene event. The Cherry Creek rocks intrude the Nicola Group rocks; the contact is steep, southward dipping and partly sheared. Within this simplified framework, local complications arise because of the highly fractured and altered nature of the host rocks, similarity of both texture and composition of the intrusive and extrusive rocks, gradational contacts between various phases of the intrusive rocks, and the inclusion of large slabs of one rock type in another.

The copper deposit consists of shattered rocks in which the ore minerals occupy fractures and are disseminated. Ignoring complexities, the deposit, as defined by a 0.25 per cent copper cutoff, is a tabular body that strikes about 290 degrees, with an average dip of 55 degrees south. If viewed from the south as a vertical longitudinal slice, it appears to be triangular and increasingly narrow downward between a steep western limit and an eastern limit inclined moderately westward. The deposit measures 520 metres long, 90 metres in average width and as much as 600 metres in drilled depth. Widening and deepening of the deposit westward results in about half the mineable tonnage occurring in the western third of the orebody, where the grade is generally highest as well. Despite the foregoing generalization, the detailed shape of the deposit is complex.

Within a planned open pit 274 metres deep, the proven (measured geological) start-up reserves of the Afton orebody were 30.84 million tonnes grading 1.0 per cent copper, 0.58 grams per tonne gold and 4.19 grams per tonne silver at a cutoff grade of 0.25 per cent copper and a waste-to-ore ratio of 4.2:1 (Canadian Institute of Mining and Metallurgy Special Volume 15).

Within the Afton open pit itself, six rock units are distinguished. They are designated as Cherry Creek diorite, monzonite and syenite, Nicola volcanic rocks, latite dykes and Tertiary sediments and volcanic rocks. The Cherry Creek intrusive rocks, the most abundant rock type in the open pit, are typically fine grained, slightly porphyritic in texture and range from syenite to diorite in composition; diorite generally predominates over the other varieties. Plagioclase grains in all varieties of rock are completely albitized. Potassic feldspar, typically microcline, occurs mainly in the fine-grained matrix, frequently rims plagioclase and rarely occurs as phenocrysts. In the dioritic and monzonitic varieties, potassium feldspar frequently occurs in a patchy habit including and grading into aggregates of epidote or biotite. Discrete potassium feldspar veins commonly show a chloritic envelope. Sericite, carbonate and clay replacements are present in feldspars but are rarely very intense. Partially altered clinopyroxene forms up to 10 per cent of the rock in the eastern portion of the pit while amphibole and its alteration products are the principal mafic minerals elsewhere.

Nicola volcanic rocks within the Afton pit and its vicinity are of several varieties. In the southern portion of the open pit, hard massive green volcanic breccia, with predominantly hornblendite fragments, is particularly abundant. This breccia commonly contains epidote +/- carbonate +/- sulphides veins and is locally pervasively replaced by carbonate +/- chlorite. In the northeastern portion, the Nicola volcanic rocks consist of highly saussuritized andesite. Elsewhere and in drill cores, the Nicola Group rocks range from fine-grained andesite to pebbly sandstone.

Latite dykes in the open pit are invariably massive, fine-grained, and very slightly porphyritic rocks. Potassium feldspar is concentrated in the matrix. Plagioclase is typically albitized. Based on mineralogy and alteration, it is concluded that these latites are probably of pre-Tertiary age.

Arranged in order of decreasing abundance, sandstone, arkose,

CAPSULE GEOLOGY

conglomerate, lithic wacke, carbonaceous argillite, and streaks of coal are among the Tertiary sedimentary rocks observed in the open pit. Tertiary volcanic rocks include dacite, trachytic flow breccia, amygdaloidal andesite, and massive andesite. Where most plagioclase grains in these rocks remain intact, mafic minerals are typically replaced by ankerite.

Compared to other porphyry copper deposits, the Afton deposit does not exhibit well-defined hydrothermal alteration patterns. The most obvious supergene alteration is the disintegration of the rock mass and accompanying intense, pervasive introduction of hematite. Strong phyllic and argillic alteration assemblages are absent. Argillic alteration may be supergene, because its products include montmorillonite, the principal clay mineral in a composite sample of supergene ore. The hypogene alteration is difficult to distinguish due to the prevalence of supergene effects. It exhibits the following successive stages, the distribution and relative intensities of which are poorly known: potassic alteration characterized by secondary potassium feldspar and locally by hydrothermal biotite; saussuritic alteration, chiefly with epidote-chlorite-magnetite and only rarely quartz and calcite; and phyllic (quartz-sericite) alteration. Potassic alteration is sporadic and possibly related to the distribution of latite porphyry. Saussuritic alteration is more general and is related to a widespread propylitic alteration seen in pyritic rocks south of the deposit. As far as carbonate alteration is concerned, calcite predominates over ankerite in the eastern portion of the pit and the reverse is true elsewhere. Although calcite is an expected product of propylitic alteration, surprisingly most calcite at Afton occurs as late fracture-fillings that postdate the supergene event and are common to the nearby Tertiary strata.

A large scale zoning of magnetite, pyrite and copper minerals is crudely evident in the vicinity of the Afton orebody. Abundant hydrothermal magnetite forms a 300 metre wide zone trending northwestward from the Magnet shaft (092INE022) to the Afton orebody, a distance of 800 metres. The magnetite zone contains the orebody and is flanked by barren pyrite zones. The southwestern pyrite zone forms the hanging wall of the orebody. The pyrite zone widens to about 300 metres at Afton, beyond which it swings westward and is widest near its termination 600 metres farther on. South of Afton, it contains up to 10 per cent pyrite by volume, chiefly as fracture-fillings in Cherry Creek rocks and disseminations in Nicola rocks. Within the boundary of large-scale zoning of pyrite and magnetite, ore appears to be most consistently associated with hydrothermal biotite.

At Afton mine, supergene mineralization dominates to a depth of approximately 400 metres in the western, and 250 metres in the eastern portions of the orebody. It is characterized by a native copper to chalcocite ratio in excess of 2:1 and accounts for 80 per cent of the orebody. Chalcocite in this zone is mostly of the sooty variety and occurs mainly in veins less than 3 millimetres wide. Native copper occurs in stockworks as scales, films and dendrites, and also as granules associated with specularite. In the east end of the pit, isolated specks of native copper occur in magnetite, which occurs as veins, patches, and rare disseminations. Whereas native copper and chalcocite commonly occur in the same horizon, they rarely occupy the same vein. Thus replacement features between the two are uncommon; in crosscutting relationships, veinlets of native copper are always younger. Thin coatings of cuprite are found on many native copper crystals; malachite, azurite, conicalcrite and some poorly crystalline copper sulphate hydrates(?) occur locally in trace amounts. These minerals, like minor amounts of gypsum and late calcite veinlets, are probably products of post-supergene alteration processes.

In the hypogene zone, bornite and chalcopyrite are equally abundant and chalcocite is subordinate. Bornite commonly encloses chalcopyrite in carbonate-free veins cutting highly chloritized rocks or as sulphide patches located within chloritized mafic phenocrysts themselves; chalcopyrite enclosing bornite is less common. In either case, bornite commonly exhibits exsolution rims of chalcocite and covellite. Bornite and grey chalcocite, either together or separately, also occur as disseminations in feldspar-rich monzonitic rocks that have accessory secondary biotite.

In addition to its association with bornite, chalcopyrite also occurs with pyrite in carbonate veins and is particularly abundant in epidote-rich rocks. At the southern rim of the open pit at an elevation of 610 metres, there are isolated occurrences of chalcopyrite and molybdenite, and chalcopyrite and hematite veins about 1 centimetre wide. These veins commonly show a 2 centimetre wide potassium feldspar selvage. Rare monomineralic chalcopyrite

CAPSULE GEOLOGY

veins up to 2 centimetres wide exhibit prominent albite selvages. In rocks intensively replaced by carbonate, chalcocite locally accompanies tennantite and/or pyrite. This assemblage also survived locally in the supergene zone.

Whereas gold and silver are significant byproducts of the copper ore, their mode of occurrence is still open to speculation. In the eastern part of the orebody, only one example of native gold coating disseminated bornite, which is incompletely altered to chalcocite, has been observed. Limited spectrochemical analyses also indicate a positive correlation between copper sulphides and gold. Possibly, native gold occurs as microdispersions in the sulphide phases and aggregates visible only after partial destruction of the host minerals. The highest ore grades for the two elements do not necessarily coincide. Tennantite, commonly observed in carbonate-altered and adjacent rocks, is also a likely host for silver and some gold. Quantitatively insignificant sulphosalts, associated with the copper sulphides, may also play a significant role in hosting the gold and silver contained in the ore (Bulletin 77).

Faults, evidenced by gouge, breccia and slickensides, are so numerous at Afton that they generally defy correlation. Many of the faults probably predate the supergene event and some possibly the hypogene period, although late effects are common. Three principal fault sets are recognized, largely because of their effect on the contact of Eocene strata (Kamloops Group rocks). These sets are strike faults (west or west-northwest), oblique faults (northeast or east-northeast) and cross faults (north-northeast). Southerly dips appear to prevail for strike and oblique faults. Cross faults are chiefly represented by an inferred 30 metre wide fault zone adjoining the western end of the deposit. A late fault of unusual type disrupts the uppermost western extremity of the orebody and the Eocene rocks, and is a low angle cylindrical fault of normal displacement. Apparent displacement on this fault is 30 to 40 metres.

A detailed study of the distribution of minerals in the Afton open pit indicates that primary mineralization took place in a roof pendant environment characterized by a diversified array of rock types. Hydrothermal alteration proceeded under a condition of low fluid/rock ratio such that primary mineralogy controlled the appearance of the secondary minerals. Whereas little meteoric water was involved in the hypogene mineralization, supergene alteration was dominated by irreversible mineral-solution (groundwater) interactions. The Afton protore is likely a byproduct of magmatic differentiation, generated at the early Cherry Creek stage when portions of the fractionating magma were intruded into a subvolcanic environment. Local trapping of late magmatic fluids remobilized and concentrated sulphides, which were disseminated in the pluton, to form the hypogene ore. Supergene alteration at Afton is unique; the dominance of native copper and the lack of copper enrichment in the supergene zone relate to the relatively mafic composition of the wallrocks, and to the paucity of sulphides produced during hypogene mineralization (Bulletin 77).

The Pothook zone is 1000 metres south-southwest of the main Afton pit and is the original discovery zone on the property. The main rock type at the Pothook pit is Cherry Creek unit microdiorite porphyry which is the predominant host for copper-gold mineralization. The microdiorite intrudes a highly altered inlier of andesite porphyry of the Nicola volcanics. Just to the south of this altered unit is a porphyritic hornblende diorite assigned to the Sugarloaf unit. Small dyke-like syenite bodies are also observed in the pit.

Potassic and propylitic alteration mineral assemblages are confined to the diorite and syenite units. The earliest observed alteration is a phase of albitization. Intensity of this alteration ranges from creamy white albite envelopes formed along microfractures to the development of pervasively albitized zones. This is succeeded by a period of potassic alteration represented by veinlets, veins and envelopes of pink potassium feldspar accompanied by less frequent biotite. The entire Pothook area falls within a zone of propylitic alteration. The most common propylitic minerals are chlorite, epidote, calcite and possibly additional albite. Calcite is ubiquitous and formed throughout the alteration period ending with a final pulse of white calcite veining.

The Pothook zone has undergone extensive faulting and brecciation. The dominant fault orientation is west-northwest with steep southerly dips. These faults are the broad control for rock emplacement and ultimately for mineralization. The best mineralized area near the main shaft is coincident with "crackle breccia" development.

Copper mineralization in the Pothook zone is of two basic types.

CAPSULE GEOLOGY

Pyrite and pyrite-chalcopyrite mineralization are concentrated on the south and west forming a halo averaging 1 per cent pyrite. To the north and east, including the main zone about the Pothook shaft, the association becomes chalcopyrite with magnetite and then native copper, chalcocite and hematite. Bornite is also present as a primary sulphide. The sulphide mineralization occurs as disseminations and veinlets. The supergene copper minerals are found as disseminations, blebs and fracture-fillings in crackle breccia. Alteration of hypogene sulphides to supergene minerals is seldom as complete as in the Afton orebody. Consequently, ore mineralogy in the supergene areas tends to consist of chalcocite, native copper and remnant bornite and chalcopyrite. Surficial weathering with formation of copper oxides and carbonates is limited to a metre below subcrop.

Gold mineralization is associated with copper but is not totally grade related. Gold values are highest at the extreme east end of the main zone with higher grade ore favouring the east and footwall sides. Copper values are more broadly distributed. Gold-copper ratios are significantly higher in the Pothook deposit as opposed to the main Afton pit. Some of the highest gold values actually occur with minimal copper grades. These variations may indicate multiple phases of gold-copper mineralization.

Seven holes drilled in 1973 and 1980 outlined a "reserve" of 5.9 million tonnes grading 1.55 per cent copper, 1.6 grams per tonne gold and 6.86 grams per tonne silver (Afton Annual Report, 1980). One hole hit 2.5 per cent copper and 1.06 grams per tonne gold over 200 metres. Another hole assayed 3.3 per cent copper over 85 metres, including 5.6 per cent copper over 32 metres. The mineralization is in hypogene (sulphides) and has a true width of approximately 90 metres.

Mining commenced at Afton in 1977. Open pit reserves of the main orebody (Afton pit) were depleted in July 1987; mining then moved to the Pothook zone. The Pothook deposit was mined from July 1987 to May 1988 and then the Crescent deposit (see 092INE026) from October 1988 to March 1989.

An estimated 3 million tonnes grading 1.5 per cent copper is reported to remain in the southwest wall of the Afton pit (Information Circular 1997-1, page 9).

In June 1989, mining commenced at the Ajax (West) deposit (092INE012), 10 kilometres to the south-southeast of the Afton open pit. Ore is hauled via a new road to the Afton mill complex. See Ajax (West) for complete deposit description. In 1990, Afton Mines Ltd., a subsidiary of Teck Corp., was the operator of the mine. In August 1991, the Afton operations ceased mining.

Reserves for the Afton-Ajax deposits (092INE012, 13) estimated by the company at January 1, 1995 were 13.2 million tonnes grading 0.34 gram per tonne gold and 0.42 per cent copper (Information Circular 1996-1, page 7).

In 1996, Teck Exploration Ltd. discovered the Coquihalla West zone adjacent to the Pothook pit. Here gold-bearing but copper-poor mineralization occurs in Nicola volcanics and Iron Mask intrusive rocks.

In 2000, 21 NQ diamond-drill holes (9319 metres) outlined a wide "feeder zone" below and to the southwest of the Afton open pit. The mineral zone is a steeply dipping tabular body 365 metres long, averaging 76 metres wide and extending to at least 303 metres below pit bottom. The zone is open in all directions with no indication of narrowing except towards surface.

As of November 2001, J.J. McDougall estimates resources as follows: Indicated - Afton Main Zone - 22.5 million tonnes grading 2.0 per cent copper, 1.54 grams per tonne gold, 0.137 gram per tonne palladium and 6.86 grams per tonne silver. Indicated - Southwest Zone - 10.01 million tonnes grading 1.58 per cent copper, 1.03 grams per tonne gold, 0.034 gram per tonne palladium and 2.74 grams per tonne silver. Indicated - Northeast Zone - 1.56 million tonnes grading 0.93 per cent copper, 0.69 gram per tonne gold, 0.069 gram per tonne palladium and 4.11 grams per tonne silver. Total indicated 34.07 million tonnes grading 1.83 per cent copper, 1.37 grams per tonne gold, 0.103 gram per tonne palladium and 5.49 grams per tonne silver. Inferred resources are: Southwest Zone - 3.98 million tonnes grading 1.19 per cent copper, 1.03 grams per tonne gold, 0.206 gram per tonne palladium and 1.71 grams per tonne silver; Northeast Zone - 1.93 million tonnes grading 0.77 per cent copper, 0.34 gram per tonne gold, 0.034 gram per tonne palladium and 4.11 grams per tonne silver. Total inferred resources are 5.91 million tonnes grading 1.05 per cent copper, 0.79 gram per tonne gold, 0.137 gram per tonne palladium and 3.5 grams per tonne silver (DRC website (www.drcresources.com), June 2001).

In 2000 and 2001, DRC Resources Corp. drilled a total of 23,800

CAPSULE GEOLOGY

metres in 49 holes to test the mineralized zone measuring 850 metres in length, 775 metres in depth and 80 metres in width. Indicated reserves for the Afton Main is 34.3 million tonnes grading 1.55 per cent copper, 1.14 grams per tonne gold, 3.42 grams per tonne silver and 0.125 gram per tonne palladium. Indicated reserves for the Northeast zone is 1.1 million tonnes grading 1.02 per cent copper, 0.86 gram per tonne gold, 5.49 grams per tonne silver and 0.1 gram per tonne palladium (Stockwatch - October 25, 2002).

The Afton property has a long history of exploration and development. The Pothook claim was first reported on in 1897 but some work had apparently been done prior to that date. On the adjacent Bonanza claim owned in 1897 by W. Ford, A. Darby, and associates, a shaft had been sunk 16 metres and from it a crosscut driven 18 metres. In 1898, the Pothook claim was optioned by a Mr. Croft of Victoria. Exploration work during the year in a shaft and drift exposed considerable mineralization. The Scottish Copper Mines of British Columbia, Limited, acquired the property in 1899. A double compartment shaft was sunk to 100 metres and drifts totalling 274 metres were driven on four levels. Eight claims, the Pothook, Gold Mask, Midnight, Bonanza, Boss, Night Hawk, Cliff and Piper (Lots 893 900 respectively), were Crown granted to the above company in 1901. No further work was reported except for a period during 1916 when the workings were dewatered to the No. 2 level, and a carload of ore was shipped from the dump. All the claims, with the exception of the Cliff claim (Lot 899), subsequently reverted to the Crown for taxes.

In 1949, prospector Axel Berglund staked the 8 claim Afton group in the vicinity of the Pothook showings. Kennco Explorations (Canada) Limited in 1952 optioned the Afton group and expanded the property to 58 claims. The company carried out a program of geological mapping, geophysical surveys, and 1388 metres of diamond drilling in 14 holes. This work indicated a substantial tonnage of submarginal material. Work was discontinued in August 1952.

Cadamet Mines Limited reportedly held the Afton group and adjacent claims surrounding the Cliff and Gift Crown grants in 1958. During the year the property was optioned to Noranda Exploration Company, Limited, and a program of geological mapping, electromagnetic and self potential surveys, trenching and 244 metres of diamond drilling was carried out; the option was dropped late in the year. New Jersey Zinc Exploration Company (Canada) Ltd. held an option on the property in 1960. In 1964, C.F. Millar, a geological engineer who was then a drilling contractor, persuaded Colonial Mines Limited to do percussion drilling near the Pothook shaft. The Afton 1-7, Afton Fraction and Add 1 26 claims were optioned by the Company from Axel Berglund. During the year several percussion holes were drilled in the vicinity of the Pothook shaft. Drilling to that date is reported to have indicated approximately 544,260 tonnes of 0.63 per cent copper. This programme was short lived and in 1965 Mr. Millar formed a private syndicate (Tamarack Mining Syndicate) to acquire the option agreement and continue exploration near the Pothook and on some newly staked claims (Pot 1 5 Fractions, Pot 6 9, and Add 27 30) close to the Trans Canada Highway. In addition, Mineral Lease M 22 E (Dominion claim, Lot 1595) was purchased from Alfred Holmwood. The option was transferred to Afton Mines Ltd. in February 1966. An induced polarization survey in 1966 indicated anomalous zones which correlated to a large extent with geochemical anomalies located in previous work. Further geochemical soil survey work was carried out in 1968 and 1969 and diamond drilling totalling 1011 metres was done in 17 holes. Work in 1970 included 5 diamond-drill holes totalling 762 metres. Four of these holes, on the Afton 1 4 and Dominion claims, extended the Pothook mineralized zone 30 metres farther north. The fifth drill hole (70-4) was put down about 1006 metres northwest of the Pothook shaft on an induced polarization anomaly which corresponded closely to an electromagnetic conductive zone, a geochemical anomaly, and a saline lake (Lake zone). This hole intersected significant amounts of native copper, abundant magnetite, and virtually no pyrite. The diamond drill programme was suspended incomplete and Duval Corporation was given the right of first refusal in exchange for an engineering report.

During the spring and summer of 1971 the property was under option to Quintana Minerals Corporation who carried out geological mapping, and 1554 metres of percussion drilling in 21 holes, none of which were within 305 metres of hole 70 4. The option was subsequently dropped.

At this point the property reverted back to Afton Mines Ltd. which, under the direction of C.F. Millar, in September 1971 began a new series of percussion holes in the immediate vicinity of DDH 70 4. During the month, 17 percussion holes on 30 metre centres and to a depth of 91 metres were put down in an area 122 by 122 metres; most

CAPSULE GEOLOGY

of the holes bottomed in ore grade material. Drilling was suspended in order to arrange further financing through a stock underwriting; percussion and diamond drilling resumed in November 1971. An agreement was reached with Placer Development Limited, through its subsidiary, Canadian Exploration, Limited, in March 1972 for additional financing through the purchase of Afton treasury shares in the amount of \$350,000 with the first right of refusal for 12 months to participate in further financing.

Teck Corporation Limited and an associate company, Iso Mines Limited, on May 31, 1972, completed the purchase of just over 50 per cent of Afton shares on the open market. On June 1, 1972, Afton reached an agreement with Canadian Exploration under which the latter company would carry out further exploration and feasibility studies and if warranted place the property in production, thereby acquiring a 30 per cent interest in Afton. Work on the property was suspended in June 1972 by a Court order due to litigation between Canadian Exploration and Teck Corporation over control of the property. Work by Afton Mines during the period September 1971 to June 1972 included 7400 metres of diamond drilling in 30 holes, 8504 metres of percussion drilling in 93 holes, and 5902 metres of rotary drilling in 26 holes.

The company name, Canadian Exploration, was changed in October 1972 to Canex Placer Limited. The Courts upheld the Canex Afton agreement and although management of Afton was taken over by Teck, Canex Placer retained management of the property. Drilling was resumed by Canex Placer early in January 1973 but discontinued in April 1973 due to further litigation. An agreement was reached in May 1973 whereby Teck Corporation agreed to pay Canex Placer 4 million dollars for its interest in Afton Mines.

During 1973 Teck carried out an induced potential survey over 56 line kilometres, a magnetometer survey over 69 line kilometres, a geochemical soil survey (1165 samples) over 69 line kilometres, 14,793 metres of diamond drilling in 54 holes, 2051 metres of rotary drilling in 18 holes, and 3253 metres of percussion drilling in 55 holes. Ore reserves within the planned open pit, extending to a depth of 274 metres, were estimated at 30,841,400 tonnes averaging 1.0 per cent copper.

During 1974 diamond, percussion and rotary drilling was done in several holes. The decision to proceed with the construction of a mine, mill and smelter complex was made in October 1975. Open pit preparation began in April 1977 and the newly installed 6350 tonne-per-day mill produced its first concentrates on December 9, 1977. The smelter, based on the top blown rotary converter process (TBRC) with a daily capacity of up to 272 tonnes of copper concentrate, produced its first blister copper on March 23, 1978.

Teck Corporation Limited by 1978 held directly and indirectly (through Iso Mines Limited) a 73 per cent share interest in Afton. The company name was changed in August 1978 to Teck Corporation. In September 1979 Iso Mines was merged with Teck. A reorganization was carried out in 1981 whereby Teck converted its 73 per cent share interest in Afton Mines to a 73 per cent direct working interest in a partnership under the name Afton Operating Corporation, which was incorporated in June 1981 with Teck holding a 73 per cent working interest and an affiliate of Metallgesellschaft Canada Limited a 27 per cent partnership interest.

The operation was closed by strike action from November 21, 1981 to March 15, 1982. Operations were suspended June 22, 1982 due to a cycle of low-grade ore and low copper prices. Operations resumed in May 1983 with assistance under the Federal Government Unemployment Insurance Act and the Provincial Government's Community Recovery Program. The copper smelter was closed permanently in late July 1983 due to economic factors; the closure was several years ahead of its planned phase out as the orebody changes from native copper to sulphides at depth. Reserves at September 30, 1982 were reported as: open pit - 12,608,690 tonnes at 0.82 per cent copper, 0.754 gram per tonne gold; underground - 9,524,555 tonnes at 1.50 per cent copper, 1.02 grams per tonne gold (Teck Corporation 1982 Annual Report).

BIBLIOGRAPHY

- EM EXPL 1996-06; 1997-34; 1998; 2000-33,35,39; 2001-33,36,38
- EM GEOFILE 2000-2; 2000-5
- EMPR AR 1897-613; 1898-1101,1103; 1899-605,729,730; 1901-1230; 1906-H176; 1916-K427; 1952-A115; 1956-47-69; 1957-31; 1958-26,66; 1959-39; 1962-60; 1964-98; 1967-137-141,147,281; 1968-278; 1977-14; 1978-126; 1979-128
- EMPR ASS RPT 60, 141, 192, 879, 1677, 15713, 15775, 17800, *26479
- EMPR BULL *77
- EMPR BC METAL MM00001
- EMPR ENG INSP Annual Report 1989, 1990

BIBLIOGRAPHY

- EMPR FIELDWORK 1974, pp. 22-34; 1976, pp. 41-46; 1977, pp. 37,38, 86-88; 1978, pp. 119-124; 1982, pp. 267-284; 1992, pp. 281-286; 1993, pp. 269-284,297-309; 2002, pp. 129-132
- EMPR GEM 1969-237; 1970-322; 1971-297; 1972-209-220; 1973-201; 1974-151,152
- EMPR INF CIRC 1997-1, p. 9
- EMPR IR 1984-2, pp. 99,100; 1984-3, pp. 105,106; 1984-4, pp. 119, 120; 1984-5, pp. 113,114; 1986-1, pp. 109,110
- EMPR MAP 26; 48; 65 (1989)
- EMPR MIN STATS 1985, pp. 47,48; 1987, pp. 35,37,65,66; 1990, pp. 26,29,32,68,69,70;
- EMPR MINING Vol.1 1975-1980, pp. 11-12; 1981-1985, pp. 7, 33; 1986-1987, pp. 50-51; 1988, pp. 48-49
- EMPR OF 1992-1; 1994-1
- EMPR MER 2001, pp. 8,9
- EMPR PF (Unauthored report (1973): Afton Project, Vol.I Summary; photographs; Northcote, K. (1978): Notes on Afton; Kamloops District Geologist, Monthly Summary, Sept./Oct., Nov. 1977; James, R.E. (1957): Geological Report on the D.M. Group of Claims; Stage II Report - Environmental Report on Afton Mines Limited, Proposed Mine-Mill-Smelter Development (1976); Afton Mines Ltd. Annual Report 1973; Collier, R.H. (1980): Report in Substantiation of an Application for Renewal of Permit No. M-112 Authorizing Surface Work pursuant to Section 11, Mines Regulation Act; Teck Corporation Annual Report 1985, 1986; Afton Mines Ltd. brochure (1975); Statement of Material Facts, Benn Explorations Ltd. Sept.13, 1976; Numerous geology maps and plans, sections, cross sections; The B.C. Professional Engineer Nov. 1977; Air photographs; Numerous newspaper clippings; Geological plan maps of the 1950 Bench, Afton Operating Corporation 1983; Property description by V. Preto (undated); Mineral Distribution and Mineral-Solution Equilibria at Afton Mines, An Abstract submitted to 3rd International Symposium on Water-Rock Interaction, Edmonton, Alberta; Geological notes and field notes; XRD data from the 'phyllic' zone, W.J. McMillan, 1983; New Afton Mine Project, DRC Resources Backgrounder with Afton 2000 Diamond Drill Results; Afton Mine Project, DRC Resources Corp.; Claim survey maps and drilling grids, 1972; Environmental Report on Afton Mines Limited, Proposed Mine-Mill-Smelter Development by B.C. Research, 1976; 92INE General File - Environmental Statement Volume, 1974)
- EMR MP CORPFILE (Afton Mines Ltd.; Teck Corporation Limited)
- GSC OF 165; 980; 2490
- GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
- GSC MEM 249
- GSC P 44-20; 79-1A, pp. 381,382; 82-1A, pp. 293-297; 85-1A, pp. 349-358
- CIM Vol.63, No.699, pp. 785-790 (1970); Vol.76, No.856, pp. 45-55 (1983); Vol.81, No.917, pp. 77-83 (1988)
- CIM Special Volume *15 (1976), pp. 72-78; 359-367,376-387; *46 (1994), pp. 581-592
- CJES Vol.16, pp. 1658-1672 (1979); Vol.19, pp. 2378-2386 (1982)
- CMJ June 1977; June 1978; March 1979; Jan.22, 2003
- GCNL #126,#95,#56,#47,#89, 1972; #202, 1975; #42, 1976; #8,#168,#220, #82,#35, 1978; #142,#105,#52, 1979; #170,#47,#107,#1, 1980; #43, #8, 1981; #104, 1982; #135,#106,#86,#45,#82, 1983; #14, 1984; #104, 1985; #105(June 1),#120(June 22),#125(June 29), #155(Aug.14),#160(Aug.21), #168(Sept.1),#180(Sept.20), #192(Oct.6),#200(Oct.19), #209(Nov.1),#221(Nov.20), #238(Dec.13), 2000
- IPDM Mar/Apr 1983
- N MINER Mar.16, 1978; Jan.4, Mar.15, 1979; Feb.26, Aug.20, 1981; June 3, 1982; May 5, July 21, Oct.20, 1983; Jan.13, 1986; Nov.10, 1997; Feb.23, 1998; Dec.4,11,25, 2000; Aug.19, Oct.25, Dec.3,30, 2002; Feb.19, Mar.3, 2003
- N MINER MAG Feb. 1987
- PR REL DRC Resources Corp., Dec.16, Dec.30, 2002; Jan.15, Jan.23, Feb.19, 2003
- STOCKWATCH Nov.14, 2001; Oct.25, 2002
- W MINER Vol.35, pp. 46-49 (1962); Vol.46, No.2, pp. 33-36 (1973); Vol. 48, No.11, pp. 16-19 (1975); Sept. 1976, p. 16; Vol.51, No.1, (1978); May, July, 1979; March 1980; May 1982; May 1983
- WWW <http://www.drcresources.com>
http://www.infomine.com/index/properties/AFTON_MINE-MILL.html
- Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C. Unpub. M.Sc. Thesis, University of British Columbia
- Geoscience Canada Vol.7, pp. 52-63 (1980)
- Hoiles, H.K. (1978): Nature and Genesis of the Afton Copper Deposit, Kamloops, British Columbia, Unpub. M.Sc. Thesis, University of

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 68
REPORT: RGEN0100

BIBLIOGRAPHY

Alberta
Kwong, Y.T.J. (1982): A New Look at the Afton Copper Mine in the
Light of Mineral Distributions, Host Rock Geochemistry and
Irreversible Mineral-solution Interactions, Unpub. Ph.D. Thesis,
University of British Columbia
Placer Dome File (Geochemical survey, 1959; Property submission; 1979
Annual Report)
World Mining April 1978

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/03

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INE024**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER KING (L.1457)**, PRINCE OF WALES (L.2559), PEACOCK (L.2558),
TUNNEL FR. (L.2560), SIGNORINA (L.2555), KLONDYKE (L.2556),
COPPER JACK (L.2557), BRITANNIA FR. (L.2554), NIPPON FR. (L.2553),
GOLD CREST, CHERRY CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

Open Pit Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 42 30 N
LONGITUDE: 120 36 15 W
ELEVATION: 640 Metres

NORTHING: 5620129
EASTING: 669157

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on Crown grant Lot 1457 (Copper King) on Roper Hill between
Kamloops Lake and the Trans-Canada Highway 1/97, about 19 kilometres
west of Kamloops (Assessment Report 3800).

COMMODITIES: Copper Gold Silver Uranium

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Tetrahedrite Pitchblende
ASSOCIATED: Magnetite Pyrite
ALTERATION: Epidote K-Feldspar Malachite
ALTERATION TYPE: Propylitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Porphyry
SHAPE: Regular
MODIFIER: Sheared
DIMENSION: 155 x 62 x 25 Metres STRIKE/DIP: 145/90 TREND/PLUNGE:
COMMENTS: Shear zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
Monzonite
Andesitic Volcanic
Andesite

HOSTROCK COMMENTS: Cherry Creek Unit.

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Iron Mask batholith lies in the southern part of the Quesnel trough, also known as the Nicola belt. The most important pre-Tertiary rocks in this belt are Upper Triassic volcanic and sedimentary rocks of the Nicola Group. The batholith is a subvolcanic, multiple intrusion which is comagmatic and coeval with the Nicola rocks. It is situated along the southwest side of a regional northwest trending fracture zone and is itself cut by numerous northwesterly faults. The batholith comprises two major northwest trending plutons separated by 6 kilometres of Eocene Kamloops Group volcanic and sedimentary rocks. The Tertiary rocks occupy what appears to be a graben structure resulting from renewed fault movement around the margins of the plutons during Paleocene or Early Eocene time (Bulletin 77). The larger pluton, the 18-kilometre long southern part of the batholith, is called the Iron Mask pluton. The smaller Cherry Creek pluton farther northwest, outcrops on either side of Kamloops Lake. The combined exposure of the batholith, including the intervening younger rocks, is about 33 kilometres long and 5 kilometres wide. Sedimentary and volcanic rocks of the Kamloops Group unconformably overlie the Nicola rocks and the Iron Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte.

In the vicinity of the batholith, the Nicola Group is dominated

CAPSULE GEOLOGY

by volcanic and volcanoclastic sedimentary rocks. They are generally recognized by albitization of feldspars, occurrence of patchy epidote, and/or rare hematite alteration. On the southwestern flank of the Iron Mask pluton, well-indurated, massive and bedded tuff, breccia and interbedded flows and flow breccia are prominent and are weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt.

The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine grained equivalents as well as local intrusive breccias. Copper and minor iron mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism.

On the Copper King property, diorite and monzonite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask Batholith cut Nicola Group andesitic volcanics and are covered by tuffs of the Eocene Kamloops Group. A northwest trending shear zone measuring 155 by 62 by 25 metres occurs in the intrusive rocks and contains chalcopyrite, bornite, pyrite and magnetite as disseminations and veins. Epidote alteration is predominant and related to mineralization when associated with potassic alteration and magnetite veining. Tetrahedrite is sparsely disseminated in fractures.

In 1935, a 2.1-metre sample assayed 13 grams per tonne gold, 20.6 grams per tonne silver and 2 per cent copper (Minister of Mines Annual Report 1935). A 1972 drillhole intersected 10 metres of 3.2 grams per tonne gold, 9.3 grams per tonne silver and 0.90 per cent copper (Assessment Report 3800).

Minor amounts of pitchblende occur in patches and veinlets with the copper sulphides and magnetite at the gloryhole of the old workings. A 15-centimetre sample taken in the area assayed 0.1 per cent uranium (McCammon, 1958).

The Copper King claims were staked in 1897 by J.H. Hill and a 7.6-metre shaft was sunk. During the next three years a lower adit level was driven and an intermediate level was driven from the shaft. Little work was done until 1906 when the property was acquired by A.N. Gray, who shipped between 816 and 907 tonnes. The claims were acquired by Mr. Beckman in 1908. In 1929, H.R. Graham of Kamloops made a small shipment of ore from the stope and dump. In 1937, McKelvie Brothers of Grand Forks optioned the property and during the next year carried the old stopes to the surface, drove a second raise and stoped above a small sub-level. About 645 tonnes of ore was shipped to the Tacoma smelter in 1938. A 32-tonne mill from the Jenny Long property near Stump Lake was purchased and put in operation late in 1938 and 13 tonnes of concentrate shipped to the smelter. During 1939, 222 tonnes of concentrates were shipped; 32 tonnes of ore were also shipped. The mill was destroyed by fire in 1940. Total development includes 228 metres of adits and shafts along two levels. In 1972, the Copper King property was held by Rolling Hills Copper Mines Ltd. and optioned to Torwest Resources Ltd. Extensive geological, geochemical (1060 soil samples), magnetometer, VLF-EM and induced polarization (32 kilometres) surveys, diamond drilling (7 holes totalling 1129 metres) and percussion drilling (5 holes totalling 426 metres) were undertaken. Results showed a northwest striking shear zone containing copper, silver and gold that was 155 metres long, 25 metres wide and 62 metres deep.

BIBLIOGRAPHY

- EMPR AR 1897-613; 1898-1103,1104; 1899-605,729,733; 1900-890; 1901-1079; 1902-191; 1903-180; 1906-177; 1908-122; 1909-139,140; 1912-184; 1919-179; 1922-149; 1923-150; 1924-141,146; 1929-228; 1930-194; *1935-D8,D9; 1937-A35; 1938-A33,D3; 1939-35,89; 1940-23; 1956-48,53; 1959-143
EMPR ASS RPT *3800, 3801, 3822, 3823, 14581
EMPR BC METAL MM00385
EMPR BULL 20, Part III, p. 26; 77
EMPR GEM 1972-208
EMPR MAP 22; 40
EMPR PF (Report on Copper King by M.S. Hedley, 1939; Plan of workings, 1939; Letter by McCammon, J.W., 1958, in Uranium Commodity File)
GSC MEM *249, pp. 109,110
GSC OF 165; 551; 980; 2490

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 71
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/01

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE025**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLEN IRON (L.1415)**, BETA (L.1414), NORAH (L.1413),
PEGGY (L.1416)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

Open Pit Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 43 18 N
LONGITUDE: 120 37 17 W
ELEVATION: 442 Metres

NORTHING: 5621572
EASTING: 667893

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of opencut on No. 8 vein on the northerly slopes of Roper Hill about 200 metres south of the shoreline of Kamloops Lake, 21 kilometres west of Kamloops (Assessment Report 3800).

COMMODITIES: Magnetite Iron

MINERALS

SIGNIFICANT: Magnetite
ASSOCIATED: Apatite
ALTERATION: Epidote Tremolite Serpentine
ALTERATION TYPE: Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive
CLASSIFICATION: Porphyry Industrial Min.
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			Iron Mask Batholith

LITHOLOGY: Gabbro
Augite Diorite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Iron Mask batholith lies in the southern part of the Quesnel trough, also known as the Nicola belt. The most important pre-Tertiary rocks in this belt are Upper Triassic volcanic and sedimentary rocks of the Nicola Group. The batholith is a subvolcanic, multiple intrusion which is comagmatic and coeval with the Nicola rocks. It is situated along the southwest side of a regional northwest trending fracture zone and is itself cut by numerous northwesterly faults. The batholith comprises two major northwest trending plutons separated by 6 kilometres of Eocene Kamloops Group volcanic and sedimentary rocks. The Tertiary rocks occupy what appears to be a graben structure resulting from renewed fault movement around the margins of the plutons during Paleocene or Early Eocene time (Bulletin 77). The larger pluton, the 18 kilometre long southern part of the batholith, is called the Iron Mask pluton. The smaller Cherry Creek pluton farther northwest, outcrops on either side of Kamloops Lake. The combined exposure of the batholith, including the intervening younger rocks, is about 33 kilometres long and 5 kilometres wide. Sedimentary and volcanic rocks of the Kamloops Group unconformably overlie the Nicola rocks and the Iron Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte.

The Glen Iron deposit comprises magnetite veins that lie within Late Triassic-Early Jurassic Iron Mask batholith intrusive rocks. The hostrocks are dark, medium grained and rich in pyroxene, biotite and magnetite and range from gabbro to augite diorite to monzonite in composition. The rock near the magnetite veins shows considerable alteration to epidote accompanied by either tremolite or serpentine. The veins vary from less than 30 centimetres to nearly 10.6 metres wide, and have been traced for up to 198 metres. Locally, the veins pinch and swell and branch and in some cases terminate abruptly. The veins trend east-west and dip steeply north. The ore consists

CAPSULE GEOLOGY

essentially of massive magnetite with varying amounts of apatite. Fifteen veins occur on the property and of these, the No. 3 and No. 8 veins appear to be the more important.

The principal workings are on the No. 8 vein and consist of an opencut 131 metres long, 3 to 6 metres wide and in places more than 12 metres deep. Near the opencuts lower easterly end a 46-metre adit was driven; the ore is partly stoped out above this tunnel. The vein is exposed by the opencut for 109 metres and intermittently for a further 88 metres. At the tunnel mouth the vein is 4.5 metres wide and pinches and swells up to a width of 10.6 metres.

Vein No. 3 is exposed at intervals over a length of 112 metres, sends off several branches and possibly is continued westward by veins Nos. 4 and 5, in which case the total exposed length would be 234 metres. Apparently at the places where the vein branches the magnetite ore mass notably increases in width, forming, it is estimated, one lenticular body 36 metres long and 7.6 metres wide and a second body 30 metres long with a thickness gradually increasing from 1.5 to 3 metres. Veins 4, 5 and 6 are possibly continuations or branches of vein No. 3. The remaining veins are similar in character but on the whole narrower than those described above.

The presence of the magnetite veins was known at a comparatively early date, but apparently the deposits were not acquired until 1889. Shortly thereafter, shipments of ore were made to be used as a flux in copper smelters. Most of the production came from an opencut on the No. 8 vein. Shipments ceased in 1902.

BIBLIOGRAPHY

- EMPR ASS RPT 3800
EMPR BC METAL MM00419
EMPR BULL 77
EMPR AR 1890-377; 1891-574; 1892-540; 1893-1068; 1894-751; 1895-696;
1896-567; 1897-614; 1898-1104; 1899-733; 1900-890; 1901-1079;
1902-H191; 1903-H181; 1913-K184,K185; 1918-K236,K237
GSC PROG RPT 1877-78, pp. 118B
GSC ANN RPT 1894, pp. 158B-160B,341B-343B
GSC SUM RPT 1892, pp. 9,10
GSC EC GEOL *3, pp. 109-115
GSC MEM *249, pp. 133,134
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT 217 (1917), Vol.I, pp. 30,31
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C., unpub. M.Sc. Thesis, The University of British Columbia, 196 pp.

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/03

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

breccia and interbedded flows and flow breccia are prominent and are weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt.

The Iron Mask pluton comprises four major, successively emplaced units designated as the Iron Mask Hybrid, Pothook, Sugarloaf and Cherry Creek units. Locally, an additional Picrite unit also occurs which is probably not genetically related to the batholith. The smaller Cherry Creek pluton consists entirely of the Cherry Creek unit. Isotopic dates (194 to 204 Ma +/- 6 Ma) indicate that all of these units are of Late Triassic or earliest Jurassic age (Bulletin 77). The component units (except the Picrite unit) of the multiphase batholith are largely controlled by major systems of northwesterly, northerly and northeasterly trending fractures or faults. Most units show some degree of alteration and/or contamination which may be intense locally. Weak to moderate saussuritization is ubiquitous in all batholithic rocks while potassium feldspathization is more prominent in rocks of the Cherry Creek unit. The units are briefly described in order of oldest to youngest (determined mainly on crosscutting relationships).

The Iron Mask Hybrid unit forms the spine of the Iron Mask pluton. It is mostly agmatitic, consisting of rounded to angular fragments of various sizes, texture and composition in a dioritic matrix. The fragments include mainly coarse and fine-grained diorite and coarse-grained gabbro with lesser amounts of medium to coarse-grained hornblende and scattered xenoliths of Nicola Group volcanic rocks. All rock varieties in the unit contain magnetite which is often more than 10 per cent by volume. Mineralization, particularly of iron and copper, is almost ubiquitous in this unit. The Iron Mask mine (092INE010), a former copper producer, is located in this unit, but is also associated with picrite.

The Pothook unit occurs mainly in the northwestern half of the Iron Mask pluton, appearing frequently as narrow, gradational zones between the Iron Mask Hybrid and Cherry Creek units. Rocks of this unit are uniformly of dioritic composition and are medium to coarse grained. The Pothook unit is locally mineralized with copper and iron.

The Picrite unit consists of rocks of basaltic composition with abundant clinopyroxene and serpentinized olivine phenocrysts. These rocks generally occur as steeply dipping, poorly exposed and relatively small lenticular bodies in many parts of the batholith. They appear to be associated with recurring, northwesterly trending fracture systems and copper mineralization frequently occurs in their vicinity. Because picrite basalt has been observed far from the two component plutons of the batholith, it is probable that this unit is not part of the batholith.

The Sugarloaf unit occurs mainly along the southwest side of the Iron Mask pluton and as small enclosed bodies in the southern half of the pluton. Rocks of this unit are mainly porphyritic with hornblende, minor clinopyroxene and plagioclase in a greyish green matrix. They are of fairly uniform diorite-andesite composition. Several copper occurrences are hosted by the Sugarloaf rocks. The Ajax deposit (092INE012) east of Jacko Lake is located within brecciated and albitized Sugarloaf rocks.

The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine-grained equivalents as well as local intrusive breccias. Copper and minor iron mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism. Afton mine (092INE023) lies at the western termination of a narrow, 4 kilometre long, easterly trending zone of intense intrusive brecciation that is located at the northern edge of the Iron Mask pluton.

The Crescent deposit is 3500 metres east of the main Afton pit. It is centred in and around a tabular body of Cherry Creek unit diorite breccia which straddles the northeast striking contact between Cherry Creek monzonite and diorite on the southeast and latite porphyries on the northwest. It is in fault contact with older Pothook unit diorites to the south. The deposit is elongated in a northeast direction and has average horizontal dimensions of 152 by 46 metres. Better grade mineralization is confined to the intrusive breccia and dips 60 degrees to the southeast. Steeply dipping normal faults with westerly to northwesterly strikes control

CAPSULE GEOLOGY

emplacement of the intrusive breccia unit. Potassic feldspathization and copper mineralization appear to be genetically related to this breccia intrusion. Chloritization is intense and pervasive in the mineralized area. Propylitic alteration and a pyrite halo extend beyond the better grade copper zone.

Chalcopyrite is the only copper mineral of economic significance. It occurs as blebs and disseminations, in fractures, veinlets and microveinlets, and occasionally in breccia and vugs with accompanying calcite. Pyrite occurs with chalcopyrite as well as forming a halo peripheral to copper mineralization. Bornite and molybdenite are present only in trace amounts. Magnetite is associated with the breccia intrusion as disseminations and veinlets. Gold mineralization is closely associated with the chalcopyrite mineralization. However gold-copper ratios are variable suggesting more than one pulse or period of mineralization. On average, the gold-copper ratios are low compared to the Afton and Pothook orebodies.

The property is located in the vicinity of Ironmask Lake approximately 10 kilometres west of Kamloops. An area roughly identified as lying between Ironmask Lake and the DM shaft (092INE030) 1.5 kilometres to the west has been held for many years by a number of Crown grants and various located claim groups. The Truth group, comprising the Truth, Dakota, Hope, Jennie, and Pearl claims was owned by A.G. McDonald and Joseph McGee. Development working during the period 1899 to 1906 inclusive included a shaft to 24.3 metres with a 30.4-metre drift from it. A second shaft was sunk to 9.1 metres and an adit was driven more than 30.4 metres to drain the workings. Ore mined in 1906 was sold to the nearby Iron Mask operation (092INE010) for fluxing purposes. The Con Verdant claim (Lot 1341) was Crown granted to the British Columbia Trust Co. Ltd. in 1905. The May Fraction (Lot 1311) was Crown granted to A.R. Thomas in 1908. The Sodium Fraction (Lot 4666) and Winty (Lot 4667) claims were Crown granted in 1941 to W.E. Wintemute and Marcus Smaby, respectively. Berens River Mines Limited, a subsidiary of Newmont Mining Corporation, held a number of claims in 1952. An electromagnetic survey was carried out and 5 diamond-drill holes put down on the Iron Cap (092INE018) and adjacent claims. Graham Bousquet Gold Mines, Limited in 1956 acquired the DM group, in part a restaking of the Truth group, and other claims in the vicinity. Work included geophysical and geochemical surveys. The company amalgamated with several other companies in 1958 to form Cadamet Mines Limited. Noranda Exploration Company, Limited optioned the property in 1958 and carried out further geophysical surveys. The option was given up later in the year. Comet Mining Corporation Ltd., incorporated December 1964, optioned the Lorna 1 4 claims from Lorne H. Stephens. The company also acquired the Iron Cap and some 62 located claims in the RO, DM, and Monzo groups. In 1965, Vanco Explorations Limited optioned this and a number of adjacent properties. Work by the company included geological, geophysical and geochemical surveys. Diamond drilling totalling 1612.3 metres in 15 holes was carried out on the Lorna claims. The option was terminated in May 1966. Comet Mining and Krain Copper Resources Ltd. amalgamated in May 1966 to form Comet Krain Mining Corp. Ltd. In October 1966, the company optioned the Con Verdant, May Fraction, Sodium Fraction and Winty Crown grants from Isabelle Wintemute. The company name, Comet Krain was changed in April 1971 to Comet Industries Ltd. An exploration and development option agreement was made in January 1972 with Initial Developers Corporation Limited, an associate company. Work by Initial on the Lorna, DM and HO groups included geological mapping, magnetometer, electromagnetic and induced polarization surveys over 48 line kilometres, a geochemical survey, 2286 metres of diamond drilling in 25 holes, and 2011.6 metres of percussion drilling in 22 holes. Work on adjacent groups (EB, ID and RO 47-52) owned by Initial included magnetometer, induced polarization and electromagnetic surveys over 16 line kilometres. This work "indicated some 2,267,750 tonnes mineable reserves assaying 0.5 per cent copper in the Crescent zone" (Western Miner, October 1972, page 85). In December 1972, Getty Mining Pacific, Limited optioned 120 contiguous claims in the combined properties (Victor, Iron Mask, Iron Cap and DM) held by Comet, Initial and Davenport. Work by Getty in 1973 included an induced polarization survey over 93 line kilometres, a magnetometer survey over 86.9 line kilometres, 2084.5 metres of rotary drilling in 8 holes, 564.4 metres of diamond drilling in 2 holes, and 15,513.4 metres of percussion drilling in 159 holes. Among these holes, 25 were spaced over a 3 by 4.8 kilometre area. The option was given up in 1974. Davenport Oil & Mining changed its name in 1973 to Davenport Industries Ltd. Initial Developers Corporation in May 1974 amalgamated with North Pacific Mines Ltd. under the name Initial Developers Limited. Canadian

CAPSULE GEOLOGY

Superior Exploration Limited optioned the above combined properties (some 2185 hectares) in 1975. Work in 1976-78 included a magnetometer survey over 89 line kilometres, 8064 metres of diamond drilling in 47 holes and 4211 metres of percussion drilling in 48 holes. The option was terminated in 1978. Craigmont Mines Limited in February 1981 obtained an exploration agreement on the above four properties and on the adjacent Rainbow property (092INE028) of Pacific Seadrift Resources. Craigmont completed some 5791.2 metres of diamond drilling in a 7 month program. This work indicated insufficient tonnage and the option was terminated in September 1981. Comet Industries Ltd in 1983 carried out exploration on the combined Lorna, Iron Cap and DM properties, including magnetometer and electromagnetic surveys over 13 kilometres and 294 metres of diamond drilling in 3 holes. Crescent zone reserves were reported as possible 1,300,000 tonnes at 0.51 per cent copper (Initial Developers Limited, Filing Statement 164/86). This property, and the adjacent Iron Mask, Victor and Iron Cap properties were owned in 1986 by Comet Industries Ltd. (40 per cent), Davenport Industries Ltd. (30 per cent) and Initial Developers Limited (30 per cent). Work reported on the Lorna and DM in 1986 included geochemical sampling (50) and 209 metres of diamond drilling in 2 BQ size holes. Teck Corporation and Metall Mining Corporation, through Afton Operating Corporation, in August 1987 obtained a two year option agreement to earn a 60 per cent interest in the DM property (5 Crown grants, 317 hectares) by placing the property in production. Work in 1987-88 included 1968 metres of diamond drilling in 23 holes and open-pit development. Reserves were reported as 1,070,000 tonnes at 0.46 per cent copper 0.206 gram per tonne gold (Mineral Exploration Review, 1988, page 29). Production began in October 1988, the ore being hauled to the nearby Afton mill. The Crescent deposit was mined by open-pit methods from October 1988 to March 1989 and was part of the Afton mine operations. See Afton mine (092INE023) for production figures.

BIBLIOGRAPHY

- EMPR AR 1956-47-54; 1967-144-147
EMPR ASS RPT 727, 3554, 5180, 6505, 6538, 12096, 15608, *17800
EMPR BULL 77
EMPR EXPL 1976-E99,E100; 1977-E154,E155; 1978-E167,E168; 1983-282, 283; 1987-C195; 2001-38
EMPR FIELDWORK 1974, pp. 22-26; 1976, pp. 41-46; 1977, pp. 37,38, 86-88; 1982, pp. 267-284; 1993, pp. 285-296; 2002, pp. 129-132
EMPR GEM 1972-195,209-220; 1973-199; 1974-150,151
EMPR MAP 26; 48; 65 (1989)
EMR MP CORPFILE (Comet Industries Ltd.; Initial Developers Limited; Getty Mining Pacific, Limited; Canadian Superior Exploration Limited; Teck Corporation; Metall Mining Corporation; Davenport Industries Ltd.)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CIM Special Volume *46, pp. 581-592
WWW <http://www.drcresources.com>;
http://www.infomine.com/index/properties/AFTON_MINE-MILL.html
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C. Unpub. M.Sc. Thesis, University of British Columbia
Hoiles, H.K. (1978): Nature and Genesis of the Afton Copper Deposit, Kamloops, British Columbia, Unpub. M.Sc. Thesis, University of Alberta
Kwong, Y.T.J. (1982): A New Look at the Afton Copper Mine in the Light of Mineral Distributions, Host Rock Geochemistry and Irreversible Mineral-solution Interactions, Unpub. Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE027**

NATIONAL MINERAL INVENTORY:

NAME(S): **COB**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 16 N
LONGITUDE: 120 18 01 W
ELEVATION: 914 Metres

NORTHING: 5605613
EASTING: 691166

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample site about 1.5 kilometres south of Separation Lake, 11 kilometres south of Kamloops (Assessment Report 19261).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
Microdiorite
Diorite Breccia
Picrite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Cob claim lies at the southeast extremity of the Late Triassic-Early Jurassic Iron Mask batholith in contact with Upper Triassic Nicola Group volcanics to the east. Outcrop is scarce on the property. Four lithologic units have been recognized and comprise fine to medium grained augite diorite (Sugarloaf unit), diorite breccia (Iron Mask Hybrid unit), leucocratic microdiorite (Cherry Creek unit) and picrite (Picrite unit). The easternmost part of the batholith on the property is strongly fractured and locally sheared. Malachite and pyrite occurs in sheared and brecciated Cherry Creek unit diorite in the northwest corner of the claim. A trace of malachite was noted in picrite in the southeast part of the property, 1500 metres south-southeast of the first showing.

In 1989, a short program of geological mapping and soil sampling (44) was conducted on the Cob claim by J.E. Christoffersen.

BIBLIOGRAPHY

EMPR ASS RPT *19261
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/20
DATE REVISED: 2003/02/20

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE028**

NATIONAL MINERAL INVENTORY: 09219 Cu5

NAME(S): **RAINBOW**, CHIEFTAIN, SUGARLOAF HILL,
LONE TREE (L.883), 17, RAINBOW NO. 2,
NO. 17, NO. 2, NO. 22,
AFTON

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092109W
BC MAP:
LATITUDE: 50 38 10 N
LONGITUDE: 120 27 54 W
ELEVATION: 967 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Main zone (No. 2), 500 metres east of the summit of Sugarloaf Hill, 9 kilometres west of Kamloops (Property File - Geologic plan map).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5612427
EASTING: 679256

COMMODITIES: Copper Silver Molybdenum Gold Palladium

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated Stockwork
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Hornblende Diorite
Breccia

HOSTROCK COMMENTS: Sugarloaf unit diorite is a phase of the Iron Mask pluton which forms part of the Iron Mask batholith. Age date from Bulletin 77.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: RAINBOW NO. 2
REPORT ON: Y
CATEGORY: Indicated
QUANTITY: 15860000 Tonnes
YEAR: 1997
COMMODITY: Copper
GRADE: 0.5280 Per cent

COMMENTS: An in situ geological resource using a 0.25 per cent copper cutoff grade based on a three dimensional modelling study of a 104 diamond-drill hole database. Plus possible gold and molybdenum.

REFERENCE: George Cross News Letter No.160 (August 20), 1997.

CAPSULE GEOLOGY

The Iron Mask batholith lies in the southern part of the Quesnel trough, also known as the Nicola belt. The most important pre-Tertiary rocks in this belt are Upper Triassic volcanic and sedimentary rocks of the Nicola Group. The batholith is a subvolcanic, multiple intrusion which is comagmatic and coeval with the Nicola rocks. It is situated along the southwest side of a regional northwest trending fracture zone and is itself cut by numerous northwesterly faults. The batholith comprises two major northwest trending plutons separated by 6 kilometres of Eocene Kamloops Group volcanic and sedimentary rocks. The Tertiary rocks occupy what appears to be a graben structure resulting from renewed fault movement around the margins of the plutons during Paleocene or Early Eocene time (Bulletin 77). The larger pluton, the 18 kilometre long southern part of the batholith, is called the Iron Mask pluton. The smaller Cherry Creek pluton farther northwest, outcrops on either side of Kamloops Lake. The combined exposure of the batholith, including the intervening younger rocks, is about 33 kilometres long and 5 kilometres wide.

Sedimentary and volcanic rocks of the Kamloops Group

CAPSULE GEOLOGY

unconformably overlies the Nicola rocks and the Iron Mask batholith. These include tuffaceous sandstone, siltstone and shale with minor conglomerate, as well as basaltic to andesitic flows and agglomerates with minor dacite, latite and trachyte.

In the vicinity of the batholith, the Nicola Group is dominated by volcanic and volcanoclastic sedimentary rocks. They are generally recognized by albitization of feldspars, occurrence of patchy epidote, and/or rare hematite alteration. On the southwestern flank of the Iron Mask pluton, well-indurated, massive and bedded tuff, breccia and interbedded flows and flow breccia are prominent and are weakly metamorphosed. On the northeast flank, less well-indurated and less altered tuff and tuff breccia predominate. However, adjacent to the intrusive contact, these rocks are also well indurated and epidotized and are locally mineralized with sulphides. At the southeastern tip of the Iron Mask pluton and locally along the southwestern flank, the Nicola rocks comprise distinctive porphyritic augite-hornblende basalt.

The Iron Mask pluton comprises four major, successively emplaced units designated as the Iron Mask Hybrid, Pothook, Sugarloaf and Cherry Creek units. Locally, an additional Picrite unit also occurs which is probably not genetically related to the batholith. The smaller Cherry Creek pluton consists entirely of the Cherry Creek unit. Isotopic dates (194 to 204 Ma +/- 6 Ma) indicate that all of these units are of Late Triassic or earliest Jurassic age (Bulletin 77).

The component units (except the Picrite unit) of the multiphase batholith are largely controlled by major systems of northwesterly, northerly and northeasterly trending fractures or faults. Most units show some degree of alteration and/or contamination which may be intense locally. Weak to moderate saussuritization is ubiquitous in all batholithic rocks while potassium feldspathization is more prominent in rocks of the Cherry Creek unit. The units are briefly described in order of oldest to youngest (determined mainly on crosscutting relationships).

The Iron Mask Hybrid unit forms the spine of the Iron Mask pluton. It is mostly agmatitic, consisting of rounded to angular fragments of various sizes, texture and composition in a dioritic matrix. The fragments include mainly coarse and fine-grained diorite and coarse-grained gabbro with lesser amounts of medium to coarse-grained hornblende and scattered xenoliths of Nicola Group volcanic rocks. All rock varieties in the unit contain magnetite which is often more than 10 per cent by volume. Mineralization, particularly of iron and copper, is almost ubiquitous in this unit. The Iron Mask mine (092INE010), a former copper producer, is located in this unit, but is also associated with picrite.

The Pothook unit occurs mainly in the northwestern half of the Iron Mask pluton, appearing frequently as narrow, gradational zones between the Iron Mask Hybrid and Cherry Creek units. Rocks of this unit are uniformly of dioritic composition and are medium to coarse grained. The Pothook unit is locally mineralized with copper and iron.

The Picrite unit consists of rocks of basaltic composition with abundant clinopyroxene and serpentinized olivine phenocrysts. These rocks generally occur as steeply dipping, poorly exposed and relatively small lenticular bodies in many parts of the batholith. They appear to be associated with recurring, northwesterly trending fracture systems and copper mineralization frequently occurs in their vicinity. Because picrite basalt has been observed far from the two component plutons of the batholith, it is probable that this unit is not part of the batholith.

The Sugarloaf unit occurs mainly along the southwest side of the Iron Mask pluton and as small enclosed bodies in the southern half of the pluton. Rocks of this unit are mainly porphyritic with hornblende, minor clinopyroxene and plagioclase in a greyish green matrix. They are of fairly uniform diorite-andesite composition. Several copper occurrences are hosted by the Sugarloaf rocks. The Ajax deposit (092INE012) (West and East zones) east of Jacko Lake is located within brecciated and albitized Sugarloaf rocks.

The Cherry Creek unit is the most widely distributed phase of the batholith. It constitutes the entire Cherry Creek pluton. The unit consists of rocks with composition ranges from diorite, monzonite, syenite to their porphyritic and fine-grained equivalents as well as local intrusive breccias. Copper and minor iron mineralization is prominent in the Cherry Creek unit, particularly in zones of intense brecciation associated with alkali metasomatism. Afton mine (092INE023) lies at the western termination of a narrow, 4 kilometre long, easterly trending zone of intense intrusive brecciation that is located at the northern edge of the Iron Mask pluton.

CAPSULE GEOLOGY

The Rainbow deposit is on the southwest margin of the Iron Mask batholith. It is located on the eastern slopes of Sugarloaf Hill which is predominantly underlain by porphyritic hornblende diorite of the Sugarloaf unit. These rocks are bounded to the west and south by Nicola Group volcanics. The property is cut by a strong northwest trending fault (Sugarloaf fault) and also crosscutting northeast trending faults. The Sugarloaf fault appears to be an important feature as the bulk of the known copper mineralization occurs near it or within tectonic breccias which may be related to it. Local dyke-like bodies of the Picrite unit are also observed in this area.

Mineralization is predominantly pyrite and chalcopyrite as disseminations and stockworks in breccia zones. Indicated reserves of the Rainbow are 4,467,000 tonnes grading 0.663 per cent copper, 137.1 grams per tonne silver and 0.008 per cent molybdenum (Seadrift International Exploration Ltd. Amalgamation Brochure, November 16, 1988).

In 1994, Teck Exploration and Getchell Resources Inc. carried out an integrated exploration program on the Rainbow claims. Thirty-one diamond-drill holes were completed totalling 5959 metres. Results were mineralized intersections obtained from the Number 1 zone are typically less than one-half the grades and thicknesses for similar intersections historically reported on this zone. The potential of the Number 1 zone to form a significant mineralized occurrence has been downgraded by this drill program (Assessment Report 23917). A new and significant mineralized zone, the 17 zone, was discovered during the 1994 drill program. Mineralization in this zone is hosted by an extensively potassically altered hornblende diorite. The rock has also been altered by early stage andradite. The mineralized intrusion is strongly overprinted by late stage carbonate and iron carbonate alteration. Copper grades within the intrusion are strong, ranging from 0.25 per cent copper to well over 1.0 per cent copper. Gold contents are weak and are typically less than 0.2 gram per tonne gold. The zone has a strike length of greater than 200 metres, a maximum width of 100 metres and is open at depth. The updip continuity of mineralization in the 17 zone is truncated by two processes. These are: a) the zone has been offset 80-100 metres, east-side down, across a significant extension fault. This fault is known locally as the Leemac, or Sugarloaf Fault. Dextral rotation across this fault may predate east-side down extension; b) a flat intrusive contact exists between mineralized hornblende diorites and the overlying non-mineralized Pothook and Hybrid diorite rocks. The contact appears to be an intrusive contact between the two intrusions. It is not a tectonic contact.

Drilling in 1996 tested a new zone of copper and gold mineralization. Teck drilled 6 deep holes in 1997. A 159-metre intercept graded 1.078 per cent copper and 0.322 grams per tonne gold. While the breccia unit is impressively mineralized, the geometry and grade distribution of the mineralization would not support mining. The zone is still open below 400 metres. Teck Corporation has completed a study of three dimensional modelling of a 104 diamond-drill hole database which resulted in an in situ geological resource of 15,860,000 tonnes grading 0.528 per cent copper using a 0.25 per cent copper cutoff (George Cross News Letter No. 160, August 20, 1997).

In January 2002, Abacus Mining and Exploration Corporation obtained the Rainbow property and in April released new assays for part of a 1995 Teck drillhole. A 57.0 metre interval graded 1.06 per cent copper, 0.27 gram per tonne gold and 1.04 grams per tonne palladium. Abacus completed a ten hole, 3300 metre drill program in June 2002. The program was designed to test the Number 2, 22 and 17 zones. Drillhole R-02-006 intersected 299.2 metres grading 0.81 per cent copper, 0.25 gram per tonne gold and 0.05 gram per tonne palladium in the Number 2 zone. Higher grade areas in this zone include 30.5 metres grading 2.17 per cent copper, 0.55 gram per tonne gold and 0.07 gram per tonne palladium, as intersected in drillhole R-02-009 (Press Release July 10, 2002). Drillhole R-02-001 intersected 37.5 metres grading 0.51 per cent copper in the Number 17 zone. Drillhole R-02-08 tested the Number 22 zone and intersected 31.1 metres grading 1.12 per cent copper, 0.45 gram per tonne gold, 0.94 gram per tonne palladium and 0.02 gram per tonne platinum.

The Rainbow property is located on the east flank of Sugarloaf Hill, about 10 kilometres southwest of Kamloops. The Chieftain Group, comprising the Chieftain, Chieftain No. 2 and Northern claims, was located in 1896 by R.H. Lee. The nearby Lone Tree (Lot 883) and Green Cub claims were located at a later date. The Lone Tree claim was Crown granted to Mr. Lee in 1903. The initial exploration work, begun in 1896, included two 15-metre shafts and an adit. The Chieftain Copper Mines of British Columbia, Limited, was incorporated in September 1901 by Detroit interests to acquire the property. Very

CAPSULE GEOLOGY

little exploration work was reported; the company charter was surrendered in 1912. No further activity was reported until 1961 when Huestis Mining Corporation Ltd. optioned 23 claims from Mr. H. Messmar, of Kamloops. Work by the company included bulldozer stripping and diamond drilling in 4 holes. The option was subsequently dropped. Western Beaver Lodge Mines Ltd. during 1965 held a number of claims in the Rainbow, Lee, 10, RO, and Rob groups, and the Lone Tree Crown grant. Geophysical work was reported at that time. Vanco Explorations Limited is reported to have held the ground in 1966 and to have carried out limited geophysical and geochemical surveys, and diamond drilling in 2 holes. Belcarra Explorations Ltd. held the property in 1969. A geochemical survey, bulldozer trenching and 106.6 metres of diamond drilling in 5 holes was reported.

Leemac Mines Ltd. in 1971 optioned the Rainbow and Lee groups (31 claims), and Mineral Lease 23K (Lot 883) from the Messmar interests and R.J. Hickey, all of Kamloops. Exploration work during the latter part of the year included the rehabilitation of the grid lines used in the magnetometer and induced polarization surveys by Western Beaver Lodge Mines; this work had indicated a circular shaped series of 4 anomalous highs. Other work by Leemac in 1971 included trenching, a geochemical survey south of Sugarloaf Hill, 305 metres of Winkie diamond drilling, and 609.6 metres of percussion drilling. Wireline diamond drilling was begun on Zone No. 1 in December and 11 holes totalling 1604.7 metres were completed.

Western Mines Limited, by an option agreement of March 1972, purchased 100,000 treasury shares with the option of further participation. Drilling continued in Zone 1 and was expanded to Zone 2 in May. Some 31 holes totalling about 5486.4 metres were completed to mid-June. Western Mines decided not to purchase further shares and the agreement terminated in July 1972. Leemac continued the drilling program and to April 1973 had partially outlined a mineralized breccia zone (Zone 2) containing an indicated 14,172,711 tonnes with a weighted average grade of 0.54 per cent copper (Chisholm, E.O., May 21, 1973 in Leemac Mines Ltd. Statement of Material Facts, June 4, 1973). Leemac in July 1973 optioned the property to Getty Mining Pacific, Limited; Getty at that time held an option agreement on four adjacent properties. Work on the Rainbow property in 1973 included geological mapping, an induced polarization survey over 6.1 line kilometres, a magnetometer survey over 28.9 line kilometres, 890.6 metres of rotary drilling in 5 holes on Rainbow 5, 6 and D Fr., and 4992.6 metres of percussion drilling in 47 holes. Further diamond drilling was done in 1974 in one hole to a depth of 313.3 metres on Rainbow 17 claim. Getty abandoned the option in the latter half of 1974. Nahatlatch Resources Ltd. in December 1975 optioned a 65 per cent interest in 51 claims and one mineral lease from Leemac Mines Ltd.; the company name (Leemac) was changed in April 1976 to LMC Resources Ltd. Work by Nahatlatch during 1976 included diamond drilling in 23 holes averaging 300 metres in depth. Under the terms of the option agreement the property was then owned by Nahatlatch (65 per cent) and LMC Resources (35 per cent). No. 2 zone reserves were reported as 13,311,692 tonnes indicated averaging 0.59 per cent copper, and 11,737,874 tonnes inferred of an expected comparable grade, to a depth of 304.8 metres. Included is a higher grade section of 3,902,344 tonnes averaging 1.05 per cent copper (Northern Miner, December 9, 1976). Further diamond drilling was carried out in the first part of 1977.

By 1977, the property had been restaked as four claims, the Rainbow NE, SE, SW, NW (26 units). Canadian Superior Exploration Limited optioned this ground in June 1977; the company also held an option on the adjacent Victor, Iron Mask, Iron Cap and DM properties (092INE010, 18, 30). Work on the Rainbow ground included 9 percussion-drill holes totalling 570 metres and 375 metres of diamond drilling in 2 holes; the option was terminated in the fall of 1977. Seadrift Resources Ltd. was formed in November 1978 by the amalgamation of Nahatlatch Resources and LMC Resources. The company name was changed in August 1980 to Pacific Seadrift Resources Ltd. In 1979, diamond drilling in 10 holes totalling 3070 metres was done on Rainbow SE. Late in 1979 the company purchased the adjacent Kam, Roda, Roda 2 and Red Head claims (15 units) from Sovereign Metals Corp; geophysical surveys and drilling had been carried out on these claims by Sovereign in 1976 and Canadian Superior Exploration in 1977. Pacific Seadrift in 1980 spent \$155,000 as part of the cost of drilling 10 holes on its property. E & B Canada Resources Ltd. contributed \$1 million to exploration costs in 1980-81 for a 6 per cent interest in the combined Rainbow, Victor, Iron Mask, Iron Cap and DM properties. Based on work to date, drill indicated reserves were estimated at 95,245,500 tonnes grading 0.32 per cent copper and 0.27 gram per tonne gold (Joint Management Information Circular, Royex Sturgex Mining and Cullaton Lake GML, (27/041/84)). Craigmont

CAPSULE GEOLOGY

Mines Limited in February 1981 optioned the above combined properties and diamond drilled 5579 metres in 34 holes on the Rainbow and Victor. This work indicated insufficient tonnage to support an independent mining operation; the option was given up in September 1981. The company name (Pacific Seadrift) was changed in 1985 to Seadrift International Exploration Ltd.

BIBLIOGRAPHY

EMPR AR 1896-566,567; 1898-1103; 1899-732; 1901-1078,1079; 1903-H247; 1906-H176; 1956-47-54; 1961-48; 1965-243
EMPR ASS RPT 125, 634, 689, 5165, 6223, 6550, 9443, 17601, *23917
EMPR BULL 77
EMPR EXPL 1976-E98; 1977-E155; *1979-175; 1981-38; 1996-C12; 1997-37; 2001-38
EMPR FIELDWORK 1974, pp. 22-26; 1976, pp. 41-46; 1977, pp. 37,38, 86-88; 1982, pp. 267-284; 2002, pp. 129-132
EMPR GEM 1969-236; 1973-197,198; 1974-150
EMPR INF CIRC 1995-9, p. 16; 1996-1, p. 16; 1997-1, p. 19; 1998-1, p. 19
EMPR MAP 26; 48; 65 (1989)
EMPR OF 1992-1
EMPR PF (Geology maps, drill hole plans, drill sections, composite map, induced polarization survey map; Memoranda concerning radio transmitting facility)
EMR MIN BULL MR 223 (1989) B.C. 144
EMR MP CORPFILE (Leemac Mines Ltd.; Getty Mining Pacific, Limited; Nahatlatch Resources Ltd.; Canadian Superior Exploration Limited; Pacific Seadrift Resources Ltd.; Craigmont Mines Limited)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, pp. 115,116
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Cann, R.M. (1979): Geochemistry of Magnetite and the Genesis of Magnetite-apatite Lodes in the Iron Mask Batholith, B.C. Unpub. M.Sc. Thesis, University of British Columbia
CIM Spec. Vol. 46, pp. 565-580, 581-592, 593-608
GCNL #46,#27, 1977; #236,#228, 1979; #26,#3,#24,#25, 1980; #56 (Mar.19), 1996; #37(Feb.21), #68(Apr.9),#76(Apr.21), #160(Aug.20), 1997
N MINER Dec.9, 1976; May 12, 1997; May 4, 1998
PR REL Abacus Mining and Exploration Corp., April 3, May 29, June 13, June 27; July 10, 2002
WWW <http://www.amemining.com/>; <http://www.infomine.com/>
STOCKWATCH June 13,27, July 10, 2002

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE029**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOG**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092115E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 27 N
LONGITUDE: 120 38 01 W
ELEVATION: 628 Metres

NORTHING: 5625529
EASTING: 666903

LOCATION ACCURACY: Within 500M

COMMENTS: Showing, 1.5 kilometres north of Kamloops Lake and Frederick siding of the Canadian National Railway, about 23 kilometres west of Kamloops (Assessment Report 6515).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ASSOCIATED: Pyrrhotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY: Andesite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Log showing is located 1500 metres north of Frederick siding of the Canadian National Railway, about 23 kilometres west of Kamloops. The area is underlain by fine grained and slightly porphyritic andesite of the Upper Triassic Nicola Group near the contact with Cherry Creek unit monzonite of the Late Triassic-Early Jurassic Iron Mask batholith.

Chalcopyrite, bornite and pyrrhotite occur as disseminations in somewhat brecciated andesite.

In 1977, British Newfoundland Exploration Limited performed work consisting of soil sampling (244), ground magnetometer survey (8 kilometres) and geological mapping.

BIBLIOGRAPHY

EMPR ASS RPT *6515
EMPR EXPL 1977-E158
EMPR BULL 77
EMPR FIELDWORK 1984, pp. 151-160
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE030**

NATIONAL MINERAL INVENTORY: 09219 Cu8

NAME(S): **DM**, COMET-DAVENPORT, TRUTH,
AUDRA

STATUS: Developed Prospect

Underground

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I09W

BC MAP:

LATITUDE: 50 39 53 N

LONGITUDE: 120 29 09 W

ELEVATION: 716 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: DM shaft located between the Iron Cap (092INE018) and Afton mine (092INE023), south of the Trans-Canada Highway 1/97, about 11 kilometres west of Kamloops (Minister of Mines Annual Report 1967, Figure 16).

UTM ZONE: 10 (NAD 83)

NORTHING: 5615558

EASTING: 677675

COMMODITIES: Copper

Gold

MINERALS

SIGNIFICANT: Chalcopyrite

Bornite

Copper

ASSOCIATED: Chlorite

Magnetite

Quartz

Calcite

Pyrite

ALTERATION: Gypsum

K-Feldspar

Magnetite

Chlorite

Calcite

Epidote

ALTERATION TYPE: Potassic

Chloritic

Propylitic

Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Disseminated

Stockwork

Breccia

CLASSIFICATION: Porphyry

TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Iron Mask Batholith

LITHOLOGY: Intrusive Breccia

Diorite Breccia

Diorite

Diorite Dike

Monzodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: DM

REPORT ON: Y

CATEGORY: Unclassified

YEAR: 1994

QUANTITY: 2685000 Tonnes

COMMODITY

GRADE

Gold

0.2700

Grams per tonne

Copper

0.3800

Per cent

REFERENCE: CIM Special Volume 46, page 579.

CAPSULE GEOLOGY

The DM zone is similar to the Crescent deposit (092INE026) 1000 metres to the east, including a location along the contact between the Pothook and Cherry Creek intrusions, early pervasive alteration followed by a similar sequence of vein types, and disruption by faults. The DM zone is hosted by intrusive rocks of the Pothook and Cherry Creek units of the Late Triassic-Early Jurassic Iron Mask batholith. Most of the DM zone lies between the South (SFZ) and North (NFZ) Fault zones, which are wide, composite, subparallel zones which strike 050 to 060 degrees and dip about 70 degrees to the southeast. Hydrothermal effects are not evident south of the SFZ, but alteration occurs on both sides of the NFZ. The NW Fault, which strikes about 325 degrees and dips steeply to the west, cuts and displaces the NFZ, SFZ and mineralization. Other major faults include the South Splay Fault, which varies markedly in orientation along its length, and the NE Fault which trends about 020 degrees and

CAPSULE GEOLOGY

dips steeply to the west. Although the relative timing and sense of movement of the faults is not well constrained, most displacement occurred after Jurassic magmatic and hydrothermal activity. Strongly brecciated rocks lie both along and between the NFZ and SFZ but are predominantly intrusion rather than fault breccias. The boundaries between the major intrusive rock types in the DM deposit coincide, in part, with the NFZ and SFZ. To the south of the SFZ lies unaltered Pothook unit diorite. North of the NFZ lies a pyroxene diorite or monzodiorite which is macroscopically similar to the Cherry Creek intrusion exposed in the Crescent deposit. Locally, this pyroxene diorite grades laterally into strongly altered intrusion breccia. Between the main fault zones lies both Cherry Creek and Pothook units which each exhibit various degrees of alteration, and abundant intrusion breccia with fragments of altered Pothook diorite in a matrix of Cherry Creek monzodiorite. The contact between the Cherry Creek and Pothook intrusions lies near the SFZ, but interfingering of the two units and intense potassium metasomatism obscures its exact location. All gradations appear to exist between unaltered pyroxene diorite, Cherry Creek intrusion breccia and unaltered and altered Pothook diorite, and together these rock types form a continuum resulting from various degrees of alteration and intrusion breccia development. In several locations throughout the DM zone, diorite dikes which range in width from one to five metres and which contain prismatic, locally trachytic, euhedral hornblende phenocrysts are interpreted as Sugarloaf diorite. In surface trenches, these dikes trend northeasterly, but it is not yet known if this orientation is consistently developed. Weakly altered plagioclase diorite porphyry dikes and minor postmineral andesite dikes similar to those in the Crescent deposit are also present.

Mineralization in the DM deposit occurs in two pipe-like bodies which dip steeply to the south and which converge at depth. Both ore zones occur in rock characterized by intrusion breccias, with lesser mineralization hosted by unbrecciated rock. Alteration in the DM zone is nearly identical to that observed in the Crescent deposit. Pervasive, locally magnetite destructive potassium metasomatism introduced little or no sulphide and formed preferentially in intrusion breccia along the contact between the Pothook and Cherry Creek intrusions. Pervasive alteration was followed by a sequence of veins similar to that at the Crescent deposit but which includes two additional varieties. In the DM zone most sulphide mineralization was introduced by chlorite-sulphide veins, but quartz dominated veins with abundant sulphide which formed early in the paragenesis also carry significant copper mineralization. Locally, quartz abundance reaches 15 per cent. Late stage veins dominated by gypsum are abundant in the northern part of the DM zone. A second, sulphide bearing variety of gypsum vein is reported to have formed earlier in the sequence. Quartz veins have a preferred orientation of 290 degrees and dip 60 to 70 degrees to the southwest but data are not available for other vein types. Magmatic hydrothermal breccias are minor but fault breccias are common. The major ore mineral is chalcopyrite. Bornite is locally important as disseminated grains along the footwall of the SFZ. Pyrite is abundant both in and peripheral to the ore zone, but its distribution is truncated by the SFZ. Pyrite is present with chalcopyrite but not with bornite. Supergene oxidation has converted copper sulphides to copper carbonates and minor native copper in a shallow zone of weathering, but no enrichment has occurred. Reserves of the DM zone are stated as 2,685,000 tonnes grading 0.38 per cent copper and 0.27 gram per tonne gold (CIM Special Volume 46).

The Audra zone is about 600 metres east of the DM zone, almost equidistant from the Crescent deposit.

The property is located west of Ironmask Lake approximately 11 kilometres west of Kamloops. An area roughly identified as lying between Ironmask Lake and the DM shaft has been held for many years by a number of Crown grants and various located claim groups. The Truth group, comprising the Truth, Dakota, Hope, Jennie, and Pearl claims was owned by A.G. McDonald and Joseph McGee. Development working during the period 1899 to 1906 inclusive included a shaft to 24.3 metres with a 30.4-metre drift from it. A second shaft was sunk to 9.1 metres and an adit was driven more than 30.4 metres to drain the workings. Ore mined in 1906 was sold to the nearby Iron Mask operation (092INE010) for fluxing purposes. Berens River Mines Limited, a subsidiary of Newmont Mining Corporation, held a number of claims in 1952. Graham Bousquet Gold Mines, Limited in 1956 acquired the DM group, in part a restaking of the Truth group, and other claims in the vicinity. Work included geophysical and geochemical surveys. The company amalgamated with several other companies in 1958 to form Cadamet Mines Limited. Noranda Exploration Company, Limited optioned the property in 1958 and carried out further

CAPSULE GEOLOGY

geophysical surveys. The option was given up later in the year. Comet Mining Corporation Ltd., incorporated December 1964, optioned the Lorna 1-4 claims from Lorne H. Stephens. The company also acquired the Iron Cap and some 62 located claims in the RO, DM and Monzo groups. In 1965, Vanco Explorations Limited optioned this and a number of adjacent properties. Work by the company included geological, geophysical and geochemical surveys. Diamond drilling totalling 1612.3 metres in 15 holes was carried out on the Lorna claims. The option was terminated in May 1966. Comet Mining and Krain Copper Resources Ltd. amalgamated in May 1966 to form Comet Krain Mining Corp. Ltd. In October 1966, the company optioned the Con Verdant, May Fraction, Sodium Fraction and Winty Crown grants from Isabelle Wintemute. The company name, Comet Krain was changed in April 1971 to Comet Industries Ltd. An exploration and development option agreement was made in January 1972 with Initial Developers Corporation Limited, an associate company. Work by Initial on the Lorna, DM and HO groups included geological mapping, magnetometer, electromagnetic and induced polarization surveys over 48 line kilometres, a geochemical survey, 2286 metres of diamond drilling in 25 holes, and 2011.6 metres of percussion drilling in 22 holes. Work on adjacent groups (EB, ID and RO 47-52) owned by Initial included magnetometer, induced polarization and electromagnetic surveys over 16 line kilometres. This work "indicated some 2,267,750 tonnes mineable reserves assaying 0.5 per cent copper in the Crescent zone (092INE026)" (Western Miner, October 1972, page 85). In December 1972, Getty Mining Pacific, Limited optioned 120 contiguous claims in the combined properties (Victor, Iron Mask, Iron Cap and DM) held by Comet, Initial and Davenport. Work by Getty in 1973 included an induced polarization survey over 93 line kilometres, a magnetometer survey over 86.9 line kilometres, 2084.5 metres of rotary drilling in 8 holes, 564.4 metres of diamond drilling in 2 holes, and 15,513.4 metres of percussion drilling in 159 holes. Among these holes, 25 were spaced over a 3 by 4.8 kilometre area. The option was given up in 1974. Davenport Oil & Mining changed its name in 1973 to Davenport Industries Ltd. Initial Developers Corporation in May 1974 amalgamated with North Pacific Mines Ltd. under the name Initial Developers Limited. Canadian Superior Exploration Limited optioned the above combined properties (some 2185 hectares) in 1975. Work in 1976-78 included a magnetometer survey over 89 line kilometres, 8064 metres of diamond drilling in 47 holes and 4211 metres of percussion drilling in 48 holes. The option was terminated in 1978. Craigmont Mines Limited in February 1981 obtained an exploration agreement on the above four properties and on the adjacent Rainbow property (092INE028) of Pacific Seadrift Resources. Craigmont completed some 5791.2 metres of diamond drilling in a 7 month program. This work indicated insufficient tonnage and the option was terminated in September 1981. Comet Industries Ltd in 1983 carried out exploration on the combined Lorna, Iron Cap and DM properties, including magnetometer and electromagnetic surveys over 13 kilometres and 294 metres of diamond drilling in 3 holes. Work reported on the Lorna and DM in 1986 included geochemical sampling (50) and 209 metres of diamond drilling in 2 BQ size holes.

BIBLIOGRAPHY

- EMPR AR 1899-605,730; 1900-890; 1901-1078; 1904-G231,G232; 1905-J194; 1906-H174,H176; 1956-48; 1957-31; 1958-29,67; 1959-39; 1962-60; 1967-144-147
EMPR ASS RPT 192, 727, 891, 1011, 3554, 5180, 5998, 12096
EMPR GEM 1972-195; 1973-199; 1974-150,151
EMPR EXPL 1976-E99; 1978-E167,E168; 1983-282,283; 2001-38
EMPR FIELDWORK 1977, pp. 37,38; 2002, pp. 129-132
EMPR PF (Geology and compilation maps by Canadian Superior Exploration Ltd., 1976; Geologic plan map by Getty Mines, Limited; General Geology and Mineralized zones, Initial Developers Corporation Ltd, 1972)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CIM Special Volume *46, pp. 585,586
WWW <http://www.amemining.com>
EMR MP CORPFILE (Comet Industries Ltd.; Initial Developers Limited; Getty Mining Pacific, Limited; Canadian Superior Exploration Limited; Teck Corporation; Metall Mining Corporation; Davenport Industries Ltd.)

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 88
REPORT: RGEN0100

BIBLIOGRAPHY

GCNL #169, 1987; #181, 1988

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE031**

NATIONAL MINERAL INVENTORY: 092110 Cu4

NAME(S): **HILLTOP**, HILLTOP 1.3, FREDERICK,
SAGE, GREENSTONE, LO,
LOLO, CONTACT, OONA,
EUREKA

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

MINING DIVISION: Kamloops

LATITUDE: 50 44 51 N
LONGITUDE: 120 37 56 W
ELEVATION: 442 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5624420
EASTING: 667037

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches and pit, located 250 metres north of Kamloops Lake and east of Doherty Creek, about 23 kilometres west of Kamloops (Assessment Report 19770).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite
ASSOCIATED: Pyrite
ALTERATION: Malachite Azurite Calcite Epidote K-Feldspar
 Albite
ALTERATION TYPE: Oxidation Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
 Syenite
 Monzonite
 Andesite Dike
 Syenite Dike
 Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1989

SAMPLE TYPE: Chip

COMMODITY GRADE
Copper 0.1600 Per cent

COMMENTS: Results from a reverse circulation drill program indicate the presence of a 45-metre wide mineralized zone dipping steeply north for at least 80 metres.

REFERENCE: Assessment Report 19770.

CAPSULE GEOLOGY

The Hilltop showings occur in intrusive rocks of the Cherry Creek unit of the Triassic and/or Jurassic Iron Mask batholith. To the west, these intrusive rocks cut Upper Triassic Nicola Group volcanic rocks. Both the intrusive and Nicola Group rocks are unconformably overlain by Eocene sedimentary and volcanic rocks of the Kamloops Group. The showings consist of sparse disseminations of chalcopyrite, bornite, chalcocite and pyrite in fine to medium-grained diorites, syenites and monzonites. Minor andesite and syenite dikes cut the intrusive rocks. Malachite and azurite were also observed. Alteration consists commonly of epidote and calcite, local potassium feldspar and local weak albite. Results from a reverse circulation drill program conducted in 1989 indicate the presence of a 45 metre wide mineralized zone (Frederick) grading

CAPSULE GEOLOGY

approximately 0.16 per cent copper, that dips steeply to the north for at least 80 metres. The strike length of this zone could not be traced over significant lengths (Assessment Report 19770). A prominent zone of oxidation and leaching with abundant malachite and minor pyrite is evident along Doherty Creek, 300 metres to the west.

In 1960, Arequipa Mining Co. Ltd. completed geological mapping and two diamond-drill holes totalling 122 metres. In 1968, about 4 kilometres of magnetometer survey was completed. A 3 kilometre induced polarization survey was run over the Hilltop and Sage claims in 1969 by Royal Canadian Ventures Ltd. In 1969, Royal Canadian Ventures Inc. also conducted 8 kilometres of magnetic, VLF-EM and geochemical surveys over the Maxine (092INE032) and Hilltop properties. In 1972, Attila Resources Ltd. completed 800 metres of road construction, 61 metres of trenching, 61 metres of stripping and drilled three holes totalling 427 metres. Also in 1972, Cream Silver Mines Ltd. carried out exploration on the DV claims which covered the Hilltop showing. This work consisted of an induced polarization survey, geological mapping, a magnetometer survey and soil sampling (774 samples). In 1980 and 1983, Pecos Resources Ltd. conducted a soil survey (554 samples), geological mapping and a magnetometer survey over the Lo and Lolo claims which now cover the Hilltop showing. In 1989, Eureka Resources Inc. and Teck Corporation conducted exploration over the Iron Mask property which covered the Maxine (092INE032) and Hilltop showings. The exploration program consisted of geological mapping, ground magnetometer survey (15 kilometres), reverse circulation drilling of 19 holes totalling 1818 metres (744 samples) and a soil survey (1155 samples). In 1991, Eureka Resources Inc. conducted a limited reverse circulation drill program consisting of 374 metres in 6 holes (28 samples), geological mapping and 95 soil samples.

BIBLIOGRAPHY

EMPR ASS RPT 1751, 1951, *2353, 4219, 4220, 9112, 12031, *19770,
*22066
EMPR GEM 1969-239; 1972-209; 1977-E158
EMPR AR 1962-60
EMPR BULL 77
EMPR MAP 26; 48
EMPR FIELDWORK 1984, pp. 151-160
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 79-1A, pp. 381,382; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE032**

NATIONAL MINERAL INVENTORY: 092115 Cu1

NAME(S): **MAXINE**, MAXINE NO. 2, NORTH STAR
HILLTOP, OK, FS,
OONA, EUREKA

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092115E
BC MAP:
LATITUDE: 50 45 29 N
LONGITUDE: 120 39 28 W
ELEVATION: 541 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adits, north of Kamloops Lake and about 2 kilometres northwest of Frederick siding of the Canadian National Railway, 25 kilometres west of Kamloops (Assessment Report 22602).

Underground

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5625536
EASTING: 665197

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Bornite Chalcocite Chalcopyrite Copper
ASSOCIATED: Pyrite Magnetite Calcite Quartz
ALTERATION: Malachite Azurite Hematite Chlorite Epidote
Calcite Albite K-Feldspar
ALTERATION TYPE: Oxidation Propylitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Iron Mask Batholith
Triassic-Jurassic			

LITHOLOGY: Andesite
Andesite Tuff
Andesite Flow
Syenite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1998
SAMPLE TYPE: Rock
COMMODITY
Silver 74.4000 Grams per tonne
Copper 4.1000 Per cent
COMMENTS: Mineralized rock.
REFERENCE: Assessment Report 25539.

CAPSULE GEOLOGY

The Maxine showing occurs on the northwestern contact of a small satellite stock of the Late Triassic-Early Jurassic Iron Mask batholith, located on the north and south shore of Kamloops Lake. The stock intrudes intermediate volcanic rocks (Eastern Volcanic facies) of the Upper Triassic Nicola Group, and is overlain by Eocene volcanic rocks of the Kamloops Group.

Intermediate volcanic rocks consisting of mainly andesite tuffs and flows of the Nicola Group are very highly altered to chlorite, epidote, calcite, and occasionally secondary albite and potassium feldspar. The Cherry Creek unit syenites of the Iron Mask batholith occupy the southwestern portion of the showing area. Small outliers of the Kamloops Group volcanics are found in the northern parts. Major northwest to westerly trending structures are abundant, the main structure apparently hosting the Maxine mine. This structure can be traced to the east-southeast to the Frederick zone (092INE031)

CAPSULE GEOLOGY

and across Kamloops Lake to the main Afton orebody (092INE023). Secondary and later north to northeasterly trending structures have also been identified.

Mineralization at the Maxine mine is associated with the northwesterly trending structures. The hostrocks are Nicola volcanics, however, but may in fact be small apothesis dikes and sills of the batholith. Structures hosting mineralization have been highly altered, brecciated and sheared. Mineralization comprises sparsely disseminated pyrite, chalcopyrite and magnetite with bornite and chalcocite occurring in narrow and widely separated shears. The shear zones often contain calcite, minor quartz, malachite, azurite and hematite and vary from centimetres up to 1.8 metres in width. Native copper has also been identified in the wallrock near the shears. In 1998, a sample of mineralized rock assayed 4.1 per cent copper and 74.4 grams per tonne silver (Assessment Report 25539).

Mineralization was exposed by the Canadian Northern Railway Company in blasting for a roadbed through the ranch owned by C.S. Fredericks. Other showings, at higher elevations about 762 metres from the lake shore, were explored for a number of years by Mr. Fredericks. In 1910, the workings on the 6 claim property consisted of opencuts and a crosscut adit. Exploration work was carried on into 1916 and included opencuts, winzes and 3 adits totalling over 79 metres of underground workings. A small amount of ore was shipped by Mr. Fredericks in 1917 and 1919. About 30 tonnes of high-grade copper ore were produced from the Maxine mine from three adit levels. In the late 1930s or early 1940s, the property was restaked, in part at least, as the North Star group of claims, owned by Messrs. Smith, Pelezon and Moffat, of Kamloops. No development work was reported at that time. In 1969, Royal Canadian Ventures Ltd. conducted about 8 kilometres of magnetic, VLF-EM and geochemical soil surveys and completed geological mapping. In 1972, Primac Exploration Services performed line cutting. In 1976, three AQ diamond-drill holes totalling 488 metres were put down by Rich Hill Mines Ltd. In 1983, Pecos Resources Ltd. conducted a ground magnetometer survey. In 1992, Eureka Resources Inc. completed geological mapping, 11 kilometres of ground magnetometer survey, and a soil (688) and rock (31) sampling survey. In 1998, work consisting of detailed soil (55) and rock chip (11) sampling and geological mapping was completed by Eureka Resources Inc.

BIBLIOGRAPHY

EMPR AR 1910-K127,K129; *1913-K194,K195; *1915-K216; 1917-F236,F450;
1918-K236
EMPR ASS RPT 2353, 3696, 6101, 12031, 19770, 22066, *22602, 25539
EMPR BC METAL MM00404
EMPR GEM 1969-239; 1972-234
EMPR EXPL 1976-E105
EMPR BULL 77
EMPR FIELDWORK 1984, pp. 151-160
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 127,128
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE033**

NATIONAL MINERAL INVENTORY:

NAME(S): **TENDERFOOT (L.882)**, BORNITE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092115W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 50 N
LONGITUDE: 120 45 49 W
ELEVATION: 564 Metres

NORTHING: 5629660
EASTING: 657602

LOCATION ACCURACY: Within 500M

COMMENTS: Adits on Crown grant Lot 882 (Tenderfoot) near the summit of Painted Bluffs, just north of Kamloops Lake, about 7.5 kilometres northeast of the community of Savona (Assessment Report 15071).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ASSOCIATED: Quartz Calcite Hematite Pyrite
ALTERATION: Malachite Epidote Chlorite Clay
ALTERATION TYPE: Oxidation Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork 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	Nicola	Undefined Formation	

LITHOLOGY: Augite Porphyritic Basalt
Basaltic Andesitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tenderfoot showing is predominantly underlain by Upper Triassic Nicola Group porphyritic augite and olivine basalt that are cut by andesite to basaltic dikes and a granodiorite-quartz diorite stock. The volcanic rocks are moderately to strongly chlorite-epidote-saussurite altered, with development of carbonate, silicified and serpentinized zones.

Mineralization consisting of bornite, chalcopyrite, malachite, hematite and pyrite occurs within shears and fractures in altered augite porphyritic basalt. The shears trend dominantly north to northwest and are cut by northeast trending fractures. The mineralization occurs as massive veinlets and veins in shears from 0.1 to 2 metres in width with disseminations and smears along microfractures and veinlets. The gangue consists of dominantly quartz-calcite-hematite with chlorite, epidote-saussurite and clays.

In 1997, a rock sample from a 70 centimetre wide shear above an old adit analysed 5.89 per cent copper, 44.4 grams per tonne silver and 108 parts per billion gold (Assessment Report 25492).

The Tenderfoot claim was staked in 1889 under the old 'apex law', being 1500 feet long in a general east-west direction and 600 feet wide. In 1894, G.M. Dawson reported on the geology and mineralization of the Tenderfoot showing. A 4.5-metre shaft was sunk on the vein in 1893-94. During 1899, a 4-tonne bulk sample from this shaft was shipped to the smelter at Ladysmith. In 1904, the Tenderfoot claim (Lot 882) was Crown granted. Increased activity up to 1909 resulted in the completion of 285 metres of underground excavation which consisted of a 13.1-metre decline, a 9.2-metre adit, a 7-metre shaft and numerous crosscuts. Little work was done on the property before the 1930s because of slumping copper prices. However, 92 tonnes of ore was shipped to the smelter at Ladysmith by an Edmonton syndicate in 1918. Assay results from this shipment are not known, but additional work, completed in 1930, included a winze, raise and two crosscuts. In 1962, the Kamloops Copper Company Ltd. acquired an option on the Tenderfoot claim and sampled and examined the underground workings; 3 diamond-drill holes were put down beneath

CAPSULE GEOLOGY

the old workings. The region lay idle until 1969, at which time the property was optioned to Giant Explorations Ltd. by the owner, K. Rousseau. Giant Explorations Ltd. completed an electromagnetic and magnetometer survey, and 2 drillholes totalling 102 metres. In 1972, the J group of claims were staked and Falaise Lake Mines Ltd. performed prospecting, soil sampling (110) and 1 diamond-drill hole totalling 190 metres. The property was sold to W. Spence in 1982, and subsequently resold to Mix Resources Ltd. (now Rococco Resources Ltd.) in December of that year who renamed the property to Bornite. In 1983, 4 diamond-drill holes totalling 233 metres, a VLF-EM 16 survey, 223 soil samples and 10 percussion-drill holes totalling 458 metres were completed. In 1985, Rococco Resources Ltd. completed geological mapping, VLF-EM 16 and magnetometer surveys, and petrographic studies. By 1992, the Sun claims now cover the Tenderfoot showing where general prospecting, mapping and rock sampling (23) was conducted on behalf of the Sun Joint Venture. In 1996, an EM 16 resistivity survey was run on the Sun claims on behalf of the owner, A.W. Molnar. In 1997, a geological survey, rock sampling (21), grid work (33 kilometres) and a VLF-EM (32 kilometres) and magnetometer (32 kilometres) survey was completed on the Sun claims on behalf of A.W. Molnar.

BIBLIOGRAPHY

EMPR AR 1892-541; 1893-1068; 1898-1105; 1899-737,738; 1900-891; 1901-1080; 1902-H191; 1904-G301; 1909-K141; 1910-K129; 1913-K194,K196; 1918-K236; 1919-N179; 1930-A193,A194; 1962-60
EMPR ASS RPT 693, 3761, 11354, *15071, *22620, 25492
EMPR BC METAL MM00415
EMPR BULL 5, p. 35
EMPR GEM 1972-235
GSC MEM *249, pp. 128,129
GSC ANN RPT 1894 Vol.VII, p. 343B
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE034**

NATIONAL MINERAL INVENTORY: 092110 Cu2

NAME(S): **DANSEY, JB, FRAN**
PG, SOUTH DANSEY, CL

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092110W
BC MAP:

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

LATITUDE: 50 31 21 N
LONGITUDE: 120 52 42 W
ELEVATION: 1128 Metres

NORTHING: 5598877
EASTING: 650393

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches on the JB 1,2 claims west of Guichon Creek, 9 kilometres south of Tunkwa Lake, about 26 kilometres south of the community of Savona (Assessment Report 1585).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT:	Chalcopyrite	Molybdenite	Chalcocite	Bornite	
ASSOCIATED:	Pyrite	Specularite	Hematite	Magnetite	
ALTERATION:	Chlorite	Sericite	Malachite	Azurite	Chrysocolla
ALTERATION TYPE:	Chloritic	Sericitic		Oxidation	
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Dansey property is located at the eastern edge of the Late Triassic-Middle Jurassic Guichon Creek batholith and overlies the contact between Hybrid phase and Guichon variety rocks. Three main rock types are evident and comprise diorite, quartz diorite and granodiorite. Fracturing and shearing are abundant in the diorite and quartz diorite but markedly less in the granodiorite.

Mineralization on the Dansey property is associated with diorite and quartz diorite. Most of the mineralization occurs along fractures but the majority of it is associated with a second group of fractures that strike from 040 to 080 degrees. The main minerals include chalcopyrite and pyrite, with minor amounts of molybdenite, specularite, chalcocite and bornite. Malachite, azurite and chrysocolla occur as secondary minerals. Areas of moderate copper-molybdenum mineralization (>0.1 per cent copper) occur near the contact between diorite and quartz diorite with weak zones of copper-molybdenum mineralization scattered throughout the diorite.

Trenching has exposed disseminations and blebs of chalcopyrite, pyrite, bornite, hematite, magnetite and molybdenite mineralization in and adjacent to several northeast faults and shear zones in quartz diorite. The faults and shears mostly dip northwest at moderate to high angles. The shears are characterized by intensely chloritized and sericitized quartz diorite and vary from 1.5 to 9 metres wide. Near the shears are random fractured zones with pyrite and minor chalcopyrite on fracture planes.

Deerhorn Mines Ltd. held the Witches Brook group of 24 claims in the vicinity of the JB showing in 1956. Noranda Exploration Company Limited held the PG group of 99 claims along and mainly west of Guichon Creek to the north of Witches Brook in 1962. This property was partly a relocation of the claims held by Deerhorn Mines Ltd. Geological, geochemical and geophysical surveys were carried out during 1963. The CL group, apparently staked by C.W. Dansey in 1964, was located partially on ground formerly part of the PG group. North Pacific Mines Limited carried out a program of trenching, soil

MINFILE NUMBER: **092INE034**

CAPSULE GEOLOGY

sampling, magnetometer and geological surveying on the property during 1964. In 1965, North Pacific Mines Ltd. carried out an induced polarization survey which outlined an anomaly about 914 metres long over a width of 244 metres. Other work consisted of trenching, road building and 8 diamond-drill holes totalling 1280 metres. In 1968, an airborne magnetometer survey (202 kilometres) was flown on behalf of North Pacific Mines Ltd. and Comet-Krain Mines Ltd. In 1969, Noranda Exploration Company Limited conducted a soil geochemical survey and induced polarization surveys over the Mike, Bill, Tom and JB claims. In 1974, North Pacific Mines Ltd. conducted percussion drilling in 5 holes totalling 384 metres on the Tom claims.

BIBLIOGRAPHY

EMPR AR 1963-48; *1964-88; 1965-146; 1968-176
EMPR ASS RPT 135, 1585, 1934, 1935, 2066, 2114, 2281, 2282, 4984
EMPR GEM 1974-152,153
EMPR PF (Dujardin, R.A. (1966): Property Examination on the Dansey Group; Newspaper clipping on drilling on Dansey claims, undated; Plan of trenches (1":100') and preliminary I.P. survey map by A.R. Allen; Location map of percussion drilling, 1969; Field notes by P. McAndless; Transparency of geology outcrop map; Percussion-drill hole logs, 1969; *McAndless, P.M. (1970): B.Sc. Thesis on the Geology of the South Dansey Property)
EMPR BULL 56
EMPR MAP 30
EMR MP CORPFILE (North Pacific Mines Ltd.)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/23

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE035**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELM, CHES, MERSEY,
DIAMOND S, VERNON, COLIN,
HUMBER, AFTON, BO,
CRIK, ALF, ART,
PAT, ROY, LES**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:
LATITUDE: 50 58 22 N
LONGITUDE: 120 52 04 W
ELEVATION: 876 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of 3 adits along Criss Creek, about 24 kilometres north of the community of Savona (Assessment Report 20351).

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5648962
EASTING: 649698

COMMODITIES: Lead Molybdenum Zinc Silver Copper Gold

MINERALS

SIGNIFICANT:	Molybdenite	Tetrahedrite	Galena	Sphalerite	Chalcopyrite
ASSOCIATED:	Quartz	Carbonate	Pyrite		
ALTERATION:	Carbonate	Quartz	Mariposite	Malachite	Azurite
ALTERATION TYPE:	Quartz-Carb.				
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Nicola	Undefined Formation	
Jurassic	Undefined Group	Ashcroft	
Triassic-Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Volcanic
Listwanite
Diorite
Conglomerate
Dike
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	624.0000 Grams per tonne
Gold	0.5500 Grams per tonne
Copper	1.9200 Per cent
Lead	0.2700 Per cent

COMMENTS: A grab sample from a mineralized 15 centimetre shear.
REFERENCE: Assessment Report 13624.

CAPSULE GEOLOGY

Gold-silver mineralization is spatially associated with a small diorite plug of probable Triassic age, intruded into Upper Triassic Nicola Group volcanics. The Gold-Silver zone is hosted in a small listwanite unit (carbonate-quartz-mariposite schist) at the faulted contact between Nicola volcanics and Jurassic Ashcroft Formation conglomerate. The showing is located on a sharp bend in Criss Creek. The listwanite unit is up to 100 metres wide and isolated outcrops trace the unit over a strike length of 400 metres. Some narrow bands of unaltered peridotite were mapped nearby. There are also an unusually high concentration of fine grained, dark coloured trap

CAPSULE GEOLOGY

dikes adjacent to the diorite plug, cutting listwanite, conglomerate and Nicola volcanics. Variable amounts of pyrite, sphalerite, galena, chalcopyrite, tetrahedrite, malachite and azurite occur in quartz-carbonate veins and stringers within shear zones and the listwanite unit. The veins pinch and swell from mere stringers up to 0.9 metres. In the 1940s, the two best samples assayed 6.8 grams per tonne gold and 727.7 grams per tonne silver across 38 centimetres, and 4.4 grams per tonne gold and 534.7 grams per tonne silver across 76 centimetres (Geological Survey of Canada Memoir 249). Most of the opencuts, stripping and tunnelling and other surface work dating from the early 1900s was performed on this showing. In 1984, a grab sample from a 15 centimetre shear mineralized with sulphides analysed 0.55 gram per tonne gold, 624 grams per tonne silver, 0.27 per cent lead and 1.92 per cent copper (Assessment Report 13624).

In McGee Creek, about 500 metres upstream in Criss Creek from the Gold-Silver zone, molybdenum mineralization is associated with a small granitic body of Triassic-Jurassic age intrusive into Nicola Group volcanics. A strong shear well exposed in McGee Creek and in Nicola volcanics contains heavy pyrite mineralization and numerous quartz veins and stringers with strong but spotty molybdenite mineralization. This showing is referred to as the Molybdenum zone.

In 1901, a shaft was sunk for 6 metres and a drift run for 3.6 metres on one vein. Another vein had been stripped for 24 metres and drifted upon for 3 metres; a number of opencuts have also been made. This work was performed on the 'Gold-Silver zone'. The Diamond S. group of claims covered both showings and were owned by J. Smith of Red Lake, and W. Smith and W.J. Moffatt of Kamloops (ca. 1940s). The claims are re-stakings of older prospects, and from the descriptions it is believed that they may be the claims referred to in the Minister of Mines Annual Reports 1899-1902 under the names Mersey, Humber and Afton. In the late 1930s or early 1940s, the gold-silver showings along Criss Creek were prospected by D.B. Sterritt of Kamloops, and associates. In 1967, Newconex Canadian Exploration Ltd. conducted soil geochemical sampling on the Bo claim group comprising the Bo, Crik and Alf claims. In the same year, Silver Summit Mining Co. Ltd. dug 5 trenches totalling 157 metres on the adjoining Colin and Art claims. In 1968, North Slave Exploration Ltd. conducted a preliminary geological and geochemical survey and trenching over the Ches and Les claims. In this same year, by purchase from Silver Summit Mining Co. Ltd., Criss Creek Mines Ltd. performed geological mapping on the Art and Colin claims, 10 trenches totalling 1524 metres were bulldozed, 6 pits excavated and 2.4 kilometres of access road built. In 1969, Criss Creek Mines Ltd. carried out a soil geochemical and geological survey, 457 metres of trenching and 40 hectares of bulldozer stripping on the Les and Roy claims. In 1975-76, Craigmont Mines Limited conducted geological mapping, 30 kilometres of magnetic and EM-16 surveys and 8 percussion-drill holes totalling 625 metres. In 1978, the Elm claims now cover the property and geological mapping and rock and soil sampling was carried out by Noranda Exploration Company, Limited on behalf of J.D. Murphy. In 1983-84, an induced polarization survey was run over 350 metres, rock and soil sampling, and detailed geological mapping performed. In 1986, geological mapping and rock sampling was conducted by J.D. Murphy. In 1990, 1992 and 1994, geological mapping was performed by J.D. Murphy on the Elm claims. A soil sampling survey was completed in 1995 by J.D. Murphy.

BIBLIOGRAPHY

EMPR AR 1899-736,737; 1900-890; 1901-1090; 1902-H193; 1967-147,148; 1968-173,281
EMPR ASS RPT 1124, 1602, 2033, *7243, 11269, 12325, 13624, 15989, *20351, 22436, *22948, 23437, 24381
EMPR EXPL 1975-E92; 1976-E104; 1979-180
EMPR GEM 1969-240
GSC MEM *249, pp. 79,80
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/09/21

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE036**

NATIONAL MINERAL INVENTORY: 092115 Hg1

NAME(S): **COPPER CREEK**, YELLOW JACKET, J,
CINNABAR, COPPER CREEK NORTH, JAY (L.930),
BELLEVIEW (L.922), BRIAR (L.923), RED ROBE (L.924),
POLAR BEAR (L.925), EXCELSIOR (L.926), BIG HORN (L.927),
EUREKA (L.928), MOUNTAIN (L.929)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092115W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 47 32 N
LONGITUDE: 120 46 39 W
ELEVATION: 468 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5629074
EASTING: 656640

LOCATION ACCURACY: Within 500M

COMMENTS: Adits on the hillside west of Copper Creek, just north of the shoreline of Kamloops Lake, about 6 kilometres northeast of the community of Savona (Geological Survey of Canada Memoir 249).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT: Cinnabar
ASSOCIATED: Dolomite Chalcedony Quartz
ALTERATION: Ankerite
ALTERATION TYPE: Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated Shear
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

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
Porphyritic Basaltic Dike
Tuff
Diabase Sill

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Hostrocks of the Copper Creek cinnabar deposits comprise Upper Triassic Nicola Group green and purple volcanic breccias with interbedded tuffs that are intruded by diabase sills and brown weathering, porphyritic basaltic dikes. The brown weathering is attributed to ankerite alteration. Breccia fragments vary from 2 to 20 centimetres in average diameter and are set in a more finely fragmental tuffaceous matrix. The composition of the fragments is predominantly dark green basaltic rock which is occasionally finely porphyritic. The attitude and general contact relationships of well bedded tuffs indicate a northwesterly strike with moderate 20 degree northeast dips. The hostrocks exhibit widespread faulting.

Cinnabar mineralization is associated with dolomite veins and stringers that occur in fracture and shear zones within and related to the ankerite altered, porphyritic basaltic dikes. The dolomite veins range from a seam up to 1.2 metres thick but average 45 centimetres for the most persistent veins and are irregularly distributed in the fracture zones. Small amounts of chalcedonic quartz and, in some veins, stringers of more coarsely crystalline quartz occur. A small amount of tetrahedrite was reported in a quartz lens in the North workings. The cinnabar occurs as disseminations, thin films and small masses in dolomite veins. Old reports indicate that much of the mined cinnabar occurred as blebs or nodules of massive cinnabar within the dolomite.

The Copper Creek property was one of the early cinnabar discoveries in the province in the early 1890s. The first intensive work appears to have been done by an American company in 1894, when, in addition to a small amount of surface prospecting, an adit was driven 42 metres and a shaft and incline sunk for 15 metres and 9

CAPSULE GEOLOGY

metres respectively. In 1895, the Cinnabar Mining Company, Ltd. took over the deposits. This company did considerable exploratory work, erected two retorts and operated them for only a few weeks producing more than 100 flasks of mercury. The underground work done by this company appears to have constituted the bulk of the work done on the property. These workings are in three main groups; a South and Central group located at about 518 metres elevation, and a North group at about the same elevation but 800 metres north of the South group. Most of the production came from the South workings. In general, the workings consist of a labyrinth of drifts, crosscuts, raises and short shafts. Between 1896 and 1925 very little work was done on the property. However, in 1924, J. Fleetwood-Wells of the British Quicksilver Mining Company reopened the workings and operated for 3 years obtaining about 5 flasks of mercury. From 1927 to about 1940, the old retort and furnace had been dismantled and partly destroyed. In 1940, the property was leased by Kamloops Mercury Mines, Limited and some stripping was done and a short adit driven. In 1941, F.L. Gorse did prospecting work on the J claim and erected two pot retorts, with which a few pounds of mercury were recovered. The workings are badly caved and several sections of the adits and the stopes are inaccessible (ca. 1939). The most recent work was in 1967 when Newmont Mining Corp. of Canada Ltd. conducted geological mapping and rock sampling (158) from old workings and from 4 bulldozer trenches which were excavated during the exploration program.

BIBLIOGRAPHY

- EMPR AR 1891-574; 1892-540; 1893-1068; 1894-751; 1895-696; 1896-568; 1897-614; 1898-1104,1105; 1900-891,892; 1901-1080,1230; 1903-246, 248; 1909-139; 1910-129; 1913-184,194,195; 1918-237; 1924-149; 1925-167; 1926-185; 1927-198
EMPR ASS RPT 1753
EMPR BULL 5, pp. 33-45; 17, p. 25
EMPR PF (Sketch of Cinnabar mineral claims (Lots 922-930); Topographic maps with claim and showing locations; Geology sketch maps of underground and surface workings)
GSC ANN RPT 1894 Vol.VII, pp. 340B,341B
GSC MEM *249, pp. 87-93
GSC SUM RPT 1918 Part B, p. 19B
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET IR 687 (1926), pp. 53-56

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/31

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE037**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARDIE MOUNTAIN**, MERC, LEIER MERCURY

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092115W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 50 54 N
LONGITUDE: 120 46 32 W
ELEVATION: 985 Metres

NORTHING: 5635317
EASTING: 656589

LOCATION ACCURACY: Within 500M

COMMENTS: Area of opencuts and adits on the northwest slopes of Hardie Hill, about 11 kilometres north of the community of Savona (Assessment Report 16577).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT: Cinnabar
ASSOCIATED: Dolomite Quartz Calcite Pyrite
ALTERATION: Ankerite
ALTERATION TYPE: Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

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	

LITHOLOGY: Feldspar Porphyry
Dike
Felsite
Amygdaloidal Basalt
Andesite
Tuff
Volcanic Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Channel
YEAR: 1970

<u>COMMODITY</u>	<u>GRADE</u>
Mercury	0.1300 Per cent

COMMENTS: Average across a width of 3.8 metres of the entire breccia zone.
REFERENCE: Assessment Report 2467.

CAPSULE GEOLOGY

The cinnabar showings on the northwest slopes of Hardie Hill were discovered late in August 1895 by Messrs. McCartney and Irving and were known as the Hardie Mountain showings. These showings should not be confused with the Hardie Hill cinnabar showings (092INE058) located about 1000 to 1500 metres east and which were discovered later in the 1940s. The first underground work on the Hardie Mountain showings was commenced in 1896, and continued in 1898, but most of it was done in 1902 when five adits were driven aggregating 325 metres in length. It was reported that each of these adits showed low-grade ore, and that the opencuts above showed 2 to 3 per cent mercury ore. The last reported underground work on the property was done in 1909 when an adit 33 metres long was driven. There are no records of production. The adits were driven into the steep hillside to intercept reported opencut showings of cinnabar that occur on the more gently sloping hillside approximately 30 metres above the highest adit. The adits failed to reach points beneath any of the cuts or to intersect any cinnabar occurrences (Bulletin 5). The ground that includes the Hardie Mountain showings

CAPSULE GEOLOGY

at one time comprised the Crown-granted mineral claims Lots 949-959 and Lot 1736, and were owned by Hardie Cinnabar Mines, Limited. These lots reverted to the Crown and the surveys, field notes and plots of the claims were cancelled in 1939.

Prospecting of the area known as the Hardie Hill showings (092INE058), located about 1 kilometre east of the Hardie Mountain showings, was carried out by D.B. Sterritt and associates in 1940-41. Some bulldozer trenching was done during World War II; this work was unsuccessful and the claims lapsed.

Interest in the area revived in about 1957 and has been more or less continuously staked since that time with. The Merc claims were staked in 1966 and sold to L.J. Leier of Calgary. In 1968, the property was optioned to Jason Oils Limited who conducted a geological examination. In August 1968, Jason Oils Limited transferred their option agreement to Savanna Creek Gas and Oil Limited of Calgary. In 1969-70, Savanna Creek conducted soil geochemical and geological surveys on the Merc claims and the newly staked LA claims. In 1969, Savanna Creek conducted exploration on the LA 3 claim which covered the Hardie Hill showing (092INE058), located about 1000 metres east of the Hardie Mountain showings. In 1981, Placer Development Limited conducted a soil geochemical survey over the Jim claims which overlapped the Hardie Mountain and Hardie Hill showings. In 1982, D.A. Ward completed a soil survey over the Ward claims which covered the Hardie Hill showings. In 1984, D.A. Ward hand dug 10 trenches and constructed 1.5 kilometres of access trail on the Pearl claim which covered the Hardie Hill showings. In 1984, P. Peto conducted prospecting on the Hardie 1-8 claims which covered the Hardie Mountain showing (this description). In 1985, D.A. Ward performed prospecting and collected 100 rock samples on the Ward 1-8 claims which covered the Hardie Mountain showing. In 1986, D.A. Ward ran magnetometer surveys over the Ward claim group which covered both the Hardie Mountain and Hardie Hill (092INE058) showings. In 1987, D.A. Ward completed soil and rock sampling and 83 trenches totalling 518 metres on the Byrl claims which covered both the Hardie Mountain (this description) and Hardie Hill showings.

The Hardie Mountain cinnabar showings are primarily underlain by a series of Upper Triassic Nicola Group volcanic rocks that strike northerly and dip 30 degrees west. The rocks include dark coloured, fine grained and amygdaloidal basalts, light grey andesite, tuffs and volcanic breccias which are intruded by light coloured, fine grained felsites including feldspar porphyry and associated dikes. Many of the rocks have been partly ankeritized resulting in a rusty brown colour. Disseminated cinnabar occurs within and marginal to brecciated shear zones in or closely associated with the porphyry intrusions and particularly the dikes. The best concentrations of cinnabar are in pods of breccia at the junction of two or more shears. Breccia bands and most other lineal structured features in the area strike north-northwest and dip 60 degrees east-northeast. The breccia matrix to which most of the observed cinnabar is confined consists mainly of dolomite with lesser amounts of quartz and calcite. Disseminated pyrite is common marginal to the breccia bands and in the quartz component of the breccia matrix. In 1970, a channel sample across a width of 3.8 metres of a breccia zone yielded 0.13 per cent mercury (Assessment Report 2467).

BIBLIOGRAPHY

EMPR AR 1895-697; 1896-568; 1897-614; 1898-1104,1105; 1899-738;
1900-891; 1901-1080; *1902-H191,H192; 1908-J123; 1909-K141;
1910-K129; 1913-K196; 1916-K524
EMPR ASS RPT 1789, *1914, 1989, 2467, 13216, 13981, 15164, 15727,
*16577
EMPR BULL *5, pp. 45-48
EMPR GEM 1969-240; 1970-324
EMPR PF (Geology map of underground workings, 1942; Location map of
Crown-granted claims and underground workings)
GSC MEM *249, pp. 99,100
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/09

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE038**

NATIONAL MINERAL INVENTORY: 092110,11 Cu1

NAME(S): **GETTY NORTH**, GETTY, KRAIN,
KEYSTONE, CINDER HILL

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092110W 092111E
BC MAP:

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

LATITUDE: 50 34 15 N
LONGITUDE: 120 59 50 W
ELEVATION: 1722 Metres

NORTHING: 5604017
EASTING: 641821

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of deposit, on the eastern slopes of Forge Mountain, 10 kilometres west-southwest of Tunkwa Lake, 25 kilometres southeast of Ashcroft (Property File - Geology map). The Getty South (092INE043) lies 3 kilometres to the south.

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Molybdenite Malachite
Chrysocolla Cuprite Copper Chalcocite

COMMENTS: An oxidized cap contains malachite, chrysocolla, cuprite, native copper and chalcocite.

ASSOCIATED: Calcite Quartz Tourmaline
ALTERATION: Sericite Clay Chlorite Epidote Calcite
Malachite Chrysocolla Cuprite

COMMENTS: Also native copper and chalcocite.

ALTERATION TYPE: Argillic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Regular
MODIFIER: Faulted Fractured
DIMENSION: 450 x 400 x 200 Metres

STRIKE/DIP: 135/50S TREND/PLUNGE:

COMMENTS: Krain deposit.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Eocene
Triassic-Jurassic

GROUP
Kamloops

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Porphyry Dike
Breccia

HOSTROCK COMMENTS: Highland Valley phase (Guichon variety).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: NORTH

REPORT ON: Y

CATEGORY: Combined YEAR: 1998

QUANTITY: 72093000 Tonnes

COMMODITY: Copper GRADE: 0.3100 Per cent

COMMENTS: A global resource (drill indicated and inferred) of oxide and sulphide copper of the Getty North deposit. Includes 13,875,000 tonnes of 0.29 per cent copper (oxidized) and 44,405,000 tonnes of 0.37 per cent copper (sulphide). The oxidized resource includes 10,034,000 tonnes, grading 0.40 per cent copper. A mineable oxide reserve (SX-EW) is 5,821,000 tonnes of 0.46 per cent copper.

REFERENCE: Getty Copper Corp. website (<http://www.gettycopper.com/projects.html>).

CAPSULE GEOLOGY

The Getty North (Krain) deposit lies on the southern boundary of an extensive area of post-mineral cover consisting of continental volcanic and interbedded sedimentary rocks of the Eocene Kamloops Group which overlies plutonic rocks of the Late Triassic-Early

CAPSULE GEOLOGY

Jurassic Guichon Creek batholith. Mineralization occurs within quartz diorites of the Highland Valley phase (Guichon variety) of the Guichon Creek batholith, and within younger anastomosing dykes and small stocks. The dykes and stocks resemble quartz diorites of the Bethlehem phase of the batholith. The Kamloops Group rocks cover the northern half of the mineralized zone, and have protected an older oxidized cap as much as 100 metres thick.

The mineralized porphyry system occurs within a broad northwest trending zone that also contains the Bethlehem mine (092ISE001) approximately 10 kilometres south. This broad zone is characterized by numerous subparallel northwest trending porphyry dykes, as well as by prominent fracture-related, but non-pervasive, chlorite-epidote-chalcopyrite +/- pyrite +/- bornite hydrothermal vein and fracture selvage assemblages. Smaller zones of pervasive chlorite-clay alteration, some containing strong chalcopyrite mineralization, occur frequently at the margins of porphyry dykes.

Mineralization and alteration are closely associated with an elongate 1000 by 200 metre dyke-like stock, which is unroofed within a small area at the centre of the deposit. The unroofed portion appears to be an abrupt cupola-like projection which developed above the stock. To the northwest and southeast along strike, the apex of the stock plunges gently away from the high point at Krain and the lateral contacts dip about 70 degrees southwestward. Fracturing, brecciation, alteration and mineralization are all most strongly developed in and around the central cupola-like core, and along the upper surface of the stock.

Well-defined zonal patterns of primary sulphide mineralization and argillic alteration have been recognized around the core area. Within the core and near the contacts of the stock, chalcopyrite-bornite assemblages are found associated with molybdenite-bearing quartz veinlets. Peripheral to this mineralization, chalcopyrite-pyrite assemblages occur in fracture stockwork fillings in which pyrite becomes more abundant outward, both within the wallrocks and the stock. Maximum total sulphide content is about 5 per cent and occurs in a zone approximately coincident with the outer limit of 0.1 per cent copper grades. The deposit measures 400 metres long by 300 metres wide and extends to 450 metres depth. In plan view, the deposit is triangular with the known apex to the southeast. The zone appears to be cut off by a fault to the northwest; the northeast and south boundaries are near vertical.

Fractures and faults are prominent. The areas of highest fracture density, which are adjacent to the stock, are also the zones of best mineralization. Sets of steeply dipping northeast and north trending faults are dominantly post-mineralization. Kamloops Group rocks are restricted almost entirely to down-faulted blocks, where vertical offsets have been substantiated by drill data.

Associated zoned argillic alteration is pervasive and diminishes outward from sericite-clay-chlorite assemblages in the core, through clay-chlorite and chlorite assemblages in the chalcopyrite zone, to chlorite-epidote assemblages in the pyrite zone. Beyond the approximate outer limit of 0.05 per cent copper grades, argillic alteration is no longer pervasive, although propylitic (chlorite-epidote) alteration forms pronounced fracture selvage halos which gradually diminish to fracture coatings over transition zones as much as 1000 metres wide. Disseminated calcite forms as much as 5 per cent of the more highly altered and better mineralized rocks and is believed to have greatly influenced the migration of copper at the time of oxidation (Canadian Institute of Mining and Metallurgy Special Volume 15).

The oxidized cap, as much as 100 metres thick, is covered by post-mineralization Kamloops Group rocks. Hypogene sulphides within this cap have been totally destroyed. In contrast, sulphides occur at surface within the southern part of the deposit, where Pleistocene glaciation has removed most of the oxidized zone. The overall average oxide copper grade is about 20 per cent higher than the overall average hypogene copper grade, suggesting that copper enrichment has occurred within the cap. Malachite is the most abundant copper mineral, but chrysocolla and a black waxy copper oxide of dendritic habit (neotocite? copper manganese?) are common. These minerals form very prominent fracture coatings, some of which are botryoidal, and also fill cavities previously occupied by sulphides. Minor cuprite and disseminated native copper are found most commonly in the outer parts of the deposit. Chalcocite occurs in minor amounts as thin coatings on corroded grains of sulphide within a narrow zone, extending through the lower metre of oxidized rock to the upper few metres of the primary sulphide zone. Chalcocite is not sufficiently abundant to contribute appreciably to the grade of the deposit, and does not account for the slight enrichment of the oxidized zone over primary grade (Canadian

CAPSULE GEOLOGY

Institute of Mining and Metallurgy Special Volume 15).

Unlike most copper deposits within the Guichon Creek batholith, the Krain deposit displays a strong genetic relationship with a small stock which, in this case, intrudes Guichon quartz diorite. Texturally, the stock resembles the Bethlehem phase of the batholith, and a cupola-like part of it forms a core about which are developed strong zonal patterns of fracture intensity, sulphide and hydrothermal alteration mineralogy, and copper grade. Mineralized rocks were deeply oxidized prior to burial during Early Tertiary time. Despite total destruction of sulphides within a thick oxidized cap, very little secondary chalcocite enrichment resulted. Conversely, the oxidized cap itself appears to have become enriched in copper. This enrichment is interpreted to result from the reaction of available hydrothermal calcite to precipitate copper from acid solutions produced during the oxidation process. Downward migration of copper was thereby retarded and, ultimately, with continued weathering and oxidation, the oxidized zone became slightly enriched (Canadian Institute of Mining and Metallurgy Special Volume 15).

The showing was originally staked in about 1907 by Messrs. Novak, Johnson, Fraser, and Cowans as the Keystone group of 6 claims and fractions. Exploration work was done in two adits at the same elevation and about 42 metres apart; one was driven 8.5 metres, the other 7.6 metres. In 1955, Farwest Tungsten Copper Mines Limited and Beaver Lodge Uranium Mines Limited jointly staked and optioned 21 claims and fractions in the Krain, D.W. and R.K. groups. Under the terms of the agreement a new company, Krain Copper Ltd., was incorporated in November 1956. Exploration work was concentrated on the Krain Copper claims, which were a relocation of the Keystone group. Exploration work during 1955-56 included trenching, geochemical soil sampling, a magnetometer survey and 2188 metres of diamond drilling. Kennco Explorations (Canada) Limited, through its subsidiary Northwestern Explorations, Limited, optioned the property in 1957. Work, mainly on the R.K. group, included trenching, geochemical and geophysical surveys, and 193 metres of diamond drilling in one hole. The option was dropped late in 1958. In 1960, Rio Tinto Canadian Exploration Limited obtained an option and carried out a geophysical survey and 161 metres of diamond drilling in one hole. North Pacific Mines Ltd. optioned the property from Krain Copper Ltd. in 1965. Work included 8 diamond-drill holes totalling 2349 metres and 17 percussion holes totalling 806 metres. Canex Aerial Exploration Ltd. held a sub-option until July 1966 and completed 1030 metres of diamond drilling in 16 holes. Krain Copper Ltd. changed its name in 1966 to Krain Copper Resources Ltd. and in May 1966 amalgamated with Comet Mining Corporation Ltd. to form Comet Krain Mining Corp. North Pacific Mines Ltd. purchased an approximate 50 per cent interest in the company in 1967. An option was granted to the "Shulman Syndicate" which carried out 1444 metres of diamond drilling in 4 holes to test for mineralization under the volcanic cap at the northerly end of the deposit. Work during 1969 was carried out under an agreement with Brameda Resources Limited and Noranda Exploration Company, Limited, and included geochemical and geophysical surveys, and 293 metres of percussion drilling in 7 holes. Work during 1970 included percussion drilling (1153 metres in 24 holes) in the known oxide zone to obtain samples for leaching tests. A feasibility study was also carried out. The company name, Comet Krain, was changed in 1971 to Comet Industries Ltd. Getty Mining Pacific, Limited, a subsidiary of Getty Oil Company, Los Angeles, optioned the property in 1971. Work by Getty during the period 1971-72 inclusive included induced polarization surveys over 27 line kilometres, resistivity surveys over 9 line kilometres and a geochemical survey (100 samples) over the Krain claims. Diamond drilling totalled 1390 metres in 5 holes in 1971-72, and a further 821 metres in 1973. Percussion drilling totalled 2143 metres in 23 holes. The Getty option agreement terminated in January 1974.

In 1972, tonnage and grade estimates were made at Krain, including all areas of mineralization that could be recovered from a single open pit 250 metres deep, using a 0.3 per cent copper cutoff grade. The calculations indicated a total reserve of 14 million tonnes grading 0.56 per cent copper and 0.01 per cent molybdenum. Of this total, about 9.1 million tonnes averaging 0.53 per cent copper contain primary sulphides, and 4.9 million tonnes grading approximately 0.64 per cent copper contain secondary copper carbonates and oxidation products. (Christie, J.S. (1976), in CIM Special Volume 15).

The ground was apparently restaked in about 1974 as the Getty 1-24 and Getty A Fr., the deposit being on the Getty 1-4 and Getty A Fr. The property was reportedly owned in 1975 by John Lepinski. Percussion drilling in 3 holes totalling 171 metres was carried out

CAPSULE GEOLOGY

on Getty 17 and 19, about 1 kilometre south of the mineralized zone. In 1976, the property was reportedly owned by Robak Industries Ltd. Work carried out by W.R. Financial Consultants Ltd. included 540 metres of percussion drilling in 7 holes. TRV Minerals Corporation optioned the property from Robak Industries in May 1980. Work in the period 1978-82 by TRV or its associates W.R. Financial Consultants and New Minex Resources, included 302 metres of diamond drilling in one hole and a magnetometer survey over 90 kilometres on the Krain and adjacent Trojan properties. Robak in 1984 carried out a geochemical survey comprising 119 soil, 6 rock and 3 silt samples over the Krain property and the Transvaal property (092INW040) adjacent to the west.

Work by Getty Copper Corp. during the period January 1, 1993 to November 30, 1997 on the Getty North deposit included 35,927 metres of diamond drilling in 142 holes. The deposit has been systematically drilled on northeast-oriented sections established 30 metres apart. The most recent resource calculation (January 1998) yielded an estimate of 72,093,000 drill indicated and inferred tonnes grading 0.31 per cent copper, which includes approximately 13,875,000 tonnes of oxidized material having an average grade of 0.29 per cent copper, and also 44,405,000 tonnes of sulphide-copper bearing rock having an average grade of 0.37 per cent copper. The oxidized resource includes approximately 10,034,000 tonnes having an average grade of 0.40 per cent copper. A mineable oxide reserve (SX-EW) is 5,821,000 tonnes of 0.46 per cent copper (WWW <http://www.gettycopper.com/projects.html>).

BIBLIOGRAPHY

- EMPR AR 1907-L136; 1917-F225; 1925-A179,A180; 1955-37; 1956-43; 1957-24; 1958-21,67; 1960-25; 1965-145,146; 1966-151; 1967-149-151; 1968-176
- EMPR ASS RPT 172, 207, 213, 1917, 2227, 5541, 5913, 7502, 10544, 12902, 15205, 17974, 19858, 20232, 20233, 22481, 22725, 23340, 23712, 24196, 24371, 24476, 24691, 24692, 25048, 25211, 25284, 25583, 26873
- EMPR BULL 56; 62
- EMPR EXPL 1975-E90; 1976-E102; 1979-178; 1982-208; 1984-215,216; 1996-D2; 1997-37; EM EXPL 1998-57-64; 2000-37; 2001-39
- EMPR FIELDWORK 1974, pp. 27-34; 1983, pp. 233-239; 1984, pp. 419-425
- EMPR GEM 1969-259; 1971-363-369; 1972-224; 1973-205,206
- EMPR INF CIRC 1997-1, p. 27; 1999-1, pp. 8,11
- EMPR MAP 30; 48; 65 (1989)
- EMPR OF 1992-1
- EMPR PF (Claim location maps; Christie, J.S. (1972, 1976): Krain, Highland Valley Project; Hansen, D.A. and Barr, D.A. (1959): Exploration Case History of a Disseminated Copper Deposit; Dujardin, R.A. (1967): Notes on the Krain Property; Geology maps, drill logs and drill sections; see 092ISE001, Geological maps of the Highland Valley Area, 1966; *Getty Copper Corp. 1996 Annual Report; 1997 Cordilleran Roundup abstract; Preto, V.A. and Perry, B.J. (1998): A Geological Overview and Progress Report to December 31, 1997, 12 p.; various 1997/1998 news releases and Website material; Field Geology map of Krain and area; 1996 IP Survey Compilation by Watts, Griffis and McQuat Limited; Report on the holdings of North Pacific Mines Ltd. by Allen Geological Engineering Ltd.)
- EMR MIN BULL MR 223 B.C. 146
- EMR MP CORPFILE (Krain Copper Resources Ltd.; Comet-Krain Mining Corp.; North Pacific Mines Ltd.; Getty Mining Pacific, Limited; New Minex Resources Ltd.; TRV Minerals Corporation)
- GSC MAP 886A; 887A; 1010A; 9-1963; 1394A; 42-1989
- GSC MEM 249; 262
- GSC OF 165; 980; 2167, pp. 99,101; 2490
- GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
- CIM Special Volume *15, pp. 85-104, 182-185 (1976)
- GCNL #91, 1976; #34(Feb.18),#50(Mar.12),#73(Apr.16),#101(May 27), #131(Jul.9), #174(Sept.10), #175(Sept.11), #206(Oct.27), #215 (Nov.7), #223(Nov.20), #226(Nov.25), 1997; #16(Jan.23),#98(May22), 1998
- MIN REV Fall 1998, p. 61
- N MINER *Mar.10, *Apr.18,28, 1997 (Insert); May 4, 1998
- PR REL Getty Copper Corporation, Nov.27, 1996; Feb.14, Mar.10, Apr.14, June 10, July 7, Sept.3, 29, Oct.22, Nov.21, 1997; Jan.20, May 19, 1998; July 14, 1999
- WWW <http://www.gettycopper.com/projects.html>;
<http://www.infomine.com/>
- Getty Copper Corporation Annual Reports 1996, 1998
- *Preto, V.A. and Perry, B.I. (1998): Geological Overview and Progress to December 31, 1997, Getty Copper Corporation website Aug. 1998

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 107
REPORT: RGEN0100

BIBLIOGRAPHY

The Prospector May/June 1997
STOCKWATCH May 23, 2002

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/26

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE039**

NATIONAL MINERAL INVENTORY: 092110 Hg1

NAME(S): **TUNKWA LAKE, MERCURY, TOONKWA, TUNKWA, TOON KWA, SUMMIT, RIDGE, BULL HORN, O.K., CINNABAR, MODEL, ANNE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092110W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 36 32 N
LONGITUDE: 120 49 06 W
ELEVATION: 1173 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5608605
EASTING: 654363

LOCATION ACCURACY: Within 500M

COMMENTS: Old shafts and opencuts along the shore of a shallow pond, 2 kilometres east of Tunkwa Lake, about 16 kilometres south of the village of Savona (Assessment Report 20034).

COMMODITIES: Mercury Antimony Copper Silver

MINERALS

SIGNIFICANT: Cinnabar Stibnite Tetrahedrite Chalcopyrite
ASSOCIATED: Dolomite Quartz
ALTERATION: Ankerite Dolomite Silica Malachite Azurite
ALTERATION TYPE: Carbonate Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

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: Andesitic Tuff
Andesite
Siltstone
Andesitic Agglomerate
Sandstone
Rhyodacite Dike
Diorite Dike
Amygdaloidal Andesite Flow
Feldspar Porphyry Andesite Flow
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

Mercury showings of the Savona Mercury Belt are associated with faulted, carbonate and/or silica altered zones within Triassic or Jurassic metasediments or metavolcanics and are spatially related to Tertiary intrusions. The Tunkwa Lake mercury prospect is believed to cap one of these Tertiary bodies and is thought to represent the upper, low temperature horizon of an epithermal system that could carry precious metal values at depth. Most of the recent work on the showing has focused on this potential.

The Tunkwa Lake property is underlain by north striking and moderately east dipping Upper Triassic Nicola Group andesitic metavolcanics with intercalated siltstone, sandstone, argillite and occasional limestone units. The volcanics comprise andesitic agglomerates, and amygdaloidal and feldspar porphyry andesite flows. The Nicola rocks are locally cut by diorite dikes and later rhyodacite dikes. Several faults are believed to pass through the property. Wide zones of brecciated rock or gouge, pervasively carbonate and/or silica replaced, mark the trace of the larger faults on surface. Elevated mercury, antimony and arsenic values accompany late ankerite, dolomite and quartz veinlets and pervasive low temperature silica replacement to depths of at least 125 metres within one major fault zone, but precious metal values are uniformly low.

CAPSULE GEOLOGY

The most intense carbonate/silica alteration occurs at the Tunkwa Lake showing where the metavolcanics have been highly fractured and brecciated by a fault zone. A banded andesitic tuff is altered to ankerite and veined with dolomite. The carbonate zone is mineralized with disseminated stibnite, tetrahedrite, chalcocopyrite, malachite and azurite with cinnabar occurring as thin films and small masses in dolomite and quartz veins. Zones of silica replacement occur up to 5 metres in width with several small silicified breccia zones mended with chalcedony.

The Toonkwa claim was staked in about 1899 and although its exact location has not been given, it is believed to have been staked on this showing. A small amount of development work was done from 1899 through 1902. The showing was apparently staked again in about 1913 as the Summit claim by Hardie Cinnabar Mines Ltd. Development work done up to this point consisted of opencuts and a shallow shaft. The 6-metre shaft continues at the bottom as an incline shaft. Toonkwa Quicksilver Mines staked five claims in about 1934 and although their location is indefinite they are believed to have been located on this property. It was reported that two retorts were installed and some samples of mercury produced at this time. The property was restaked in 1937 as the Ridge and Bull Horn claims, owned by W.A. and Mrs. Jane Ferguson. The claims lapsed in September 1937. Restaked by J.B. and D.J. McDonald as the O.K. and Cinnabar claims, these were allowed to lapse in May 1938. The property was apparently restaked by G.F. Dickson in 1939. McLelland on a field trip to the property in November 1939 reported two retorts in operation. During 1940, Messrs. Sterritt and Hardie joined Dickson in the operation and about 45 kilograms of mercury were produced by the end of the year. The operation continued into 1941, most of the production coming from a cut driven to the east of the shaft. In 1981, the Model claims were staked to cover the Tunkwa showing which was considered to have potential as an epithermal gold prospect. The property was subsequently optioned to Placer Development Ltd. (1981-84), to Lacana Mining Corporation (1984-85) and to Mad River Resources Inc. (1988-89). Work by Placer Development in 1981 consisted of a widely spaced soil (471 samples) geochemical survey yielding inconclusive results. In 1984, Lacana Mining conducted geological and geophysical (VLF-EM and magnetometer) surveys over the immediate mercury showing, and in September of that year drilled 5 diamond-drill holes totalling 405 metres; gold mineralization was not found and the option was terminated. During 1988 and early 1989 expanded geochemical (409 soil samples), geophysical (14.7 kilometres of VLF-EM and magnetometer) and geological surveys were conducted over the Model and Anne claims which covered the showing. In 1989, Mad River Resources Inc. completed 7 percussion-drill holes totalling 733 metres on a highly fractured, carbonate/silica altered fault zone but no significant precious metal values were discovered.

BIBLIOGRAPHY

EMPR AR 1899-738; 1900-892; 1901-1080; 1902-H192; 1913-K424
EMPR BULL 5, pp. 57-59
EMPR ASS RPT 2178, 10126, 14596, *18455, *20034
EMPR PF (92INE General File - Prospectus, Mad River Resources Inc.,
Sept.6, 1989 - Update on the Model Property)
GSC MEM *249, pp. 83-85
GSC SUM RPT 1918 Part B, p. 20B
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE040**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAB**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 54 N
LONGITUDE: 120 53 05 W
ELEVATION: 1158 Metres

NORTHING: 5599883
EASTING: 649911

LOCATION ACCURACY: Within 500M

COMMENTS: Location of drillholes just south of Axe Creek, 8 kilometres south of Tunkwa Lake, about 24 kilometres south of the community of Savona (Assessment Report 3459).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP
Upper Triassic	Nicola
Triassic-Jurassic	

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER
Guichon Creek Batholith

LITHOLOGY: Mafic Intrusive Rock
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Dab property lies close to the northwest trending contact between Upper Triassic Nicola Group volcanics to the east from intrusive rocks of the Late Triassic-Middle Jurassic Guichon Creek batholith to the west. In this area Guichon rocks appear to be quartz diorite of the Hybrid phase.

Very low grade copper mineralization (inferred to be disseminated chalcopyrite) occurs in mafic intrusive rocks (Nicola?). The mineralization was found by drilling but is not reported in assessment reports (W.J. McMillan, 1970).

In 1967, an aeromagnetic survey was conducted over some of the Dab claims on behalf of Alwin Mining Company Limited and in 1968-69 a soil geochemical survey (969 samples) was run over 28 kilometres of grid.

BIBLIOGRAPHY

EMPR ASS RPT 1166, 1585, 1787, 2069, 3459
EMPR BULL 56
EMPR GEM 1969-250
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE041**

NATIONAL MINERAL INVENTORY:

NAME(S): **LODGE**, SD, OTRIDER,
KB, BAY, DAVE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

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

LATITUDE: 50 31 19 N
LONGITUDE: 120 58 53 W
ELEVATION: 1475 Metres

NORTHING: 5598611
EASTING: 643090

LOCATION ACCURACY: Within 500M

COMMENTS: Percussion-drill hole collar located 500 metres north of the waste dump of the Bethlehem mine and 750 metres northwest of Bose Lake, about 11 kilometres west of the community of Logan Lake (Property File - Drillhole location map).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
ASSOCIATED: Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Lodge showing area is underlain by Guichon variety quartz diorite of the Late Triassic-Middle Jurassic Guichon Creek batholith which has been cut by dikes and irregular bodies of younger quartz diorite. Low grade copper mineralization has been found at several places on the property in or closely associated with north-south faults. In 1974, Bethlehem Copper Corporation drilled 2 percussion holes which intersected granodiorite of the Guichon Creek batholith. Mineralization is rare and consists of occasional specks of pyrite, chalcopyrite and molybdenite.

In 1956, a soil geochemical and ground magnetometer (42 kilometres) survey was performed on some of the Lodge claims on behalf of Northlodge Copper Mines Limited. In 1957, the Lodge group of claims was optioned by American Smelting and Refining Company Ltd. which drilled 10 rotary-drill holes totalling 438 metres and constructed 2.4 kilometres of road. Three short rotary test holes were drilled in 1958 by American Smelting and work by Northlodge consisted of geochemical and geophysical prospecting. In 1960, 11 kilometres of induced polarization was run on the Lodge and KB claims groups on behalf of Northlodge Copper Mines Ltd. and Beaver Lodge Mines Ltd. In 1960, the Lodge group of claims was optioned for a time by Rio Tinto Canadian Exploration Limited which did geophysical and geochemical surveying and drilled one hole 172 metres in length. In 1963, an induced polarization survey (13 kilometres), geological mapping and bulldozer trenching was carried out over the Lodge, SD and Dave claims on behalf of Huestis Mining Corporation Limited. In 1973, Valley Copper Mines Limited conducted 29 kilometres of induced polarization survey on the Outrider, Lodge, SD, KB and Bay claims. In 1974, on behalf of Valley Copper Mines Limited, Bethlehem Copper Corporation put down two percussion-drill holes totalling 213 metres on the SD 5 and Lodge 13 claims and Cominco Ltd. completed 3.6 kilometres of induced polarization survey on the SD 5,6 and Lodge 13,14 claims.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 112
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1957-24,26; 1958-22,68; 1965-147,148; 1967-156
EMPR ASS RPT 120, 167, 337, 512, 4724
EMPR GEM *1973-203,204; *1974-153
EMPR PF (*Drillhole location map, 1974)
EMPR BULL 56
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE042**

NATIONAL MINERAL INVENTORY:

NAME(S): **BX, WJ, COW,
BOB, STAR, B.X.**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

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

LATITUDE: 50 30 38 N
LONGITUDE: 120 56 06 W
ELEVATION: 1387 Metres

NORTHING: 5597436
EASTING: 646413

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches at the common posts for the BX 1-4 claims, 2.5 kilometres east of Bose Lake, about 7 kilometres west of the community of Logan Lake (Assessment Report 246).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite			
ASSOCIATED:	Pyrite	Calcite	Hematite	Quartz	Epidote
ALTERATION:	Chlorite	Malachite	Azurite	Chrysocolla	
ALTERATION TYPE:	Chloritic		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY
Copper

YEAR: 1958

GRADE
0.8000 Per cent

COMMENTS: Sample across 3.3 metres.
REFERENCE: Assessment Report 246.

CAPSULE GEOLOGY

The BX showing area is underlain by quartz diorite (Guichon variety) of the Late Triassic-Middle Jurassic Guichon Creek batholith which in places are cut by finer dike rocks correlated with the Witches Brook phase of the batholith.

A long, north trending, altered shear zone has been exposed by trenching on the original BX claims. The shear zone is at least 762 metres long and 122 metres wide. The altered rock is chlorite rich and the shear zone is surrounded by partially brecciated, sheared, weathered or decomposed quartz diorite. Calcite veinlets, rich in iron, run through the area giving rise to considerable rust staining. Hematite, quartz and epidote veinlets (up to 7 centimetres wide) are also present. In the BX trenches, chalcopyrite and bornite predominantly occurs in fine veinlets striking north and dipping about 45 degrees west. Associated vein minerals include malachite, generally associated with soft chloritized zones, and azurite with minor chrysocolla confined to more siliceous areas. Pyrite is generally associated with the chalcopyrite and is more abundant. The veins were followed for a couple of hundred metres and are fairly continuous. Diamond drilling on the shear zone intersected mineralization ranging from 0.5 to 2.5 per cent copper across widths of 1.2 to 7 metres (Geology, Exploration and Mining in British Columbia 1969). A rock sample from one of the trenches across 3.3

CAPSULE GEOLOGY

metres yielded 0.8 per cent copper (Assessment Report 246). Previous to 1958, the showing was trenched by B.X. Mining Company. In 1958, the Bob, Star, B.X. and Cow groups of claims were optioned by Noranda Exploration Company Limited and work consisted of a ground electromagnetic survey and geological mapping. Some bulldozer trenching was done on the showing on the B.X. claims and 8 kilometres of road was constructed; the options were dropped at the end of the summer. In 1965, an induced polarization survey (15 kilometres) was completed on the Cow claims on behalf of The Consolidated Mining and Smelting Company of Canada Limited. In 1969, work done on behalf of Laura Mines Limited on the WJ claims, which covered the BX showing, consisted of 93 kilometres of line cutting, 1567 soil samples, 93 kilometres of ground magnetometer survey, 43 kilometres of induced polarization survey, geological mapping, 4 trenches totalling 152 metres were bulldozed and 9 diamond-drill holes totalling 853 metres were put down.

BIBLIOGRAPHY

EMPR AR 1958-22,24
EMPR ASS RPT 244, *246, 631, 2187, 2188
EMPR GEM *1969-268
EMPR BULL 56
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE043**

NATIONAL MINERAL INVENTORY: 092110 Cu5

NAME(S): **GETTY SOUTH**, TROJAN, SOUTH SEAS,
GETTY, BILL NO.3 (L.5603), BILL NO.6 (L.5606),
CN, CANOPUS

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092110W 092111E
BC MAP:
LATITUDE: 50 32 29 N
LONGITUDE: 120 59 35 W
ELEVATION: 1615 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Getty South deposit (Getty Corporation diagram, http://www.gettycopper.com/projects_map3.html). Original Trojan workings were located on the boundary of Crown grant lots Bill No.3 (Lot 5603) and Bill No.6 (Lot 5605), near their common east corner (Report on Trojan Consolidated Mines Ltd., Hill, H.L., 1957). The Getty North deposit (092INE038) lies 3 kilometres to the north.

Underground
MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5600751
EASTING: 642205

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Copper Malachite Chrysocolla
Azurite Tenorite
ASSOCIATED: Calcite Quartz Tourmaline Specularite Biotite
ALTERATION: Chlorite Epidote Calcite Clay
ALTERATION TYPE: Propylitic Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Stockwork
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
SHAPE: Regular
MODIFIER: Faulted Fractured
DIMENSION: 580 x 260 Metres STRIKE/DIP:
COMMENTS: Chalcopyrite occurs as stringers and coarse blebs within the breccia. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene Triassic-Jurassic	Kamloops	Undefined Formation	Guichon Creek Batholith

LITHOLOGY: Quartz Diorite Breccia
Quartz Diorite
Feldspar Porphyry
Quartz Diorite Porphyritic Dike
Dacite Dike

HOSTROCK COMMENTS: Highland Valley phase (Guichon variety).

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SOUTH REPORT ON: Y
CATEGORY: Indicated YEAR: 1996
QUANTITY: 719500 Tonnes
COMMODITY _____ GRADE _____
Copper 1.4100 Per cent
REFERENCE: Northern Miner - March 10, 1997 (insert).

ORE ZONE: SOUTH REPORT ON: Y
CATEGORY: Measured YEAR: 1996
QUANTITY: 36000000 Tonnes
COMMODITY _____ GRADE _____
Copper 0.4700 Per cent
COMMENTS: Open pittable oxide and sulphide mineralization of the Getty South deposit.
REFERENCE: Northern Miner - March 10, 1997 (insert).

CAPSULE GEOLOGY

The Getty South deposit lies on the southern boundary of an extensive area of post-mineral cover consisting of continental volcanic and interbedded sedimentary rocks of the Eocene Kamloops Group which overlie plutonic rocks of the Late Triassic-Early Jurassic Guichon Creek batholith.

The deposit occurs within a broad northwest trending zone which is host to a number of mineralized porphyry systems including the Getty North deposit (092INE038), 3 kilometres to the north, and the Bethlehem mine (092ISE001, approximately 5 kilometres south). Typically, mineralization occurs within quartz diorites of the Highland Valley phase (Guichon variety) of the Guichon Creek batholith, and within younger anastomosing dikes and small stocks. The dikes and stocks resemble quartz diorites of the Bethlehem phase of the batholith. The Kamloops Group rocks cover the northern half of the mineralized zone, and have protected an older oxidized cap as much as 100 metres thick.

This mineralized zone is characterized by numerous subparallel northwest trending porphyry dikes, as well as by prominent fracture-related, but non-pervasive, chlorite-epidote-chalcocopyrite +/- pyrite +/- bornite hydrothermal vein and fracture selvage assemblages. Smaller zones of pervasive chlorite-clay alteration, some containing strong chalcocopyrite mineralization, occur frequently at the margins of porphyry dikes.

The Getty South deposit, previously known as the Trojan or South Seas deposit, occurs within a breccia zone just east of a major, north striking regional fault. The breccia-hosted deposit is elliptical in shape and measures 575 by 550 metres. The deposit is hosted in Guichon variety quartz diorite, intruded by dacite and quartz diorite porphyritic dikes, and is cut by widespread faulting. The breccia consists of fragments of quartz diorite and feldspar porphyry set in a matrix of finely broken rock, specular hematite, tourmaline, brown biotite, quartz and calcite. Chalcocopyrite occurs as stringers and coarse blebs in the breccia matrix. Bornite, native copper, malachite, chrysocolla, azurite and tenorite have also been reported.

The showings were staked prior to 1903 as the Albatross group and were developed by trenches and two short adits. The claims were restaked in 1915 as the Canopus group but no exploration work was reported. Trojan Exploration acquired the property in 1955 and became Trojan Consolidated Mines Ltd. in 1956. Work from 1955 to 1958 included geophysical surveys, a shaft to 49 metres with 268.5 metres of crosscutting and surface diamond drilling of 8934 metres in 44 holes. The property was under option to Newmont Mining Corporation in 1959 and 3 holes totalling 458 metres were completed. By August 1959, Rio Tinto Canadian Exploration Limited optioned the property and conducted an IP survey and diamond drilled one hole for 103.6 metres. Trojan resumed operation in 1960 and from 1961 to 1962, diamond drilling was done underground in 14 holes totalling 598.3 metres and on surface 6 holes were completed totalling 580 metres. South Seas Mining Limited purchased 57 claims from Trojan in 1962 and excavated 408.4 metres of crosscuts and drifts in 1963. The Mitsui Mining and Smelting Company, Limited optioned the property in 1964 and 4033.8 metres of diamond drilling was done in 23 holes. South Seas extended the underground workings during 1966-67 by 787.9 metres. Phelps Dodge Corporation optioned the property in 1968 and carried out 358.7 metres of underground development, 1242.9 metres of surface diamond drilling, 291.4 metres of underground diamond drilling and an IP survey. The option was dropped later in 1968. Pechiney Development Limited optioned the property and from 1969 to 1970 drilled 2945.4 metres in 18 diamond-drill holes and 588.2 metres in 8 percussion-drill holes. Leemac Mines Ltd. optioned a 70 per cent interest from South Seas in 1972 and drilled 50 percussion-drill holes totalling 1708.3 metres. The option expired in 1974. The property changed hands several more times in the 1970s and 1980s with the only work reported being a 1982 magnetometer survey conducted by TRV Minerals Corporation covering this zone and the Krain (Getty North) deposit (092INE038).

Getty Copper Corporation acquired the claims at some point prior to 1995 and resumed exploration on the Getty South in 1996. In 1996, Getty drilled 13 diamond-drill holes totalling 3236 metres. During 1997, the company conducted a 1500 metre bedrock trenching program which was reported to have encountered extensive oxidized mineralization of excellent grade, along with smaller exposures of fresh, high grade, copper sulphide mineralization.

More than 15,000 metres of diamond drilling and 1775 metres of underground development by previous operators has determined an initial deposit of 36 million tonnes of open-pit mineable oxide and sulphide mineralization grading 0.47 per cent copper. Included in this deposit is 719,500 tonnes grading 1.41 per cent copper in three

CAPSULE GEOLOGY

zones previously defined within the underground workings. The reserves were estimated by Gower, Thompson and Associates in 1992, and later confirmed by independent consultants Watts, Griffis and McQuat in 1996 (Northern Miner - March 10, 1997 (insert) and Getty Copper Corp. website, <http://www.gettycopper.com/projects.html>).

Please refer also to the Getty North deposit (092INE038), located 3 kilometres north, for further details and related bibliographic references.

BIBLIOGRAPHY

- EMPR AR 1902-194; 1907-136; 1915-274; 1955-36; 1956-43; 1957-24,26;
1958-21; 1959-29; 1960-25; 1961-30; 1962-47; 1963-44; 1964-85;
1966-152; *1967-151; 1968-177
EMPR ASS RPT 120, 167, 224, 342, 2788, 10544, 22481, 24692, 25048,
25284
EMPR EXPL 1982-208
EMPR GEM 1969-266; 1970-352; 1972-221
EMPR PF (Trojan Exploration Limited, Surface Assay plan (undated);
Claim location map; see 092ISE001, Geological maps of the
Highland Valley Area, 1966; Report by H.L. Hill, 1957; see Getty
North (092INE038) for related material)
EMPR MAP 30
EMPR BULL 56
EMR MP CORPFILE (Trojan Consolidated Mines Ltd; South Seas Mining
Ltd.; B.X. Development Limited; Leemac Mines Ltd.; Oxbow Resources
Ltd.; New Minex Resources Ltd.; T.R.V. Minerals Corporation)
EMR MP RESFILE (Trojan)
CANMET IR 58, p. 119 (floatation test on Trojan ore)
CMH 1972-73, p. 305
GCNL #96, 1965; #52, 1977; #50(Nov.3), 1980; #174(Sept.10),
#175(Sept.11), #206(Oct.27), #215(Nov.7), 1997
MIN REV Fall 1998, p. 61
N MINER Feb.8, 1973; Mar.17, 1977; Mar.10, 1997
PR REL Getty Copper Corporation, Sept.9, Nov.4, 1997
WWW <http://www.gettycopper.com/projects.html>
Getty Copper Corporation Annual Report 1998
*Preto, V.A. and Perry, B.I. (1998): Geological Overview and Progress
to December 31, 1997, Getty Copper Corporation website
Placer Dome File (Geology reports, 1955-58; Agreements)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249; 262
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/26

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

shaft was not found.

The property lay dormant until 1967 when a portion of the Allies group was staked as the Bob claims and held by South Oak Mines Ltd. Additional claims were staked adjacent to and surrounding the Bob claims and were known as the Dog group. In 1968, six trenches and six pits were dug and blasted in overburden and bedrock by F. Swiatkevich on the Bob claims. In 1972, South Oak Mines Ltd. completed line cutting on the Dog claims. In 1973, Bon-Val Mines Ltd. completed a ground magnetometer and VLF-EM survey and also conducted a limited soil sampling program and geological mapping on the Dog claims. Bon-Val Mines was reorganized as Yamoto Industries Ltd. In 1976, a soil sampling survey was conducted by Yamoto Industries Ltd. on the Cannell claim which is a restaking of the Dog claims. In 1978, Yamoto Industries Ltd. conducted diamond drilling totalling three holes for 162 metres.

In 1983, airborne magnetic and VLF-EM surveys were carried out by Stryder Explorations Ltd. over the Dog claim group. In 1984, title to the property was awarded to Laramide Resources Ltd. in a dispute over previous assessment work and in that year prospecting, grid layout, road construction, trenching, geological mapping and geochemical surveys were completed. The property was optioned to Relay Creek Resources in 1985 and further exploration, including an induced polarization survey and backhoe trenching, was performed. In 1986, Relay Creek carried out a diamond drilling program consisting of 619 metres of NQ drilling in five holes.

In 1985-89, ground magnetic and VLF-EM surveys, geological mapping and soil sampling was carried out over the Dog claims, adjacent to the Allies showing, by Trans-Arctic Explorations Ltd.

No further exploration work was reported on the original Allies showing from 1990 to 1997, when the property came open and R.B. Simpson acquired it by staking the Treadwell claim in October 1997. In 1998, prospecting was carried out by R.S. Simpson.

BIBLIOGRAPHY

- EMPR PF (Sookochoff, L. (1976): Geological Report on the Cannel Creek Property)
EMPR AR 1924-B147; 1931-A107; 1932-A145; 1933-A193; 1934-D26,D28; 1968-172
EMPR ASS RPT 3674, 4212, 4546, 5950, 7085, 11409, *12412, *13445, 13897, 15192, 15270, *15807, 16359, 17930, 19218, 25680
EMPR BULL 1 (1932), p. 67
EMPR EXPL 1976-E105,E106; 1978-E173
EMPR GEM 1972-234,235; 1973-216
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 73-75
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, p. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/06/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE045**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAG, BRUCE, SPUR,
TC, RABBIT**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

MINING DIVISION: Kamloops

LATITUDE: 50 36 33 N
LONGITUDE: 120 40 22 W
ELEVATION: 1570 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5608949
EASTING: 664660

COMMENTS: Mineralized outcrops and centre of area of percusson drilling between Durand and Kwilalkwila lakes on Greenstone Mountain, about 26 kilometres west of Kamloops (Property File - Durand Lake stock geology map).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ASSOCIATED: Magnetite Pyrite
ALTERATION: Epidote Chlorite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Monzonite
Diorite
Andesite
Andesite Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Rag prospect is underlain by Upper Triassic Nicola Group volcanic rocks consisting mainly of andesitic volcanic flows and fragmentals intruded by a composite diorite-monzonite intrusion (Durand Lake stock) of Triassic age. The intrusion is widely mineralized with chalcopyrite and occurs with variable amounts of magnetite and pyrite. Low grade disseminated chalcopyrite and bornite are associated with weak chlorite and epidote alteration in a monzonite core of the Durand Lake stock. There are limited enriched zones of chalcopyrite, pyrite, magnetite and some pyrrhotite in volcanics near the intrusive contact. A 1988 assessment report submitted by Cominco Ltd. estimates the intrusion to contain 185 million tonnes of 0.05 per cent copper based on percussion and diamond drilling (Assessment Report 17669).

Cominco Ltd. staked the Rag claims in 1969 to cover the northern and western part of an aeromagnetic anomaly associated with a composite diorite-monzonite intrusion (Durand Lake stock) of Triassic age. Extensive geological and geophysical programs were conducted in 1969-70 and 1972 and outlined disseminated sulphide zones (5 to 8 per cent pyrite) along the west-southwest and east-northeast flanks of the intrusion. These peripheral area areas have been covered by induced polarization and magnetic surveys and a limited amount of percussion drilling. In 1970, induced polarization and ground magnetometer surveys and line cutting totalling 29 line kilometres were run over the Rag group of claims on behalf of Cominco Ltd. In 1972, line cutting and an induced polarization survey totalling 26 line kilometres was completed over the Rag claim group on behalf of Cominco Ltd. In 1988, Cominco Ltd. conducted soil sampling (619) over the Rag claims. In 1989, Teck Corporation entered into a joint

CAPSULE GEOLOGY

venture agreement with Cominco Ltd. covering Teck and Cominco-owned claims in the Greenstone Mountain area. During the spring and summer of 1990, Teck conducted soil sampling (500), magnetometer (38 kilometres) and VLF-EM (38 kilometres) surveys over previously untested portions of the Rag claims. In 1990, on behalf of Teck Corporation, a percussion drilling program of nine holes totalling 716 metres tested two gold-copper soil geochemical anomalies on the Rag claims. Drillholes 90-1, 90-2 and 90-4 intersected intermittent sections with copper values ranging up to 0.20 per cent and 90-5 yielded 7.4 grams per tonne gold across a 3-metre section. In 1989, D.L. Cooke and R.U. Bruaset began assembling ground (Rabbit claims) in the Dominic and Durand lakes area and this continued, with some interruptions, until 1996. The Rabbit claims cover the Bruce (092INE114), Rag 73 (092INE130) and Rag (092INE045) showings. Bruaset and Cooke carried out systematic geological mapping and a soil geochemical survey (135 samples) directed at gold beginning in 1990 in the area of the Rag 73 and Rabbit (092INE147) showings. A compilation map based on 2900 soil samples analysed for gold in the Dairy to Dominic lakes area was completed in 1993. This compilation, covering most of the area of current Rabbit claims, suggested high gold potential. In 1995, ProAm Explorations Corporation extended the 1990 gold soil anomaly and in the same year, the entire ProAm Rabbit group of claims was surveyed by enzyme leach selective extraction (381 samples) and an induced polarization survey (7.3 kilometres) completed. In 1997-98, ProAm Explorations Corporation completed 9 trenches totalling 40 metres and took 80 outer bark samples for biogeochemistry testing in the vicinity of the original Bruce showing. The trenching confirmed the presence of copper mineralization and yielded elevated gold values. Also in 1997, ProAm conducted a diamond drilling program over the original Rag 73 showing and discovered the Rabbit showing. A total of 21 holes totalling 3338 metres were put down and 1398 samples analysed.

BIBLIOGRAPHY

EMPR ASS RPT 2511, 3713, 4008, 17669, 20320, *20648, 24785, 25124
EMPR GEM 1970-323; 1972-200
EMPR PF (Drill data and peripheral geology map, 1970; Durand Lake stock geology map, 1970; Letter to W. McMillan from R.U. Bruaset)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Chevron File (1980 Year End Report Rag Group)
PR REL Auterra Ventures Inc., Jan.24, 2003

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/27

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE046**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIVERSIDE**, B & H, KAMLOOPS GOLDFIELDS,
MAC

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 41 32 N
LONGITUDE: 120 06 11 W
ELEVATION: 752 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5619604
EASTING: 704602

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on a low bare hill north of the South Thompson River, east of
McGregor Creek, about 15 kilometres east of Kamloops (Assessment
Report 8026).

COMMODITIES: Gold Silver Copper Lead

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic Harper Ranch Undefined Formation

LITHOLOGY: Chert Breccia
Argillite
Quartzite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch
METAMORPHIC TYPE: Regional

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: ROADCUT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 27.0000 Grams per tonne
Gold 2.8000 Grams per tonne

COMMENTS: Across 1.6 metres of quartz vein stockwork zone.
REFERENCE: Assessment Report 9558.

CAPSULE GEOLOGY

The Riverside showings are underlain by chert breccia of the Devonian to Permian Harper Ranch Group. The breccia is grey-green and composed of fragments of argillite, chert and quartzite in a siliceous matrix. The fragments are usually 5 to 50 millimetres in diameter, although larger fragments are occasionally found. A large shear zone cuts across the property and consists of rusty, sheared material and is at least 240 metres long and 50 metres wide. Other rock types in the vicinity of the showings include Harper Ranch group argillite, quartzite and limestone.

Quartz veins and stringers occur within the shear zone and are mineralized with pyrite and minor amounts of chalcopyrite, galena, tetrahedrite, malachite and azurite. Generally the veins are discontinuous and strike easterly with moderate dips (33-55 degrees) to the south. In several places the quartz veins form a stockwork. Wallrock is usually silicified. The quartz vein and stringer stockwork zones are up to 2 metres wide with individual veins up to 1 metre wide. In 1981, a chip sample across 1.6 metres of quartz vein stockwork in a roadcut yielded 2.8 grams per tonne gold and 27.0

CAPSULE GEOLOGY

grams per tonne silver (Assessment Report 9558).

Previous work includes numerous opencuts, pits, trenches, a 13.7-metre shaft and 45.7-metre adit.

In 1913, the Kamloops Goldfields claim group was owned by the Gold Security Company of Kamloops and a shaft sunk and adit driven. The Riverside claim, owned by E.T. Batchelor, is a restaking of a part of the Kamloops Goldfields claim group. In 1936, it was prospected by D.B. Sterritt and associates, of Kamloops, and about 2.7 tonnes of ore averaging 17.1 grams per tonne was shipped to the Trail smelter. The property was worked under lease by G.F. Dickson of Kamloops during the winter of 1940-41, and about two carloads of ore were sorted and shipped. It is understood that this assayed 12.6 grams per tonne gold and 102.8 grams per tonne silver (Geological Survey of Canada Memoir 249). In 1975, geological mapping was conducted on the Mac claim on behalf of McLeod Copper Limited. In 1978-79, a reconnaissance soil (55) geochemical survey and eight percussion-drill holes totalling 309.4 metres were completed over part of the Mac claim on behalf of West Provident Resources Ltd. In 1980-81, geological mapping was conducted on the Mac claim on behalf of J. Kruzick. In 1990, 44 kilometres of grid was established and 30.2 kilometres of VLF-EM and magnetometer surveys were completed on the Harp claims on behalf of Brera Holdings.

BIBLIOGRAPHY

EMPR AR *1913-K193; 1914-K361; *1932-A145,A146; 1934-D28
EMPR ASS RPT 5889, 6817, 7295, *8026, *9558, 20201
EMPR BC METAL MM00412
EMPR EXPL 1976-E97; 1978-E166; 1979-173,174
EMPR GEM 1969-235
EMPR PF (*Crooker, G. (1981): Geological Report on Mac Claim)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 69-72
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Auterra Ventures Inc., Jan.24, 2003

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE047**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAMPBELL CREEK, B**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 55 N
LONGITUDE: 120 11 42 W
ELEVATION: 884 Metres

NORTHING: 5610799
EASTING: 698434

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrop 500 metres west of Campbell Creek and the road,
about 3 kilometres south of the subdivision of Juniper Heights, 11
kilometres east of Kamloops (Assessment Report 1600).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite

ASSOCIATED: Quartz

COMMENTS: Manganese oxide.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Wild Horse Intrusion

LITHOLOGY: Brecciated Gabbro
Argillite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Campbell Creek showing area is located near the fault contact of Upper Triassic Nicola Group sediments and Jurassic granodioritic rocks of the Wild Horse batholith.

The property is underlain by Nicola Group argillite intruded by gabbro. The argillite is dark grey to black and very fine grained. It strikes 330 to 340 degrees and dips 60 to 80 degrees west and has a strongly developed slaty cleavage. The gabbro is uniform, very massive, fine to medium grained and dark grey-green in colour. The contact between argillite and gabbro is mostly covered by talus, but where seen in one outcrop, appears intrusive. Minor pyrrhotite and chalcopyrite was noted in brecciated gabbro close to a pronounced fault lineament striking 330 to 340 degrees that separates the argillite from gabbro. The fault exposures contain abundant rusty quartz and manganese oxide.

In 1939, Clairdon Mines Ltd. mined one tonne of mineralized material which produced 342 grams silver and 62 grams gold. In 1967-68, geological mapping and EM-16 survey was completed on the B claims on behalf of Royal Canadian Ventures Ltd.

BIBLIOGRAPHY

EMPR ASS RPT *1600
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/14
DATE REVISED: 2003/02/14

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE048**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUSE LAKE HYDROMAGNESITE** BUCE LAKE

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 29 N
LONGITUDE: 120 01 35 W
ELEVATION: 533 Metres

NORTHING: 5612314
EASTING: 710317

LOCATION ACCURACY: Within 500M

COMMENTS: East side of Buse Lake in a depression, about 22 kilometres east of Kamloops.

COMMODITIES: Hydromagnesite Sodium Carbonate

MINERALS

SIGNIFICANT: Hydromagnesite

COMMENTS: Also Natron.

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Residual Evaporite Industrial Min.

TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Kamloops

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Hydromagnesite
Sodic Carbonate
Andesite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Buse Lake hydromagnesite showing occurs near the east end of Buse Lake which lies about 22 kilometres east of Kamloops.

The material lies in a depression which is about 430 metres long and 60 to 125 metres wide. Auger drilling indicated a hydromagnesite thickness of 30 to 76 centimetres which is overlain by 25 to 75 centimetres of drift material. A sample, which may have been contaminated by the overlying drift material yielded the following analytical results: 34.2 per cent MgO, 1.76 per cent CaO, 3.91 per cent Fe+Al, 20.74 per cent insoluble, 0.07 per cent MnO, 0.05 per cent SO₃, 6.56 per cent H₂O and 38.45 per cent loss on ignition. The sample contains 77.9 per cent hydromagnesite based on the MgO content (Geological Survey of Canada Memoir 249).

Buse Lake is also reported to contain a sodium carbonate brine with 2.37 per cent total solids and a specific gravity of 1.023. The solids are composed of 75.5 per cent Na₂CO₃, 3.4 per cent NaCl, 18.9 per cent Na₂SO₄ and 2.3 per cent MgSO₄ with a trace of CaSO₄ (Bulletin 4).

BIBLIOGRAPHY

EMPR BULL *4, pp. 27,30
EMPR OF 1987-13, p. 66
EMPR FIELDWORK 2000, pp. 329-331
GSC MEM *249, pp. 145,148
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE049**

NATIONAL MINERAL INVENTORY:

NAME(S): **BARNHART VALE** BARNHARTVALE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5611923
EASTING: 705906

LATITUDE: 50 37 22 N
LONGITUDE: 120 05 20 W
ELEVATION: 610 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Hydromagnesite occurs in a depression or dry lake on a road leading to Upper Buse Lake, about 18 kilometres east of Kamloops (Geological Survey of Canada Memoir 249).

COMMODITIES: Hydromagnesite

MINERALS

SIGNIFICANT: Hydromagnesite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Residual Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Kamloops	Undefined Formation	
Upper Triassic	Nicola	Undefined Formation	
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Hydromagnesite
Argillite
Sandstone
Tuff
Andesite
Basalt

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

A deposit of hydromagnesite occurs within a depression or dry lake bed alongside the road to Upper Buse Lake, approximately 3 kilometres east of the community of Barnhart Vale. The showing is located on or near a fault contact between argillite, sandstone and tuff of the Upper Triassic Nicola Group and andesite and basalt of the Eocene Kamloops Group.

The depression is about 183 metres long by 153 metres wide. A second depression about the same size and 430 metres east is also reported to contain hydromagnesite, but was not tested. Two short auger test holes intersected hydromagnesite about 1.83 metres thick with about 15 centimetres of overburden. A partial analysis of a sample from one of these holes yielded 27.44 per cent MgO, 5.71 per cent CaO, 3.56 per cent Fe+Al, 0.05 per cent MnO₂ and 23.28 per cent insoluble (Geological Survey of Canada Memoir 249).

BIBLIOGRAPHY

EMPR OF 1987-13
EMPR FIELDWORK 2000, pp. 329-331
GSC MEM *249, pp. 145,146
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE050**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAMPBELL RANGE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 00 N
LONGITUDE: 120 08 04 W
ELEVATION: 1036 Metres

NORTHING: 5607412
EASTING: 702854

LOCATION ACCURACY: Within 500M

COMMENTS: A small depression west of a rough road to Campbell Lake, about 16 kilometres southeast of Kamloops (Geological Survey of Canada Memoir 249).

COMMODITIES: Hydromagnesite

MINERALS

SIGNIFICANT: Hydromagnesite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Residual Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Kamloops	Undefined Formation	
Jurassic			Wild Horse Intrusion
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Hydromagnesite
Basalt
Andesite
Granodiorite
Sand
Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Campbell Range showing area is located near the contact between Jurassic granodiorite of the Wild Horse batholith to the west from Eocene Kamloops Group andesite and basalt to the east.

About 550 tonnes of white hydromagnesite is reported to be in a small, 75 metre diameter depression west of a rough road leading to Campbell Lake, about 16 kilometres southeast of Kamloops. One auger hole indicated a depth of about 90 centimetres of hydromagnesite while others intersected only sand and gravel. A typical analysis of this material is 41 per cent MgO, nil CaO, 1.15 per cent Al₂O₃, 0.25 per cent Fe₂O₃, 2.4 per cent insolubles and 54.2 per cent ignition loss (Bulletin 4).

BIBLIOGRAPHY

EMPR BULL *4, p. 115
EMPR OF 1987-13
EMPR PF (Letter from W.M. Docker to Assistant Resident Mining Engineer, 1933)
EMPR FIELDWORK 2000, pp. 329-331
GSC MEM *249, p. 146
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE051**

NATIONAL MINERAL INVENTORY:

NAME(S): **FARGO, MR. ROSE**
M, WILD, WILDROSE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 35 04 N
LONGITUDE: 120 21 06 W
ELEVATION: 1036 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5606964
EASTING: 687475

LOCATION ACCURACY: Within 500M

COMMENTS: Trench located just east of the road to Edith Lake, about 10 kilometres south of Kamloops (Assessment Report 6991).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Pyrite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Propylitic Albitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
Diorite Breccia
Syenite

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: 1989
SAMPLE TYPE: Chip
COMMODITY
Copper GRADE
0.2230 Per cent
COMMENTS: Over 15 metres.
REFERENCE: Assessment Report 18873.

CAPSULE GEOLOGY

The Fargo showing area is dominantly underlain by two intrusive units of the Late Triassic-Early Jurassic Iron Mask batholith. Gabbroic to dioritic agmatites of the Iron Mask Hybrid unit underlies most of the western part of the property, while most of the eastern part is underlain by dioritic to syenitic rocks of the Cherry Creek unit. Magnetite is ubiquitous throughout these rocks, ranging from less than 3 per cent in the Cherry Creek unit to more than 10 per cent in the Iron Mask Hybrid unit. Weak to moderate propylitic alteration with attendant pyritization is quite pervasive throughout the Iron Mask Hybrid unit. In contrast, the Cherry Creek unit is pervasively saussuritized with local zones of propylitic, albitic and potassic alteration.

The original Fargo showings consist of quartz veins in diorite of the Cherry Creek unit of the Iron Mask batholith. The principal working is an inclined shaft stated to be 9.1 metres deep with a drift to the north at the bottom. The workings are inaccessible because of water in the shaft (ca. early 1940s). The vein strikes 350 degrees and dips 75 degrees to the west and ranges up to 1.5 metres in width at the collar, tapers to 0.3 metre, and then swells again to 1.5 metres. The best mineralized part is a band about 0.3 metre wide along the hangingwall which contains considerable

CAPSULE GEOLOGY

chalcopyrite and just below, abundant azurite and malachite. The vein has been traced 6 metres south and 3 metres north of the shaft by stripping; both strippings are now sloughed. Another shaft has been sunk at a point 45 metres southwest of the other. It has been sunk 6 metres on a vertical vein that is 35 centimetres wide at the collar and appears to widen near the bottom of the shaft (Geological Survey of Canada Memoir 249).

Extensive percussion drilling by Cominco in 1989, about 600 metres east of the original Fargo showing, indicates that chalcopyrite mineralization appears to occur within an easterly trending, 304 metre wide brecciated zone that contains low grade intercepts that may be spatially related to relatively narrow, steeply dipping, northwesterly and northerly trending fault/shear structures. One hole, PE 89-21, intersected 15 metres grading 0.223 per cent copper. The highest gold value was from drillhole PE 89-32, 0.8 gram per tonne over 3 metres (Assessment Report 18873).

The Fargo group was originally staked and prospected by C.H. King and L.G. Smith. A shipment of one carload of ore grading about 2 per cent copper and 2 grams per tonne gold is reported to have been made. In 1970, Royal Canadian Ventures Ltd. conducted geological mapping, a soil survey (625) and magnetometer survey (38.6 kilometres) on the MR claims which just border the Fargo showing area to the northwest. In 1972, Plaza Resources Ltd. completed a soil survey, ground magnetometer survey and drilled five percussion-drill holes totalling 184.4 metres on the Rose claims. In 1978, Cominco Ltd. completed 7.7 kilometres of induced polarization and magnetometer survey and drilled four vertical percussion-drill holes totalling 245 metres on the Wildrose claim. The drillholes were located about 400 metres east of the Fargo trench showing and intersected only traces of chalcopyrite in Iron Mask Hybrid unit rocks. In 1989, Cominco Ltd. drilled 41 percussion-drill holes totalling 3507 metres on their IM and Wild claims.

Lyra Resources Ltd. drilled two drill holes in 2002.

BIBLIOGRAPHY

EMPR AR 1956-47-54
EMPR ASS RPT 2143, 2144, 2821, 4111, 6385, 6826, 6991, *18873
EMPR BULL 77
EMPR GEM 1970-321; 1972-193
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 114,115
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Lyra Resources Ltd., Sept.4, Dec.19, 2002

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE052**

NATIONAL MINERAL INVENTORY:

NAME(S): **FOR**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 01 N
LONGITUDE: 120 55 47 W
ELEVATION: 1260 Metres

NORTHING: 5607422
EASTING: 646509

LOCATION ACCURACY: Within 500M

COMMENTS: Showing in a creekbed, 5 kilometres west of Tunkwa Lake, about 17 kilometres south of the village of Savona (Assessment Report 2836).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The For showing area is predominantly underlain by granodiorite of the Hybrid phase of the Late Triassic-Middle Jurassic Guichon Creek batholith. A small showing consisting of chalcopyrite in a rusty quartz vein occurs in a creekbed between Forge and Guichon creeks. The vein pinches and swells over an exposed distance of 15 metres along an east striking, 60 degree south dipping fault. The showing has been previously trenched, probably in the 1930-40s.

In 1969, Mastodon Highland-Bell Mines Ltd. completed a soil survey (189 samples) over the For claims and in 1970, Leitch Mines Limited conducted a geological and soil geochemical (689 samples) survey.

BIBLIOGRAPHY

EMPR ASS RPT 2142, 2184, 2744, *2836, 6830
EMPR GEM 1971-358
EMPR BULL 56
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/21

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE053**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCKY STRIKE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 04 N
LONGITUDE: 120 59 26 W
ELEVATION: 396 Metres

NORTHING: 5624073
EASTING: 641749

LOCATION ACCURACY: Within 500M

COMMENTS: Ballast quarry along the Canadian Pacific Railway tracks in Walhachin (Assessment Report 3751).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Sphalerite
ALTERATION: Magnetite Hematite Calcite Epidote Garnet

ALTERATION TYPE: Skarn Propylitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn
TYPE: K03 Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Tuff
Limestone
Agglomerate
Greenstone
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

In 1970, the Lucky Strike property was staked by M. Swetz after he discovered copper mineralization in the ballast quarry immediately south of the Canadian Pacific Railway tracks at Walhachin.

The showings occur in and around the ballast quarry. Fine disseminations, blebs and fracture coatings of chalcopyrite and bornite, with minor sphalerite locally, are generally associated with magnetite and hematite. The mineralization occurs in skarn alteration zones in volcanics, related pyroclastics and sediments of the Upper Triassic Nicola Group. Alteration mineralogy consists of epidote, garnet, magnetite, hematite and calcite with some degree of silicification. Traces of malachite stain have been found up to 487 metres east of the quarry and 1219 metres west of the quarry. The Nicola rocks comprise interbedded andesites, greenstones, agglomerates, tuffs and limestone.

In 1970, Fort Vermilion Resources Ltd. completed geological, geochemical and magnetometer surveys. In 1972, Hart River Mines Ltd. conducted a soil sampling survey.

BIBLIOGRAPHY

EMPR ASS RPT 3072, *3751
EMPR GEM 1971-358,359; 1972-225
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE054**

NATIONAL MINERAL INVENTORY:

NAME(S): **LANES CREEK**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 51 03 N
LONGITUDE: 120 19 11 W
ELEVATION: 518 Metres

NORTHING: 5636660
EASTING: 688663

LOCATION ACCURACY: Within 500M

COMMENTS: Along Lanes Creek, west of the North Thompson River and about 20 kilometres north of Kamloops (Bulletin 28).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Quaternary

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Glacial/Fluvial Gravels

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Lanes Creek flows southeasterly into the North Thompson River, about 20 kilometres north of Kamloops. Bedrock geology is believed to be metavolcanics and/or metasediments of the Carboniferous to Triassic Nicola and/or Harper Ranch groups.

Placer gold production has been recorded from Lanes Creek between 1936-40 and totals 124 grams.

BIBLIOGRAPHY

EMPR BULL *28, p. 39
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/16
DATE REVISED: 2003/01/16

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE055**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKI, KL**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 44 59 N
LONGITUDE: 120 35 44 W
ELEVATION: 579 Metres

NORTHING: 5624750
EASTING: 669615

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on KL 7 claim, about 1.2 kilometres north of Kamloops Lake and 20 kilometres west of Kamloops (Assessment Report 2001).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Monzonite
Monzonite Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Ski showing is primarily underlain by fine to medium grained monzonite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith. A body of breccia composed of angular fragments of monzonite in a grey-green dioritic matrix contains minor disseminated chalcopyrite and pyrite. Local erratic showings of malachite are also evident.

In 1968-69, Royal Canadian Ventures Ltd. conducted exploration which comprised 11 kilometres of induced polarization survey, 22 kilometres of magnetometer and EM-16 surveys, and geological mapping and soil sampling. In 1972, Spectroair Explorations Ltd. conducted about 15 kilometres of induced polarization survey. In 1974, Alaskex Mining Corporation performed 15 kilometres of induced polarization survey. In 1975, Afton Mines Ltd. completed a 4.8 kilometre induced polarization survey and one rotary drill hole totalling 218 metres. In 1976, approximately 8 kilometres of induced polarization and magnetometer survey was carried out over a portion of the Ski property by Wavecom Developments Ltd. In 1989, as part of a larger exploration programme on the Maxine (092INE032) and Frederick (092INE031) properties, Teck Corporation and Eureka Resources Inc. performed soil sampling and 4.5 kilometres of magnetometer survey over the Ski property.

BIBLIOGRAPHY

EMPR ASS RPT *2001, 4021, 4022, 5390, 5708, 6163, 19770
EMPR GEM 1969-238; 1972-221; 1975-E89,E90; 1976-E101
EMPR BULL 77
EMPR MAP 26; 48
EMPR FIELDWORK 1984, pp. 151-160
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 79-1A, pp. 381,382; 82-1A, pp. 293-297; 85-1A,

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 134
REPORT: RGEN0100

BIBLIOGRAPHY

pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE056**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSSEAU**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5627689
EASTING: 660895

LATITUDE: 50 46 43 N
LONGITUDE: 120 43 04 W
ELEVATION: 350 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: A rockcut on the Canadian National Railways line on the north shore of Kamloops Lake, near where Rosseau Creek empties into the lake, about 10 kilometres northeast of Savona (Geological Survey of Canada Paper 72-53).

COMMODITIES: Zeolite Agate Gemstones

MINERALS

SIGNIFICANT: Ferrierite Agate
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Placer Volcanogenic Industrial Min.
TYPE: D01 Open-system zeolites Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Eocene Kamloops Undefined Formation

LITHOLOGY: Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Rosseau Creek area is underlain by basalts of the Eocene Kamloops Group. A rare zeolite, ferrierite, occurs with agate and calcite in masses 7 to 10 centimetres long. The agate may be banded or plain. Ferrierite occurs as radiating spherical or conical groups of acicular crystals up to 1 centimetre in length. The best collecting locality is marked by a rockcut on the Canadian National Railway on the north shore of Kamloops Lake near where Rosseau Creek empties into the lake. Specimens may be picked up along the lake shore in the beach gravel; weathered material is brick red. Agate is common in the bluffs overlooking the lake above the ferrierite locality.

BIBLIOGRAPHY

EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; *72-53, pp. 23-25; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Western Homes & Living Oct.1961, Guide to BC Rocks and Gems

DATE CODED: 2003/01/17
DATE REVISED: 2003/01/17

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE057**

NATIONAL MINERAL INVENTORY:

NAME(S): **INDI, SAGEBRUSH, OWL,
LYNX, COYOTE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

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

LATITUDE: 50 43 54 N
LONGITUDE: 120 54 22 W
ELEVATION: 579 Metres

NORTHING: 5622077
EASTING: 647767

LOCATION ACCURACY: Within 500M

COMMENTS: Location of drillhole 88-IG-3 and trenches, 1 kilometre south of the Thompson River and just east of Bull Lake, about 5 kilometres southwest of Savona (Assessment Report 18753).

COMMODITIES: Lead Zinc Gold Silver

MINERALS

SIGNIFICANT:	Tetrahedrite	Galena	Sphalerite		
ASSOCIATED:	Pyrite	Quartz			
ALTERATION:	Calcite	Carbonate	Quartz	Sericite	Pyrite
	Malachite	Azurite			
ALTERATION TYPE:	Carbonate		Sericitic		
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	
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Andesite
Crystal Lapilli Tuff
Feldspar Porphyry
Fragmental Breccia
Andesite Flow
Felsic Flow
Felsic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Indi property is predominantly underlain by Upper Triassic Nicola Group volcanic rocks comprising massive, dark green andesites including crystal lapilli tuffs, feldspar porphyries, fragmental breccias and massive flows. The stratigraphy trends 160 to 190 degrees and dips moderately (40-50 degrees) to the west. The Jurassic Ashcroft Formation unconformably overlies the Nicola rocks and is found in only one portion of the property and consists of a poorly sorted and bedded pebble conglomerate with abundant granitic clasts. A limited amount of Eocene Kamloops Group volcanic rocks occur to the east side of the property and consist of mainly greyish white felsic flows and tuffaceous rocks. The property straddles the Deadman River fault and splays off the fault. Where these faults cut the Nicola Group rocks, carbonate alteration of the andesites predominates; where they cut Kamloops Group felsic volcanic rocks, quartz-sericite-pyrite alteration is developed.

Two distinct styles of mineralization and alteration have been recognized at the Indi showings. The first style occurs within Nicola andesites and consists of carbonate alteration as discrete zones which parallel stratigraphy. In the more intense zones, evidence of faulting is often seen. On the surface, the alteration zone is cut by carbonate stringers or veins. The veins are finely laminated, often with cockscomb textures and they parallel as well as crosscut the altered zones. Pyrite is common within the altered zones as disseminations and fine stringers. Quartz veins are found in about 10 per cent of the carbonate zones. Normally, these quartz veins contain geochemically anomalous gold values as well as minor

CAPSULE GEOLOGY

amounts of tetrahedrite, galena, malachite and azurite. Results from diamond drilling these altered zones yielded up to 0.9 gram per tonne gold across 38 centimetres and up to 62.6 grams per tonne silver over 56 centimetres. One altered zone in the Nicola rocks, the Owl zone, is associated with strong silicification (not quartz veining) and contains massive pyrite.

The second style of mineralization occurs in Kamloops Group volcanic rocks and consist of quartz-sericite-pyrite altered zones. These zones are about 1500 metres east of the carbonate zones in the Nicola rocks. Two different styles of galena and sphalerite mineralization are present in the altered zones. The first is coeval with alteration and involves disseminations, blebs and stringers. The second, massive sulphides associated with gouge and shear zones, appears to be of post-mineralization age and is probably caused by remobilization of sulphides in later faults. One of the altered zones, the Sagebrush, was tested by a diamond-drill hole but gold values were consistently low, however, combined lead-zinc values yielded 2.23 per cent over 4.17 metres, 1.45 per cent over 1.82 metres and 0.55 per cent over 17 metres. Silver values yielded 77.5 grams per tonne over 1.5 metres and 74.7 grams per tonne over 0.3 metre. Geochemically anomalous arsenic and mercury values were also obtained (Assessment Report 18753).

During the Depression (1930s), several claims were staked and the remains of several old trenches are still visible. During the early 1970s several claims were staked, presumably for porphyry copper, and remains of an old grid from this program can still be seen. In 1981, a regional airborne VLF-EM and magnetometer survey was carried out on behalf of Tu-Tahl Petroleum Inc. and Sunstar Continental Petroleum Corp. over the Lynx and Coyote claims, respectively. In 1986, M. Dickens performed prospecting and rock chip sampling on the Indi claims. In 1988-89, QPX Minerals Inc. conducted an exploration programme which included grid establishment (85 kilometres), geological mapping, soil sampling (1068 samples), diamond drilling of 4 holes for 556 metres, percussion drilling totalling 480 metres in 7 holes, ground magnetometer survey (85 kilometres), VLF-EM survey (66 kilometres), 302 rock samples and 466 samples from drill core and cuttings.

BIBLIOGRAPHY

EMPR ASS RPT 9034, 9100, 14997, *18753
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE058**

NATIONAL MINERAL INVENTORY:

NAME(S): **HARDIE HILL**, DICKSON HILL, STERRITT HILL,
LEE, LA

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:
LATITUDE: 50 50 27 N
LONGITUDE: 120 45 26 W
ELEVATION: 1045 Metres

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5634522
EASTING: 657905

LOCATION ACCURACY: Within 500M
COMMENTS: Adit and shaft on the northwest slopes of Hardie Hill, about 12 kilometres north of the community of Savona (Assessment Report 16577).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT:	Cinnabar				
ASSOCIATED:	Chalcedony	Quartz	Calcite	Dolomite	
ALTERATION:	Chalcedony	Quartz	Calcite	Ankerite	Dolomite
ALTERATION TYPE:	Silicific'n		Carbonate		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic Breccia
Andesite
Felsite
Dike
Feldspar Porphyry
Amygdaloidal Basalt
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The cinnabar showings on the northwest slopes of Hardie Hill were discovered late in August 1895 by Messrs. McCartney and Irving and were known as the Hardie Mountain showings (092INE037). These showings should not be confused with the Hardie Hill cinnabar showings (092INE058, this description) located about 1000 to 1500 metres east and which were discovered later in the 1940s. The Mercury and Hg group of claims covered this showing and considerable prospecting was done by D.B. Sterritt and associates in 1940-41. A shaft, crosscut adit with a drift, numerous pits and trenches were excavated. The showings occur on a group of three knolls and were locally referred to as Hardie, Dickson and Sterritt Hills (Geological Survey of Canada Memoir 249, page 101).

Interest in the area revived in about 1957 and has been more or less continuously staked since that time. In 1966, the Merc claims were staked and sold to L.J. Leier of Calgary. In 1968, the property was optioned to Jason Oils Limited who conducted a geological examination. In August 1968, Jason Oils Limited transferred their option agreement to Savanna Creek Gas and Oil Limited of Calgary. In 1969-70, Savanna Creek conducted soil geochemical and geological surveys on the Merc claims and the newly staked LA claims. In 1969, Savanna Creek conducted exploration on the LA 3 claim which covered the Hardie Hill showing (this description). In 1981, Placer Development Limited conducted a soil geochemical survey over the Jim claims which overlapped the Hardie Mountain and Hardie Hill showings. In 1982, D.A. Ward completed a soil survey over the Ward claims which covered the Hardie Hill showings. In 1984, D.A. Ward hand dug 10 trenches and constructed 1.5 kilometres of access trail on the Pearl claim which covered the Hardie Hill showings. In 1984, P. Peto

MINFILE NUMBER: **092INE058**

CAPSULE GEOLOGY

conducted prospecting on the Hardie 1-8 claims which covered the Hardie Mountain showing (092INE037). In 1985, D.A. Ward performed prospecting and collected 100 rock samples on the Ward 1-8 claims which covered the Hardie Mountain showing. In 1986, D.A. Ward ran magnetometer surveys over the Ward claim group which covered both the Hardie Mountain and Hardie Hill showings. In 1987, D.A. Ward completed soil and rock sampling and 83 trenches totalling 518 metres on the Byrl claims which covered both the Hardie Mountain and Hardie Hill showings (this description).

The Hardie Hill cinnabar showings are primarily underlain by a series of Upper Triassic Nicola Group volcanic rocks that strike northerly and dip west. The rocks include dark coloured, fine grained and amygdaloidal basalts, light grey andesite, tuffs and volcanic breccias which are intruded by light coloured, fine grained felsites including feldspar porphyry and associated dikes. Many of the rocks have been partly ankeritized resulting in a rusty brown colour. Silicification is evident within some felsite intrusions. Local breccia zones in altered volcanics are mineralized with minor disseminated cinnabar associated with fine grained chalcedonic quartz, which were refractured and filled with carbonates (dolomite, calcite) and more cinnabar, and refractured and recemented with carbonate. Locally, the volcanics have been altered to clays that contain abundant gypsum and rare cinnabar.

Slightly over one flask of mercury was produced from the property, all from ore obtained from the main drift in the dike workings. This material was hand sorted and treated in a retort, situated near the entrance of the crosscut, for roughly 24 hours. Approximately 1.5 tons of sorted ore was treated in each batch from which 28 to over 30 pounds of mercury was recovered. Though the cinnabar is finely disseminated through the rock, which was not finely crushed, very little mercury is said to remain in the retort after 24 hours treatment (Property File - Mathews, 1942).

BIBLIOGRAPHY

- EMPR ASS RPT 1989, *2467, 10652, 12667, 13216, 15164, 15727, *16577
EMPR PF (*Mathews, W.H. (1942): Report on the Recent Workings of the
Hardie Mountain Cinnabar Property; Mathews, W.H. (undated):
Structural Control of Cinnabar Mineralization at Hardie Mountain;
Plan map of workings and outcrop location, 1940)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 100-103
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/10

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE059**

NATIONAL MINERAL INVENTORY:

NAME(S): **SABISTON FLATS**, INDEPENDENT

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 46 55 N
LONGITUDE: 120 48 10 W
ELEVATION: 396 Metres

NORTHING: 5627878
EASTING: 654892

LOCATION ACCURACY: Within 500M

COMMENTS: Adits in a dry gulch just north of the Canadian National Railway tracks, about 4 kilometres northeast of the community of Savona (Assessment Report 13618).

COMMODITIES: Mercury Copper Silver

MINERALS

SIGNIFICANT: Cinnabar Tetrahedrite
ASSOCIATED: Dolomite Quartz Calcite
ALTERATION: Ankerite Silica Sericite Kaolinite Pyrite
ALTERATION TYPE: Carbonate Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein Disseminated Shear
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Plagioclase Porphyritic Andesite
Tuff
Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1984

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	24.2000	Grams per tonne
Copper	3.3400	Per cent
Mercury	1.9000	Per cent

COMMENTS: Grab sample of dolomite veining containing cinnabar and tetrahedrite.
REFERENCE: Assessment Report 13618.

CAPSULE GEOLOGY

The Sabiston Flats mercury showing is underlain mainly by the Upper Triassic Nicola Group comprising massive to plagioclase porphyritic andesite, tuff, agglomerate, argillite, and basaltic flows with picritic phases. The Nicola rocks trend northwesterly with moderate to steep northeast or southwest dips and are cut by major northwest trending faults.

Several large carbonate (ankerite)-silica alteration zones extend from the shore of Kamloops Lake northward and northward. The buff to yellow weathering carbonate zones contain varying amounts of stockworks and veins of dolomite, ankerite and calcite with one or more stages of silica (chalcedonic) veining and varying amounts of sericite, kaolinite and pyrite. Ten alteration zones have been recognized which vary from 100 metres long by 10 metres wide up to 1500 metres long by 150 metres wide. Most are poorly exposed and have been traced mainly in rubble outcrop.

The original mercury showing was on a Crown grant that reverted to the Crown and then leased to R.C. Neville in 1940. The principal showing occurs in a lower adit on the westerly side of a dry gulch

CAPSULE GEOLOGY

about 30 metres above and 91 metres from the Canadian National Railway tracks. The short adit (8.5 metres) follows dolomite stringers within an ankeritic alteration zone in andesite and plagioclase porphyritic andesite. The dolomite stringers contain narrow films and disseminations of cinnabar. Local minor disseminated tetrahedrite can also occur with occasional massive clots. An opencut about 457 metres upslope from the lower adit cuts across a shear zone containing stringers of dolomite with minor malachite and azurite. About 15 metres up from this opencut, an adit was driven for 30 metres following a shear zone with dolomite stringers; no cinnabar was observed in place or on the dump (Geological Survey of Canada Memoir 249). In 1984, grab samples from the lower adit area containing dolomite veining with cinnabar and tetrahedrite yielded up to 15 parts per billion gold, 24.2 grams per tonne silver, 1.9 per cent mercury and 3.34 per cent copper (Assessment Report 13618).

In 1972, M. Hjelt staked the Jean claims which covered the adits and showing area and in 1973 a ground magnetometer survey was run for 26 kilometres. In 1982, heavy mineral sampling conducted by Canadian Nickel Company Ltd. yielded anomalous mercury and gold and resulted in the staking of the Kam claim group. Exploration personnel from Canadian Nickel became aware that the numerous hydrothermal mercury occurrences in the area could be a manifestation of zoning in epithermal gold deposits and exploration was pursued intensively from 1982-85. In 1983, extensive exploration took place which resulted in the Jeff claim group being staked. The exploration included 30 kilometres of line cutting, soil (159) and rock (84) sampling, heavy mineral sampling (124), 20 kilometres of VLF-EM surveys, an altimeter survey and 7.6 kilometres of induced polarization survey. In 1984, the company continued exploration with line cutting and grid establishment (35 kilometres), prospecting, geological mapping, rock (237) and heavy mineral stream sediment sampling (9), magnetometer (21 kilometres), VLF-EM (20 kilometres) and induced polarization (19 kilometres) surveys, and percussion drilling of 17 holes totalling 287 metres. In 1987, a total of 1109 soil samples and 23 rock samples were taken on behalf of Canadian Nickel Company Ltd. In late 1987 and early 1988, 10 percussion holes were drilled totalling 940 metres and 2 diamond-drill holes were put down totalling 341 metres on behalf of Canadian Nickel Company Ltd.

BIBLIOGRAPHY

EMPR ASS RPT 4213, 12259, *13618, 16212, 17403
EMPR BULL *5, pp. 48,49
GSC MEM *249, pp. 93,94
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
GSC SUM RPT 1918 Part B, p. 20B

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE060**

NATIONAL MINERAL INVENTORY:

NAME(S): **JANE, PLAZA**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 44 N
LONGITUDE: 120 47 54 W
ELEVATION: 730 Metres

NORTHING: 5629401
EASTING: 655160

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches and opencuts just north of the road leading to Copper Creek, north of Kamloops Lake, about 6 kilometres northeast of the community of Savona (Assessment Report 13618).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT: Cinnabar
ASSOCIATED: Dolomite
ALTERATION: Ankerite Silica
ALTERATION TYPE: Carbonate Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Shear
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

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
Plagioclase Porphyritic Andesite
Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Jane mercury showing area is underlain mainly by the Upper Triassic Nicola Group comprising massive to plagioclase porphyritic andesite, tuff, agglomerate, argillite, and basaltic flows with picritic phases. The Nicola rocks trend northwesterly with moderate to steep northeast or southwest dips and are cut by major northwest trending faults.

Several large carbonate (ankerite)-silica alteration zones extend from the shore of Kamloops Lake northward and northward. The buff to yellow weathering carbonate zones contain varying amounts of stockworks and veins of dolomite, ankerite and calcite with one or more stages of silica (chalcedonic) veining and varying amounts of sericite, kaolinite and pyrite. Ten alteration zones have been recognized which vary from 100 metres long by 10 metres wide up to 1500 metres long by 150 metres wide. Most are poorly exposed and have been traced mainly in rubble outcrop.

The Jane showing occurs in a silicified and ankerite altered zone in andesitic volcanics where stringers of dolomite carry thin films of cinnabar; small masses of cinnabar also occur in the silicified rock.

The initial claims of the Jane group were staked in about 1940 when only limited prospecting work took place. The workings as observed in the early 1940s comprised three old and largely sloughed in opencuts. The next period of exploration was in 1982, when heavy mineral sampling conducted by Canadian Nickel Company Ltd. yielded anomalous mercury and gold and resulted in the staking of the Kam claim group. Exploration personnel from Canadian Nickel became aware that the numerous hydrothermal mercury occurrences in the area could be a manifestation of zoning in epithermal gold deposits and exploration was pursued intensively from 1982-85. This work mainly focused on the Sabiston Flats showing (092INE059) but also covered the Jane showing where a rock sample from some trenches in 1984 yielded 3800 parts per billion mercury (Assessment Report 13618). See Sabiston Flats occurrence for a complete work history.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 143
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 12259, *13618, 16212, 17403
GSC MEM *249, pp. 94,95
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE061**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAVIS, S & T, BEE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 46 20 N
LONGITUDE: 120 51 41 W
ELEVATION: 686 Metres

NORTHING: 5626676
EASTING: 650792

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenches and opencuts on the southerly slopes of Mount Uren, about 2.5 kilometres north of the community of Savona (Assessment Report 12947).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT: Cinnabar
ASSOCIATED: Dolomite
ALTERATION: Ankerite Dolomite
ALTERATION TYPE: Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

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

LITHOLOGY: Basaltic Volcanic Breccia
Tuff
Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Davis mercury showing is predominantly underlain by dark green basaltic volcanic breccia and minor tuff and agglomerate of the Upper Triassic Nicola Group. Thin films of cinnabar occur in white dolomite veins and stringers associated with ankeritized, low-angle shears striking east-southeast and dipping 30 degrees southwest. The rusty brown altered shear zones vary from 20 centimetres to 6 metres in width.

In the 1940s, the mercury showing was staked as the S and T group of claims which covered the ground formerly staked as the Bee group in 1937. In 1983, Placer Development Ltd. staked the Ren claims which covered the showing and conducted stream sediment and heavy mineral sampling. In 1984, Placer Development completed soil sampling, geological mapping and magnetometer and VLF-EM surveys over the Ren claims.

BIBLIOGRAPHY

EMPR ASS RPT 12054, *12947
EMPR BULL *5, pp. 49-51
GSC MEM *249, pp. 95-971
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE062**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAST CHANCE**, CRISS CREEK, LC

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 56 28 N
LONGITUDE: 120 55 01 W
ELEVATION: 1143 Metres

NORTHING: 5645342
EASTING: 646346

LOCATION ACCURACY: Within 500M

COMMENTS: Location of original Last Chance opencuts north of Criss Creek, about 21 kilometres north of the community of Savona (Assessment Report 17416).

COMMODITIES: Mercury Copper Silver

MINERALS

SIGNIFICANT: Cinnabar
ASSOCIATED: Dolomite Tetrahedrite
ALTERATION: Dolomite Hematite Azurite Malachite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Basaltic Breccia
Chert Pebble Conglomerate
Intermediate Mafic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Showings of cinnabar occur in an andesitic to basaltic breccia that underlies a heterolithic conglomerate where hematitic alteration frequently stains the rocks ochre red. Clasts in the conglomerate are chert, felsic intrusives and minor volcanics. Intermediate to mafic dikes occur with frequent rusty quartz-calcite stringers. A cinnabar-bearing dolomitic vein occurs apparently crosscutting the dike units. In general, strongly fractured areas in all rock types have pervasive carbonate alteration with secondary hematite alteration forming prominent red bluffs. Banded carbonate and chalcedony veins displaying open space cavities occur near volcanic dikes.

The Last Chance main showing is in a large opencut along a fracture zone ranging from 15 to 43 centimetres wide. The exposed rock is altered to carbonate. The fracture zone strikes 015 degrees, dips 45 degrees northwest and is strongly jointed with thin stringers of dolomite with films of cinnabar along the joints. The showing was sampled and assayed 0.04 per cent mercury (Geological Survey of Canada Memoir 249). Tetrahedrite with malachite and azurite was found in dolomite in dumps from an opencut southeast of the main opencut. In 1987, rock sampling from the main Last Chance showing yielded a high of 0.15 per cent mercury with several samples in the 0.01 to 0.05 per cent range (Assessment Report 17416).

The first references made to the mercury showings was in Geological Survey of Canada Memoir 249 (fieldwork from 1939-1944) where the Last Chance group of two claims were owned by J. Smith and T.R. Hardie of Red Lake. A number of cuts have been put in. The next period of recorded work was between 1987-89, where Minnova Inc. conducted grid preparation and linecutting, geological mapping, rock and soil sampling, VLF and magnetometer surveying and digging 10 trenches totalling 118 metres.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 146
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT *17416, 18730, 20000
GSC MEM *249, pp. 103,104
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/09/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE063**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHARP MERCURY, SPLIT, CRISS CREEK,
MAC MERCURY, CAYUSE, DEADMAN,
HORACE, H, JAN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 09215W
BC MAP:
LATITUDE: 50 54 51 N
LONGITUDE: 120 55 58 W
ELEVATION: 838 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adits and pits near a road along Criss Creek about 19 kilometres north of the community of Savona (Assessment Report 15227).

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5642315

EASTING: 645317

COMMODITIES: Mercury Antimony Silver

MINERALS

SIGNIFICANT:	Cinnabar	Stibnite	Realgar	Orpiment	Mercury
ASSOCIATED:	Dolomite	Calcite	Quartz	Pyrite	
ALTERATION:	Silica	Limonite	Hematite	Azurite	Malachite
ALTERATION TYPE:	Silicific'n		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Brecciated Andesite Flow
Andesite
Andesite Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Sharp mercury showings are underlain by Upper Triassic Nicola Group volcanics and sediments. The volcanic assemblage consists of medium to dark green andesite flows, tuffs and breccias. The flows and tuffs are generally fine grained. The volcanics are generally chloritized with varying degrees of epidote alteration in the form of stringers and blebs. Nicola Group sediments comprise two distinct units: a grey, bedded limestone marked at bedding contacts by grey siltstone and shale beds; and a cherty siltstone with a variable calcareous component. Cretaceous or Tertiary felsic stocks intrude the Nicola rocks. The intrusions are medium to fine grained, pale pink to buff in colour, possibly granodioritic. Chlorite and clay alteration and pervasive weathering makes identification difficult. Hematite and limonite staining occurs in fractures in the intrusions.

Epigenetic pyrite occurs in quartz stringers throughout the Nicola volcanics. Dolomite-quartz-carbonate veins are prevalent in the volcanics. Limonite occurs within the veins and invades the country rock somewhat; hematite occurs on fracture surfaces. These veins may be genetically related to an intense quartz-carbonate alteration zone controlled by a Tertiary fault structure on the east side of the property. Within this zone an east-southeasterly trending shear zone contains anomalous arsenic and antimony concentrations.

Stibnite mineralization occurs in limonitic quartz-dolomite veins and stockwork hosted by a brecciated andesite flow. Stibnite heals brecciated wallrock and crosscuts dolomite veins. In general, the zone strikes northwesterly and can be traced for 120 metres in shallow old trenches. The dolomite hosts fine-grained pyrite and occasional pods of stibnite up to 15 centimetres long.

Pyrite and cinnabar mineralization occurs in silicified dolomite-calcite veins and breccias with hematite and limonite staining. Episodic silicification is evidenced by crosscutting

CAPSULE GEOLOGY

features in the breccias. In 1929, V. Dolmage reported that small amounts of realgar, orpiment, azurite and malachite also occurs in the veins. In 1933, samples taken from new workings and sent to the Mines Branch in Ottawa contained small percentages of arsenic, sulphur, titanium, antimony, vanadium, and as high as 8.22 ounces per ton silver, but no mercury. Quicksilver or native mercury was reported from several workings and as high as 4.5 per cent mercury was found in places (Minister of Mines Annual Report 1933).

Apparently the first mineral claims in the area were staked as early as 1896 to cover cinnabar showings which were then worked up to the turn of the century. The area was restaked in 1929 by the Mercury Mining Syndicate of Vancouver which in the ensuing period up to 1935 carried out some exploration which included driving short adits, opencuts, a shallow shaft and sampling. Little work seems to have been done from the late 1930s until it was restaked in 1972 by Andex Mines Ltd. as the Split 1-40 claims. This company carried out an exploration program in that year consisting of geological mapping, geochemical soil sampling and drilling of one short hole; apparently the geochemical work yielded anomalous values in silver. In 1974 and 1975, the area was covered by the Horace and H claims which were staked specifically to cover the high silver geochemical anomaly outlined by the earlier Andex Mines work. In the early 1980s, renewed exploration was directed towards exploring the possibilities for epithermal precious metal deposits. In 1984, soil sampling and prospecting was carried out on the Jan claims by Placer Development Ltd. on behalf of Packard Resources Ltd. The Jan claims surround the original Cayuse claim where also in 1984, a magnetometer survey was completed over 5 kilometres, prospecting and rock and soil sampling performed by G.A. Medford on behalf of Packard Resources Ltd. In 1986, a soil sampling survey was completed on the Cayuse claim by G.A. Medford on behalf of Packard Resources Ltd. In 1987, geological mapping, rock, soil and heavy mineral sampling was carried out on behalf of Bu-Max Gold Corp. In 1989, work consisted of resampling isolated gold anomalies and geological observations by G.A. Medford on behalf of Bu-Max Gold Corp.

BIBLIOGRAPHY

EMPR AR 1896-568; 1900-891; 1924-B149; 1929-C236; *1933-A182,A183
EMPR ASS RPT 4305, 11477, 12288, 13213, 15227, 16819, *17143, 19395
EMPR BULL 5, pp. 52,53
EMPR GEM 1972-235,236
EMPR PF (Prospectus, Bu-Max Gold Corp., May 1, 1989; *Dolmage,
V. (1929): Report on Sharp Mercury Deposits)
GSC MAP 104A; 886A; 42-1989
GSC MEM *249, pp. 97-99
GSC OF 980
GSC P 82-1A, pp. 293-297; 85-1A, pp. 349-358
Chevron File (Report on H and Horace claims by M. McClaren and H.
Visagie, 1975)

DATE CODED: 1985/07/24
DATE REVISED: 2001/09/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE064**

NATIONAL MINERAL INVENTORY:

NAME(S): **WALHACHIN QUARRY, DON**

STATUS: Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092110W 092115W

BC MAP:

LATITUDE: 50 44 56 N

LONGITUDE: 120 59 19 W

ELEVATION: 488 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Ballast quarry south of the Canadian Pacific Railway tracks and just south of the community of Walhachin on the Thompson River (Assessment Report 22950).

UTM ZONE: 10 (NAD 83)

NORTHING: 5623830

EASTING: 641893

COMMODITIES: Railroad Ballast

MINERALS

SIGNIFICANT: Unknown

MINERALIZATION AGE: Upper Triassic

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Volcanogenic Industrial Min.

TYPE: R15 Crushed rock

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Intermediate Mafic Lapilli Tuff

Basaltic Tuff

Basalt

Calcareous Intermediate Tuff

Breccia

Limestone

Calcareous Limestone Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Walhachin Quarry is located on the south side of the Canadian Pacific Rail mainline, across from the village of Walhachin. The ballast quarry is owned and operated by CP Rail but production statistics are not available.

Rock types within the proposed quarry site of the Walhachin East area are similar to those seen within the Walhachin quarry and consist of basaltic tuff, intermediate to mafic lapilli tuff, banded calcareous intermediate tuff and breccia. The volcanic rocks are part of the Upper Triassic Nicola Group. Unlike the main quarry, limestone and calcareous limestone breccia lithologies are rare in the Walhachin East area.

The intermediate to mafic lapilli tuff is excellent primary ballast with very high toughness and hardness. The interlocking welded nature of the individual fragments make for a well indurated, hard and tough rock. In the Walhachin East test area the calcareous intermediate tuff has a high hardness with moderate to high toughness. The calcareous nature of the tuff will reduce the toughness of the rock. Where the calcareous tuff is present in proportions of less than 25 per cent, the unit is expected to produce primary ballast, however, where it comprises more than 25 per cent, secondary ballast will be produced. Three bulk samples were taken from the proposed quarry in the Walhachin East site. Physical test results and abrasion numbers of 14.9, 17.4 and 19.8 will produce over 20 years ballast (Assessment Report 22950).

In 1992, a feasibility study on behalf of CP Rail focused on an area east of the existing quarry, known as the Walhachin East site. The investigation evaluated the potential of the site as a ballast source and consisted of diamond drilling 5 holes totalling 487 metres, 3 overburden test pits and 3 bulk samples.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 150
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT *22950
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/17
DATE REVISED: 2003/01/17

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE065**

NATIONAL MINERAL INVENTORY:

NAME(S): **MUSTANG**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110W 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 43 53 N
LONGITUDE: 120 45 07 W
ELEVATION: 640 Metres

NORTHING: 5622365
EASTING: 658646

LOCATION ACCURACY: Within 500M

COMMENTS: Rock sample site just west of a small unnamed lake, east of Durand Creek, about 8 kilometres east of the community of Savona (Assessment Report 15049).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT: Pyrite Cinnabar
COMMENTS: Cinnabar assumed from high assay results.

ASSOCIATED: Ankerite Dolomite Quartz
ALTERATION: Ankerite Dolomite Quartz Chalcedony Limonite

ALTERATION TYPE: Carbonate Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Andesitic Pebble Conglomerate
Basaltic Conglomerate
Trachyandesite Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1986

COMMODITY
Mercury
GRADE
1.3000 Per cent

REFERENCE: Assessment Report 15049.

CAPSULE GEOLOGY

The Mustang property is underlain by volcanic-derived sedimentary rocks of the Upper Triassic Nicola Group. In most cases the volcanic clasts of the sedimentary rocks are not weathered and have been deposited quickly in poorly sorted massive conglomerate beds, although some interbedded sandstone and siltstone beds also occur. The clasts have undergone little transportation or mixing, and thick assemblages of predominantly basaltic, andesitic or trachyandesitic beds occur. The lithologic units have been identified according to predominant clast content and comprise four units: unit one are sediments with predominantly trachyandesitic clasts; unit 2, basaltic clasts predominate; unit 3, mixed clasts predominate; and unit 4, andesitic clasts predominate. The sediments appear to form a monoclinial sequence striking northwest and dipping steeply northeast. Two strong northwest trending faults with associated carbonate alteration cut the sediments and are believed to represent the southern extension of the Sabiston Creek fault mapped to the north of Kamloops Lake.

Carbonate alteration consists of ankerite and dolomite occurring as replacements and veining in moderate to intense zones with minor late quartz or chalcedony veinlets. Trace amounts of pyrite occur as disseminated grains and increases in content with silicification.

CAPSULE GEOLOGY

Limonite is a common weathering product of ankerite and is abundant in all alteration zones. Weak hematite staining is also widespread across the property and is usually associated with the deep weathering of the fault zones. A moderate to intense carbonate alteration zone occurs along a fault on the Mustang 3 claim. Selected rock chips containing minor quartz veining with sparse pyrite analysed 0.9 and 1.3 per cent mercury. The altered rock at this sample site is a pebble conglomerate derived from andesite (Assessment Report 15049).

In 1986, M. Morrison conducted geological mapping on the Mustang claims.

BIBLIOGRAPHY

EMPR ASS RPT *15049
EMPR BULL 77
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/18
DATE REVISED: 2003/01/18

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE066**

NATIONAL MINERAL INVENTORY:

NAME(S): **EDICT**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 37 N
LONGITUDE: 120 45 26 W
ELEVATION: 396 Metres

NORTHING: 5629272
EASTING: 658064

LOCATION ACCURACY: Within 500M

COMMENTS: Location of opencuts and adit in a dry gulch just north of the east end of a Canadian National Railway tunnel, east of Copper Creek, about 7.5 kilometres northeast of the community of Savona (Geological Survey of Canada Memoir 249).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT: Cinnabar
ASSOCIATED: Dolomite Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Tuff
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Edict mercury showing is located on the steep banks of a dry gulch just north of the east end of the railway tunnel of the Canadian National Railway, east of Copper Creek. The occurrence is on the south facing slopes of Painted Bluffs and below the Tenderfoot workings (092INE033).

An opencut with a large number of dolomite stringers up to 2 centimetres wide occur in a tuff of the Upper Triassic Nicola Group. Scattered grains of cinnabar occur in the dolomite. A second cut about 7 metres east contains a pile of rock at one end which was probably made while digging the cut. This pile shows stringers of dolomite with a few grains of cinnabar. About 38 metres east of this last cut, two others had been made, one on each side of the gulch. A granitic body crosses immediately below the cuts and the volcanic rocks exhibit numerous quartz and dolomite stringers. Some stringers contain grains of cinnabar. The cut on the north side of the gulch has a 3-metre adit at its end driven westerly (Geological Survey of Canada Memoir 249).

BIBLIOGRAPHY

GSC MEM *249, p. 93
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/25

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE067**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHUM**, M

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 36 N
LONGITUDE: 120 32 00 W
ELEVATION: 1497 Metres

NORTHING: 5600096
EASTING: 674830

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrops about 1500 metres northeast of Lodgepole Lake, approximately 22 kilometres south-southwest of Kamloops (Assessment Report 6711).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite
ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP
Upper Triassic Triassic	Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER
Unnamed/Unknown Informal

LITHOLOGY: Basalt
Augite Porphyritic Basalt Flow
Basaltic Tuff
Diorite
Monzonite Diorite Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Chum showing area covers a poorly exposed Triassic alkaline stock within Upper Triassic Nicola Group volcanic rocks. The intrusive rocks comprise pyroxenite, gabbro, diorite, monzonite and monzonite-diorite breccia. Nicola rocks consist of augite porphyritic basalt flows with minor bedded basaltic tuff. These rocks trend northeasterly and dip moderately to the west. Pyrite and weak chalcopyrite mineralization occurs peripheral to the stock within Nicola Group rocks and within the intrusive rocks. The mineralization is in highly fractured diorite and monzonite-diorite breccia and chloritized basalt.

In 1977, Cominco Ltd. staked the Chum claims over a large, previously unrecognized alkaline stock showing a pyrite zone with minor copper mineralization in an area of extensive overburden. During 1977-78, a program of geological mapping, induced polarization surveys (25 kilometres) and ground magnetics (53.5 kilometres) were completed; the claims were allowed to lapse. In 1987, the M & R claims were staked and in 1988, Afton Operating Corporation completed soil geochemistry (248 samples) and 3 percussion-drill holes totalling 233 metres. In 1991, Afton Operating Corporation completed 6 percussion-drill holes totalling 250 metres in the south part of the claims area. In 1992, three diamond-drill holes totalling 383 metres tested aeromagnetic and ground magnetic anomalies on the M & R claims on behalf of Teck Corporation. In 1996, Walloper Gold Resources Corporation focused on the precious metal potential of the property and completed geological mapping, VLF-EM (85 kilometres) and ground magnetometer (90 kilometres) surveys, grid work (94 kilometres), soil (1281), rock (115) and silt (19) geochemistry on the M and GA claims. Mesothermal and epithermal quartz vein and breccia float with anomalous gold values (up to 700 ppb) were found

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 155
REPORT: RGEN0100

CAPSULE GEOLOGY

in the south grid area (see Walloper, 092INE090).

BIBLIOGRAPHY

EMPR ASS RPT *6711, *7244, 18082, 21795, 22626
EMPR EXPL 1978-E168,E169
EMPR BULL 77
STOCKWATCH July 12, 2001
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/26

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE068**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANDY LAKE**, HAWK

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092116E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 53 N
LONGITUDE: 120 02 13 W
ELEVATION: 1387 Metres

NORTHING: 5631554
EASTING: 708799

LOCATION ACCURACY: Within 500M

COMMENTS: Just north of Andy Lake, about 25 kilometres northeast of the community of Kamloops (Assessment Report 17803).

COMMODITIES: Lead Copper Silver

MINERALS

SIGNIFICANT: Galena Chalcopyrite
ASSOCIATED: Quartz Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
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>
Paleozoic	Harper Ranch	Undefined Formation	
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Heffley Creek Pluton

LITHOLOGY: Diorite
Argillite
Limestone
Andesite
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Andy Lake showing area is underlain by northwest trending, steeply dipping belts of limestone, argillite, andesite and greenstone of the Carboniferous to Triassic Nicola and/or Harper Ranch groups which are intruded by diorite and hornblendite of the Triassic to Jurassic Heffley Creek pluton.

A 1.5-metre thick quartz vein contains sparsely distributed galena crystals and clusters, chalcopyrite and pyrite. Wallrock appears to be diorite.

BIBLIOGRAPHY

EMPR ASS RPT 17147, *17803
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2000/06/20
DATE REVISED: 2000/06/22

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE069**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH PINE**, SOUTH PINE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 16 N
LONGITUDE: 120 46 27 W
ELEVATION: 549 Metres

NORTHING: 5624881
EASTING: 657001

LOCATION ACCURACY: Within 500M

COMMENTS: Showing along old roadcut about 5 kilometres east of the community of Savona (Assessment Report 18880).

COMMODITIES: Mercury Copper Silver

MINERALS

SIGNIFICANT: Cinnabar Tetrahedrite
ASSOCIATED: Dolomite Ankerite Quartz
ALTERATION: Dolomite Ankerite Malachite Azurite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

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: Conglomerate
Sandstone
Siltstone
Limy Pebble Conglomerate
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The North Pine showing area is underlain by thick bedded sequences of Upper Triassic Nicola Group sediments striking northwest to north and dipping steeply east. The sediments are predominantly poorly sorted conglomerates containing trachyandesitic, basaltic or andesitic clasts, with interbeds of sandstone, siltstone, limy pebble conglomerate and limestone. The sedimentary rocks have been segmented by several west-northwest faults. Strong zones of multiphase, banded carbonate replacement containing highly distorted ankerite, dolomite and quartz veinlets occur in close proximity to the faults. One of these zones was explored in the 1940s and constitutes the original mercury showing. Dolomite veins occur along fractures and carry small masses of tetrahedrite with considerable malachite and azurite as stain and small masses and thin films of cinnabar. In 1986, a sample from a rockcut containing visible cinnabar assayed 0.01 per cent mercury and 1.7 grams per tonne silver (Assessment Report 18880).

In the 1940s, the North Pine and South Pine claims covered the mercury showing. The Mountie 1,2 claims were staked by M. Morrison in 1981 to cover the original showing and optioned to Placer Development Ltd. who conducted a widely spaced soil sampling survey. During 1985, M. Morrison conducted a VLF-EM 16 survey on the Mountie property. In 1986, the property was optioned to Vault Explorations Inc. who completed geological mapping and one percussion-drill hole. The property was restaked as the Sage 1 and Fir 1 claims in 1988. In 1989-90 and 1992, M. Morrison completed ground magnetometer surveys.

BIBLIOGRAPHY

EMPR ASS RPT 9879, 13676, 18880, 20273, *22385
GSC MEM *249, pp. 85,86
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 158
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE070**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEWMONT, GOLD KEY, BRUSSELS LAKE,
SPROUT, GOLDEN LIME, BRUSSELS,
GOLDEN RING**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:
LATITUDE: 50 43 18 N
LONGITUDE: 120 42 45 W
ELEVATION: 731 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Newmont showing, located between Brussels and Pat lakes, about 27 kilometres west of Kamloops (Assessment Report 25538).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5621369
EASTING: 661463

COMMODITIES: Lead Antimony Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Stibnite Sphalerite Tetrahedrite
ASSOCIATED: Chalcedony Quartz Pyrite Arsenopyrite
ALTERATION: Silica Carbonate Ankerite Dolomite Chalcedony
ALTERATION TYPE: Silicific'n Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Shear
CLASSIFICATION: Epithermal
TYPE: H04 Epithermal Au-Ag-Cu: high sulphidation

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Cretaceous-Tertiary	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Volcaniclastic Conglomerate
Sandstone
Volcaniclastic
Siltstone
Felsic Dike

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The property area is underlain by Upper Triassic Nicola Group metasediments comprised of volcaniclastic conglomerates with minor sandstone and siltstone interbeds. The metasediments appear to occur as a monoclinial sequence which trends at an average 145 degrees. The metasediments dip vertically to steeply east, east of an inferred fault in a broad drift-filled valley that crosses the property in a northwesterly direction. The metasediments dip moderately southwest, west of this fault.

Late Cretaceous? or early Tertiary? discordant felsic dikes, with or without quartz-eye phenocrysts, intrude the metasediments at many locations across the property. Moderate to strong carbonate and/or silica replacement of the conglomerates and sandstones occurs adjacent the felsic dikes. Both the country rocks and the felsic dikes are often faulted and cut by banded ankerite, dolomite, chalcedony and quartz veins. These intensely faulted replacement zones are anomalous in arsenic, antimony, gold and silver. One of the numerous fault replacement zones is projected to include the Newmont showing which is the only definitive mineralization located to date. The Newmont showing occurs within a 1 metre wide shear infilled with chalcedony and quartz veins and is associated with a carbonate replacement zone in Nicola metasediments. Sulphide minerals include pyrite, galena, stibnite, sphalerite, arsenopyrite and tetrahedrite. Sampling by Newmont Exploration in 1982 yielded up to 3 grams per tonne gold and 180 grams per tonne silver but no reports were ever submitted as assessment work.

The property has been explored over a period of 18 years by various operators which include Placer Development Ltd. (1981-84), Goldstone Exploration Ltd. (1984-88) and M. Morrison (1989-92,

CAPSULE GEOLOGY

1996-99). The Golden Lime and Brussels claims were staked by M. Morrison in 1981 to cover several large rusty carbonate/silica replacement zones found within Nicola Group rocks during routine prospecting. The ground was transferred to Placer Development Ltd. soon after staking and during 1981 Placer crews conducted a widely-spaced soil geochemical survey and discovered several areas across the property with elevated mercury, arsenic, antimony and gold values. The Newmont showing, discovered by Newmont Exploration geologists in 1982, is located immediately west of the Gold Key 5 claim. Placer Development Ltd. carried out limited follow-up work on the Brussels claims and allowed their option to lapse in 1984. The property was optioned to Goldstone Exploration Ltd. in 1984 who collected lithochemical samples that yielded elevated values for the same elements that were discovered by Placer Development. In 1985, a reverse circulation percussion drilling program (5 holes totalling 292 metres) carried out by Goldstone Exploration tested five widely separated targets across the property with one drillhole each. Two strong zones of carbonate/silica replacement were drilled over lengths of 80 metres but precious metal values were negligible and Goldstone abandoned the property in 1988. A series of soil geochemical (690 samples), magnetometer (13.2 kilometres) and geological surveys were conducted over the property by M. Morrison from 1989 until 1992, and five key areas considered worthy of detailed exploration were identified. A detailed geological mapping and sampling program was conducted over the Golden Lime 1 replacement zone in 1993 and in 1995 four more zones were mapped and sampled in detail. In 1990 and 1992-94, C.R.C. Explorations Ltd. and Ridel Resources Ltd. conducted a soil survey (1011 samples), ground magnetometer and VLF-EM survey (27 kilometres) over the Sprout claims. Between 1996-99, soil sampling (441 samples), induced polarization (15 kilometres), ground magnetometer (20.2 kilometres) and VLF-EM (11 kilometres) surveys were conducted over portions of the Golden Lime, Gold Key and Sprout claims by M. Morrison and Ridel Resources Ltd. See also Pat Lake (092INE087).

BIBLIOGRAPHY

EMPR ASS RPT 3715, 10187, 14881, 16099, 16320, 18832, 18916, 20081, 20335, 21384, *21400, *21536, *22435, *22903, 22994, 23519, 23720, *24010, 24470, 24491, 25040, *25538, 25928
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/21
DATE REVISED: 2003/01/21

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE071**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROPER LAKE, TC, SPUR,**
DRG, HAPPY DAYS, RABBIT

MINING DIVISION: Kamloops

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 01 N
LONGITUDE: 120 39 30 W
ELEVATION: 1554 Metres

NORTHING: 5606140
EASTING: 665771

LOCATION ACCURACY: Within 500M

COMMENTS: Drillhole and mineralized outcrop just north of Roper Lake, about 25 kilometres southwest of Kamloops (Assessment Report 2102).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite
ASSOCIATED: Quartz Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Porphyry
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Quartz Monzonite
Porphyritic Andesite
Porphyritic Basalt

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
SAMPLE TYPE: Drill Core
COMMODITY: Molybdenum

YEAR: 1981

GRADE: 0.1320 Per cent

COMMENTS: Across 10 metres.
REFERENCE: Assessment Report 9319.

CAPSULE GEOLOGY

The Roper Lake prospect is underlain by volcanics and minor intercalated sediments of the Upper Triassic Nicola Group intruded by a younger (possibly Tertiary) zoned quartz monzonite stock (Roper Lake stock). Intermediate to mafic dikes cut both the intrusion and Nicola rocks. The Roper Lake stock is a northwesterly trending, elliptically-shaped intrusion approximately 1600 metres long by about 800 metres wide. Geological and geophysical evidence suggests that the stock plunges steeply northeast. A northwesterly striking fault is postulated to be present east of the intrusion proper and an outlier of the stock occurs on the upthrown side of this fault.

The bulk of the Nicola rocks consist of greenish grey, semi-porphyritic andesites and basalts. In the vicinity of the Roper Lake stock, the Nicola rocks are baked to a hard, flinty, hornfelsic rock and pyrite is abundant. The composition of the Roper Lake stock approximates a quartz monzonite. A crude zoning was noted in the intrusion with a core of quartz-eye porphyry grading outward to a medium to fine grained quartz monzonite, slightly porphyritic in part. Quartz veining of several generations is commonly seen throughout the stock; usually these veins are narrow (1 centimetre or less) although veins as wide as 25 centimetres are present.

Pyrite is ubiquitous but is usually more abundant in the Nicola rocks, particularly in the thermally altered rocks adjacent to the

CAPSULE GEOLOGY

stock and in the northern part of the property. The pyrite is usually fine grained and occurs along fractures or as disseminated grains in Nicola rocks. Where quartz veins are abundant as in the outer shell of the stock and the contact zones, pyrite frequently occurs as disseminated grains or small clusters within the veins.

Molybdenite is the only other sulphide mineral seen on the property. It is widely distributed throughout the stock and also occurs in peripheral areas of the intruded Nicola rocks. It is invariably fine grained and is most frequently found in quartz veins but does occur as 'paint' along dry fractures or as disseminated grains in intrusive rock. Such disseminated grains are seldom more than few centimetres away from a quartz vein. Commonly, molybdenite is seen as small clumps of very fine grained crystals or 'dust' scattered irregularly through narrow (1 centimetre or less) quartz veins. The widest mineralized quartz vein is exposed in a trench in the contact zone about 200 metres north of Roper Lake. Here a 25 centimetre wide vein in a dike of intrusive material is heavily mineralized with very fine grained molybdenite occurring as numerous sheets of semimassive material up to several millimetres wide that parallel the vein walls.

Percussion and diamond drilling has outlined a semicircular annulus of higher molybdenum values along the northeastern side of the intrusion and in the adjacent country rock. A 1981 drillhole by Cominco Ltd. intersected molybdenum mineralization to a depth of 346 metres. Molybdenite occurs principally as fine fracture and open-space fillings in quartz stockwork. Heavy molybdenite is occasionally noted in gouge zones and disseminated molybdenite may be found in the areas between fractures; pyrite is ubiquitous. A 10-metre intersection between 340 and 350 metres depth assayed 0.132 per cent molybdenum (Assessment Report 9319).

The Roper Lake prospect was discovered in the 1950s but serious exploration work did not commence until 1966. In 1960, work began on the DRG claims by Kennco Explorations (Western) Limited and consisted of geological mapping, soil sampling, and induced polarization (13 kilometres), ground magnetometer (15 kilometres) and self-potential (13 kilometres) surveys. In 1966, Dominic Lake Mining Co. Ltd. conducted a soil sampling (1911) survey over the Spur and TC claims. In 1966, geochemical and magnetometer surveys, 457 metres of surface trenching and 12.8 kilometres of new road was built on the Spur group by Tro-Buttle Explorations Limited. In 1967, Dominic Lake Mining Ltd. conducted geological mapping, magnetometer and geochemical surveys, 3.2 kilometres of road building, 15 diamond-drill holes totalling 745 metres and 9 percussion-drill holes totalling 306 metres on the TC group. In 1969, Tro-Buttle Exploration Ltd. conducted geological mapping, prepared a topographic map and completed a magnetometer survey (30 kilometres) on the TC and Spur claims. In 1971, a soil geochemical (271) survey was completed by Tro-Buttle Exploration Limited on the Spur claims. In 1972, Dominic Lake Mining Company Ltd. performed geological mapping, a magnetometer survey (71 kilometres) and soil (877) geochemical survey. In 1976, on behalf of J.R. Kerr, geological mapping and line cutting were conducted on the Happy Days claim which now covers the showing. In 1978-80, Cominco Ltd. conducted induced polarization surveys (40.5 kilometres), ground magnetometer survey (50 kilometres), line cutting and 32 percussion-drill holes totalling 2478 metres on the Happy Days claims. In 1981, Cominco Ltd. submitted results on one diamond-drill hole totalling 346 metres which was drilled as part of a larger drilling program on the Happy Days claims; Cominco returned the claims to Keda Resources (now K.D. Resources Inc.). In 1984, a limited soil sampling survey (98 samples) was completed on the Happy Days claim on behalf of K.D. Resources Inc.

BIBLIOGRAPHY

EMPR AR 1966-148; 1967-148
EMPR ASS RPT 325, 1009, 2102, 3458, 4110, *6149, 6579, 7052,
*7436, *7764, 8580, *9319, 12698
EMPR EXPL 1976-E100; 1977-E157,E158; 1978-E169; 1979-176
EMPR GEM 1969-238; 1971-297,298; 1972-200
EMPR PF (Sketch maps of property outline, geology and workings, 1966)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Auterra Ventures Inc., Jan 24, 2003
Chevron File (Year-end reports, 1980-81; Drillhole collar plan map;
Drillhole sections; Claim map)

MINFILE NUMBER: **092INE072**

NATIONAL MINERAL INVENTORY:

NAME(S): **KNUTSFORD**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 29 N
LONGITUDE: 120 20 21 W
ELEVATION: 823 Metres

NORTHING: 5611473
EASTING: 688199

LOCATION ACCURACY: Within 1 KM

COMMENTS: Deposits of gypsite on a small bench on the hill slope 500 metres west of Knutsford (Showing on Map 886A in Geological Survey of Canada Memoir 249).

COMMODITIES: Gypsum

MINERALS

SIGNIFICANT: Gypsite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F02 Bedded gypsum

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Gypsite
Sandstone
Sand

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

Deposits of gypsite occur on a small bench on the hill slope west of Knutsford in an area underlain by sandstone of the Eocene Kamloops Group. One of the deposits was worked by G.J. Rogers and S. Little of Knutsford who excavated a trench 26 metres long, 13.7 metre wide, and from 0.3 to 1.5 metres deep. About 24 metres west, another pit 1.2 metres deep has been excavated in the same material. The bench on which the deposit occurs is 30 to 46 metres wide and it is probable that the gypsite extends 182 metres southeast of the large cut. The gypsite is a greyish cream colour, due, apparently, to the presence of organic matter. It is contaminated with some sand and carries occasional small pebbles. A second deposit occurs northwest of Knutsford and is about 45 metres above the road on what is apparently a continuation of the same bench. The bench at this point is about 61 metres long and 15 metres wide. The gypsite also extends in a narrow band on a gentle slope below the bench trending towards the road (Geological Survey of Canada Memoir 249).

A number of short auger holes indicated the gypsite to be 1.2 to 2.4 metres thick and in places probably thicker. A reported analysis of a sample yielded 0.6 per cent Fe2O3 and Al2O3, 31 per cent CaO, trace MgO, 42.1 per cent SO3, 4.5 per cent insoluble and 21.6 per cent loss on ignition (Geological Survey of Canada Memoir 249).

BIBLIOGRAPHY

EMPR BULL 77
GSC MEM *249, p. 144
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/14

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE073**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRONMASK LAKE**, IRON MASK LAKE, LAKE NO. 5

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5615511
EASTING: 679917

LATITUDE: 50 39 49 N
LONGITUDE: 120 27 15 W
ELEVATION: 716 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Ironmask Lake located south of and adjacent to the Trans-Canada Highway 1/97, about 9 kilometres west of Kamloops (Bulletin 4, Map 3).

COMMODITIES: Sodium Sulphate Magnesium Sulphate

MINERALS

SIGNIFICANT: Mirabilite Epsomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Eocene	Kamloops	Undefined Formation	
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Salts
Greenstone
Porphyritic Mafic Volcanic
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Greenschist

CAPSULE GEOLOGY

Ironmask Lake is the first and largest of a series of small undrained lakes occurring at intervals along the Trans-Canada Highway 1/97 for nearly 6 kilometres to the west. The lake is about 500 metres long by 91 to 152 metres wide. The eastern end is covered with tailings from the old Iron Mask mine (092INE010) situated on the hillside above; the remainder was dry in October 1937, except for numerous shallow pools distributed over its central portion. The depression in which the lake lies is flanked on the north by a low hill underlain by greenstone of the Upper Triassic Nicola Group and fresher porphyritic mafic volcanics of the Eocene Kamloops Group. The south is flanked by the slopes of Iron Mask Hill underlain by diorite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith. The basin of the lake is closed at the west end by a low divide.

In October 1937, the surface of the lake was heavily encrusted with a white efflorescence of dried salts, but no permanent layer of crystal was observed. Beneath the encrustation was soft black mud containing, in places, sparsely disseminated mirabilite crystals and smelling strongly of hydrogen sulphide. A number of 1.2 metre deep auger holes were drilled in a zone within 12 metres of the shore due to the soft mud surface. A bed of solid crystal was intersected in three holes near the margin of the tailings dump, beneath 0.9 to 1.2 metres of mud. The thickness of the bed was not determined. The lake was partly drilled several years ago (early 1930s) and it is understood that an area of 2 hectares was estimated to be underlain by a crystal bed from 1.5 to 3.6 metres thick, containing approximately 45,355 tonnes of salts. The depth of overlying mud ranged from 0.9 to 1.15 metres.

In 1937, collecting a sample of permanent crystal was not possible but a brine sample taken from an old pit near the west end of the lake analysed 27.63 per cent total solids with a specific gravity of 1.240 at 16 degrees Celsius. The composition of the solids was: 35.8 per cent Na2SO4, 61.8 per cent MgSO4, 2.0 per cent

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 165
REPORT: RGEN0100

CAPSULE GEOLOGY

Na₂CO₃, 0.4 per cent NaCl and trace CaSO₄. A sample of surface crystals that formed on the lake later in the season yielded 94.2 per cent Na₂SO₄, 5.1 per cent MgSO₄, 0.5 per cent Na₂CO₃ and 0.2 per cent insoluble (Bulletin 4). The magnesium sulphate mineral is assumed to be epsomite.

BIBLIOGRAPHY

EMPR AR 1931-A109
EMPR BULL *4, pp. 27,36,37; 77
GSC MEM 249, p. 147
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE074**

NATIONAL MINERAL INVENTORY:

NAME(S): **POLYGON POND**, LAKE NO. 4

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5616002
EASTING: 678918

LATITUDE: 50 40 06 N
LONGITUDE: 120 28 05 W
ELEVATION: 686 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Lake No. 4 south of and adjacent to the Trans-Canada Highway 1/97,
about 10 kilometres west of Kamloops (Bulletin 4, Map 3).

COMMODITIES: Sodium Sulphate Magnesium Sulphate

MINERALS

SIGNIFICANT: Mirabilite Epsomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Iron Mask Batholith
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Salts
Diorite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

Lake No. 4 or Polygon Lake, about 1.8 hectares in area, lies 1000 metres west-northwest of Ironmask Lake (092INE073) in the same general depression, although its surface is 9 to 12 metres lower. The divide between the two is only about 3 metres above the surface of Ironmask Lake. Diorite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith outcrops along the south shore. Polygon Lake is within the boundaries of Crown grant Lot 4667 (Winty) which is part of the Crescent property (092INE026).

The lake is roughly circular and the shorelines steep. In October 1937, at least 1.5 metres of brine was present. The shoreline was encrusted with dried salts but no permanent crystals were noted. A sample of the brine analysed total solids 11.67 per cent with a specific gravity of 1.1075 at 16 degrees Celsius. The composition of the solids were 32.8 per cent Na2SO4, 62.0 per cent MgSO4, 1.6 per cent NaCl, 1.4 per cent Na2CO3 and 2.1 per cent CaSO4. The similarity of the brine to that of Ironmask Lake is notable. When examined, the lake would have contained 635 tonnes of mixed salts per 0.3 metre depth, or a total probably in excess of 2721 tonnes (Bulletin 4). The sodium sulphate mineral assumed to be present is mirabilite and the magnesium sulphate mineral, epsomite.

BIBLIOGRAPHY

EMPR BULL *4, pp. 27,37,38; 77
GSC MEM 249, p. 147
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE075**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAKE NO. 3**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5616029
EASTING: 677895

LATITUDE: 50 40 08 N
LONGITUDE: 120 28 57 W
ELEVATION: 663 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Lake No. 3 about 1000 metres west of Polygon Lake (092INE074), south of and adjacent to the Trans-Canada Highway 1/97, 11 kilometres west of Kamloops (Bulletin 4, Map 3).

COMMODITIES: Sodium Sulphate Magnesium Sulphate

MINERALS

SIGNIFICANT: Mirabilite Epsomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

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	
Triassic-Jurassic			Iron Mask Batholith
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Volcanic Agglomerate
Diorite
Salts
Gravel

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

Lake No. 3 is in the same general depression that contains Ironmask Lake (092INE073) and Polygon Lake (092INE074) and is separated from the latter by a divide about 12 metres high. Altered volcanic agglomerate of the Upper Triassic Nicola Group is exposed along the shoreline at the east end of the lake; diorite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith outcrops on the hill to the south.

The lake was completely dry when examined in October 1937. The surface carried a heavy encrustation of dried salts over an area of 1.6 hectares beneath which was soft sticky mud. The nature of this mud restricted drilling to a zone close to the shoreline. Two 1.5-metre holes, one at each end of the lake, intersected gravelly mud at 1.2 metres; no crystals were found. It is understood, however, that drilling by local parties in the past disclosed a permanent crystal bed beneath 1.5 metres of mud. Neither its thickness nor extent were determined. An analysis of a sample of the white surface crust yielded 48.6 per cent Na₂SO₄, 19.8 per cent MgSO₄, 1.9 per cent Na₂CO₃, 2.5 per cent MgCO₃, 2.7 per cent CaCO₃ and 21.6 insoluble (Bulletin 4). It is assumed the sodium sulphate mineral is mirabilite and the magnesium sulphate mineral, epsomite.

BIBLIOGRAPHY

EMPR BULL *4, pp. 27,38; 77
GSC MEM 249, p. 147
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

mud. Previous work indicated the overlying mud layer to average 30 centimetres thick, and the permanent crystal underneath to vary from 2 to more than 6 metres thick. In plan, the limit of permanent crystals closely parallel the shore line at a distance of 5 to 25 metres. The surface area of the deposit is calculated at 23,600 square metres. Using an average thickness of 3 metres and a specific gravity of 1.46, gives 103,368 tonnes of Glauber's salt containing 45,500 tonnes of salt cake. The volume of the clay overlying the deposit is calculated at 7080 cubic metres or 18,250 tonnes. Average water depth is estimated at 1 metre and the volume of water contained in Saltwort Pond is calculated at approximately 30 million litres (Assessment Report 17869).

Nine samples taken by McCammon in 1949 assayed 58.90 to 97.17 per cent Na₂SO₄, nil to 7.35 per cent MgSO₄, negligible CaSO₄, trace to 4.64 per cent CaCO₃ and trace to 1.94 per cent MgCO₃. Insoluble content varied from 0.4 to 27.31 per cent.

All of the test samples taken in 1987 contain significant quantities of sodium sulphate. There is a fairly wide variation in quality, however, since (calculated) anhydrous sodium sulphate contents range from 44 to 13 per cent. Corresponding (calculated) Glauber's salt contents range from near 100 to 30 per cent. Overall, test results confirm the feasibility of producing technically pure sodium sulphate (greater than 99 per cent Na₂SO₄) from 14 of the 19 test samples (Assessment Report 17869).

Previous work on the Cedars salt deposit dates back to at least 1930. The property was apparently held by one owner from 1930 to 1949. Known exploration consisted of sporadic attempts to evaluate the deposit by pitting, auger drilling, sampling and assaying. No significant exploration work has been documented since 1949. In 1987, Salor Scientific Inc. took 19 samples for analyses.

BIBLIOGRAPHY

EMPR AR 1922-N154; *1930-A196; 1931-A109; 1932-A147; 1934-D29; *1949-A264-A266
EMPR BULL *4, pp. 27,34,35; 77
EMPR ASS RPT *17869
GSC MEM *249, pp. 146,147
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CIM BULL Nov. 1938, p. 565

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/31

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE077**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAKE NO. 1**, SALSOLA POND, CHERRY CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I10E

BC MAP:

LATITUDE: 50 42 18 N

LONGITUDE: 120 34 41 W

ELEVATION: 548 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Salsola Pond, located between the Trans-Canada Highway 1/97 and Kamloops Lake, about 19.5 kilometres west of Kamloops (Bulletin 4, Map 3).

UTM ZONE: 10 (NAD 83)

NORTHING: 5619819

EASTING: 671012

COMMODITIES: Sodium Carbonate Sodium Sulphate

MINERALS

SIGNIFICANT: Natrite Mirabilite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Kamloops	Undefined Formation	
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Mafic Porphyritic Volcanic
Syenite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Indicated YEAR: 1940

QUANTITY: 90710 Tonnes

COMMODITY Sodium Carbonate GRADE 90.0000 Per cent

COMMENTS: If the area of permanent crystal of 1.2 hectares is assumed correct the lake would contain 90,710 tonnes or roughly 27,213 tonnes of sodium carbonate and sulphate. Grades are not given.

REFERENCE: Bulletin 4.

CAPSULE GEOLOGY

The Lake No. 1 sodium carbonate deposit occupies a small, sharp depression near a faulted contact between syenite of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith to the north and Eocene Kamloops Group mafic porphyritic volcanic rocks to the south. The salt deposit underlies a small alkali lake, Salsola Pond. Its drainage basin is about 182 hectares in extent, of which about three-quarters is underlain by porphyritic volcanic rocks. Another alkali lake containing sodium sulphate crystal, (Cedars, 092INE076), lies 1500 metres east. Salsola Pond was nearly dry when examined in October, 1937. The surface was covered by a heavy encrustation of dried soda (natrite), underlain by 0.6 to 1.2 metres of soft black mud, beneath which a solid crystal bed occurred. In September, 1938, a thin layer of brine covered nearly half the lake. The area of the bed is between 1.2 and 1.6 hectares, and that about 1.2 hectares are underlain by permanent crystal. The Minister of Mines Annual Report 1930 states that holes drilled with a steam jet intersected from 5.4 to 10.9 metres of solid crystal, without, in places, bottom being reached. If these figures are assumed as correct, the lake would contain approximately 90,710 tonnes of permanent crystals, or roughly 27,213 tonnes of sodium carbonate and sulphate (Bulletin 4). In 1930, the typical analysis was given as: 63 per cent H₂O; 1-5 per cent insolubles; 22-26 per cent salts; Composition of salts: 92 per cent Na₂CO₃; 8 per cent Na₂SO₄.

CAPSULE GEOLOGY

It is understood from the owner that analyses vary in respect to the proportion of sodium carbonate and sodium sulphate (mirabilite) in different parts of the bed. In 1938, samples were taken from the surface crust and settling tank and assayed as follows: Surface Crust: 57.9 per cent Na₂CO₃; 39.8 per cent Na₂SO₄; 1.1 per cent insolubles. Recrystallized material from settling tank: 58.9 per cent Na₂CO₃; 40.6 per cent Na₂SO₄. From these results it appears probable that the proportion of sodium sulphate in the quoted analysis from 1930 is too low to be truly representative.

The deposit was worked by the B.C. Sodium Syndicate from 1933 to 1935 and about 907 tonnes of impure natron or sal soda was shipped to Royal Crown Soaps, Limited, in Vancouver and Calgary. The method of recovery was to liquify the crystal by means of steam, pump the solution to a settling tank to remove insoluble impurities, and recover the sodium carbonate and sodium sulphate by recrystallization.

BIBLIOGRAPHY

EMPR AR *1930-A196; 1931-A109; 1932-A147; *1933-A195; 1934-D29; 1935-D16
EMPR BULL *4, pp. 26-29; 77
GSC MEM *249, pp. 148
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CIM BULL Nov. 1938, p. 562

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/01

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE078**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAKE 7**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 46 20 N
LONGITUDE: 120 23 53 W
ELEVATION: 792 Metres

NORTHING: 5627723
EASTING: 683457

LOCATION ACCURACY: Within 500M

COMMENTS: 'Lake 7' located 12 kilometres north of the community of Kamloops,
west of the North Thompson River (Bulletin 4).

COMMODITIES: Magnesium Sulphate

MINERALS

SIGNIFICANT: Brines Epsomite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic
Upper Triassic

GROUP

Undefined Group
Nicola

FORMATION

Ashcroft
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Several small lakes on the rolling plateau surface north of Kamloops and west of the North Thompson River contain concentrated brines in which magnesium sulphate predominates. The area appears to be underlain by argillite of the Jurassic Ashcroft Formation or Upper Triassic Nicola Group.

One of the lakes (lake 7) contained brine which analysed 20.8 per cent total solids and a specific gravity of 1.1895 at 16 degrees Celsius (October, 1937). The composition of solids assayed 84.0 per cent MgSO₄, 14.7 per cent Na₂SO₄, 1.0 per cent Na₂CO₃, 0.2 per cent NaCl and trace CaSO₄. The lake is slightly over 0.8 hectare in area and occupies a sharp basin-like depression. The depth of brine in the centre probably exceeds 1.5 metres; the quantity of salts in solution is approximately 725 tonnes per 0.3 metre of depth. The only crystal noted was in the form of thin films of interlocking epsomite crystals occupying depressions along the shore (Bulletin 4).

Another small lake about 2.4 kilometres to the south was sampled and analysed 6.0 per cent total solids and a specific gravity of 1.049 at 16 degrees Celsius. The composition of solids assayed 65.0 per cent MgSO₄, 31.0 per cent Na₂SO₄, 1.4 per cent Na₂CO₃, 2.4 per cent CaSO₄ and trace NaCl.

BIBLIOGRAPHY

EMPR BULL *4, pp. 27,50,51
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, pp. 148,149
GSC OF 165; 980; 2490
GSC P 44-20; 79-1A, pp. 381,382; 82-1A, pp. 293-297; 85-1A,
pp. 349-3581

DATE CODED: 1985/07/24
DATE REVISED: 2000/06/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE079**

NATIONAL MINERAL INVENTORY:

NAME(S): **SODA LAKE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 44 54 N
LONGITUDE: 120 34 17 W
ELEVATION: 610 Metres

NORTHING: 5624652
EASTING: 671325

LOCATION ACCURACY: Within 500M

COMMENTS: Lake at the south end of Tranquille Ecological Reserve 29, about 18 kilometres west of Kamloops (Map 886A, Geological Survey of Canada Memoir 249).

COMMODITIES: Sodium Sulphate

MINERALS

SIGNIFICANT: Mirabilite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Geological Survey of Canada Memoir 249 describes a lake that contains brine together with crystals on the shore of the lake and a deposit of crystal on the lake bottom. Qualitative tests found the material to be largely sodium sulphate (mirabilite), probably with minor amounts of sodium carbonate and magnesium sulphate. The area of the Soda Lake showing is underlain by sandstone of the Eocene Kamloops Group.

BIBLIOGRAPHY

EMPR BULL 77
GSC MEM *249, p. 148
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE080**

NATIONAL MINERAL INVENTORY:

NAME(S): **CARBINE CREEK GYPSUM**, FREDERICK SIDING

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 51 21 N
LONGITUDE: 120 47 06 W
ELEVATION: 914 Metres

NORTHING: 5636131
EASTING: 655899

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location from Geological Survey of Canada Map 886A, east of Carabine Creek and on the northwest slopes of Hardie Hill, about 12 kilometres north of the community of Savona.

COMMODITIES: Gypsum

MINERALS

SIGNIFICANT: Gypsum Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: F02 Bedded gypsum

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: Gypsum
Argillite
Volcanic Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Geological Survey of Canada Memoir 249 describes "A deposit of gypsum occurring on a bench known as Kelly flat on the east side of Carabine Creek". Showings occur in several pits and cuttings along the road leading to the Hardie Mountain cinnabar property (see Hardie Mountain, 092INE037; and Hardie Hill, 092INE058). Apparently at one time deposits of gypsum were mined from this locality, but no information is available as to the amount shipped or the extent of the deposits. A general sample combined from samples taken at the different exposures was partly analysed and showed 43.1 per cent lime and 15 per cent sulphur.

The area appears to be underlain by the Upper Triassic Nicola Group comprising porphyritic volcanic breccias with intercalated argillite.

BIBLIOGRAPHY

GSC MEM *249, p. 145
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE081**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED LAKE**, DEM, WESTERN INDUSTRIAL CLAY,
KITTY

STATUS: Producer Open Pit
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:
LATITUDE: 50 56 28 N
LONGITUDE: 120 48 50 W
ELEVATION: 1230 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Quarry, 4.4 kilometres north-northwest of the north end of Red Lake,
approximately 40 kilometres northwest of Kamloops (Fieldwork 2000).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5645552
EASTING: 653585

COMMODITIES: Fullers Earth Diatomite

MINERALS

SIGNIFICANT: Diatomite Clay
ASSOCIATED: Montmorillonite
ALTERATION: Montmorillonite
MINERALIZATION AGE: Miocene

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: F06 Lacustrine diatomite
SHAPE: Tabular
DIMENSION: 37 Metres
COMMENTS: A flat-lying deposit of diatomaceous earth, 37 metres thick, covering
a 65 hectare area.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Tertiary	Chilcotin	Deadman River	

LITHOLOGY: Diatomite
Volcanic Ash
Clay
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Fuller's earth is being mined 4.4 kilometres north of Red Lake, approximately 40 kilometres northwest of Kamloops. Mining is seasonal due to the relatively high elevation of the deposit (about 1300 metres above sea level), which results in unpredictable road conditions in the winter.

At the Red Lake deposit, diatomaceous earth material, up to 37 metres thick, occurs over a 64.8 hectare area and is part of the Pleistocene-Miocene Deadman River Formation (Chilcotin Group). The deposit, Miocene in age, consists of a massive, fine grained, white to beige-coloured rock. Physical properties are:

Density - 0.61 g/cc,
Absorption (ASTM) - 111.4 per cent,
Physical Strength - 4.8-7.9 MPa (devitrified volcanic ash)

The quarry site exposed the following section: 1.5-3.0 metres of till; 0.9-1.5 metres of white to beige volcanic ash; 0.6-1.2 metres of dark brown and grey clay; 3.0 metres of beige volcanic ash; and 0-0.6 metre of beige volcanic ash with frequent coal fragments and 0.3 metre of sparse andesitic lapilli tuff. The andesite or basalt flow basement that underlies the deposit is believed to belong to the Eocene Kamloops Group.

Fuller's earth was first mined by D.E.M. Resource Processors Ltd. with production beginning in about 1984. Production has been intermittent since then. The company, now known as Western Industrial Clay Products Ltd., trucks the material to its processing plant in Kamloops, where it is used to produce a variety of industrial and domestic absorbents, such as kitty litter.

In 1995, with support from the Explore B.C. Program, Western

CAPSULE GEOLOGY

Industrial Clay Products Ltd. completed a program of auger drilling totalling 298.2 metres in 39 holes, geological mapping and reserve calculations. This program resulted in the definition of an ore horizon up to 6 metres thick beneath the existing pit floor, consequently allowing for a doubling of ore reserves and pit life. Unfortunately no figure of what these reserves are is provided (Explore B.C. Program 95/96 - M91).

Western Industrial Clay Products Ltd., in Kamloops, supplies half of the kitty litter market (and other domestic and industrial absorbents) in Western Canada. The company also ships products overseas. In addition, it is evaluating the marketing of "leonardite" or "humate" soil conditioner from a humic acid-bearing, carbonaceous layer which is sandwiched between two diatomaceous earth horizons at the mine site (Mineral Exploration Review 2000, page 8). Leonardite and humate are loosely used terms covering a variety of naturally occurring lithologies with high humic acid content, including weathered (oxidized) lignite, sub-bituminous coal and a variety of carbonaceous rocks such as mudstones, shales and claystones. These raw materials are used mainly as soil conditioners, however, they also have use in wood stains, drilling fluid additives and as binder in iron pelletizing. During 2001, the company began sales of the 'Garden Treasure' line of organic potting soils using leonardite and diatomaceous earth, combined with peat and perlite from other sources.

BIBLIOGRAPHY

EMPR ASS RPT *25358
EMPR EXPL 1996-A13; 1998; 2000-36; 2001-36
EMPR Explore B.C. Program 95/96 - M91
EMPR FIELDWORK 1987, pp. 417-419; 1988, pp. 515-518; *2000, pp. 371-378
EMPR INF CIRC 1986-1, p. 68; 1991-1, p. 61; 1995-1, p. 9; 1996-1, p. 10; 1997-1, p. 12; 1998-1, p. 13
EMPR MAP 65 (1989)
EMPR MINING 1988 p. 83
EMPR OF 1988-13; 1992-1; 1992-9; 1994-1
EMPR MER 2000, p. 8
GSC MAP 104A; 886A; 1386A; 42-1989
GSC MEM *249, p. 149
GSC OF 980
GSC P 82-1A, pp. 293-297; 85-1A, pp. 349-358; 90-1E
CANMET RPT 691, pp. 44,45

DATE CODED: 1985/07/24
DATE REVISED: 2001/06/11

CODED BY: GSB
REVISED BY: PBR

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INE082**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOMESTAKE (L.2125), MOLLY GIBSON (L.833)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 54 05 N
LONGITUDE: 120 17 30 W
ELEVATION: 800 Metres

NORTHING: 5642353
EASTING: 690431

LOCATION ACCURACY: Within 500M

COMMENTS: Area of shafts between Jamieson Creek and the North Thompson River, about 25 kilometres north of the community of Kamloops (Minister of Mines Annual Report 1930).

COMMODITIES: Lead Zinc Gold Silver

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Porphyritic Quartz Monzonite
Argillite
Biotite Schist
Sericite Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

Harper Ranch PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1930
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	308.5000	Grams per tonne
Gold	13.7000	Grams per tonne

COMMENTS: Sample from dump of an opencut.
REFERENCE: Minister of Mines Annual Report 1930, page A190.

CAPSULE GEOLOGY

The Homestake and Molly Gibson are adjoining claims on the north side of Jamieson Creek about 25 kilometres north of Kamloops.

Brownish weathering, highly fractured porphyritic quartz monzonite intrudes biotite and sericite schist and argillite of the Paleozoic to Mesozoic Harper Ranch and/or Nicola groups. In some areas the metasediments have been sheared and dragfolded. A northwest striking zone of shearing about 9 to 15 metres wide is well defined in the quartz monzonite intrusion where several near-parallel quartz veins and branching stringers occur along joint planes and prominent fractures. The veins traverse both the intrusive rock and metasediments. The veins are mineralized with scattered grains of pyrite, galena, arsenopyrite and sphalerite. The veins strike 330 to 345 degrees and dip from 90 to 60 degrees west and vary in thickness from 0.15 to 5.4 metres. Most of the veins (at least five) occur on the Homestake claim and continue to the south through a portion of the Molly Gibson claim. A sample from the dump of an opencut on a vein analysed 13.7 grams per tonne gold and 308.5 grams per tonne silver (Minister of Mines Annual Report 1930).

Several shafts (2.4 to 23 metres deep), an adit 45 metres long,

CAPSULE GEOLOGY

numerous cuts, trenches and pits explore several quartz veins on both claims with most of the work conducted on the northerly Homestake claim.

The Homestake is one of the oldest known gold-quartz properties in the province, having been reported upon by G.M. Dawson in 1888.

BIBLIOGRAPHY

EMPR AR 1899-732; 1901-1080; 1904-G232; 1905-J255; *1913-K216,K217;
*1930-A189-A191; 1931-A107; 1935-D9,D10
EMPR ASS RPT 4406, 10569, 11285, 12324, 14241
EMPR BULL 1, p. 68
EMPR GEM 1973-218
GSC ANN RPT 1887-88, Part II, p. 135R; 1894, Vol.VII, pp. 336B,337B
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 76,77
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
GSC SUM RPT 1921, Part A, p. 101A

DATE CODED: 1985/07/24
DATE REVISED: 2000/06/28

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE083**

NATIONAL MINERAL INVENTORY:

NAME(S): **DM MERCURY**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 54 49 N
LONGITUDE: 120 57 24 W
ELEVATION: 900 Metres

NORTHING: 5642207
EASTING: 643640

LOCATION ACCURACY: Within 500M

COMMENTS: Location of diamond-drill hole (DM 81-1) north of Split Rock, about 19 kilometres north of the community of Savona (Assessment Report 10215).

COMMODITIES: Mercury

MINERALS

SIGNIFICANT: Cinnabar
ASSOCIATED: Carbonate Hematite Limonite
ALTERATION: Carbonate Hematite Limonite
ALTERATION TYPE: Carbonate Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Epithermal
TYPE: H02 Hot spring Hg

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Tertiary	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Andesite
Andesite Lahar Breccia
Tuff
Dacite
Dacite Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Anomalous concentrations of mercury occur in altered Triassic volcanics and sediments and in altered Tertiary volcanics. The anomalous zones lie in close association to Tertiary faults and proximal to Tertiary intrusive rocks. Epithermal activity during Tertiary volcanism and tectonism shows up as extensive hematite fracture-vein mineralization, anomalous gold, mercury and arsenic values and extensive gossans in the altered zones.

The oldest rocks in the DM showing area belong to the Upper Triassic Nicola Group and include andesite, dacite and carbonate-chert-sandstone units. The volcanics are often highly fractured and brecciated as a result of intense faulting. Epidotization and silicification is present to varying degrees in all the volcanics, occurring as erratic veinlets and as joint and fracture fillings. Brecciation is common along faults and fragments of Nicola volcanics are invariably cemented by carbonate, often containing visible cinnabar and/or hematite. In 1981, a single drillhole intersected a Tertiary subaerial sequence of coarse breccias and tuffaceous rocks. The upper third of the hole consisted of andesite polyolithic laharc breccia with minor interbedded tuffaceous and basaltic flow horizons. An unusual concentration of earthy red hematite and ochre limonite occurs in the matrix. The lower two-thirds of the hole becomes more acidic in composition and consists of a sequence of dacite breccia and tuffs. This lower section exhibits the strong presence of a clay alteration zone. The entire hole is strongly fractured coupled with extensive hematization. Erratic mercury values occur throughout the drilled section and analysed up to greater than 10,000 parts per billion (Assessment Report 10215).

In 1979, a geochemical reconnaissance survey was conducted by Guichon Explorco Ltd. and resulted in several favourable

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 180
REPORT: RGEN0100

CAPSULE GEOLOGY

gold-mercury-arsenic bedrock anomalies. In 1980-81, detailed followup by Guichon Explorco consisted of soil and rock chip geochemical surveys, geological mapping and one diamond-drill hole totalling 272 metres put down to test a favourable bedrock geochemical anomalous zone.

BIBLIOGRAPHY

EMPR ASS RPT 8191, *9729, *10215
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2001/09/17
DATE REVISED: 2001/09/18

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE084**

NATIONAL MINERAL INVENTORY:

NAME(S): **GWEN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 38 32 N
LONGITUDE: 120 58 30 W
ELEVATION: 1341 Metres

NORTHING: 5611997
EASTING: 643178

LOCATION ACCURACY: Within 500M

COMMENTS: Area of diamond drilling on the east flank of a prominent ridge on the southerly slopes of Mount Fehr, about 15 kilometres southwest of the community of Savona (Assessment Report 23575).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Pyrite
ALTERATION: Limonite Malachite Chlorite Sericite K-Feldspar
ALTERATION TYPE: Sericitic Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Gwen showing is in an area where Guichon variety granodiorite of the Late Triassic-Middle Jurassic Guichon Creek batholith is flanked to the east and west by Eocene Kamloops Group volcanics, located on the southerly slopes of Mount Fehr. Trenching has exposed a zone of weakly disseminated chalcopyrite, pyrite, limonite and malachite in granodiorite. Shallow diamond drilling intersected tiny quartz veinlets (1-2 millimetres) with minor disseminated chalcopyrite and pyrite. The mineralization is associated with variable chlorite, sericite and potassic alteration in zones of shearing.

In 1994, work performed on behalf of G. Bried consisted of 3 diamond-drill holes totalling 97 metres, 3 kilometres of ground magnetometer survey, 92 soil samples, 7 trenches totalling 116 metres and 38 rock samples.

BIBLIOGRAPHY

EMPR ASS RPT 6830, *23575
EMPR EXPL 1978-E162, E163
EMPR BULL 56
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/18
DATE REVISED: 2003/01/18

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE085**

NATIONAL MINERAL INVENTORY:

NAME(S): **AKILA**, NED, BLU

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 39 09 N
LONGITUDE: 120 38 23 W
ELEVATION: 975 Metres

NORTHING: 5613841
EASTING: 666845

LOCATION ACCURACY: Within 500M

COMMENTS: Decline located east of Beaton Creek on the northerly slopes of Greenstone Mountain, about 20 kilometres west of Kamloops (Assessment Report 12428).

COMMODITIES: Copper Silver Molybdenum Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Porphyry
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 Tuff
Andesite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Akila showing is underlain by andesite, basalt and related tuffs of the Upper Triassic Nicola Group cut by a silicified shear zone striking 070 degrees. A decline shaft sunk downdip on the shear zone intersected discontinuous and podiform quartz masses mineralized with knots and blebs of bornite, chalcopyrite, chalcocite, pyrite and tetrahedrite. Magnetite is ubiquitous and minor molybdenite was identified on fracture faces. Earlier sampling across a width of 1.4 metres, 10 metres down the shaft, yielded 0.4 per cent copper, 21.9 grams per tonne silver, 1.4 grams per tonne gold and 0.002 per cent molybdenum. A selected sample with obvious sulphides yielded 2.18 per cent copper, 65.8 grams per tonne silver, 0.8 gram per tonne gold and 0.002 per cent molybdenum. The drillhole intersected some quartz veins carrying disseminated sulphides but assay results were minimal with highs of 0.02 per cent copper and 0.7 gram per tonne silver (Assessment Report 12428).

Exploration activity on the property is evidenced by an inclined shaft 22 metres deep and several sloughed-in trenches. It is reported that a small high grading operation yielded a few wagon loads of hand-cobbed copper ore with nominal gold values prior to 1935. Subsequent holders of the ground (Ned claims) conducted a magnetometer survey and minor trenching. In latter years Teck Corporation acquired the ground, however, no work was recorded. In 1982, the Akila claims were staked over the former Blu claims. In 1983, De Baca Resources Inc. dewatered the shaft and drilled one short hole totalling 31 metres.

BIBLIOGRAPHY

EMPR ASS RPT *12428
EMPR BULL 77
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 183
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/20
DATE REVISED: 2003/01/20

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE086**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD BUG**, LUCKY STRIKE, IRON CAP

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 54 28 N
LONGITUDE: 120 20 16 W
ELEVATION: 884 Metres

NORTHING: 5642945
EASTING: 687163

LOCATION ACCURACY: Within 500M

COMMENTS: Area of workings north of Venn Creek, about 26 kilometres north of the community of Kamloops (Assessment Report 14506).

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena

ASSOCIATED: Quartz Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic

Nicola

Undefined Formation

Paleozoic

Harper Ranch

Undefined Formation

Triassic-Jurassic

Unnamed/Unknown Informal

LITHOLOGY: Quartz Monzonite
Argillite
Phyllite
Shale
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Harper Ranch
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

Much of the Gold Bug showing area is underlain by phyllitic, black, locally calcareous shales, argillites and siltstones of Carboniferous to Triassic Nicola and/or Harper Ranch groups. The metasediments strike north and display varying dips with some minor folding. Triassic to Jurassic quartz monzonite sill-like intrusions are exposed intermittently along northeast trends within the sediments. Anastomosing quartz veinlets with sparse pyrite and galena occur in the quartz monzonite.

The Gold Bug, Lucky Strike and Iron Cap claims were staked in the 1940s by Mike Salk. In 1967-69, 9 metres of adit were driven and a shaft sunk 1.8 metres. In 1976-77, work performed included 2 kilometres of rebuilt road, 2.2 kilometres of new road, shafts totalling 50 metres, tunnels totalling 128 metres and 16 metres of trenches. In 1985, geological mapping and prospecting, and rock and heavy mineral sampling was conducted by Golden Porphyrite Ltd.

BIBLIOGRAPHY

EMPR AR 1967-147; 1968-172
EMPR ASS RPT *14506
EMPR EXPL 1976-E106; 1977-E164
EMPR GEM 1969-235
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 77
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2000/07/07

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE087**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAT LAKE**, SPROUT, LONDON

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5622762
EASTING: 659497

LATITUDE: 50 44 05 N
LONGITUDE: 120 44 23 W
ELEVATION: 609 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Blasted area, 50 metres south of the shoreline of Pat Lake, about 29 kilometres west of Kamloops (Assessment Report 22438).

COMMODITIES: Antimony

MINERALS

SIGNIFICANT: Stibnite
ASSOCIATED: Silica Ankerite Dolomite
ALTERATION: Silica Ankerite Dolomite Chalcedony Limonite
ALTERATION TYPE: Silicific'n Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: H04 Epithermal Au-Ag-Cu: high sulphidation

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	

LITHOLOGY: Andesitic Volcaniclastic Sandstone
Sandstone
Siltstone
Pebble Conglomerate
Grit
Quartz Porphyry

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: PIT
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Antimony
GRADE: 0.5300 Per cent
YEAR: 2001

COMMENTS: Sample from blasted pit.
REFERENCE: Assessment Report 26597.

CAPSULE GEOLOGY

The Pat Lake showings comprise two antimony-bearing silica replacement zones in Upper Triassic Nicola Group metasediments. The replacement zones are surrounded by weak carbonate alteration and appear to be related to high-level quartz eye porphyry intrusions. The emplacement of the intrusive rocks and the mineralized replacement zones associated with them are controlled by late northeast and east striking faults cutting the Nicola rocks. The original showing, Pat Lake, is 50 metres from the south shore of Pat Lake and has been exposed by shallow blasting over an area of 4 square metres by earlier workers. This showing lies within 150 metres of a quartz-eye felsic intrusion. The second showing, discovered in 1989, lies 500 metres west.

The Nicola metasediments generally strike 010 to 015 degrees and dip steeply southeast. The volcaniclastic metasediments are comprised predominantly of basaltic material, although andesitic and trachyandesitic clasts are also common. The metasediments range from siltstones to medium and coarse grained sandstones to grits and pebble to cobble conglomerates and are locally folded and warped.

The most noticeable alteration is limonite staining derived from

CAPSULE GEOLOGY

the weathering of ankerite which occurs as a replacement mineral within the metasediments. Late ankerite, dolomite and chalcedony veinlets cut the metasediments locally. The style of mineralization at both showings are similar, with blebs and smears of stibnite occurring in highly silicified, brecciated shear zones in andesitic volcanoclastic sandstone. The concentration of stibnite at the original Pat Lake showing (1-5 per cent) is greater than that at the 1989 discovery showing (1-2 per cent).

The showings have been the target of sporadic exploration dating back to 1982 when they were covered by the Sprout 3 claim owned by Newmont Exploration of Canada Ltd. The original stibnite showing, Pat Lake, was 'rediscovered' by Newmont in 1982-83 when they were conducting reconnaissance geological mapping and widely spaced geochemical soil surveys. In 1988, the London claim was staked over the showing and a detailed soil survey (58 samples) was conducted in 1989 by M. Morrison who discovered a second stibnite showing, located 500 metres west of the Pat Lake showing. In 1990, additional claims were staked to adjoin the London claim and in 1991-92 ground magnetometer surveys (9.6 kilometres) were run. In 1995, the Stibnite claims were staked over the showings and in 1996 geological mapping was undertaken by M. Morrison. In 1999, M. Morrison conducted an experimental biogeochemical survey and collected 15 samples of organic growth for testing. In 2001, M. Morrison completed geological mapping and collected 6 rock samples. See also Newmont (092INE070).

BIBLIOGRAPHY

EMPR ASS RPT 11173, 19253, 21499, 22438, *24502, 25969, *26597
EMPR BULL 77
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/20
DATE REVISED: 2003/01/20

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE088**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAR CAT**, ROYAL STAR

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 54 53 N
LONGITUDE: 120 19 36 W
ELEVATION: 731 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5643746
EASTING: 687916

LOCATION ACCURACY: Within 500M

COMMENTS: Adit at the Bear Cat showing on the south bank of a small tributary to Jamieson Creek, about 27 kilometres north of the community of Kamloops (Assessment Report 21040).

COMMODITIES: Copper Zinc Lead Gold Silver

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Triassic
Paleozoic

GROUP

Nicola
Harper Ranch

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limy Phyllite
Argillite
Graphitic Schist
Sericitic Schist
Feldspar Porphyry Dike
Felsic Dike
Diorite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

Harper Ranch
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1990

COMMODITY

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	94.5000	Grams per tonne
Gold	1.7000	Grams per tonne
Lead	1.0800	Per cent
Zinc	1.1100	Per cent

COMMENTS: Mineralized quartz vein material south of the incline at the Royal Star showing.

REFERENCE: Assessment Report 21040.

CAPSULE GEOLOGY

At the Bear Cat showing, an adit is located on the south side of a small tributary to Jamieson Creek. It has been driven southeasterly for about 24 metres and follows a lenticular quartz vein for 21 metres at which point the vein narrows to a knife edge and then disappears as a joint in wallrock. The vein dips steeply eastward and ranges in width from 0.3 to 1.8 metres. Mineralization consists of sparse pyrite, chalcopyrite, sphalerite and galena. Wallrock comprises highly contorted limy phyllites, and graphitic and sericitic schists of the Carboniferous to Triassic Nicola and/or Harper Ranch groups. The metasediments strike 025 degrees and dip steeply east. Numerous drag folds disrupt the stratigraphy and crossjoints are filled with quartz-calcite stringers. Multiple porphyry dikes and sills intrude the stratigraphy and vary from diorite to feldspar porphyry to a more felsic composition.

CAPSULE GEOLOGY

The Royal Star showing is located about 350 metres east of the Bear Cat and is situated along the east bank of Jamieson Creek near creek level. Hostrocks are contorted argillite, and graphitic and sericitic schists. A short incline was put down on quartz stringers striking 015 degrees and sparsely mineralized with pyrite and pyrrhotite. A grab sample of mineralized quartz vein material from a point 150 metres south of the incline and along a small creek analysed 1.7 grams per tonne gold, 94.5 grams per tonne silver, 1.08 per cent lead and 1.11 per cent zinc (Assessment Report 21040).

The Bear Cat claims were staked in 1934 and owned by G.P. Miles and associates of Kamloops and Vancouver. An adit is driven southeasterly for 24 metres following a quartz vein. A winze, 12 metres from the portal, is sunk to 4.8 metres. The Royal Star group of claims were located along the east bank of Jamieson Creek and owned by M. Salk and associates of Kamloops. A short incline and open-cut explored quartz stringers. In 1980, the Gold Rush claims were staked over the Bear Cat and Royal Star showings and in 1982, work consisted of trenching and one drillhole (no data available). The Moen claims were staked in 1989 to cover the showings and in 1990, prospecting, mapping and rock sampling was performed by P. Watt.

BIBLIOGRAPHY

EMPR AR 1935-D10
EMPR ASS RPT *21040
EMPR PF (*Stevenson, J.S. (1936): Report on Bear Cat)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 78
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2000/07/11

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE089**

NATIONAL MINERAL INVENTORY:

NAME(S): **ADUF, DC**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 42 46 N
LONGITUDE: 120 39 24 W
ELEVATION: 518 Metres

NORTHING: 5620505
EASTING: 665435

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site K-32 on the Aduf 1 claim, near a pipeline road about 750 metres south of the Trans-Canada Highway, 24 kilometres west of Kamloops (Assessment Report 13877).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite					
ASSOCIATED: Quartz	Sericite	Ankerite	Calcite		
ALTERATION: Calcite	Ankerite	Silica	Sericite	Limonite	
	Chlorite	Epidote			
ALTERATION TYPE: Carbonate		Silicific'n	Sericitic		Propylitic
MINERALIZATION AGE: Unknown					

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-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	

LITHOLOGY: Andesitic Volcaniclastic
Siltstone
Andesite
Porphyritic Rhyolite Dike
Andesitic Flow
Andesitic Breccia
Agglomerate

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Rock	
<u>COMMODITY</u>	<u>GRADE</u>
Gold	3.5000 Grams per tonne
REFERENCE: Assessment Report 13877.	

CAPSULE GEOLOGY

The Aduf showing area is largely underlain by a northwest trending, moderately southwest dipping sequence of andesitic volcaniclastic rocks and siltstones of the Upper Triassic Nicola Group. Some massive, well-indurated andesitic flows, flow breccias and agglomerates (Nicola Group) also occur. The Nicola rocks are cut by Tertiary? porphyritic rhyolitic dikes, sills and plugs that are possibly related to the Kamloops Group.

Anomalous gold values (85 to 3500 ppb) are localized in and about some of the smaller north-northwesterly trending porphyry rhyolite dikes that cut the andesitic volcaniclastics and related siltstones. In these areas of anomalous gold, the rhyolitic rocks are quartz-sericite altered and country rocks are strongly altered to an assemblage of carbonate (ankerite and calcite), quartz, with sericite near the dike contacts and grading to chlorite further away. Outside of this zone, calcite, chlorite and locally epidote are predominant as a propylitic halo. As much as 5 per cent disseminated pyrite occurs in the altered rhyolite dike rock and adjacent

CAPSULE GEOLOGY

carbonate altered andesitic volcanoclastic. Limonite after pyrite occurs as films on some fractures and as seams and blebs associated with quartz-calcite veins, and opaline silica veins. A rock sample (K-32) was taken from an altered zone that is up to 200 metres long and 75 metres wide and correlates with a 20-metre wide rhyolite dike trending north-northwest. The sample assayed 3.5 grams per tonne gold (Assessment Report 13877).

In 1984, geological mapping and rock chip sampling (73) was completed on the Aduf claims on behalf of AVF Minerals Ltd. In 1986, the DC claims were staked and cover the Aduf property and in 1987 Mercator Resources Corporation conducted preliminary geological mapping.

BIBLIOGRAPHY

EMPR ASS RPT *13877, 15959
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/23
DATE REVISED: 2003/01/23

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE090**

NATIONAL MINERAL INVENTORY:

NAME(S): **WALLOPER, M, GA,
MELBA**

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

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:
LATITUDE: 50 30 32 N
LONGITUDE: 120 31 24 W
ELEVATION: 1445 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of Trench B across breccia zone, east of Walloper Creek and 750 metres south of Lodgepole Lake, about 23 kilometres south-southwest of Kamloops (Assessment Report 26775).

NORTHING: 5598144
EASTING: 675604

COMMODITIES: Gold Lead Zinc

MINERALS

SIGNIFICANT:	Pyrite	Galena	Sphalerite	
ASSOCIATED:	Quartz	Pyrite	Carbonate	Magnetite
ALTERATION:	Sericite	Carbonate	Chalcedony	
ALTERATION TYPE:	Sericitic		Carbonate	Silicific'n
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER:	Vein	Stockwork	Shear
CLASSIFICATION:	Epithermal	Hydrothermal	Epigenetic
TYPE:	H04	Epithermal Au-Ag-Cu: high sulphidation	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 Triassic	Nicola	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Chalcedony Breccia
Basaltic Tuff
Basalt
Gabbro
Tuffaceous Sediment/Sedimentary
Mafic Volcanic

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: 2001
SAMPLE TYPE: Drill Core	
<u>COMMODITY</u>	<u>GRADE</u>
Gold	0.6600 Grams per tonne
COMMENTS: Sample across 0.65 metre.	
REFERENCE: Assessment Report 26775.	

ORE ZONE: TRENCH	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 2001
SAMPLE TYPE: Rock	
<u>COMMODITY</u>	<u>GRADE</u>
Lead	0.2300 Per cent
Zinc	0.2000 Per cent
REFERENCE: Assessment Report 26775.	

CAPSULE GEOLOGY

Outcrop is generally sparse on the Walloper property with the southern portion mainly covered with accumulations of overburden and glacial till up to 40 metres in thickness. However, the eastern portion of the south grid contains exposures of outcrop. Mapping has indicated that Upper Triassic Nicola Group basaltic tuffs, tuffaceous sediments and possibly mafic volcanic rocks are intruded by a 12 square kilometre Triassic intrusion varying in composition from

CAPSULE GEOLOGY

gabbro to diorite to monzonite to monzonite-diorite breccia. The Nicola rocks are generally grey to green in colour and vary from blocky to schistose in nature and are cut by narrow quartz and carbonate veinlets in a number of outcrops. A coarse grained, grey, metamorphosed intrusion varying from granite to quartz diorite in composition intrudes a tuff unit along the eastern boundary of the property and has been dated Early Jurassic.

Two main types of mineralization have been discovered on the property: 1) lead-zinc bearing mesothermal quartz veins, and 2) precious metal bearing epithermal quartz veins and chalcedonic breccia associated with pyritic sericite-carbonate alteration zones. A trench (Trench H) was excavated during 2001 and intersected a number of narrow quartz veinlets with minor galena and sphalerite. The quartz veinlets are from 1 to 10 centimetres wide, strike northerly and dip steeply east and west. They occur with narrow shears and follow the foliation in the host Nicola rocks and form a weak quartz stockwork, with veinlets occurring at one to two metre intervals in some sections. Rock samples from Trench H yielded up to 0.23 per cent lead and 0.20 per cent zinc (Assessment Report 26775).

The breccia zone consists of angular fragments of white to translucent chalcedonic quartz and green, silicified gabbro occurring in a matrix of fine grained, chalcedonic quartz and/or white quartz stockwork. A number of generations of veining are evident along with minor amounts of pyrite and magnetite. Contact with the wallrock is not usually sharp, but gradational. The breccia zone occurs along a major structural feature, with foliated Nicola rocks on the hangingwall and gabbroic rocks on the footwall. A 2001 trenching program exposed a strike length of approximately 28 metres of chalcedonic breccia at Trench B. On surface, the chalcedonic breccia zone is 3 to 5 metres wide, strikes northerly and dips from 45 to 60 degrees west. Rock samples from Trench B yielded gold values generally in the 20 to 340 ppb range, with the highest value 2.0 grams per tonne gold across 0.75 metre (Assessment Report 26775). The breccia zone was tested and intersected by eight drillholes collared at Trench B. The drilling extended the strike length of the zone to a minimum 43 metres and a vertical depth of 45 metres. In drill intersections the zone width varies from approximately 6 metres in DDH-01 to 2 metres in DDH-05, indicating the zone may be narrowing at depth. The breccia zone was also intersected in DDH-11, approximately 350 metres south of Trench B; this intersection was about 3.8 metres wide. Drill core samples yielded gold values in the 20 to 110 ppb range, with the highest value of 665 ppb across 0.65 metre (Assessment Report 26775).

In 1992, three diamond-drill holes totalling 383 metres tested aeromagnetic and ground magnetic anomalies on the M & R claims on behalf of Teck Corporation. In 1996, Walloper Gold Resources Corporation focused on the precious metal potential of the M and GA claims area and discovered mesothermal and epithermal quartz vein and breccia float with anomalous gold values (up to 700 ppb). Work during the year consisted of geological mapping, VLF-EM (85 kilometres) and ground magnetometer (90 kilometres) surveys, grid work (94 kilometres), soil (1281), rock (115) and silt (19) geochemistry. During 1998 and 2000, minimal work programs were carried out for assessment purposes and consisted of establishing grid lines (8.5 kilometres), VLF-EM (7 kilometres) and ground magnetic (6.8 kilometres) surveying. The 2001 work program consisted of analysing soil samples collected during 1996 (1783 samples), constructing and rehabilitating a number of roads (1.2 kilometres), diamond drilling 11 holes totalling 484.6 metres, and 8 trenches totalling 2845 metres.

BIBLIOGRAPHY

EMPR ASS RPT 22626, 25001, 25731, 26417, *26775
EMPR BULL 77
EM EXPL 2001-33,36,42
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/27
DATE REVISED: 2003/01/27

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE091**

NATIONAL MINERAL INVENTORY:

NAME(S): **POLE STAR (L.1012)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16E
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 52 46 N
LONGITUDE: 120 20 09 W
ELEVATION: 1021 Metres

NORTHING: 5639800
EASTING: 687414

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 1012, near O'Connor Lake, about 23 kilometres north of the community of Kamloops.

COMMODITIES: Lead Zinc Gold Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Pyrite Arsenopyrite Pyrrhotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: 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	
Paleozoic-Mesozoic	Harper Ranch	Undefined Formation	
Triassic-Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Argillite
Schist
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

Harper Ranch PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

An incline reported to be 15 metres deep is partly caved about 6 metres below the collar (ca. 1940s). The incline follows a quartz vein about 2.4 metres wide near the contact of a small body of granite with a sequence of argillite and schist. The quartz in the dump is sparsely mineralized with pyrite, galena and sphalerite but high assays in gold and silver are reported. Two trenches expose quartz vein material about 30 metres north of the incline.

Hostrocks are believed to be metasediments of the Upper Triassic Nicola Group and/or Devonian to Permian Harper Ranch Group intruded by Triassic to Jurassic granitic bodies.

Earliest work reported on the Pole Star claim was in 1899 when an incline shaft was sunk to 7.9 metres. The Pole Star claim was Crown granted in 1902 but has since Reverted. An airborne magnetic and VLF-EM survey was flown in 1972 on behalf of Alberta Copper and Resources Ltd. on claims which covered the Pole Star showing. The WK claim was staked over the showing in 1983 and in 1984 a preliminary soil survey was carried out on behalf of Callex Mineral Exploration Ltd. In 1987, Callex Mineral Exploration Ltd. conducted an VLF EM-16 survey.

BIBLIOGRAPHY

EMPR AR 1899-733; 1902-H305; 1913-K217; 1934-D26; 1935-D9,D10
EMPR ASS RPT 4406, 13544, 17073
EMPR GEM 1973-218
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, p. 77
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2000/06/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE092**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEATON**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 39 57 N
LONGITUDE: 120 36 16 W
ELEVATION: 772 Metres

NORTHING: 5615403
EASTING: 669290

LOCATION ACCURACY: Within 500M

COMMENTS: Chalcopyrite showing between Beaton and Pendleton creeks, 1500 metres southwest of Ice Lake, about 19 kilometres west of Kamloops (Assessment Reports 26747 and 23390).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Chlorite Epidote Calcite
ALTERATION TYPE: Chloritic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Andesite
Porphyritic Andesite
Lapilli Tuff
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Beaton property is underlain by Upper Triassic Nicola Group andesitic volcanic rocks intruded by a small quartz monzonite plug that may be related to the nearby Late Triassic-Early Jurassic Iron Mask batholith. The Nicola volcanics vary from fine-grained to coarsely porphyritic andesite with intercalated lapilli tuffs. The tuffaceous rocks are often chloritized and contain epidote and calcite.

The Beaton property area has received much intermittent exploration over the last 30 years but the only confirmed mineralization was in 1993, when an outcrop of andesite located about 100 metres southeast of a previous percussion-drill hole (92-3) was examined and found to contain trace amounts of chalcopyrite (Assessment Report 23390).

Work recorded in the area began in 1972, when 18 kilometres of induced polarization survey, 41 kilometres of ground magnetometer survey and geological mapping was completed over the T.T. and Jam claim groups in the Ice Lake area on behalf of Bow River Resources Ltd. The next recorded phase of work was in 1988 on the Beaton group of claims when prospecting was conducted over 17 kilometres of grid by C. Boitard. In 1992-93, Green Valley Mines Inc. on behalf of C. Boitard, drilled twelve percussion holes to test for copper mineralization within an area outlined by anomalous geophysical signatures defined in previous surveys; only six holes totalling 717 metres were reported on. One diamond-drill hole was also drilled to a depth of 173 metres. This drilling program failed to delineate any copper mineralization. In 1995, Lakewood Mining Co. Ltd. on behalf of C. Boitard, completed four diamond-drill holes totalling 1391 metres. In 1997, Green Valley Mines Inc. on behalf of C. Boitard, completed one diamond-drill hole totalling 246 metres. In 1998-99 and 2001, C. Boitard continued work on the Beaton claims and took 333 soil samples over 8.2 kilometres of grid for mobile metal ion

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 195
REPORT: RGEN0100

CAPSULE GEOLOGY

testing.

BIBLIOGRAPHY

EMPR ASS RPT 4004, 4005, 4006, 17788, 23035, *23390, 24046, 25616,
25916, 26271, *26747
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
STOCKWATCH Oct.22, 2002

DATE CODED: 2003/01/30
DATE REVISED: 2003/01/30

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE093**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAWK**

MINING DIVISION: Kamloops

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 09216E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 49 51 N
 LONGITUDE: 120 01 32 W
 ELEVATION: 1000 Metres

NORTHING: 5635230
 EASTING: 709455

LOCATION ACCURACY: Within 500M

COMMENTS: Showing along roadcut near the east end of Heffley Lake, about 28 kilometres northeast of the community of Kamloops (Assessment Report 17147).

COMMODITIES: Copper Lead Gold

MINERALS

SIGNIFICANT:	Chalcopyrite	Galena	Gold		
ASSOCIATED:	Quartz	Pyrite	Magnetite	Pyrrhotite	
ALTERATION:	Silica	Limonite	Malachite	Magnetite	Pyroxene
	Garnet				
ALTERATION TYPE:	Silicific'n		Oxidation		Skarn
MINERALIZATION AGE:					

DEPOSIT

CHARACTER:	Vein		Disseminated		
CLASSIFICATION:	Hydrothermal		Skarn		
TYPE:	I05	Polymetallic veins	Ag-Pb-Zn±Au	K03	Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic
 Upper Triassic
 Triassic-Jurassic

GROUP

Harper Ranch
 Nicola

FORMATION

Undefined Formation
 Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Heffley Creek Pluton

LITHOLOGY:

Diorite
 Argillite
 Marble
 Skarn
 Andesite
 Andesitic Ash Tuff
 Andesitic Lapilli Tuff
 Calcareous Siltstone
 Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

Harper Ranch

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The immediate Heffley Lake area is extensively covered with superficial glacio-fluvial deposits and is estimated to have less than 1 per cent rock exposure. Stratified rocks mainly comprise steeply dipping, northwest striking argillites and calcareous siltstones with lesser andesitic ash and lapilli tuff and some limestone belonging to the Devonian to Permian Harper Ranch and/or Upper Triassic Nicola groups. These rocks were intruded by the possible Late Triassic to Early Jurassic mafic-ultramafic Heffley Creek pluton and then folded and overprinted by lower to sub-greenschist metamorphism producing slaty and phyllitic fabrics. Bleached marbles and calcsilicate-rich metasediments are developed where hydrothermal or thermal alteration has occurred.

South of Heffley Lake are units of blue-grey crinoidal limestone and black argillite while north of the lake are coarsely clastic to conglomeratic limestone in the vicinity of the Heff skarn (092INE096) which lack crinoids and the argillites are less organic-rich. This and other lithological differences suggest that these rocks may be separated into northern and southern packages; these are tentatively believed to represent the Nicola and Harper Ranch groups respectively. The northwest trending contact between these packages is thought to pass under the Heffley lakes and continue southeastwards along Armour Creek. This original stratigraphic contact has been intruded by the Heffley Creek pluton and has

CAPSULE GEOLOGY

subsequently been the locus of brittle movement along the Armour Creek fault (Fieldwork 1999).

Disseminated cumulate magnetite is common throughout the main Heffley Creek pluton but locally some pyrite +/- chalcopyrite +/- secondary copper oxides are also seen. Many of these sulphide-rich zones are characterized by silicification and plagioclase veining and they appear to be fault related. At the Hawk showing, quartz veins up to 3 centimetres wide and 5 metres long occur in silicified diorite of the Heffley Creek pluton in fault contact with marble and argillite. The quartz varies between clear to limonitic crystalline quartz to fine banded milky veins. Scattered euhedral galena and pyrite crystals occur; vugs are common. Native gold particles up to 1 millimetre in size occur in limonite and near black sooty material in vugs. A sample without visible gold assayed 0.99 gram per tonne (Assessment Report 17147). Malachite staining, pyrite and magnetite are also evident.

Pyroxene +/- garnet skarn has also developed in marble and contains disseminated and veinlet pyrite and pyrrhotite. A limonitic sulphide-rich vein in the skarn analysed 1.37 grams per tonne gold. About 100 metres west of the Hawk showing, quartz veins also occur in silicified andesitic rock. This material was blasted open and revealed two near-vertical massive sulphide veins. The first vein, up to 0.8 metre wide, consists of pyrrhotite, pyrite and chalcopyrite; a grab sample assayed 0.55 per cent copper. The second vein is up to 10 centimetres wide, is sheared and occurs two metres east of the first vein. Grab samples of the wallrock assayed 0.47 gram per tonne gold (Assessment Report 17147).

During the spring of 1987, C. Marlow and W. Hall discovered native gold in a thin quartz vein and noted skarn-like rocks nearby. They entered into a grubstake agreement with M. Roed of Foxview Management Limited who engaged a consultant (M. Murrell) to study the showing. As a result, the Hawk 1-8 claims were staked and an exploration program was undertaken. The claims were optioned to Redbird Gold Corp. and in 1987-88 conducted geologic mapping, rock and soil sampling, photogeology and a magnetometer survey; minor blasting was also carried out on some showings.

BIBLIOGRAPHY

EMPR ASS RPT *17147, 17803
EMPR FIELDWORK 1999, pp. 273-286
EMPR OF *2000-10
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2000/06/22
DATE REVISED: 2000/06/26

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE094**

NATIONAL MINERAL INVENTORY:

NAME(S): **TT**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 40 03 N
LONGITUDE: 120 33 17 W
ELEVATION: 670 Metres

NORTHING: 5615704
EASTING: 672797

LOCATION ACCURACY: Within 500M

COMMENTS: Diamond-drill hole DDH-N-1 located 122 metres south of a powerline and pipeline, 450 metres north of the Trans-Canada Highway 1/97, about 16 kilometres west of Kamloops (Assessment Report 3890).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: GROUP
Upper Triassic Nicola
Triassic-Jurassic

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER: Iron Mask Batholith

LITHOLOGY: Andesite
Porphyritic Andesite
Diorite
Syenite

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
SAMPLE TYPE: Drill Core
COMMODITY: Copper

YEAR: 1972

GRADE: 0.1200 Per cent

COMMENTS: Across 3 metres.

REFERENCE: Assessment Report 3890.

CAPSULE GEOLOGY

The TT showing area is underlain by Upper Triassic Nicola Group volcanics intruded by Cherry Creek unit syenite of the Late Triassic-Early Jurassic Iron Mask batholith. Eocene Kamloops Group basaltic to andesitic flows, agglomerates, trachyte, siltstones and shales cap the Nicola volcanics. A northwesterly trending fault crosses the property.

Nicola rocks comprise fine grained to slightly porphyritic andesite with common accessory magnetite, hematite and specularite. A diamond-drill hole (DDH-N-1) is a deepening of percussion-drill hole 3 and intersected andesite and diorite mineralized with disseminated native copper grains in quartz-carbonate fracture fillings. The highest assay yielded 0.12 per cent copper from 128 to 131 metres depth in hole DDH-N-1 (Assessment Report 3890).

In 1972, a program of line cutting (81 kilometres), magnetometer (74 kilometres) and induced polarization (55 kilometres) surveys, geological mapping, soil sampling (96) and percussion (4 holes totalling 259 metres) and diamond (7 holes totalling 1260 metres) drilling was conducted on the TT claims on behalf of Northair Mines Ltd.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 199
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT *3890
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/01/31
DATE REVISED: 2003/01/31

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE095**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAMAGE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16E
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 59 36 N
LONGITUDE: 120 13 04 W
ELEVATION: 701 Metres

NORTHING: 5652768
EASTING: 695240

LOCATION ACCURACY: Within 1 KM

COMMENTS: Showings on the east side of the North Thompson River about 36 kilometres north of the community of Kamloops.

COMMODITIES: Lead Zinc Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Paleozoic
Triassic-Jurassic

GROUP

Nicola
Harper Ranch

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Granite
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Harper Ranch

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Ramage showings comprise quartz veins ranging from 0.6 up to 9 metres in width sparsely mineralized with galena, chalcopyrite, pyrite and sphalerite. The veins are hosted in Triassic and/or Jurassic granite which intrudes schist of the Carboniferous to Triassic Nicola and/or Harper Ranch groups.

The lowest exposures are located on the east side of the North Thompson River about 198 metres above the level of the valley bottom, 36 kilometres north of the community of Kamloops.

Some underground exploratory had been completed in the past. An incline at 45 degrees was driven 4.5 metres in a southeast direction on the lowest exposure of a vein which strikes 345 degrees and dips steeply southwest. About 15 metres south of here and at the same elevation, an adit was driven a metre on an irregular mass of quartz that appears to be a branch from the other body. The two vein exposures extend back up a cliff and 24 metres higher a cut was made on a vein above the workings. In the now-sloughed cut, the vein carries grains of malachite and cerussite.

Sixty-one metres further southeast along strike, a vein 2.4 metres wide is exposed by a cut. Another cut exposes a parallel vein 20 metres northeast from this point, where it is from 0.6 to 1.2 metres wide.

BIBLIOGRAPHY

GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, pp. 78,79
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2000/05/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE096**

NATIONAL MINERAL INVENTORY: 092116 Fe1

NAME(S): **HEFF**, IRON RANGE, HAL,
MESABI, MONARCH, LAKE VIEW,
EVE, NAN, HEFF LAKE,
FREDA, HEFFLEY LAKE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092116E
BC MAP:
LATITUDE: 50 50 38 N
LONGITUDE: 120 03 40 W
ELEVATION: 1127 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Trench, north of the Heffley Lake-Sun Peaks Ski Resort road, about 27 kilometres northeast of Kamloops (Open File 2000-10).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5636581
EASTING: 706894

COMMODITIES: Iron Magnetite Copper Gold

MINERALS

SIGNIFICANT: Magnetite Chalcopyrite
ASSOCIATED: Garnet Pyroxene Pyrite Pyrrhotite
ALTERATION: Garnet Pyroxene Epidote Chlorite Quartz
Plagioclase Zoisite Ilmenite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Massive Disseminated Vein
CLASSIFICATION: Skarn Industrial Min.
TYPE: K03 Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Paleozoic	Harper Ranch	Undefined Formation	
Triassic-Jurassic			Heffley Creek Pluton

LITHOLOGY: Limestone
Skarn
Calc-silicate
Calcareous Tuff
Andesitic Dacitic Tuff
Siltstone
Andesite Dike
Argillite
Diorite
Ultramafic

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1999
SAMPLE TYPE: Grab
COMMODITY GRADE
Copper 0.0900 Per cent
Iron 25.0000 Per cent
COMMENTS: Sample GR99-40 of magnetite-garnet-pyrite skarn with trace
chalcopyrite assayed greater than 25 per cent iron.
REFERENCE: Fieldwork 1999, pages 280-281.

CAPSULE GEOLOGY

The Heff magnetite skarn deposit is located on the north side of Heffley Lake, 27 kilometres northeast of Kamloops. Previously, the Heff mineralization has been considered to be either a skarn or to have resulted from syngenetic submarine fumarolic activity. Recent mapping by the Geological Survey Branch (Ray, G.E. and Webster, I.C.L.) proposes a skarn that formed by the infiltration of hydrothermal fluids from the mafic-ultramafic Heffley Creek pluton,

CAPSULE GEOLOGY

which was discovered in the 1999 mapping program. The pluton probably represents an Alaskan-type intrusion, similar to the Tulameen body and other Late Triassic to Jurassic mafic-ultramafic complexes that intrude rocks of the Quesnel and Stikine terranes elsewhere in British Columbia.

The Heff skarn represents an unusual Cu +/- Au +/- REE +/- P-bearing magnetite skarn whose location and distinctive chemistry suggests it differs from the typical iron skarns occurring along the west coast of British Columbia. It possibly resulted from a Fe-oxide +/- Cu +/- Au +/- REE +/- P-bearing hydrothermal system similar to those responsible for deposits in the Ernest Henry (Australia)-Candelaria (Chile)-Wernecke Breccias (Canada) spectrum. The Heff skarn lacks the extensive brecciation and widespread Na +/- K metasomatism that characterizes many deposits of the Ernest Henry-Candelaria-Wernecke Breccias spectrum (Fieldwork 1999). The property area is extensively covered with superficial glacio-fluvial deposits. The stratified rocks were originally mapped as Cache Creek Group but more recently they are considered to belong, in part, to the Paleozoic Harper Ranch Group and/or Upper Triassic Nicola Group. They mainly comprise steeply dipping, northwest striking argillites and calcareous siltstones with lesser andesitic ash and lapilli tuff and some limestone. These rocks were intruded by the possible Late Triassic to Early Jurassic Heffley Creek pluton and then folded and overprinted by lower to sub-greenschist metamorphism producing slaty and phyllitic fabrics. Bleached marbles and calcsilicate-rich metasediments are developed where hydrothermal or thermal alteration has occurred. The magnetite-bearing garnet-pyroxene skarn alteration comprising the Heff property is hosted by limestone and a suite of dioritic minor intrusions; it is best exposed in a number of overgrown trenches that lie 200 to 300 metres north of the Heffley Creek-Sun Peaks Ski Resort road.

Units of blue-grey crinoidal limestone and black argillites occur south of Heffley Lake while coarsely clastic to conglomeratic limestones in the vicinity of the Heff skarn, north of Heffley Lake, lack crinoids and the argillites are less organic-rich. This and other lithological differences suggest that the supracrustal rocks may be separated into northern and southern packages; these are tentatively believed to represent the Nicola and Harper Ranch groups respectively. The northwest trending contact between these packages is thought to pass under the Heffley lakes and continue southeastwards along Armour Creek. This original stratigraphic contact has been intruded by the mafic-ultramafic Heffley Creek pluton and has subsequently been the locus of brittle movement along the Armour Creek fault.

Most of the Heffley Lake pluton lies south and southeast of Heffley Lake and probably forms an elongate body that intruded Nicola and Harper Ranch groups. It contains a variety of rock types, including early ultramafics (pyroxenites and hornblendites), younger mafic and felsic gabbros, diorites and quartz diorites, and minor amounts of late leucocratic monzodiorite. In addition, a strongly altered swarm of andesite sills and dikes on the Heff property is probably related to both the pluton and the magnetite skarns. Disseminated cumulate magnetite is common throughout the pluton.

At least two types of copper-bearing mineralization are recognized in the area. These are: (1) magnetite-rich chalcopyrite +/- Au +/- REE garnet-pyroxene skarns which occur on the Heff property north of Heffley Lake, and (2) disseminations and veins of chalcopyrite +/- magnetite-pyrite mineralization in the Heffley Creek pluton south of Heffley Lake (see Andy Lake, 092INE068; Hawk, 092INE093; and Shaw Hill, 082LNW089).

The Heff skarns have had a long history of exploration. Mineralization is hosted in massive to well bedded limestone within a sequence of massive to poorly bedded calcareous tuffs and green andesitic to dacitic tuffs, grey to black argillite and bedded siltstone proximal to the mafic-ultramafic Heffley Lake pluton. The more extensive pyroxene +/- garnet skarn horizons reach up to 50 metres thick but most are generally less than 2 metres wide. Surface mineralization in the skarn consists of pods and massive lenses of magnetite with lesser amounts of pyrite and pyrrhotite and traces of chalcopyrite. The sulphides occur as disseminations and veinlets, and pyrite is generally dominant to pyrrhotite. Magnetite lenses up to 1 metre wide crop out on surface but massive magnetite zones over 10 metres thick have been intersected by drilling. One of the better drill intersections was 13.7 metres assaying 13 per cent iron and 0.11 per cent copper (Assessment Report 8211). Mineralization occurs locally in the intrusions and in what is believed to be the adjacent exoskarn. On a local scale, many of the calcsilicate layers are mineralogically zoned with a central core of coarser grained garnet-dominant skarn and a wider outer halo of finer grained

CAPSULE GEOLOGY

pyroxene-dominant skarn. Magnetite-sulphide mineralization tends to be better developed in the garnet-dominant skarn. Other minerals identified in thin section in the skarns include epidote, chlorite, quartz, albitic plagioclase, zoisite and ilmenite.

Many grab samples of mineralized skarn contain greater than 25 per cent iron which reflects the abundant magnetite, and some are anomalous in gold (up to 0.44 gram per tonne) and copper (up to 0.11 per cent) as well as being sporadically enriched in REE's (up to 490 ppm cerium and 570 ppm lanthanum).

Copper-iron mineralization north of Heffley Lake was first investigated by surface cuts prior to 1915. The discovery of mineralization led to the staking of a number of claims, including the Monarch, owned by H. McLeod and associates of Vancouver, and about 800 metres in an easterly direction, the Lake View owned by A. MacDonald of Heffley Lake. Work reported included trenching and sampling. One of the claims was reportedly under option to The Granby Consolidated Mining, Smelting and Power Company, Limited. In the early 1940s, the property was held as the Iron Range group, owned by H. Stephens of Kamloops and workings at that time comprised a number of opencuts. Madison Oils Limited staked claims in the area in late 1964 and 1965 after a reconnaissance magnetometer survey extending out from old pits indicated the presence of several strong magnetic anomalies. The property was held as the Hal group of 36 claims, owned by L.C. Hunt for Madison Oils Limited. Geological mapping, sampling of surface pits and 254 metres of diamond drilling in 4 holes were completed in late 1964; two other holes were started but failed to penetrate overburden and were abandoned. A ground magnetometer survey was conducted in 1966. The company carried out a geochemical survey in 1967, which indicated several areas anomalous in copper. Subsequent diamond drilling indicated reserves of 63,497,000 tonnes of 30 per cent iron (Northern Miner, July 27, 1967). In 1967, J.M. Black conducted a magnetometer survey on the Eve 1,2 claims which were located almost 10 years prior on copper mineralization exposed in old trenches. In 1969-70, J.M. Black conducted a magnetometer and scintillometer survey on the Eve 3,9 claims and a magnetometer survey on the Nan 1,2 claims. In 1970-71, J.M. Black on behalf of Western Canada Steel Limited conducted a magnetometer survey on the Eve 5,6 claims. In 1973, line cutting was completed on the Eve 3,5,6,9 and Nan 1,2 claims on behalf of Western Canada Steel Limited followed by magnetometer and EM-16 surveys. In 1976, the property was held as the Freda 1 claim by H. Allen of Merritt who completed one diamond-drill hole totaling 92 metres (deepening of old hole). In 1980, the Heff Lake claims were staked and Cominco Ltd. conducted geological mapping, soil sampling and a magnetometer survey. In 1985, one diamond-drill hole totalling 57.9 metres was completed by H. Allen. The Mesabi claims were staked in 1993-94 on behalf of the Mesabi Syndicate and VLF-EM and magnetometer surveys, and rock sampling was conducted. In 1994, the property was sampled by the Geological Survey Branch as part of a project to examine skarn occurrences throughout British Columbia. This work revealed that the Heff magnetite skarn, unlike the large iron skarn deposits on the west coast of British Columbia, contained anomalous quantities of rare earth elements (up to 570 ppm lanthanum and 490 ppm cerium). In 1994, the property was optioned by Coronation Mines Ltd. and in 1995, soil sampling, VLF-EM surveying and geological mapping was conducted. In 1997, Echo Bay Mines optioned the Mesabi property, staked additional claims and established a ground control grid and performed geological mapping, rock and soil sampling and a ground magnetometer survey. In 1999, the Geological Survey Branch conducted geological mapping in the property area to investigate the potential for Fe-oxide-Cu-Au-REE mineralization of the Candelaria-Ernest Henry types. While this mapping was in progress, a magnetometer and VLF-EM survey was being completed by one of the present property owners. In 2000, a ground magnetometer survey (27.7 kilometres) was completed over the Mesabi claims by R. McMillan.

BIBLIOGRAPHY

- EMPR AR 1915-K222; 1967-137
- EMPR ASS RPT 820, 821, 1003, 2597, 2600, 3281, 4418, 4624, 4670, 8246, 14654, 23432, 24389, 25203, 26355
- EMPR FIELDWORK *1999, pp. 273-286; 2001, pp. 109-118
- EMPR OF *2000-10
- EMPR BULL 5, p. 52
- EMPR GEM 1970-319,320; 1973-218,219; 1976-E106,E107
- EMR MP CORPFILE (Madison Oils Limited)
- EMR MP RESFILE (Iron Range)
- GSC MEM 249, p. 143
- GSC OF 165; 980; 2490
- GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 204
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
N MINER July 27, 1967

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/27

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE097**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILLTOP (BATCHELOR)**, HILLTOP, HILL TOP

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092109W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 43 53 N
LONGITUDE: 120 24 48 W
ELEVATION: 731 Metres

NORTHING: 5623146
EASTING: 682539

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft and trenches located on Batchelor Hill about 8 kilometres northwest from Kamloops city centre (Assessment Report 17963).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Clay
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1988

COMMODITY	GRADE	
Silver	129.4000	Grams per tonne
Gold	10.0000	Grams per tonne

COMMENTS: Sample across 60 centimetres of heavily leached, yellow stained (goethite?) quartz and clay gouge.

REFERENCE: Assessment Report 17963.

CAPSULE GEOLOGY

The Hilltop showings are underlain by argillite of the Upper Triassic Nicola Group which are unconformably overlain by Eocene Kamloops Group volcanics to the west. The argillite is black and massive and cut by shears that contain steeply dipping quartz veins sparsely mineralized with pyrite and chalcopyrite largely oxidized to limonite. A series of trenches and cuts along a 150 metre length exposes milky white, massive to laminated quartz veins 0.5 to 2.1 metres wide. The veining appears to be localized between shears striking 100 degrees dipping 45 degrees south on the hangingwall and 130 degrees dipping 60 degrees south on the footwall. A grab sample from a shaft yielded 2.1 grams per tonne gold and 36.6 grams per tonne silver across 1 metre of quartz and minor gouge. Another sample across 60 centimetres of heavily leached, yellow stained (goethite?) quartz and clay gouge analysed greater than 10 grams per tonne gold and 129.4 grams per tonne silver (Assessment Report 17963). Elevated gold values appear to be related to narrow gouge-filled shears.

The first report of mineralization on the Hilltop property was in 1899. In 1905, O.S. Batchelor shipped about 12 tonnes of ore to the Tye smelter which produced 1711 grams silver and 156 grams gold. The main working is a 7.6-metre shaft. Two adits have been driven and numerous opencuts, pits and trenches are evident. In 1946, seven

CAPSULE GEOLOGY

rock samples were taken of the veins from the Hilltop showing by V. Dolmage. In 1973, soil sampling and a magnetometer survey was conducted over 40 line kilometres of grid on the BD and DB claims on behalf of Barrel Resources Limited. The Pit claim was staked in 1979 to cover the Hilltop showings. In 1986, three diamond-drill holes totalling 120 metres and soil sampling (204) were completed on the Pit claim on behalf of J.K. Newton. In 1988, a program of 4.4 kilometres of induced polarization survey, 5.5 kilometres of grid, 38 rock samples, 71 soil samples and 17 metres in four trenches were completed on the Pit claim on behalf of Mango Resources Ltd.

BIBLIOGRAPHY

EMPR AR 1899-732; 1901-1079; 1905-J195; 1909-K140; 1910-K128; *1913-K192; 1958-68
EMPR ASS RPT 16, 4456, 15118, *17963
EMPR BC METAL MM00394
EMPR GEM 1973-200
EMPR BULL 77
GSC MEM *249, p. 69
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/14

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE098**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROGERS, FEB, JAXD,
 JACKO, INK**

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I09W
 BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 36 53 N
 LONGITUDE: 120 26 31 W
 ELEVATION: 893 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5610105
 EASTING: 680969

LOCATION ACCURACY: Within 500M

COMMENTS: Trench and surrounding adits on the northerly slopes of a small hill west of Jacko Lake, about 10 kilometres southwest of Kamloops (Assessment Report 11690).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Tetrahedrite Chalcopyrite
 ASSOCIATED: Quartz Pyrite
 ALTERATION: Malachite Azurite Limonite
 ALTERATION TYPE: Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
 CLASSIFICATION: Hydrothermal Epigenetic Porphyry
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 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 Triassic-Jurassic	Nicola	Undefined Formation	Iron Mask Batholith

LITHOLOGY: Andesite
 Andesitic Volcanic
 Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Rock

YEAR: 1983

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	24.0000	Grams per tonne
Gold	1.0000	Grams per tonne
Copper	0.3800	Per cent

REFERENCE: Assessment Report 11690.

CAPSULE GEOLOGY

The Rogers showing consists of quartz veins cutting Upper Triassic Nicola Group andesitic volcanic rocks close to the contact with diorite of the Late Triassic-Early Jurassic Iron Mask batholith. Five adits have been driven at intervals from the bottom of a low hill on which the showings occur, and a shaft sunk. Three of the adits did not reach the veins. The workings indicate that several parallel veins may be present.

Pits, cuts and adits expose northeasterly to easterly striking, variably dipping quartz veins from 25 to 61 centimetres wide. The veins are sparsely mineralized with tetrahedrite, malachite and azurite. Some localized outcrops are mineralized with chalcopyrite, pyrite, malachite and azurite mainly within limonitic pods and along fracture planes.

In 1983, rock samples taken from an old trench yielded up to 0.38 per cent copper, 24.0 grams per tonne silver and 1 gram per tonne gold (Assessment Report 11690).

The Feb claim covers ground that had been owned by Rolling Hills in the northern and eastern portions, and by Calico Silver and Gibbex

CAPSULE GEOLOGY

to the south. In 1976, a soil survey (179) was carried out on behalf of New Denver Explorations Ltd. In 1989, Eureka Resources Inc. conducted a prospecting and geological mapping program on the Jaxd claims which covered the showings. In 1992, Getchell Resources Inc. completed 6 kilometres of ground magnetometer survey. In 1994-95, Teck Exploration Ltd. completed geological mapping, 3 kilometres of ground magnetometer survey and soil sampling (103) over the Jaxd and Jacko claims.

BIBLIOGRAPHY

EMPR ASS RPT *6204, 11690, 19592, 22070, 23994
EMPR GEM 1977-E153
EMPR BULL 77
EMPR PF (*Report by L. Sookochoff, 1977 in Statement of Material Facts for Brendex Resources Ltd.)
EMPR AR 1956-47-54
GCNL #90,#94, 1976
GSC MEM *249, p. 68
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/04

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE099**

NATIONAL MINERAL INVENTORY:

NAME(S): **NUMBER SEVEN (L.998)**, NO. 7 (L.998), ROCKET

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 04 N
LONGITUDE: 120 24 42 W
ELEVATION: 920 Metres

NORTHING: 5610519
EASTING: 683098

LOCATION ACCURACY: Within 500M

COMMENTS: Pit or shallow shaft on Crown grant Lot 998 (Number Seven) about 750 metres north of Jacko Lake, 8 kilometres southwest of Kamloops (Assessment Report 11690).

COMMODITIES: Copper Magnetite Iron

MINERALS

SIGNIFICANT: Magnetite Chalcopyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Epidote Magnetite Malachite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Vein Shear
CLASSIFICATION: Skarn Industrial Min.
TYPE: K03 Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Iron Mask Batholith
Triassic-Jurassic			

LITHOLOGY: Diorite
Andesitic Volcanic
Andesite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SHAFT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 1.9000 Per cent
REFERENCE: Assessment Report 11690.

CAPSULE GEOLOGY

The Number Seven showing is underlain by Iron Mask Hybrid unit diorite of the Late Triassic-Early Jurassic Iron Mask batholith near the contact with Upper Triassic Nicola Group andesitic volcanic rocks to the west. Shallow cuts and pits expose a medium-grained diorite that has been intensely sheared containing quartz-carbonate veins with local pods of massive epidote-magnetite skarn with minor chalcopyrite and malachite. Rock sampling in 1983 yielded highs of 0.25 to 1.9 per cent copper (Assessment Report 11690).

A number of shallow cuts and holes 3 to 4.5 metres deep have been made on the property but are largely sloughed (ca. 1906). They are reported to have exposed a body of magnetite mineralized with copper minerals. In 1983, an exploration program consisting of geological mapping and rock geochemistry on the Rocket 4-16 claims was undertaken by Aberford Resources Ltd. The Rocket claims are just to the west of the pits on the Number Seven Crown grant.

BIBLIOGRAPHY

EMPR AR 1906-H176; 1956-47-54
EMPR ASS RPT *11690
EMPR BULL 77
GSC OF 165; 980; 2490

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 210
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 113
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE100**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD PLATE** FOX, PAM,
PLANET

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 35 43 N
LONGITUDE: 120 23 50 W
ELEVATION: 1006 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5608054
EASTING: 684208

LOCATION ACCURACY: Within 500M

COMMENTS: Location of an incline shaft on a north-facing hill about 350 metres south-southwest of a small unnamed lake, 2 kilometres southeast of Jacko Lake, 10 kilometres south of Kamloops (Assessment Report 3630).

COMMODITIES: Copper Lead Silver

MINERALS

SIGNIFICANT: Galena Tetrahedrite
ASSOCIATED: Quartz Calcite
ALTERATION: Azurite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Andesite Flow
Andesite Tuff
Andesite Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Gold Plate showing occurs in Upper Triassic Nicola Group volcanic rocks near the contact with the Late Triassic-Early Jurassic Iron Mask batholith to the east. The showings consist of narrow veins and stringers of quartz and calcite mineralized with galena, tetrahedrite, azurite and malachite. The veins and stringers cut andesitic flows, tuffs and breccias of the Nicola Group. The flows and breccias are massive, but attitudes in tuff beds indicate a strike of 330 degrees with 67 degree southwest dips. Several cuts, a pit and an incline shaft have explored the veins which strike northwesterly and dip steeply southwest. The veins and stringers are from 2 to 25 centimetres wide and are anastomosing.

The original Gold Plate claim was owned by E.S. Batchelor of Kamloops, but is believed to have lapsed (ca. early 1940s). In 1972, Rolling Hills Copper Mines Ltd. conducted geological mapping and a ground magnetometer survey on the Pam and Fox claims covering the showing.

BIBLIOGRAPHY

EMPR ASS RPT 3630
EMPR BULL 77
EMPR AR 1956-47-54
GSC MEM *249, pp. 67,68
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE101**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHANCE**, EDITH, HUMP,
TIA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 34 58 N
LONGITUDE: 120 22 16 W
ELEVATION: 1036 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5606729
EASTING: 686105

LOCATION ACCURACY: Within 500M

COMMENTS: Area of three shafts, 1.5 kilometres northwest of Edith Lake, about
10 kilometres south of Kamloops (Assessment Report 14310).

COMMODITIES: Copper Lead Gold Silver

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Augite Porphyritic Andesitic Volcanic
Andesite
Diorite
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	9.6000	Grams per tonne
Gold	24.8000	Grams per tonne
Copper	1.6400	Per cent

REFERENCE: Assessment Report 14310.

CAPSULE GEOLOGY

The Chance showings are shear zones in Upper Triassic Nicola Group augite porphyritic andesitic volcanic rocks intruded by diorite of the Late Triassic-Early Jurassic Iron Mask batholith. The shear zones are between 0.3 to 1.5 metres wide and host quartz veins and stringers that pinch and swell and are between 15 to 35 centimetres wide. The veins are mineralized with pyrite, chalcopyrite and galena; low values in gold were reported, with occasional high assays. Most of the shear zones are hosted by porphyritic andesitic volcanic rocks but one occurs at the contact between argillite and andesite and contains local pyrite and chalcopyrite mineralization. This zone comprises thin bedded argillites intercalated with altered volcanics. The argillites are locally brecciated, fissile and healed with a quartz-calcite matrix. In 1985, a selected grab sample from a trench analysed 1.64 per cent copper, 9.6 grams per tonne silver and 24.8 grams per tonne gold (Assessment Report 14310).

Old workings consist of three shafts, several trenches and opencuts. One shaft, 54.8 metres deep, was sunk on a shear zone striking 280 degrees and dipping 60 degrees southwest. The shaft has short levels driven from it at depths of 30 and 36.5 metres but is filled with water to immediately below the 36.5-metre level (ca. early 1940s). Samples of quartz vein material with chalcopyrite from

CAPSULE GEOLOGY

the No. 2 shaft dump yielded up to 4.0 grams per tonne gold, 11.3 grams per tonne silver and 0.4 per cent copper (Assessment Report 16137). The workings on the Chance showing were examined in the early 1940s. In 1972, a soil survey (661) and ground magnetometer survey (26 kilometres) was conducted over the Tia claims on behalf of Lori Explorations Ltd. In 1978, Cominco Ltd. completed an induced polarization (7.7 kilometres) and ground magnetometer (7.7 kilometres) survey over the Wildrose claim, which covered the showings at that time. In 1980, soil sampling (915), VLF-EM (27 kilometres) and an induced polarization survey (3.5 kilometres) was run over the showing and the Buda showing (092INE116) to the north. In 1981, Argenta Resources Ltd. completed three diamond-drill holes totalling 381 metres drilled. Two holes were drilled on the Buda showing and one hole on the Chance showing. In 1985, geological mapping was conducted on the Edith property on behalf of Argenta Resources Ltd. In 1986, Afton Operating Corporation conducted 2.7 kilometres of self-potential and resistivity survey. In 1987-88, geological mapping and a VLF-EM 16 survey was conducted by J.D. Murphy on the Hump claim. In 2000, Planet Ventures Inc. completed 0.8 kilometre of VLF-EM survey, airphoto interpretation and rock sampling on the Plant claims.

BIBLIOGRAPHY

EMPR ASS RPT 3714, 3762, 6826, 8043, 9198, *10037, *14310, 14985,
15446, 16187, 17799, *26439
EMPR BULL 77
EMPR GEM 1972-191,192
EMPR AR 1956-47-54
GSC MEM *249, pp. 66,67
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE102**

NATIONAL MINERAL INVENTORY:

NAME(S): **CONSTANT, BEER**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 13 N
LONGITUDE: 120 16 16 W
ELEVATION: 960 Metres

NORTHING: 5609301
EASTING: 693098

LOCATION ACCURACY: Within 500M

COMMENTS: Incline shaft about 750 metres southwest of Mitchell Lake, 8.5 kilometres south of Kamloops (Assessment Report 17922).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Chalcopyrite Gold
ASSOCIATED: Quartz Carbonate
ALTERATION: Limonite Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcaniclastic
Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1975

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

3.4000

Grams per tonne

Gold

4.1000

Grams per tonne

REFERENCE: Property File - Report by H.A. Quin.

CAPSULE GEOLOGY

The principal working at the Constant showing is a 6 metre inclined shaft that follows a shear zone striking 105 degrees and dipping 35 to 50 degrees south. The shear zone ranges from 1.8 metres wide at the top of the shaft to about 0.4 metre at the bottom and is strongly oxidized with abundant limonite. The shear hosts a quartz-carbonate vein that strikes 060 degrees and dips 45 degrees southeast. It is 5 to 35 centimetres wide and mineralized with pyrite and arsenopyrite and minor amounts of chalcopyrite, malachite and azurite. Several sloughed-in old trenches had exposed the vein close to the shaft. Within a distance of 61 metres, two other sparingly mineralized veins, one 15 centimetres and the other about 1.8 metres wide, strike 115 degrees. In 1933, two samples taken across the quartz vein in the shaft assayed from 23.9 to 71.9 grams per tonne gold, and 34.2 to 394.2 grams per tonne silver (Minister of Mines Annual Report 1933). In 1975, a sample taken from shear zone material at the shaft contained a tiny flake of native gold and assayed 32.7 grams per tonne gold and 5.4 grams per tonne silver. A composite sample taken of quartz-carbonate vein material from the shaft dump assayed 4.1 grams per tonne gold and 3.4 grams per tonne silver (Property File - Report by H.A. Quin, 1975).

Hostrocks are volcaniclastic rocks and wackes of the Upper Triassic Nicola Group. The volcaniclastic rocks are dark grey, well jointed and indurated and composed of variable proportions of broken

CAPSULE GEOLOGY

angular pyroxene and feldspar crystals with local lithic fragments of argillite and fine grained intrusive rocks. Rarely, fine silty layers provide evidence of a consistent near-vertical dip and north-northwest strike. Graded beds at the incline shaft indicate the stratigraphic top faces east.

A shallow inclined shaft was sunk in the early 1930s to explore a quartz-carbonate vein. A considerable amount of trenching, opencutting and sampling was reportedly done. In 1976, prospecting and soil sampling (176) was completed on the Mitchell claims which cover the showing; the claims were later abandoned. The Beer 1 claim was staked over the showing and nine soil samples were taken on behalf of Whopper Holdings Ltd. in 1985 and 3.5 kilometres of grid work and VLF-EM survey completed in 1986. In 1987, soil sampling (65) was conducted on behalf of L. Ovington. In 1988, geological mapping and soil sampling (680) was completed on the Beer 1 and Cya 1,2 claims on behalf of B. Elliott and L. Ovington.

BIBLIOGRAPHY

EMPR AR *1933-A195
EMPR ASS RPT 5877, 5878, 14585, 15348, 16979, *17922
EMPR EXPL 1976-E97
EMPR PF (Report on the Constant Group by H.A. Quin, 1975 in Prospectus, Sands Minerals Corporation)
EMPR BULL 77
GSC MEM *249, p. 73
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
GCNL Nov.21, 1975

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/11

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE103**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLAIRDON**, HARP, CAMPBELL CREEK

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 29 N
LONGITUDE: 120 13 23 W
ELEVATION: 914 Metres

NORTHING: 5606216
EASTING: 696618

LOCATION ACCURACY: Within 1 KM

COMMENTS: Adits, west of Campbell Creek and 2.5 kilometres north of Walker Lake, about 13 kilometres southeast of Kamloops (Showing on Map 886A in Geological Survey of Canada Memoir 249).

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	Wild Horse Intrusion
Jurassic			

LITHOLOGY: Argillite
Granite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: DUMP
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
YEAR: 1972
COMMODITY GRADE
Gold 5.0000 Grams per tonne
Copper 1.0000 Per cent

REFERENCE: Property File - Report by E. Amendolagine, 1972.

CAPSULE GEOLOGY

The Clairdon showing area is located near the contact of Upper Triassic Nicola Group sediments to the west from Jurassic granitic rocks of the Wild Horse batholith to the east. The sediments consist of a sequence of interbedded, dark green schistose to massive argillites. The showings consist of quartz veins and stringers in shear zones in the sediments near the contact with the granite intrusion and are mineralized with small amounts of pyrite and chalcopyrite. Gouge along the shear zone is usually crushed country rock and graphite.

The lowest working consists of a shallow shaft and an adit 6 metres below driven westerly towards it. At the shaft the shear zone is 1.2 metres wide, striking 030 degrees and dipping 50 degrees northwest. At the face of the adit a drift was run on another shear zone. Another adit is 91 metres higher in elevation and located 259 metres at 230 degrees. This adit was driven 73 metres northwest. A third adit is 30 metres northwest of the second and 15 metres higher. It starts as an opencut 15 metres long and continues as an adit to the bottom of an old shaft. The adit has been driven 20 metres beyond the bottom of the shaft. Surface workings consist of numerous opencuts. In 1935, the property was operated by Clairdon Mines Ltd. and 1 tonne of ore was shipped yielding 342 grams silver and 62 grams

CAPSULE GEOLOGY

gold (Minister of Mines Annual Report 1935). In 1972, two grab samples with malachite stain were taken from an adit dump and analysed up to 5 grams per tonne gold and 1 per cent copper (Report by Amendolagine, 1972).

The Clairdon property was worked in the early 1930s and a shipment of ore was made. In 1972, an induced polarization survey (22.2 kilometres), soil sampling (460) and geological mapping was conducted on the Harp claim group on behalf of Sarafand Development Ltd.

BIBLIOGRAPHY

EMPR AR 1939-A35
EMPR ASS RPT 4442, *4443
EMPR BC METAL MM00384
EMPR GEM 1973-193,194
EMPR PF (*Amendolagine, E. (1972): Property Report for Sarafand Developments Ltd.)
GSC MEM *249, p. 72
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE104**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRISS CREEK**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

Open Pit Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 54 25 N
LONGITUDE: 120 55 56 W
ELEVATION: 660 Metres

NORTHING: 5641513
EASTING: 645379

LOCATION ACCURACY: Within 5 KM

COMMENTS: Area worked in 1940 along Criss Creek, from 3.2 to slightly more than 4.8 kilometres above its confluence with the Deadman River, about 18 kilometres north of the community of Savona (Geological Survey of Canada Memoir 249).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

C02 Buried-channel placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Quaternary

Glacial/Fluvial Gravels

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

In either the late 1920s or early 1930s, several shafts were sunk at the junction of Criss Creek and Deadman River by the Branch Ranch Mining Company; one of these is stated to have reached a depth of 10.6 metres. Thompson River Mining Company sunk shafts in the same area to depths of 10.6 to 12.2 metres without reaching bedrock. Gold is stated to have been obtained by Chinese miners a short distance up Criss Creek. All of this work was instigated by the theory that the original channel of the Thompson River crossed the country about 8 kilometres up Criss Creek, and that the placer gold, if any, would be concentrated somewhere in the lower reaches of the creek (Minister of Mines Annual Report 1933).

In the part of the creek from 3.2 to slightly more than 4.8 kilometres above its mouth, four men worked the gravels in 1940. Bedrock lies at a depth of from 2 to 3 metres. The overburden probably deepens above the workings, as no outcrops were found along the sides of the creek for a considerable distance. The stretch of creek that had been worked is narrow and steep walled, and the gravels contained many boulders. One man, Fred Morris, stated that he had worked there at intervals for 6 years. He reports his maximum winnings to have been \$7 for a single day and as much as \$65 a month obtained by steady work (ca. 1940; Geological Survey of Canada Memoir 249).

About 2 kilometres further upstream from the work done in 1940, an old cabin existed at 737 metres elevation. Work done near the cabin some twenty odd years previous to 1934 consisted of a shaft sunk to 10 metres to bedrock and a drift extended to an unknown distance. A little upstream a dam was constructed and sluicing operations carried out by hand methods. In the early 1930s, several shafts were sunk south of the cabin. South of the dam an adit was driven into the bank (Report on Criss Creek Placers, 1934).

Total recorded production from Criss Creek is 1586 grams of gold.

BIBLIOGRAPHY

EMPR BULL 28, p. 38
EMPR PF (*author unknown (1934): Report on Criss Creek Placers)

MINFILE NUMBER: **092INE104**

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 219
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR *1933-A183
GSC MEM *249, p. 45
GSC MAP 886A; 42-1989
GSC OF 980
GSC P 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/06/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE105**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEADMAN RIVER PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I10W 092I15W
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 44 42 N
LONGITUDE: 120 55 20 W
ELEVATION: 344 Metres

NORTHING: 5623527
EASTING: 646588

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located just downstream from the confluence of the Deadman and Thompson rivers (Minister of Mines Annual Report 1933).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Quaternary

GROUP
Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels

LITHOLOGY: Gravel
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

In 1933, several men mined the gravel between high and low water levels, just below the confluence of the Deadman and Thompson rivers. They recovered from 25 to 45 cents and occasionally up to \$1 a day for short periods. Some test pits put down about 1 metre below the surface near Deadman River, about 1200 metres upstream from its outlet, panned very fine gold. Further work was stopped because the miners did not have an Indian Reserve licence (Minister of Mines Annual Report 1933).

BIBLIOGRAPHY

EMPR AR *1933-A183
EMPR MAP 7; 30; 48
GSC MEM 249, p. 45
GSC OF 980
GSC MAP 104A; 886A; 42-1989
GSC P 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/06/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE106**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRANQUILLE RIVER PLACER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 44 12 N
LONGITUDE: 120 31 07 W
ELEVATION: 381 Metres

NORTHING: 5623478
EASTING: 675091

LOCATION ACCURACY: Within 1 KM

COMMENTS: The lower reaches of the Tranquille River, about 15 kilometres west of Kamloops (Geological Survey of Canada Memoir 249).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene
Quaternary

GROUP
Kamloops

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels

LITHOLOGY: Gravel
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Gold was discovered in Tranquille River in 1858 and was worked for many years by Chinese, but very little information is available as to the yield. In the period from 1895-96 some attempt was made to work bench claims by hydraulicking. In 1902, a dredge was moved from the North Thompson River to Tranquille River and attempts were made in the next 2 years to work a flat on the lower reaches of the river; this was not a success from an economic standpoint. Placer mining by individuals was confined to the lower reaches of the river, below the canyon. Bedrock geology appears to be volcanic rocks of the Eocene Kamloops Group.

Intermittent production from 1876 to 1945 totalled 74,391 grams gold.

BIBLIOGRAPHY

EMPR BULL *28, pp. 37,40; 77
GSC MEM *249, p. 44
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE107**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAMIESON CREEK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 52 52 N
LONGITUDE: 120 16 11 W
ELEVATION: 366 Metres

NORTHING: 5640156
EASTING: 692057

LOCATION ACCURACY: Within 1 KM

COMMENTS: The lower reaches of Jamieson Creek, about 24 kilometres north of the community of Kamloops (Geological Survey of Canada Memoir 249).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Paleozoic	Harper Ranch	Undefined Formation	
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

Harper Ranch

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Jamieson Creek is reported to have been worked for placer gold in the 1860s and to have yielded good returns, but attempts to reach bedrock in the valley bottom failed because of the flow of water encountered. About 1900, a dredge was installed on a property that included the lower part of Jamieson Creek and about 2.4 kilometres of the North Thompson River upstream from Jamieson Creek. The dredge worked for two months in 1901 with unsatisfactory results. It is reported that the gold occurred in the form of bar deposits, which are unsuitable for dredging (Geological Survey of Canada Memoir 249).

BIBLIOGRAPHY

GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM *249, p. 45
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2000/07/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE108**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAINTED BLUFF**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 54 N
LONGITUDE: 120 45 24 W
ELEVATION: 510 Metres

NORTHING: 5629798
EASTING: 658087

LOCATION ACCURACY: Within 500M

COMMENTS: Sample location from shear zone on the slope of Painted Bluffs, just north of Kamloops Lake, about 8 kilometres northeast of the community of Savona (Assessment Report 22620).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Tetrahedrite Chalcopyrite Bornite
ASSOCIATED: Quartz Calcite
ALTERATION: Azurite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Augite Porphyritic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock

YEAR: 1992

COMMODITY	GRADE	
Silver	9.3000	Grams per tonne
Copper	1.0300	Per cent

REFERENCE: Assessment Report 22620.

CAPSULE GEOLOGY

The Painted Bluff occurrence is located about 500 metres east of the Tenderfoot workings (092INE033) near the summit of Painted Bluffs. The showing is a mineralized shear zone in augite porphyritic tuff of the Upper Triassic Nicola Group. The shear zone strikes 065 degrees, dips vertically and varies from 30 to 76 centimetres wide. The shear zone contains stringers of quartz up to 1 centimetre wide which are variably mineralized with tetrahedrite, azurite and malachite.

A 6-metre adit follows the main mineralized shear. Between this adit and the Tenderfoot workings to the west is a group of cuts and short adit (15 metres long) that investigate other shear zones containing quartz-calcite veinlets mineralized with chalcopyrite, bornite and malachite.

In 1992, a rock sample taken from a mineralized shear that was probably part of the original Painting Bluff showing, analysed 1.03 per cent copper and 9.3 grams per tonne silver (Assessment Report 22620).

BIBLIOGRAPHY

EMPR ASS RPT 693, 11354, *22620
GSC MEM *249, p. 129
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 224
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2001/10/25

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE109**

NATIONAL MINERAL INVENTORY:

NAME(S): **JO, MM**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

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

LATITUDE: 50 37 24 N
LONGITUDE: 120 59 11 W
ELEVATION: 1390 Metres

NORTHING: 5609874
EASTING: 642430

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location of the common claim boundary between the Jo 22,24 and Jo 43,45 claims, between Forge and Guichon creeks, about 18 kilometres southwest of the community of Savona (Assessment Report 2078).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Jo showing is located in the northerly part of the Late Triassic-Middle Jurassic Guichon Creek batholith in the upper reaches of Guichon Creek and on the southern and southwestern slopes of Mount Fehr. Eocene volcanics of the Kamloops Group cover the intrusive rocks over most of the property area. The part of the batholith in the Jo showing area is a medium to fine grained quartz diorite. Chalcopyrite occurs as sparse disseminations and along minute quartz veinlets.

In 1969, Valley Forge Mining Ltd. conducted an exploration program over their large claim holdings which consisted of 196 kilometres of grid lines, 10 kilometres of access road and 14 kilometres of induced polarization survey.

BIBLIOGRAPHY

EMPR ASS RPT *2078
EMPR GEM 1969-261
EMPR BULL 56
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE110**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARGO**, MORGAN, HEATHER,
JAM

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16E
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 53 46 N
LONGITUDE: 120 01 07 W
ELEVATION: 1295 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5642507
EASTING: 709650

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of showings, west of Louis Creek, 33 kilometres north-northeast of the community of Kamloops (Assessment Report 17074).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Tetrahedrite
ASSOCIATED: Quartz Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Upper Triassic
Paleozoic

GROUP

Nicola
Harper Ranch

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greenstone
Argillite
Chlorite Schist
Quartz Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Harper Ranch

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY

Silver
Copper

GRADE

326.3000 Grams per tonne
3.0400 Per cent

COMMENTS: High-grade sample of massive sulphides with quartz veining.

REFERENCE: Assessment Report 17074.

CAPSULE GEOLOGY

The Argo showing is located west of Louis Creek about 33 kilometres north-northeast of the community of Kamloops. The showing consists of north to northwest and east-west trending quartz veins and stringer zones sporadically mineralized with pyrite, chalcopyrite and tetrahedrite. The quartz veins are hosted in a sequence of greenstone, argillite, chlorite schist and quartz mica schist of the Carboniferous to Triassic Nicola and/or Harper Ranch groups. One high-grade sample of massive sulphides with quartz veining analysed 3.04 per cent copper and 326.3 grams per tonne silver (Assessment Report 17074).

The first evidence of work was the driving of an adit on a quartz vein possibly in the 1930s. The portal is now covered by bulldozer debris but local knowledge reports the adit to run about 17 metres on a westerly bearing. In 1970-71, W.J. Stuart completed an electromagnetic and self-potential survey on the Argo claims which covered the adit zone. In 1977, a ground magnetometer survey was completed on behalf of Ramco Industries Limited. In the late 1970s an unknown mining company from Vancouver acquired the ground and it appears that high-grade adit material was transported from the portal and deposited on a flat area above the adit. In addition, light

CAPSULE GEOLOGY

bulldozer trenching and stripping was completed just east of the adit on surface exposures. In 1979, prospecting, geochemical sampling and a geology survey was performed on behalf of G. Irving. In 1981, the ground was staked as the Morgan claim. In 1984, a soil geochemical survey was undertaken over a portion of the claims for Callex Mineral Exploration Ltd. In 1987, a geophysical survey consisting of EM-16 readings, soil and rock geochemistry and geology were completed on behalf of Callex Enterprises Ltd. In 1989, four diamond-drill holes were put down totalling 183 metres on behalf of Shephard Insurance Group.

BIBLIOGRAPHY

EMPR ASS RPT 3299, 6605, *7518, 13446, *17074, 19171
EMPR EXPL 1979-181
EMPR GEM 1971-304,305
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 636; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2000/05/26

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE111**

NATIONAL MINERAL INVENTORY:

NAME(S): **RM**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 33 24 N
LONGITUDE: 120 53 17 W
ELEVATION: 1158 Metres

NORTHING: 5602656
EASTING: 649596

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of the RM claims located along and west of Guichon Creek, about 5 kilometres south of Tunkwa Lake and 22 kilometres south of the community of Savona (Assessment Report 1787).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Altered Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The RM property lies near the northwesterly trending contact between Upper Triassic Nicola Group volcanic rocks in the east from Late Triassic-Middle Jurassic Guichon Creek batholith intrusive rocks to the west.

Disseminated copper mineralization (inferred to be chalcopyrite) occurs in altered quartz diorite of the Hybrid phase of the Guichon Creek batholith.

In 1968, Alwin Mining Company Ltd. completed line cutting and conducted a soil sampling survey (189 samples) and in 1972 completed a ground magnetometer survey.

BIBLIOGRAPHY

EMPR ASS RPT 1166, 1787, 2069, 3459
EMPR GEM 1969-250; *1971-358
EMPR BULL 56
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/23

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE112**

NATIONAL MINERAL INVENTORY:

NAME(S): **IM, SATAN, HAWTHURNE (L.834),
DISPATCHER (L.1748)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 38 N
LONGITUDE: 120 20 41 W
ELEVATION: 907 Metres

NORTHING: 5609884
EASTING: 687862

LOCATION ACCURACY: Within 500M

COMMENTS: Drillhole IM-33 collar about 300 metres south of the Dispatcher
Reverted Crown grant Lot 1748, west of Knutsford Hill, 7 kilometres
south of Kamloops (Assessment Report 4844).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: Epidote Calcite Chlorite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Monzonite

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
SAMPLE TYPE: Drill Core
COMMODITY

YEAR: 1973

Copper

GRADE	Per cent
0.2200	

COMMENTS: Average over 12 metres.
REFERENCE: Assessment Report 4844.

CAPSULE GEOLOGY

The IM showing consists of a 1973 drillhole (IM-33) which intersected disseminated chalcopyrite and pyrite mineralization between 39.6 and 51.8 metres depth in fractured and brecciated fine-grained monzonite. The fractures are healed by chlorite, calcite and epidote. The intrusive rock is part of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith. A sample across 12 metres yielded an average of 0.22 per cent copper (Assessment Report 4844).

In 1968-69, Royal Canadian Ventures Ltd. completed 4 kilometres of ground magnetometer survey, soil sampling (120) and 22.5 kilometres of induced polarization survey over the IM claims. In 1970, Great Plains Development Company of Canada, Ltd. drilled eleven percussion-drill holes totalling 710 metres on the IM claims. In 1972-73, Craigmont Mines Limited drilled twenty-five diamond-drill holes totalling 1618.4 metres, three rotary-drill holes totalling 90.8 metres and fifteen percussion-drill holes totalling 972.3 metres on the IM claims. In 1978, Pan Ocean Oils Ltd. completed six diamond-drill holes totalling 588.2 metres on the IM claims. In 2001, a photo lineament analysis was conducted on behalf of Lyra Resources Ltd. on the Dal claims.

BIBLIOGRAPHY

EMPR AR 1906-H177; 1956-47-54; 1968-172

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 230
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 1748, 2160, *4844, 26787
EMPR GEM 1969-236; 1971-295; 1972-194; 1973-196
EMPR BULL 77
EMPR PF (Claim location map, 1972; Geology map, 1972)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Placer Dome File (Addendum to Summary Report for Great Plains
Development Company of Canada)

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE113**

NATIONAL MINERAL INVENTORY:

NAME(S): **G.M., GM**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 37 N
LONGITUDE: 120 28 44 W
ELEVATION: 907 Metres

NORTHING: 5609522
EASTING: 678372

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrop about 1100 metres east of Dam Lake, 13 kilometres southwest of Kamloops (Assessment Report 11367).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Malachite	Azurite			
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Malachite	Azurite	Epidote	Chlorite	Calcite
ALTERATION TYPE:	Oxidation		Propylitic		
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Tuffaceous Breccia
Andesite
Andesite Tuff
Limestone Breccia
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The G.M. showing is located along the southwestern contact of the Upper Triassic Nicola Group with the Late Triassic-Early Jurassic Iron Mask batholith. Most of the showing area is underlain by fractured Nicola Group andesitic tuffs containing moderate epidote, chlorite and calcite alteration. At one location a tuffaceous breccia is in stratigraphic contact with a limestone breccia. The limestone unit appears medium grey to black in colour and brecciated with recrystallized calcite veining. There is no well defined contact between the two lithologies and bedding is not apparent. Minor malachite and azurite mineralization was discovered locally within the tuffaceous breccia associated with minor shearing and vein infillings. The shearing directions are 128 degrees with vertical dips and 030 degrees with 82 degree north dips. The vein infillings appear to consist of quartz and calcite with minute black sulphide disseminations, possibly chalcocite.

In 1981, prospecting and a grid was established on the G.M. claims by J.A. Hilton. In 1983 and 1990, geological mapping and 89 soil samples, respectively, was completed on behalf of J.A. Hilton. In 2001, 416 soil samples, 17 kilometres of grid and 15.5 kilometres of ground magnetometer survey was completed on the GM claims on behalf of Gold Mask Ventures Ltd.

BIBLIOGRAPHY

EMPR ASS RPT 9490, *11367, 20660, 26848
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 232
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/04
DATE REVISED: 2003/02/04

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE114**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRUCE** HAPPY DAYS, RABBIT,
RAG

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 49 N
LONGITUDE: 120 40 04 W
ELEVATION: 1597 Metres

NORTHING: 5607602
EASTING: 665056

LOCATION ACCURACY: Within 500M

COMMENTS: Location of percussion-drill hole 90-7 about 1000 metres north of
Dominic Lake on the southwesterly slopes of Greenstone Mountain, 26
kilometres west of Kamloops (Assessment Report 20649).

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite
ASSOCIATED: Magnetite
ALTERATION: Epidote Chlorite Carbonate
ALTERATION TYPE: Propylitic Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Diorite
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

In the Bruce showing area, scattered showings of disseminated chalcopyrite and/or molybdenite occur in dioritic rocks that intrude Upper Triassic Nicola Group volcanics. Percussion drilling in 1990 intersected magnetite-rich diorite of a probable extension of the composite Triassic diorite-monzonite 'Durand Lake stock'. The diorite is pyritic (from 1 to 3 per cent) and exhibits propylitic alteration (minor epidote and chlorite) but with significant carbonate content. Trace chalcopyrite and molybdenite has been observed. Sampling from drillholes 90-7 and 90-9 yielded up to 0.026 per cent MoS₂ (Assessment Report 20649).

Cominco Ltd. staked the original Rag claims in 1969 to cover the northern and western part of an aeromagnetic anomaly associated with a composite diorite-monzonite intrusion (Durand Lake stock) of Triassic age. Extensive geological and geophysical programs were conducted in 1969-70 and 1972 and outlined disseminated sulphide zones (5 to 8 per cent pyrite) along the west-southwest and east-northeast flanks of the intrusion. These peripheral areas have been covered by induced polarization and magnetic surveys and a limited amount of percussion drilling. In 1970, induced polarization and ground magnetometer surveys and line cutting totalling 29 line kilometres were run over the Rag group of claims on behalf of Cominco Ltd. In 1972, line cutting and an induced polarization survey totalling 26 line kilometres was completed over the Rag claim group on behalf of Cominco Ltd. In 1988, Cominco Ltd. conducted soil sampling (619) over the Rag claims. In 1989, Teck Corporation entered into a joint venture agreement with Cominco Ltd. covering Teck and Cominco-owned claims in the Greenstone Mountain area. During the spring and summer of 1990, Teck conducted soil sampling (500), magnetometer (38 kilometres) and VLF-EM (38 kilometres) surveys over previously untested portions of the Rag claims. In 1990, on behalf of Teck Corporation, a nine hole percussion drilling program totalling 716 metres tested two gold-copper soil geochemical

MINFILE NUMBER: **092INE114**

CAPSULE GEOLOGY

anomalies on the Rag claims. In 1989, D.L. Cooke and R.U. Bruaset began assembling ground (Rabbit claims) in the Dominic and Durand lakes area and this continued, with some interruptions, until 1996. The Rabbit claims cover the Bruce, Rag 73 (092INE130) and Rag (092INE045) showings. Bruaset and Cooke carried out systematic geological mapping and a soil geochemical survey (135 samples) directed at gold beginning in 1990 in the area of the Rag 73 and Rabbit (092INE147) showings. A compilation map based on 2900 soil samples analysed for gold in the Dairy to Dominic lakes area was completed in 1993. This compilation, covering most of the area of current Rabbit claims, suggested high gold potential. In 1995, ProAm Explorations Corporation extended the 1990 gold soil anomaly and in the same year, the entire ProAm Rabbit group of claims was surveyed by enzyme leach selective extraction (381 samples) and an induced polarization survey (7.3 kilometres) completed. In 1997-98, ProAm Explorations Corporation completed 9 trenches totalling 40 metres and took 80 outer bark samples for biogeochemistry testing in the vicinity of the original Bruce showing. The trenching confirmed the presence of copper mineralization and yielded elevated gold values. Also in 1997, ProAm conducted a diamond drilling program over the original Rag 73 showing and discovered the Rabbit showing. A total of 21 holes totalling 3338 metres were put down and 1398 samples analysed.

BIBLIOGRAPHY

EMPR ASS RPT *20649, 24785, 25790, 25941
EMPR EXPL 1979-176
EMPR PF (see Rag, 092INE045 - Drill data and peripheral geology map)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Auterra Ventures Inc., Jan.24, 2003

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/28

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE115**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASIN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 41 07 N
LONGITUDE: 120 29 37 W
ELEVATION: 579 Metres

NORTHING: 5617824
EASTING: 677048

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of slide scarp between the Trans-Canada Highway 1/97 and the South Thompson River, about 12 kilometres west of Kamloops (Assessment Report 24674).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Smectite Montmorillonite
ALTERATION: Clay
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E06 Bentonite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Kamloops	Tranquille	

LITHOLOGY: Tuffaceous Mudstone
Mudstone
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization PHYSIOGRAPHIC AREA: Thompson Plateau
GRADE: Zeolite

CAPSULE GEOLOGY

The Basin property is located within a large Eocene basin reportedly up to 2000 metres thick. The property is situated over the lower Tranquille Formation (Kamloops Group) beds which attain thicknesses of up to 500 metres and are dominated by lacustrine, fossiliferous lake bed sediments with a varying tuffaceous component. These are occasionally interbedded with andesitic flows and lahars. This unit is overlain by a thick (up to 1300 metres) succession of andesitic flows, flow breccia and lahars of the Dewdrop Flats Formation (Kamloops Group). These formations are within a complex block-faulted basin with complex internal faulting which must have been active during deposition as represented by rapid facies changes and internal facies variations.

The Basin property covers an extensive section of lower Eocene Tranquille Formation sediments and tuffs. These units have undergone regional zeolite facies metamorphism. Work in 1996 has discovered a significant resource of sodium bentonite (smectite-montmorillonite) within a particular unit of the Eocene sequence consisting of mudstone, sandstone and tuff. The bentonite-bearing unit is a tuffaceous mudstone outcropping over a large area due to its dip slope nature and appears to range in true thickness from 50-80 metres. This unit contains a majority of the bentonite material (30 to 60 per cent of the mass) on the property. It is poorly bedded and weathers easily into a slippery light tan-white clay.

Prospecting, geological mapping and sampling was concentrated in a recent landslide area which has exposed a large area of bentonite-bearing material (in excess of 18 hectares) that appears visually to be homogeneous. Eleven samples from the slide scarp area were tested and yielded from 24.8 to 42.3 C.E.C. (cation exchange capacity). Other samples ranged from 41.1 up to 57.1 C.E.C. (Assessment Report 24674).

In 1996, geological mapping, prospecting and analytical work was completed on the Basin property on behalf of L.C. Marlow.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 236
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT *24674
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/17
DATE REVISED: 2003/02/17

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE116**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUDA, PAM, MAP,
DAVE, FOX, DON**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 36 15 N
LONGITUDE: 120 22 01 W
ELEVATION: 884 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5609118
EASTING: 686315

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft between Peterson Creek and the road, about 3 kilometres west of Knutsford Hill, about 8 kilometres south of Kamloops (Assessment Report 3630).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ALTERATION: K-Feldspar
ALTERATION TYPE: Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
Monzonite
Diorite Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Buda property is underlain by diorite breccia of the Iron Mask Hybrid unit and diorite and monzonite of the Cherry Creek unit, both of the Late Triassic-Early Jurassic Iron Mask batholith. Weak disseminated and fracture-coating pyrite and chalcopyrite mineralization occurs in Cherry Creek unit diorite. The diorite contains strong north to northwesterly striking, steeply dipping fractures and exhibits K-feldspar alteration.

In 1970, Royal Canadian Ventures Ltd. conducted geological mapping, a magnetometer survey (38.6 kilometres) and took 625 soil samples on the MR group of claims. In 1972-73, Rolling Hills Copper Mines Ltd. conducted geological mapping, 41.8 kilometres of magnetometer survey, an induced polarization survey, and drilled ten vertical percussion-drill holes totalling 914.4 metres on the Fox, Pam, X, Dave, Don and Map claims.

BIBLIOGRAPHY

EMPR AR 1956-47-54, Fig.3
EMPR ASS RPT 2821, 3630, *4009, 4015, 4036, 4314
EMPR GEM 1972-193; 1973-196
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE117**

NATIONAL MINERAL INVENTORY:

NAME(S): **POD**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 02 N
LONGITUDE: 120 55 01 W
ELEVATION: 1204 Metres

NORTHING: 5605625
EASTING: 647464

LOCATION ACCURACY: Within 500M

COMMENTS: Small pit along Forge Creek, between Tunkwa Lake and Bose Hill, about 19 kilometres south of the community of Savona (Assessment Report 3632).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Tetrahedrite
ASSOCIATED: Quartz
ALTERATION: Chrysocolla
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Pod showing area straddles the transitional contact zone between quartz diorite of the Hybrid phase to the east from granodiorite of the Guichon variety to the west. Intrusive rocks belong to the Late Triassic-Middle Jurassic Guichon Creek batholith.

A small prospect pit in quartz diorite exposes two parallel quartz veinlets, 2.5 to 5 centimetres wide, mineralized with chalcopyrite, tetrahedrite and chrysocolla. Weak disseminated pyrite is present locally.

In 1971-73, surface geological mapping, line cutting, induced polarization (7.8 kilometres) survey and ground magnetometer (26.7 kilometres) survey was conducted by Dusty Mac Mines Ltd.

BIBLIOGRAPHY

EMPR ASS RPT 3631, *3632, 4408
EMPR GEM 1972-222; 1973-204
EMPR BULL 56
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE118**

NATIONAL MINERAL INVENTORY:

NAME(S): **B, WILDROSE, IM,
KNUT**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

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

LATITUDE: 50 35 48 N
LONGITUDE: 120 19 38 W
ELEVATION: 894 Metres

NORTHING: 5608384
EASTING: 689156

LOCATION ACCURACY: Within 500M
COMMENTS: Trench located just north of the road to Edith Lake, about 8 kilometres south of Kamloops (Assessment Report 11838).

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Rock
COMMODITY
Silver 10.0000 Grams per tonne
Copper 2.0000 Per cent
REFERENCE: Assessment Report 11838.

CAPSULE GEOLOGY

A trench at the B showing exposes a shear zone in Cherry Creek unit diorite to monzonite of the Late Triassic-Early Jurassic Iron Mask batholith. The shear is pyritic and exhibits some clay alteration with epidote veining and contains chalcopyrite and malachite. A rock sample from the trench in 1983 analysed up to 2.0 per cent copper and 10 grams per tonne silver (Assessment Report 11838).

In 1972, Rolling Hills Copper Mines Ltd. conducted geological mapping on the B claims. In 1978, Cominco Ltd. drilled four vertical percussion-drill holes totalling 346 metres on the Wildrose 4 claim. Two of the holes were just south of the trench at the B showing and intersected traces of chalcopyrite in diorite. In 1983, Aberford Resources Ltd. conducted reconnaissance geological mapping and rock geochemistry on the large IM claim group which covers the showing. In 1989, Cominco Ltd. drilled 41 percussion-drill holes totalling 3507 metres over their large holding of IM claims. Seven holes were located around the B showing area but none yielded mineralization. In 1989, Afton Operating Corporation conducted 8.4 kilometres of VLF-EM and ground magnetometer survey and took 189 soil samples on the Wildrose II claim which covers the B showing.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 240
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 577, 2143, *4014, 6820, *11838, 18873, 19478
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Placer Dome File (Drillhole logs, drill core photos, interim report,
petrographics, field books, forms, geochemical data)

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE119**

NATIONAL MINERAL INVENTORY:

NAME(S): **LED 74, JEFF**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 39 00 N
LONGITUDE: 120 36 57 W
ELEVATION: 1036 Metres

NORTHING: 5613617
EASTING: 668542

LOCATION ACCURACY: Within 500M

COMMENTS: Inclined shaft and trenches on the northerly slopes of Greenstone Mountain, between Beaton and Pendleton creeks, about 20 kilometres west of Kamloops (Assessment Report 4155).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ASSOCIATED: Quartz Calcite Pyrite Specularite
ALTERATION: Chlorite Epidote Malachite Azurite
ALTERATION TYPE: Chloritic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Porphyry
TYPE: L04 Porphyry Cu ± Mo ± 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

CAPSULE GEOLOGY

The Led 74 showing area is underlain by Upper Triassic Nicola Group andesitic volcanic rocks which are intruded by small Tertiary bodies of quartz diorite to quartz monzonite east of Gilbert Lake and northeast of Greenstone Mountain. The volcanics are commonly massive augite porphyry andesite interbedded with tuffaceous fragmentals and flow breccia.

There is an inclined shaft at the showing where chalcopyrite, bornite, malachite, azurite, specularite and pyrite occurs in a quartz-calcite vein in a shear zone. Minor chalcopyrite is disseminated in the wallrocks. The vein is up to 1.5 metres wide, strikes northeasterly and dips at 47 degrees to the southeast. A couple of metres to the southwest of the shaft, the vein is 15 to 30 centimetres wide, but in the area of the shaft and at a depth of 6 metres, it is 1.5 metres wide. The vein is obscured in both directions along strike by overburden. The vein cuts massive andesite that has been weakly chloritized and epidotized near the vein. It is estimated that the shaft is a minimum 15 metres deep. The size of the dump would indicate approximately 122 metres of underground workings (Assessment Report 4155).

The vein on the Led 74 claim was probably found in the early 1900s and worked in the 1930s. In 1972, Avino Mines and Resources Ltd. and Moneta Porcupine Mines Ltd. established 8.9 kilometres of grid and conducted geological mapping, soil sampling (1000), road building (305 metres) and 91 metres of trenching on the Led-Ex claims. In 1973, Moneta Porcupine Mines Ltd. continued work on the Led-Ex claims and completed geological mapping and soil sampling (236).

BIBLIOGRAPHY

EMPR ASS RPT *4155, 4881
EMPR GEM 1972-202; 1973-200,201
WWW <http://www.infomine.com/>
GSC OF 165; 980; 2490

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 242
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE120**

NATIONAL MINERAL INVENTORY:

NAME(S): **DM 62, COQUIHALLA EAST**

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I09W
 BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 38 42 N
 LONGITUDE: 120 29 05 W
 ELEVATION: 823 Metres

NORTHING: 5613368
 EASTING: 677828

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on the DM 62 claim, about 750 metres southeast of Pothook Lake and 2.5 kilometres southeast of the Afton open pit (092INE023), 11 kilometres west of Kamloops (Assessment Report 192).

COMMODITIES: Copper Gold Palladium

MINERALS

SIGNIFICANT: Malachite Chalcopyrite Bornite
 ASSOCIATED: Pyrite Quartz Calcite Carbonate
 ALTERATION: Malachite Limonite Chlorite
 ALTERATION TYPE: Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
 Brecciated Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: EAST

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Grab

YEAR: 2002

COMMODITY	GRADE	
Gold	6.3600	Grams per tonne
Copper	1.0000	Per cent
Palladium	0.8300	Grams per tonne

COMMENTS: Over 3 metres in a roadcut.

REFERENCE: News Release - Abacus Mining & Exploration Corporation, Dec.17, 2002.

CAPSULE GEOLOGY

A shaft on the DM 62 claim is at least 6 metres deep to water (ca. 1957) and was sunk in fine grained, rusty weathered diorite containing abundant fine and coarse grained disseminated pyrite. The diorite is probably part of the Cherry Creek unit of the Late Triassic-Early Jurassic Iron Mask batholith (Bulletin 77). A nearby trench exposes two intersecting shatter zones, one striking 060 degrees and the other 140 degrees, both with vertical dips. The shatter zones are made up of very closely spaced jointing over a width of 22 to 61 centimetres. Some malachite staining occurs on the walls of the shaft, but limonite staining is more abundant. In dump material, malachite occurs in thin seams and fractures and a little coarse chalcopyrite and bornite was found in a calcite vein. A small pit 122 metres northeast of the shaft exposes local small masses of chalcopyrite hosted in a brecciated diorite with a chlorite matrix. Carbonate veins up to 10 centimetres wide occur in a shatter zone striking 100 degrees and dipping vertically.

Abacus Mining and Exploration Corporation's Coquihalla East zone is assumed to be the same showing location as the historic DM 62 showing and is in the same northwest-southeast trending structural corridor as the Afton, Pothook, Ajax and Rainbow deposits. More locally, the zone is 800 metres southeast and directly on strike from

CAPSULE GEOLOGY

the Pothook pit. A selected grab sample over 3 metres in a roadcut assayed 6.36 grams per tonne gold, 0.83 gram per tonne palladium and 1.0 per cent copper. The Coquihall East zone extends for a strike length of at least 700 metres and remains open along strike to the southeast. The zone lies within the same structural corridor as the Rainbow No.2 and No.22 zones (092INE028) located 2000 metres to the southeast (News Release, Abacus Mining & Exploration Corporation, December 17, 2002).

Previous exploration on the DM claims was completed by Teck Cominco Limited in the 1990s. The program consisted of five drillholes, spaced 100 metres apart along the strike of the zone. The most significant intersection came from drillhole 96-12 and graded 1.04 gramme per tonne gold and 0.11 per cent copper over 15 metres. A grab sampling program recently performed by Abacus was situated in a historic shallow pit dump, approximately 250 metres east of Teck Cominco's drilling. One sample assayed 8.75 grams per tonne gold, 0.99 per cent copper and 1.18 grams per tonne palladium (News Release, November 7, 2002).

In 1956-57, Graham Bousquet Gold Mines Limited conducted soil sampling, geological mapping, resistivity, magnetometer and electromagnetic surveys over the DM and Afton group of claims. In 1972, Initial Developers Corporation conducted 11 kilometres of induced polarization over the DM claims.

BIBLIOGRAPHY

EMPR ASS RPT 141, *192, 3554
EMPR BULL 77
EMPR FIELDWORK 2002, pp. 129-132
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
WWW <http://www.amemining.com>
PR REL Dec.5,17, 2002 - Abacus Mining & Exploration Corp.

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/03

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE121**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUNNY**, EDITH LAKE, BYR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5605550
EASTING: 688588

LATITUDE: 50 34 17 N
LONGITUDE: 120 20 12 W
ELEVATION: 1056 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches and percussion-drill holes about 250 metres east of Edith Lake, 11 kilometres south of Kamloops (Assessment Report 17502).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Copper
ASSOCIATED: Quartz Pyrite Magnetite
ALTERATION: Albite Epidote Chlorite Carbonate
ALTERATION TYPE: Argillic Albitic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola
Triassic-Jurassic

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER
Iron Mask Batholith

LITHOLOGY: Diorite
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Copper

YEAR: 1982

GRADE: 0.4000 Per cent

REFERENCE: Assessment Report 10552.

CAPSULE GEOLOGY

The Sunny showing area is underlain by the northwest trending contact between Upper Triassic Nicola Group andesitic volcanic rocks to the west from diorite of the Late Triassic-Early Jurassic Iron Mask batholith to the east. Associated with the contact and for 300 metres north within the diorite is a zone of argillic alteration. Chalcopyrite and pyrite occur as blebs and patches in quartz veins in the altered zone in the diorite. Chip samples from the trenched mineralized area yielded up to 0.4 per cent copper (Assessment Report 10552). Two percussion-drill holes by Afton in 1988 in the vicinity of the trenches intersected diorite mineralized with chalcopyrite, magnetite and pyrite and trace native copper. The diorite exhibits substantial albitization and moderate epidote-chlorite-carbonate alteration. In 1991, Afton drilled four more percussion holes about 450 metres further east from the holes drilled in 1988. Three out of the four intersected minor amounts of chalcopyrite.

In 1979, geological mapping was carried out on the Sunny claim on behalf of Jocelyn Resources Ltd. In 1982, Argenta Resources Ltd. conducted a soil survey (65) over the Sunny claim. In 1984, Argenta Resources continued work on the claim and took 81 soil samples. In 1986, Afton Operating Corporation completed a soil survey (231) over the claim which was purchased from Argenta Resources. In 1988, two percussion holes totalling 213 metres were drilled on behalf of Afton Operating Corporation. In 1991, Afton drilled four percussion-drill

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 246
REPORT: RGEN0100

CAPSULE GEOLOGY

holes totalling 335 metres on the Byr claims.

BIBLIOGRAPHY

EMPR ASS RPT 8028, *10552, 12419, 14970, 14985, *17502, 21431
EMPR BULL 77
EMPR AR 1956-47-54
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/05
DATE REVISED: 2003/02/05

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE122**

NATIONAL MINERAL INVENTORY:

NAME(S): **GM, LED 31**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 31 N
LONGITUDE: 120 38 25 W
ELEVATION: 1478 Metres

NORTHING: 5610813
EASTING: 666902

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop with mineralized quartz vein located 450 metres south of Gilbert Lake on the northerly slopes of Greenstone Mountain, about 23 kilometres west of Kamloops (Assessment Report 23380).

COMMODITIES: Copper Molybdenum Lead

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Galena
ASSOCIATED: Quartz Calcite Pyrite
ALTERATION: Chlorite Epidote Silica Pyrite
ALTERATION TYPE: Chloritic Propylitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au 105 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Porphyritic Andesite Flow
Andesite Flow Breccia
Agglomerate
Quartz Diorite
Quartz Monzonite
Tuffaceous Sediment/Sedimentary

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The GM showing is underlain by Upper Triassic Nicola Group intermediate volcanic rocks, agglomerate and minor tuffaceous sediments which have been intruded by a zoned quartz diorite to quartz monzonite stock of Tertiary? age. Disseminated pyrite (up to 3 per cent), magnetite (up to 1 per cent) and locally hematite is common in the medium to coarse-grained diorite and quartz monzonite intrusions.

The Nicola rocks are massive, grey-green porphyritic andesite flows. Within the volcanic package are flow-top breccias which have been infilled with calcite +/- quartz, disseminated pyrite and chalcopyrite. The more massive volcanic rocks are locally intercalated with agglomerates. One outcrop of orange-brown, fine grained and siliceous tuffaceous rock is found 500 metres southeast of Gilbert Lake. The Nicola Group rocks exhibit weak to moderate chlorite + epidote +/- disseminated pyrite alteration over large areas. Silicification of the volcanic rocks is pervasive with associated development of weak quartz veining. Locally, quartz-calcite veining (up to 0.5 centimetre wide) contains disseminated pyrite, chalcopyrite and minor galena. Trace molybdenite was observed in a quartz monzonite outcrop about 400 metres northeast of Gilbert Lake.

Moneta Porcupine Mines Ltd. carried out a limited program of geological mapping and soil sampling in 1973 and 1974 on their Led claims in the vicinity of the showing. The property was held in 1977 by Barrier Reef Resources Ltd. when it was known as the Gil claims and a short access road was constructed. Barrier Reef collected a total of 399 soil samples in 1978 and 1979. In 1980, the company

CAPSULE GEOLOGY

conducted a 10.9-kilometre induced polarization survey. In 1990-91, C.R.C. Explorations Limited took 383 soil samples over 19.2 kilometres of grid on the GM claims which now cover the showing. In 1994-95, C.R.C. Explorations continued work on the claims and conducted geological mapping, 349 soil and 30 rock samples, and established 11.1 kilometres of grid.

BIBLIOGRAPHY

EMPR ASS RPT 4881, 7073, 7842, 8724, 21269, 21871, *23380, 24016
EMPR EXPL 1978-E169,E170; 1979-177,178
EMPR GEM 1973-200,201
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE123**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUSE LAKE**, BUSE

STATUS: Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I09E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 37 18 N

NORTHING: 5611981

LONGITUDE: 120 01 27 W

EASTING: 710488

ELEVATION: 548 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry near the southeast shore of Buse Lake, about 22.5 kilometres east of Kamloops (Assessment Report 24555).

COMMODITIES: Volcanic Ash Silica Kaolinite

MINERALS

SIGNIFICANT: Kaolinite Quartz

ASSOCIATED: Biotite Clay

ALTERATION: Clay

ALTERATION TYPE: Argillic

MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Volcanogenic Industrial Min.

TYPE: R11 Volcanic ash - pumice

SHAPE: Tabular

DIMENSION: 300 x 30 Metres

STRIKE/DIP: 315/20N

TREND/PLUNGE:

COMMENTS: Rhyolite ash lens.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Eocene

Kamloops

Undefined Formation

LITHOLOGY: Rhyolite Ash
Crystal Vitric Ash
Rhyolite

HOSTROCK COMMENTS: A cream weathering, wispy bedded, waterlain rhyolite ash with entrapped carbonaceous plant debris.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Overlap Assemblage

Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Syn-mineralization

GRADE: Zeolite

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Proven
QUANTITY: 865000 Tonnes

YEAR: 1993

COMMODITY: Volcanic Ash

GRADE: 100.0000 Per cent

REFERENCE: Assessment Report 24555.

CAPSULE GEOLOGY

The Lafarge Kamloops Cement Plant is mining a rhyolite ash tuff which is used as a silica-aluminate source for the cement manufacturing process. The rhyolite ash is a crystal (quartz, biotite?) clay altered vitric ash which has been quarried in two locations and material shipped to the cement plant east of Kamloops.

The Buse Lake quarry is at the southeast corner of Buse Lake, about 22.5 kilometres east of Kamloops. In this area, the basal unit of the Eocene Kamloops Group is a 300 by 30 metre thick lens of waterlain rhyolite ash which lies unconformably on volcanics of the underlying Upper Triassic Nicola Group. The footwall is a brecciated augite basalt and the hangingwall is a porphyritic greywacke. A dike of younger basalt crosses both the ash tuff and greywacke. On Buse Hill, columnar jointed basalt flows directly overlie the ash.

The rhyolite ash lens strikes 315 degrees and dips 20 degrees northeast. A single assay averages 67.12 per cent silica and 15.78 per cent alumina (Geology, Exploration and Mining in British Columbia 1970, page 513). X-ray diffractograms of untreated and heated (550 degrees Celsius for 1 hour) indicate that the mineralogy of the

CAPSULE GEOLOGY

altered tuff is essentially kaolinite and quartz.

Quarrying sequencing applies to 865,000 tonnes of material divided into two zones (Eastern and Western). Depending on the market conditions or other sources of additive in the process, the quarry would have an active life of either 33 or 58 years (AssessmentReport 24555). Production statistics are not available from 1993 to present.

In 1966, S. Bricka of Lafarge identified the actual area of the quarry as a source of silica-aluminate material; at that time the quarry was a source of ornamental stone. A drilling program of ten holes plus a local surveying scheme helped to put the site into production. Thereafter, at least 44 more holes totalling 2087 metres were bored. The quarry has been in operation since 1970. In 1980, seven diamond-drill holes totalling 611.4 metres were drilled on the Buse claims on behalf of Canada Cement Lafarge Ltd. to delineate the bed of volcanic tuff that is presently being mined. In 1993, Lafarge Canada Inc. re-evaluated previous work done and updated mining and reclamation plans based on the 1981 drilling program.

BIBLIOGRAPHY

EMPR ASS RPT 8114, *24555
EMPR GEM *1970-513; 1971-478,479; *1972-617; 1973-565; 1974-400
EMPR OF 1994-1
EM EXPL 1998; 2000-34
EMR Publication No.452, Building and Ornamental Stones of Canada,
Part V, 1917, pp. 179-181
GSC OF 165; 637; 866; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1993/10/29
DATE REVISED: 2003/02/14

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INE124**

NATIONAL MINERAL INVENTORY:

NAME(S): **AND, 5A, A5,
LARK, JD, A,
C, CLE, PIN,
ACE, JOKER**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 34 30 N
LONGITUDE: 120 18 54 W
ELEVATION: 995 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5606007
EASTING: 690108

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on the northerly end of Shumway Hill about 2 kilometres north of McLeod Lake, 11 kilometres south of Kamloops (Assessment Report 6717).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite
ASSOCIATED: Pyrite
ALTERATION: K-Feldspar Chlorite Epidote Malachite Azurite
ALTERATION TYPE: Potassic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Iron Mask Batholith

LITHOLOGY: Diorite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHAFT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1977
SAMPLE TYPE: Chip
COMMODITY: Copper GRADE: 0.2300 Per cent

REFERENCE: Assessment Report 6717.

CAPSULE GEOLOGY

The And showing area is underlain by fine to medium-grained diorites and monzonites of the Cherry Creek unit of the the Late Triassic-Early Jurassic Iron Mask batholith. Most outcrops are unaltered but show some moderate pervasive to fracture-controlled epidote and chlorite alteration. At the showing, a shaft 4 metres deep exposes K-feldspar and chlorite altered monzonitic to dioritic rocks with minor pyrite, chalcopyrite, chalcocite, malachite and azurite along fractures and as disseminations. In 1977, a 3-metre chip sample across the west wall of the shaft yielded 0.23 per cent copper (Assessment Report 6717). Some chloritic diorite outcrops about 400 metres north of the shaft and are slightly mineralized with pyrite and chalcopyrite. In 1978, Cominco drilled one vertical percussion hole 106 metres in depth to determine the thickness of the Kamloops Group in the area. The hole is located about 1000 metres southwest of the shaft and intersected Kamloops Group basalt and sediments in the upper half and Nicola Group andesitic tuffs in the lower half. A few grains of pyrite and chalcopyrite were noted in the Nicola rocks.

In 1966, Fidelity Mining Investments Ltd. conducted a 21 kilometre induced polarization survey over the Pinnacle claim group

CAPSULE GEOLOGY

which also covered the Joker (092INE015) and Grey Mask (092INE016) showings. In 1968, Pinnacle Mines Limited took 1785 soil samples over the A, C, Cle and Pin claims which covered the And showing, Grey Mask (092INE016), Joker (092INE015) and Phil (092INE125) showings. In 1972, geological mapping, soil sampling and 15.9 kilometres of ground magnetometer survey was undertaken on the large holding of JD claims on behalf of Flagstone Mines Ltd. The JD claims cover the Phil, Joker, Grey Mask and And showings. The Lark claims were staked in 1977 by Cominco Ltd. and in that year they conducted a geological and rock sampling program. The Lark claims also cover the Joker showing and Grey Mask showing to the east of the And showing. In 1978, Cominco Ltd. completed 6.5 line kilometres of induced polarization survey and drilled one percussion hole totalling 106 metres over the And and Lark claims.

BIBLIOGRAPHY

EMPR ASS RPT 965, 1746, 4160, 6674, *6717, 6739, 11336
EMPR EXPL 1978-E166,E167
EMPR BULL 77
EMPR AR 1956-47-54
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE125**

NATIONAL MINERAL INVENTORY:

NAME(S): **PHIL, JD, PIN,
AND, ACE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

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

LATITUDE: 50 33 16 N
LONGITUDE: 120 17 55 W
ELEVATION: 957 Metres

NORTHING: 5603764
EASTING: 691351

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized trench on the northeasterly slopes of Shumway Hill near three small unnamed ponds, about 13 kilometres south of Kamloops (Assessment Report 23894).

COMMODITIES: Copper Gold Palladium

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite
ALTERATION: Albite Chlorite K-Feldspar Epidote Malachite

ALTERATION TYPE: Albite Propylitic Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Iron Mask Batholith

LITHOLOGY: Diorite Breccia
Diorite
Hornblende Diorite

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: 1994
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 0.5000 Grams per tonne
Copper 0.1700 Per cent

COMMENTS: Copper over 8 metres, gold over 2 metres.
REFERENCE: Assessment Report 23894.

CAPSULE GEOLOGY

The Phil showing consists of a trench that intersects a shallow west dipping (30-40 degrees) fault zone with local high grade chalcopyrite, malachite, bornite and chalcocite mineralization in massive, albite altered Iron Mask hybrid unit diorite breccias in fault contact with underlying Sugarloaf unit hornblende diorites. The intrusive rocks belong to the Late Triassic-Early Jurassic Iron Mask batholith. Previous sampling of the zone yielded 1.01 grams per tonne gold and 0.9 per cent copper over 3.5 metres with the high grade copper (chalcopyrite, malachite and bornite) mineralization concentrated at the top of the zone. The discontinuous massive albite is up to 2 metres thick. Several other crosscutting faults are evident in the old trench cuts.

In 1994, drilling in the Phil copper showing area failed to intersect the mineralized fault contact between the hybrid breccia and Sugarloaf diorite downdip. Copper mineralization in westerly dipping faults was intersected and yielded up to 0.17 per cent copper over 8 metres in drillhole JK-94-02. The highest gold result was 0.5 gram per tonne over 2 metres. In drillhole JK-94-01 an intersection over 3 metres yielded 0.11 per cent copper and 0.5 gram per tonne

CAPSULE GEOLOGY

gold. Both holes intersected hybrid breccia with weak epidote and hematite alteration and strong chlorite fracture-fills throughout. Local potassium feldspar fracture-fill and patches also occur (Assessment Report 23894). Grab samples by Abacus Mining and Exploration Corporation in 2002 yielded up to 2.87 per cent copper, 1.96 grams per tonne gold and 1.27 grams per tonne palladium (News Release, December 17, 2002).

In 1966, Fidelity Mining Investments Ltd. conducted a 21 kilometre induced polarization survey over the Pinnacle claim group which also covered the And (092INE124), Joker (092INE015) and Grey Mask (092INE016) showings. In 1968, Pinnacle Mines Limited took 1785 soil samples over the A, C, Cle and Pin claims which also covered the And, Grey Mask and Joker showings. In 1972, geological mapping, soil sampling and 15.9 kilometres of ground magnetometer survey was undertaken on the large holding of JD claims on behalf of Flagstone Mines Ltd. The JD claims also cover the Joker, Grey Mask and And showings. In 1976, Cominco Ltd. conducted 19.5 kilometres of induced polarization and ground magnetometer surveys over the And claims which now cover the Phil and And showings. In 1983, Cominco Ltd. drilled six vertical percussion-drill holes totalling 548.6 metres on the And property. In 1991, geological mapping, 88.9 kilometres of grid establishment, 37.3 kilometres of ground magnetometer and 426 soil samples were taken on the Shumway Lake property (J & J claims) on behalf of Naxos Resources Ltd. In 1994, Teck Corporation completed six diamond-drill holes totalling 690.7 metres, 21 kilometres of VLF-EM and ground magnetometer surveys, geological mapping and soil sampling (389) on the Joke and Ace claims which cover the Joker, Grey Mask and Phil showings.

BIBLIOGRAPHY

EMPR AR 1967-141,142
EMPR ASS RPT 965, 1746, 4160, 6224, 11336, 21604, *23894
EMPR BULL 77
EMPR GEM 1972-191
EMPR PF (Letter from B.I. Nesbitt, Flagstone Mines Ltd.; Property location map; Property examination report on JD claims, 1972)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1
GSC OF 165; 980; 2490 A, pp. 293-297; 85-1A, pp. 349-358
PR REL Abacus Mining & Exploration Corp., Dec.17, 2002; Jan.27, 2003
WWW <http://www.amemining.com>

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE126**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOONDAY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 30 N
LONGITUDE: 120 18 52 W
ELEVATION: 808 Metres

NORTHING: 5611567
EASTING: 689946

LOCATION ACCURACY: Within 1 KM

COMMENTS: Shaft located 1.5 kilometres east of Knutsford and Highway 5, about 5 kilometres south of Kamloops (Geological Survey of Canada Map 887A, No.38).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesitic Volcanic
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Noonday showing consists of quartz veins in andesitic volcanic rocks of the Upper Triassic Nicola Group. The principal working is an old incline shaft reported to be 30.5 metres deep but is caved at the collar. The shaft explored an auriferous quartz veins 15 to 46 centimetres wide, striking 140 degrees and dipping 75 degrees southwest. At the 30 metre level the veins come together and form a lode 1.5 metres wide. The veins contain some native gold.

The Noonday group was originally staked by O.S. Batchelor and associates. In 1899, development consisted of an incline shaft 30.5 metres deep; a drift at the 15 metre level extending 15 metres on the vein; a drift from the bottom of the shaft intersecting the vein, and a crosscut 9 metres long. In 1972, 14.5 kilometres of ground magnetometer and VLF-EM survey was completed on a portion of the Ramona claim group on behalf of Manor Mines Ltd. The claim group is reported to cover the showing.

BIBLIOGRAPHY

EMPR AR 1898-1102; *1899-731; *1900-889; 1901-1078
EMPR ASS RPT 4211
EMPR BULL 77
GSC MEM *249, p. 66
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/14

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **09ZINE127**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZZ 23, ZZ 20**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092109W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 40 34 N
LONGITUDE: 120 29 06 W
ELEVATION: 609 Metres

NORTHING: 5616826
EASTING: 677691

LOCATION ACCURACY: Within 500M

COMMENTS: Adit located about 750 metres north of the Trans-Canada Highway 1/97,
about 11 kilometres west of Kamloops (Assessment Report 4125).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Eocene

GROUP

Kamloops

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite Agglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

At the ZZ 23 showing, a short adit has been driven at 058 degrees just below a rock cut which exposes a fracture stained with malachite and chrysocolla across about 5 centimetres. The fracture strikes 125 degrees and dips vertically. Hostrocks are purplish andesite agglomerate of the Eocene Kamloops Group. About 750 metres south-southeast malachite occurs in a calcite or ankerite-filled fracture in an andesite agglomerate.

In 1969, a soil geochemical survey over 55.5 line kilometres was conducted by Grandeur Mines Ltd. over the ZZ claims. In 1970, a soil geochemical survey and 91.4 kilometres of ground magnetic survey were completed on the ZZ and Last claims on behalf of Ensbrook Mines Ltd. and Grandeur Mines Ltd. In 1972, 27.7 kilometres of grid lines were cut on behalf of Rayore Mines Ltd. on the Last and ZZ claims and geological mapping, soil sampling (48), two diamond-drill holes totalling 324.3 metres and four percussion-drill holes totalling 365.7 metres were completed. Also in 1972, geological mapping was conducted on part of the ZZ and Will claims on behalf of Horseshoe Mines Ltd. In 1974-75, geological mapping and a soil geochemical (907) survey was conducted on the ZZ and Will claims on behalf of Horseshoe Mines Ltd. In 1977, a topographic map was prepared for China Commercial Corporation Ltd. on parts of the ZZ and Will claims. In 1978-79, two diamond-drill holes totalling 182.1 metres were drilled on the ZZ 18 and 7 claims on behalf of China Commercial Corporation. In 1981-82, a drillhole (79-1) drilled in 1979 and deepened in 1980 was deepened from 159 to 222 metres in 1980 and again from 222 metres to 253 metres in 1981 on behalf of China Commercial Corporation.

BIBLIOGRAPHY

EMPR ASS RPT 2323, 2866, 2905, 4158, *4215, 5467, 5855, 6212, 6706,
7274, 8840, 10219
EMPR GEM 1970-322; 1971-296,297; 1972-198,199
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249

MINFILE NUMBER: **09ZINE127**

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 257
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE128**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOT**, BHV, BUGLE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5612815
EASTING: 703412

LATITUDE: 50 37 54 N
LONGITUDE: 120 07 25 W
ELEVATION: 640 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Area of drilling on a hillside south of and adjacent to the community of Barnhart Vale, about 15 kilometres east of Kamloops (Assessment Report 17556).

COMMODITIES: Gold Molybdenum

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Molybdenite
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Triassic
Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Wild Horse Intrusion

LITHOLOGY: Argillite
Brecciated Argillite
Feldspar Porphyry Dike
Biotite Feldspar Porphyry
Granodiorite

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
SAMPLE TYPE: Drill Core
COMMODITY

YEAR: 1988

Gold

GRADE

8.6000

Grams per tonne

COMMENTS: Over 1.5 metres.

REFERENCE: Assessment Report 17556.

CAPSULE GEOLOGY

The Mot property is located near the fault contact between argillites of the Upper Triassic Nicola Group and granodiorite of the Jurassic Wild Horse batholith. Nicola rocks are highly fractured and brecciated and in places veined with fine quartz stringers and segregations. Feldspar porphyry dikes, with fine pyrite and pyrrhotite, cut the argillites. A 1988 diamond-drill hole (JAG 1-88) intersected highly fractured and brecciated argillite with local zones healed with quartz-carbonate. One of these zones analysed 8.6 grams per tonne gold over 1.5 metres. Another hole (JAG 4-88) intersected brecciated argillite cut by a pyritic feldspar porphyry dike containing quartz veinlets which analysed up to 1.6 grams per tonne gold (Assessment Report 17556).

About 500 metres northwest of the drilled area, on the north side of the road to Barnhart Vale, some outcrops of biotite feldspar porphyry contain small clots of molybdenite.

Trenching on the property suggests prospecting in the early 1900s but there are no known records of it. In 1971, regional prospecting by Copper Range Exploration Company, Inc. discovered anomalous copper-gold values in rocks and staked the Mot 9-30 claims. Follow-up work consisted of geological mapping and soil (71) and rock

CAPSULE GEOLOGY

chip sampling. In 1973, geological mapping and soil sampling (61) was conducted by Copper Range Exploration Company, Inc. In 1975, the property was restaked by R.A. Dickenson who carried out a small sampling program. In 1979, the Carlin 2 claim was staked by R.A. Dickenson and in that year prospecting carried out on behalf of T. Alexander. In 1980-81, Vantex Resources Inc. optioned the property and carried out a program of soil sampling and VLF-EM surveys. In 1988, a program of 31.2 kilometres of VLF-EM and magnetometer surveys, geological mapping, 21.6 kilometres of grid establishment and six diamond-drill holes totalling 361.8 metres were completed on the Barn claim on behalf of Jaguar Equities Inc.

BIBLIOGRAPHY

EMPR ASS RPT 3616, *4315, 8635, 8739, 9881, *17556
EMPR GEM 1972-189; 1973-194
EMPR PF (Evaluation Report on the Barn Claim by A.F. Roberts. 1986 in Prospectus, Jaguar Equities Inc.)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE130**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAG 73, RABBIT**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 26 N
LONGITUDE: 120 42 07 W
ELEVATION: 1425 Metres

NORTHING: 5608669
EASTING: 662603

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of area of percussion drilling about 500 metres south of Durand Lake, 28 kilometres west of Kamloops (Property File - see Rag, 092INE045 - Drill data and peripheral geology map).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Magnetite Pyrite Quartz
ALTERATION: Epidote Calcite K-Feldspar Chlorite
ALTERATION TYPE: Propylitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Andesite Flow
Diorite
Monzonite
Lapilli Tuff

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Rag 73 showing area is underlain by Upper Triassic Nicola Group volcanic rocks consisting mainly of andesitic volcanic flows and fragmentals intruded by a composite diorite-monzonite intrusion (Durand Lake stock) of Triassic age. The intrusion is widely mineralized with chalcopyrite and occurs with variable amounts of magnetite and pyrite. There are limited enriched zones of chalcopyrite, pyrite, magnetite and some pyrrhotite in volcanics near the intrusive contact.

In 1975, diamond drilling by Cominco Ltd. intersected fine grained andesite flows containing brecciated sections mineralized with abundant magnetite occurring between the fragments with associated minor amounts of chalcopyrite and pyrite. Copper content is highly variable with best grades in the breccias. Chalcopyrite also occurs as disseminations and fracture-fillings outside the breccias. Minor epidote, calcite and potassium feldspar veinlets are associated with the sulphide mineralization in the breccias. Some sections of the andesite flows are also pervasively chlorite altered. In 1997, ProAm Explorations Corporation drilled 4 holes in this area and one hole (97-21) intersected lapilli tuff where a 2-metre section analysed 5.83 grams per tonne gold between 116 and 118 metres depth (Assessment Report 25124).

Cominco Ltd. staked the original Rag claims in 1969 to cover the northern and western part of an aeromagnetic anomaly associated with a composite diorite-monzonite intrusion (Durand Lake stock) of Triassic age. Extensive geological and geophysical programs were conducted in 1969-70 and 1972 and outlined disseminated sulphide zones (5 to 8 per cent pyrite) along the west-southwest and east-northeast flanks of the intrusion. These peripheral areas have been covered by induced polarization and magnetic surveys and a

CAPSULE GEOLOGY

limited amount of percussion drilling. In 1970, induced polarization and ground magnetometer surveys and line cutting totalling 29 line kilometres were run over the Rag group of claims on behalf of Cominco Ltd. In 1972, line cutting and an induced polarization survey totalling 26 line kilometres was completed over the Rag claim group on behalf of Cominco Ltd. In 1975, Cominco Ltd. drilled two diamond-drill holes totalling 272 metres on the Rag 73 claim. In 1979, Cominco Ltd. conducted 15 kilometres of line cutting and induced polarization survey on the Rag property.

In 1988, Cominco Ltd. conducted soil sampling (619) over the Rag claims. In 1989, Teck Corporation entered into a joint venture agreement with Cominco Ltd. covering Teck and Cominco-owned claims in the Greenstone Mountain area. During the spring and summer of 1990, Teck conducted soil sampling (500), magnetometer (38 kilometres) and VLF-EM (38 kilometres) surveys over previously untested portions of the Rag claims. In 1990, on behalf of Teck Corporation, a nine hole percussion drilling program totalling 716 metres tested two gold-copper soil geochemical anomalies on the Rag claims in addition to 38 line kilometres of VLF-EM and ground magnetometer surveys and 500 soil samples. In 1989, D.L. Cooke and R.U. Bruaset began assembling ground (Rabbit claims) in the Dominic and Durand lakes area and this continued, with some interruptions, until 1996. The Rabbit claims cover the Bruce (092INE114), Rag 73 and Rag (092INE045) showings. Bruaset and Cooke carried out systematic geological mapping and a soil geochemical survey (135 samples) directed at gold beginning in 1990 in the area of the Rag 73 and Rabbit (092INE147) showings. A compilation map based on 2900 soil samples analysed for gold in the Dairy to Dominic lakes area was completed in 1993. This compilation, covering most of the area of current Rabbit claims, suggested high gold potential. In 1995, ProAm Explorations Corporation extended the 1990 gold soil anomaly and in the same year, the entire ProAm Rabbit group of claims was surveyed by enzyme leach selective extraction (381 samples) and an induced polarization survey (7.3 kilometres) completed. In 1997-98, ProAm Explorations Corporation completed 9 trenches totalling 40 metres and took 80 outer bark samples for biogeochemistry testing in the vicinity of the original Bruce showing. The trenching confirmed the presence of copper mineralization and yielded elevated gold values. Also in 1997, ProAm conducted a diamond drilling program over the original Rag 73 showing and discovered the Rabbit showing. A total of 21 holes totalling 3338 metres were put down and 1398 samples analysed.

BIBLIOGRAPHY

EMPR ASS RPT 2511, 3713, 4008, *5673, 7337, 20320, 20793, 24785,
*25124
EMPR EXPL 1975-E89
EMPR GEM 1970-323; 1972-200
EMPR PF (see Rag, 092INE045 - Drill data and peripheral geology map;
Durand Lake stock geology map)
Chevron File (1980 Year End Report Rag Group)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Auterra Ventures Inc., Jan.24, 2003

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/28

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE131**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUXLEY**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 12 N
LONGITUDE: 120 01 52 W
ELEVATION: 564 Metres

NORTHING: 5611776
EASTING: 710005

LOCATION ACCURACY: Within 500M

COMMENTS: Showing located just south of Buse Lake, about 21 kilometres east of Kamloops (Property File - Location map).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Volcanogenic

TYPE: Q03 Agate

Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Eocene

Kamloops

Undefined Formation

LITHOLOGY: Andesitic Volcanic
Andesite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Huxley showing occurs in an area underlain mainly by basalt and andesite of the Eocene Kamloops Group located just south of Buse Lake, about 21 kilometres east of Kamloops. Blue agate occurs in veins and nodular form in andesitic volcanic rocks. In 1976, W. Huxley conducted trenching and digging in overburden over a 40 square metre area on the Huxley claim.

BIBLIOGRAPHY

EMPR EXPL *1976-E202
EMPR PF (Location map)
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE132**

NATIONAL MINERAL INVENTORY:

NAME(S): **KAREN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 38 35 N
LONGITUDE: 120 29 35 W
ELEVATION: 777 Metres

NORTHING: 5613132
EASTING: 677247

LOCATION ACCURACY: Within 500M

COMMENTS: Percussion-drill hole Q-246 and mineralized outcrop, along a creek about 1000 metres south of Pothook Lake, 12 kilometres west of Kamloops (Assessment Report 6628).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Iron Mask Batholith

LITHOLOGY:

Diorite
Volcanic Agglomerate
Dacite Breccia
Andesite Porphyry
Andesite Tuff
Calcareous Tuff
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

On the Karen property Upper Triassic Nicola Group volcanic rocks are in contact with the Late Triassic-Early Jurassic Iron Mask batholith. Nicola rocks consist of dark green-grey volcanic agglomerate, light grey dacite breccia, andesite porphyry and tuff, and calcareous tuff. Iron Mask rocks comprise fine grained, green-grey diorite. Malachite, disseminated chalcopyrite and native copper were observed in a diorite outcrop about 75 metres south of a 1977 percussion-drill hole (Q-246).

In 1976-77, Afton Mines Ltd. completed geological mapping, soil sampling (1543), 14 kilometres of VLF-EM survey, 43 kilometres of magnetometer survey, seven percussion holes totalling 588 metres and an induced polarization survey on the Rod and Karen claims. In 1983-85, Afton Operating Corporation drilled seven percussion holes totalling 600 metres to test geophysical and geochemical anomalies outlined in surveys conducted in 1977.

BIBLIOGRAPHY

EMPR ASS RPT 5800, 6268, *6628, 11339, 11919, 14245
EMPR BULL 77
EMPR FIELDWORK 2002, pp. 129-132
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
WWW <http://www.amemining.com>

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/04

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE132**

MINFILE NUMBER: **092INE133**

NATIONAL MINERAL INVENTORY:

NAME(S): **NED (SILICA HILL)**, NED, SILICA HILL,
KON, WIN

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

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

LATITUDE: 50 39 09 N
LONGITUDE: 120 33 51 W
ELEVATION: 762 Metres

NORTHING: 5614014
EASTING: 672185

LOCATION ACCURACY: Within 500M

COMMENTS: Drillhole 94-3 on the Silica Hill zone, 500 metres north of Ned Roberts Lake and just west of the tailings pond from Afton mine, about 16 kilometre west of Kamloops (Assessment Report 24195).

COMMODITIES: Copper Gold Nickel Chromium Magnesium

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite Graphite
ALTERATION: Silica Chalcedony Carbonate Epidote Chlorite
Malachite Azurite

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

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

LITHOLOGY: Mudstone
Tuffaceous Sandstone
Altered Volcanic
Andesite
Porphyritic Andesite
Serpentinized Ultramafic

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: 1994
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 64.0000 Grams per tonne
COMMENTS: Across 2.44 metres.
REFERENCE: Assessment Report 24195.

CAPSULE GEOLOGY

The Ned property is underlain by Upper Triassic Nicola Group volcanics overlain by the Eocene Kamloops Group. Nicola rocks are predominantly green-grey, massive and porphyritic andesite with minor tuffs. The Nicola rocks usually exhibit widespread chlorite and epidote alteration and locally calcite. Kamloops Group volcanics are typically porphyritic basalts and weathered, pink-brown rhyolites. Mineralization found in outcrop consists of malachite and azurite in Nicola andesites in old pits/trenches. Just north of Ned Roberts Lake, an area of about 500 by 500 metres exhibits extensive carbonate and chalcedonic alteration, ranging up to intense argillic alteration with almost complete silicification of the hostrock (Silica Hill zone). This zone has been recognized to have potential for precious metal epithermal mineralization. Drilling on the Silica Hill zone in 1994 intersected 1.5 metres of silicified, pyritic brecciated volcanics grading 10.7 grams per tonne gold (hole 94-3). About 183 metres south of the Silica Hill zone, drillhole 94-1

CAPSULE GEOLOGY

intersected a gold-bearing zone in a northwest trending fault. The Ned Gold zone is at depth and is a 20.7 metre section of brecciated, graphitic mudstone and tuffaceous sandstone. One intersection yielded 64 grams per tonne gold over 2.44 metres; a second intersection 7.6 metres further down the hole intersected 13.4 grams per tonne gold over 1.52 metres. At the bottom of this drillhole (94-1) from 122 to 136 metres, a serpentinized ultramafic was intersected and yielded up to 0.16 per cent nickel, 600 ppm chromium and 18 per cent magnesium (Assessment Report 24195).

The Kon and Win claims were staked in 1969 near the southwest edge of the Iron Mask batholith and around Ned Roberts Lake. In 1969-70, Concorde Explorations Ltd. conducted line cutting, geological mapping, soil sampling (619) and a ground magnetometer survey. In 1972, Concorde Explorations completed 15 kilometres of induced polarization survey. In 1975-76, Afton Mines Ltd. conducted geological mapping, soil sampling (276) and 9 kilometres of VLF-EM survey on the Hughes claims which now cover the Ned Roberts Lake area. In 1989-90, an airphoto interpretation report with limited rock and soil sampling was completed on behalf of Rhino Resources Inc. In 1993-95, Rhino Resources continued work on the Ned claim by conducting airphoto and geophysical interpretation, geological mapping and diamond drilling 11 holes totalling 1803 metres.

BIBLIOGRAPHY

EMPR ASS RPT 2262, 2941, 3593, 5852, 20679, 23111, *24195
EMPR BULL 77
GCNL #23(Feb.3), 1997
WWW <http://www.infomine.com/>
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE134**

NATIONAL MINERAL INVENTORY:

NAME(S): **FORD**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 20 N
LONGITUDE: 120 21 27 W
ELEVATION: 1006 Metres

NORTHING: 5611149
EASTING: 686912

LOCATION ACCURACY: Within 500M

COMMENTS: Magnetite-rich outcrop adjacent to the southwest boundary of the Kimberly property Crown grants (092INE017) and 2 kilometres west of Knutsford, about 6 kilometres south of Kamloops (Assessment Report 6528).

COMMODITIES: Magnetite Iron

MINERALS

SIGNIFICANT: Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Porphyry Industrial Min.
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Iron Mask Batholith

LITHOLOGY: Gabbro
Monzonite
Syenite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Ford property is adjacent to the southwest boundary of the Kimberly property Crown grants (092INE017) and is underlain by intrusive rocks of the Late Triassic-Early Jurassic Iron Mask batholith. On the property, a central core of moderately coarse grained Iron Mask Hybrid unit gabbro is bordered by moderately fine grained syenite, monzonite and diorite of the Cherry Creek unit. Fracturing is common in all rocks. A ground magnetometer survey resulted in the discovery of one outcrop within the gabbro which contained major masses of fine-grained magnetite. The magnetic survey showed the likelihood that other such zones exist which have not yet been investigated.

In 1977, geological mapping, soil sampling (714) and a ground magnetometer survey were completed on the Ford claim on behalf of British Newfoundland Exploration Limited.

BIBLIOGRAPHY

EMPR ASS RPT *6528
EMPR BULL 77
EMPR AR 1956-47-54
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/14

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE135**

NATIONAL MINERAL INVENTORY:

NAME(S): **WDR**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 32 N
LONGITUDE: 120 54 50 W
ELEVATION: 1207 Metres

NORTHING: 5604704
EASTING: 647707

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized outcrop 650 metres north of a small unnamed lake, west of Forge Creek, about 20 kilometres south of the community of Savona (Assessment Report 784).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ALTERATION: Malachite Limonite Kaolinite Orthoclase Calcite
ALTERATION TYPE: Oxidation Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The WDR property covers the northwesterly contact between Upper Triassic Nicola Group volcanics in the east from the Late Triassic-Middle Jurassic Guichon Creek batholith in the west. The contact is gradational showing a change from unaltered Nicola volcanics on the east through baked, hornfelsic Nicola into medium-grained diorite which becomes progressively lighter coloured and coarser grained to the west. The width of the transitional hybrid zone varies from 304 to 1219 metres.

A trench exposes a steep mineralized fault which strikes 050 degrees and is parallel to joints in the adjacent quartz diorite of the Hybrid phase of the Guichon Creek batholith. Chalcopyrite and lesser amounts of bornite are present as fracture fillings and are partly oxidized to malachite, which is accompanied by limonite, possibly representing former specularite. The rock near the fault is bleached, probably by kaolinization of plagioclase, and contains pink orthoclase veinlets and others of calcite.

In 1963, work by Valley Copper Mines included geological mapping, road building and bulldozer trenching at a number of localities scattered at intervals throughout a distance of nearly 6 kilometres in a north-northwesterly direction.

BIBLIOGRAPHY

EMPR ASS RPT *784
EMPR AR 1963-48; *1964-85; 1965-147,148; 1966-247
EMPR BULL 56
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/23

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE136**

NATIONAL MINERAL INVENTORY:

NAME(S): **INKS LAKE**, LAKE NO. 8

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092109W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 08 N
LONGITUDE: 120 26 43 W
ELEVATION: 846 Metres

NORTHING: 5610560
EASTING: 680717

LOCATION ACCURACY: Within 500M

COMMENTS: Inks Lake about 1500 metres northwest of Jacko Lake, 10 kilometres southwest of Kamloops (Bulletin 4, Map 3, Lake No. 8).

COMMODITIES: Sodium Sulphate Magnesium Sulphate

MINERALS

SIGNIFICANT: Mirabilite Epsomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Quaternary

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels

LITHOLOGY: Salts
Gravel
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

CAPSULE GEOLOGY

Inks Lake is about 1500 metres northwest of Jacko Lake and contains dilute sodium sulphate brines. Andesite of the Upper Triassic Nicola Group underlies the area.

A sample was taken from the lake to determine salts present. The analyses of the brine yielded 2.8 per cent total solids and a specific gravity of 1.027 at 16 degrees Celsius. The composition of the solids is as follows: 60.0 per cent Na₂SO₄, 31.7 per cent MgSO₄, 1.5 per cent NaCl, 3.0 per cent Na₂CO₃ and 3.7 per cent CaSO₄ (Bulletin 4). The sodium sulphate and magnesium sulphate minerals assumed to be present are mirabilite and epsomite, respectively.

BIBLIOGRAPHY

EMPR BULL *4, pp. 27,39; 77
GSC MEM 249
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2003/02/28
DATE REVISED: 2003/02/28

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 269
REPORT: RGEN0100

MINFILE NUMBER: **092INE144**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAVE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 36 N
LONGITUDE: 120 58 11 W
ELEVATION: 1486 Metres

NORTHING: 5597306
EASTING: 643953

LOCATION ACCURACY: Within 500M

COMMENTS: Estimated location of drillholes and induced polarization survey grid on the Dave claims just south of Bose Lake, about 10 kilometres west of the community of Logan Lake (Assessment Report 512).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Dave showing area south of Bose Lake is underlain by Guichon variety granodiorite of the Late Triassic-Middle Jurassic Guichon Creek batholith. In 1963, Huestis Mining Corporation Ltd. conducted geochemical and ground magnetometer surveying, an induced polarization survey and 572 metres of diamond drilling in six holes, of which two did not reach bedrock. A north striking chloritic fault had been trenched exposing small amounts of disseminated bornite and chalcopyrite. Three drillholes intersected the fault and mineralization at depth.

BIBLIOGRAPHY

EMPR AR 1960-26; 1962-47; *1963-44,46; 1965-242
EMPR ASS RPT 512
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE144**

MINFILE NUMBER: **092INE147**

NATIONAL MINERAL INVENTORY:

NAME(S): **RABBIT**, RAG

MINING DIVISION: Kamloops

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 59 N
LONGITUDE: 120 41 19 W
ELEVATION: 1615 Metres

NORTHING: 5607864
EASTING: 663572

LOCATION ACCURACY: Within 500M

COMMENTS: Diamond-drill hole R97-18 and a pit dug to contain return water for drillhole R97-19, located between Dominic and Durand lakes, about 28 kilometres southwest of Kamloops (Assessment Report 25124).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Pyrite Magnetite
ALTERATION: Epidote Calcite Chrysocolla
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Diorite
Andesite
Andesite Lapilli Tuff
Andesite Flow

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: 1997
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 1.1300 Grams per tonne

COMMENTS: Across 2 metres between 102 and 104 metres depth.
REFERENCE: Assessment Report 25124.

CAPSULE GEOLOGY

The Rabbit prospect is underlain by Upper Triassic Nicola Group volcanic rocks consisting mainly of andesitic volcanic flows and fragmentals intruded by a composite diorite-monzonite intrusion (Durand Lake stock) of Triassic age. The intrusion is widely mineralized with chalcopyrite and occurs with variable amounts of magnetite and pyrite. Low grade disseminated chalcopyrite and bornite are associated with weak chlorite and epidote alteration in a monzonite core of the Durand Lake stock (see Rag, 092INE045). There are limited enriched zones of chalcopyrite, pyrite, magnetite and some pyrrhotite in volcanics near the intrusive contact.

In 1997, diamond drilling was carried out by ProAm Explorations Corporation in an area of Durand Lake stock diorite that is intensely fractured. Prominent east-west fractures dip steeply north and south. Drilling intersected a sequence of variably epidote-calcite altered, brecciated and fractured andesitic lapilli tuffs and flows that have been intruded by diorite. Quartz veins and shear zones in the vicinity of drillhole R97-7 trend east-west and yielded up to 10.6 grams per tonne gold over 0.1 metre. A 2-metre intersection in drillhole R97-7 analysed 1.13 grams per tonne gold between 102 and

CAPSULE GEOLOGY

104 metres depth. Drillhole R97-18 intersected 1.01 grams per tonne gold between 54 and 56 metres depth. A pit dug to contain the return water for drillhole R97-19 exposed well fractured diorite of the Durand Lake stock containing quartz veining. A 10 centimetre vein, striking 135 degrees and dipping 80 degrees east, analysed 28.8 grams per tonne gold (Assessment Report 25124). About 100 metres south of the drilling, trenching has exposed east trending fractures in diorite containing chrysocolla.

Cominco Ltd. staked the original Rag claims in 1969 to cover the northern and western part of an aeromagnetic anomaly associated with a composite diorite-monzonite intrusion (Durand Lake stock) of Triassic age. Extensive geological and geophysical programs were conducted in 1969-70 and 1972 and outlined disseminated sulphide zones (5 to 8 per cent pyrite) along the west-southwest and east-northeast flanks of the intrusion. These peripheral areas have been covered by induced polarization and magnetic surveys and a limited amount of percussion drilling. In 1970, induced polarization and ground magnetometer surveys and line cutting totalling 29 line kilometres were run over the Rag group of claims on behalf of Cominco Ltd. In 1972, line cutting and an induced polarization survey totalling 26 line kilometres was completed over the Rag claim group on behalf of Cominco Ltd. In 1988, Cominco Ltd. conducted soil sampling (619) over the Rag claims. In 1989, Teck Corporation entered into a joint venture agreement with Cominco Ltd. covering Teck and Cominco-owned claims in the Greenstone Mountain area. During the spring and summer of 1990, Teck conducted soil sampling (500), magnetometer (38 kilometres) and VLF-EM (38 kilometres) surveys over previously untested portions of the Rag claims. In 1990, on behalf of Teck Corporation, a nine hole percussion drilling program totalling 716 metres tested two gold-copper soil geochemical anomalies on the Rag claims. In 1989, D.L. Cooke and R.U. Bruaset began assembling ground (Rabbit claims) in the Dominic and Durand lakes area and this continued, with some interruptions, until 1996. The Rabbit claims cover the Bruce (092INE114), Rag 73 (092INE130) and Rag (092INE045) showings. Bruaset and Cooke carried out systematic geological mapping and a soil geochemical survey (135 samples) directed at gold beginning in 1990 in the area of the Rag 73 and Rabbit showings. A compilation map based on 2900 soil samples analysed for gold in the Dairy to Dominic lakes area was completed in 1993. This compilation, covering most of the area of current Rabbit claims, suggested high gold potential. In 1995, ProAm Explorations Corporation extended the 1990 gold soil anomaly and in the same year, the entire ProAm Rabbit group of claims was surveyed by enzyme leach selective extraction (381 samples) and an induced polarization survey (7.3 kilometres) completed. In 1997-98, ProAm Explorations Corporation completed 9 trenches totalling 40 metres and took 80 outer bark samples for biogeochemistry testing in the vicinity of the original Bruce showing. The trenching confirmed the presence of copper mineralization and yielded elevated gold values. Also in 1997, ProAm conducted a diamond drilling program over the original Rag 73 showing and discovered the Rabbit showing (this description). A total of 21 holes totalling 3338 metres were put down and 1398 samples analysed. In 2003, Auterra Ventures has reached an agreement to acquire the Rabbit North property from private owners.

BIBLIOGRAPHY

EMPR ASS RPT 20793, *25124, 26768
EMPR PF (see Rag, 092INE045 - Drill data and peripheral geology map, 1970; Durand Lake stock geology map, 1970)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
PR REL Auterra Ventures Inc., Jan.24, 2003
STOCKWATCH Jan.24, 2003
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE149**

NATIONAL MINERAL INVENTORY:

NAME(S): **YR**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

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

LATITUDE: 50 41 01 N
LONGITUDE: 120 38 22 W
ELEVATION: 701 Metres

NORTHING: 5617300
EASTING: 666754

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop K-2, about 150 metres south of Beaton Lake located between Duffy and Beaton creeks, 21 kilometres west of Kamloops (Assessment Report 2138).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Fragmental Breccia
Andesite Tuff
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The YR showing occurs in dark green andesite tuff and coarse fragmental breccia of the Upper Triassic Nicola Group. Numerous minor shears and calcite-filled fractures are common and andesite dikes cut the fragmental breccia. Several outcrops of fragmental breccia containing pinkish rock fragments cemented with quartz, dolomite and calcite occur and appear to be related to faulting. Malachite and sparse disseminations of chalcopyrite are evident in several of the breccia outcrops. A grab sample from a quartz-calcite filled breccia (K-2 outcrop) with abundant malachite staining assayed 0.02 per cent copper, trace gold and silver and mercury was not detected (Assessment Report 2138).

In 1969, Tupco Mines Ltd. conducted geological mapping and a soil survey (1397 samples).

BIBLIOGRAPHY

EMPR ASS RPT *2138, 9070
EMPR GEM 1969-238
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE150**

NATIONAL MINERAL INVENTORY:

NAME(S): **NED, GG, LED,**
GIL, GM

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

LATITUDE: 50 36 44 N
LONGITUDE: 120 38 05 W
ELEVATION: 1700 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the northwest trending geochemical anomaly in area of brecciated andesites (Assessment Report 4155, Maps 4 and 5).

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5609374
EASTING: 667341

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Chlorite Epidote

ALTERATION TYPE: Propylitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Hydrothermal Epigenetic
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	Undefined Formation	Guichon Creek Batholith
Triassic-Jurassic			

LITHOLOGY: Andesite
Porphyritic Andesite
Andesite Breccia
Quartz Monzonite
Granodiorite
Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Ned property is underlain by volcanic rocks of the Upper Triassic Nicola Group. The strata is intruded by several granitic plugs related to the Late Triassic-Early Jurassic Guichon Creek batholith.

The volcanic rocks consist of massive, porphyritic andesite flows. These rocks are relatively fresh, dark grey-green in colour with euhedral pyroxene crystals up to 1 centimetre long. Locally, tuffaceous sediments and agglomerates predominate. The granitic plugs vary from quartz monzonite to granodiorite. A number of feldspar porphyry dikes also cut the Nicola volcanics.

Highly brecciated andesitic volcanics occur near the peak of Greenstone Mountain and extend to the north and east for several hundred metres. These breccias are cemented with quartz and calcite and host from 2 to 5 per cent disseminated pyrite throughout. There are coarse blebs of pyrite and some chalcopyrite associated with the quartz and calcite. The andesite fragments are often chloritized and epidotized. The zone is associated with a 900 by 450 metre copper geochemical soil anomaly which occurs just to the northeast of the summit of Greenstone Mountain (Assessment Report 4155).

In 1969, Nicanex Mines staked the Ned group and conducted a soil survey on over 17 kilometres of grid lines. This resulted in the discovery of the soil geochemical anomaly associated with the mineralized area. Moneta Porcupine Mines Ltd. carried out a limited program of geological mapping and soil sampling in 1973 and 1974 on their claims, which, in the vicinity of the showing, were called the GG and Led. The property was held in 1977 by Barrier Reef Resources Ltd. when it was known as the Gil claims and a short access road was constructed. Barrier Reef collected a total of 399 soil samples in

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 274
REPORT: RGEN0100

CAPSULE GEOLOGY

1978 and 1979. In 1980, the company conducted a 10.9 kilometre induced polarization survey. Although other companies subsequently worked in the area, it does not appear that their claims covered this showing.

BIBLIOGRAPHY

EMPR ASS RPT 2147, *4155, 4156, 4157, *4881, 7073, *7842, 8724
EMPR EXPL 1978-E169; 1979-177
EMPR GEM 1969-238; 1973-200
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 276
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/21

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE152**

NATIONAL MINERAL INVENTORY:

NAME(S): **DALLAS**, KAMLOOPS

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 40 00 N
LONGITUDE: 120 11 52 W
ELEVATION: 396 Metres

NORTHING: 5616505
EASTING: 698021

LOCATION ACCURACY: Within 1 KM

COMMENTS: Clay beds interbedded with silts form a terrace just west of the subdivision of Dallas, about 9 kilometres east of Kamloops.

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
ASSOCIATED: Mica
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: B06 Fireclay

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	
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Calcareous Clay
Silt
Argillite
Sandstone
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A clay bed is interbedded with silts that form a terrace just west of the subdivision of Dallas, about 9 kilometres east of Kamloops. The clay is light brown, gritty and limy and is not suitable for use in the manufacture of ceramic products. A sample from a weathered portion of hard laminated silty clay that is calcareous with abundant fine grit and mica produced fair dry-press bricklets at cone 03, with 13.6 per cent absorption (Bulletin 30). Bedrock geology consists of argillite, sandstone and tuff of the Upper Triassic Nicola Group.

BIBLIOGRAPHY

EMPR AR *1949-249
EMPR BULL *30, p. 50
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE155**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOLO**, MARG

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092116E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 49 52 N
LONGITUDE: 120 06 32 W
ELEVATION: 1166 Metres

NORTHING: 5635028
EASTING: 703586

LOCATION ACCURACY: Within 500M

COMMENTS: On the north side of Mount Lolo, near Heffley Lake, about 25 kilometres northeast of the community of Kamloops (Assessment Report 18371).

COMMODITIES: Lead Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Igneous-contact
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>
Paleozoic	Harper Ranch	Undefined Formation	
Triassic-Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Syenite
Limy Mudstone
Silty Limestone
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Small syenite bodies of Triassic to Jurassic age are interspersed in a limy mudstone facies of the Devonian to Permian Harper Ranch Group, which grades into silty, thinly bedded limestone and massive limestone pods away from the syenite intrusions. The largest syenite body is very coarse grained, except at the contact with the metasediments, with feldspar laths up to 6 centimetres long in a chaotic matrix.

Sulphide mineralization is generally restricted to the silicified metasediments and syenite at the intrusive contacts, a zone about 15 metres wide. Pyrite is the most common sulphide, with minor galena and chalcopyrite, associated with quartz flooding at the contact margin, and in veins intruding both syenite and metasediments in the contact zones. Very little sulphide mineralization is found away from the contacts, although large quartz veins were observed in the coarse-grained syenite. The unsilicified limy mudstone and limestone away from the intrusions are also barren of sulphide mineralization.

Just west of the radome on Mount Lolo, large quartz boulders with 1 to 2 centimetre blebs of specular hematite were found. These were traced to their source in a cliff about 100 metres east of the radome at the peak of Mount Lolo.

The Lolo claim block was staked by Asamera Minerals Inc. to cover anomalous gold, silver, platinum and palladium results detected in streams draining Mount Lolo during a reconnaissance heavy mineral program in 1986. A followup prospecting and geochemical sampling program was carried out in 1987, and the results were encouraging enough to warrant more detailed sampling over the anomalous areas in 1988.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 279
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 17121, *18371
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2000/06/20

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE157**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRANQUILLE RIVER AGATE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 46 31 N
LONGITUDE: 120 34 49 W
ELEVATION: 1219 Metres

NORTHING: 5627627
EASTING: 670600

LOCATION ACCURACY: Within 1 KM

COMMENTS: Agates are abundant in the hills along the north shore of Kamloops Lake from Tranquille River to Carabine Creek (Geological Survey of Canada Paper 72-53).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate Chalcedony Amethyst
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Vein
CLASSIFICATION: Volcanogenic Placer
TYPE: Q03 Agate Industrial Min. C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Kamloops	Undefined Formation	
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Brecciated Volcanic Flow
Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Agates are abundant in the hills along the north shore of Kamloops Lake from Tranquille River to Carabine Creek. Some nodular forms are geodes with amethyst-lined central cavities. Banded and plain agate (chalcedony) occur as vesicle fillings, irregular masses and as ribbons of seam agate filling fractures and spaces in brecciated volcanic flows of the Eocene Kamloops Group. In places, the agate has a pink cast but the usual colours are white to grey. Agate is also reported upstream in the banks and stream bed of Tranquille River.

BIBLIOGRAPHY

EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; *72-53, pp. 23-25; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Western Homes & Living, Oct. 1961, Guide to BC Rocks and Gems

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE158**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT SAVONA**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 42 01 N
LONGITUDE: 120 49 05 W
ELEVATION: 1463 Metres

NORTHING: 5618766
EASTING: 654083

LOCATION ACCURACY: Within 500M

COMMENTS: Along the cliffs below the microwave tower site on Mount Savona,
about 6 kilometres south of Savona (Geological Survey of Canada Paper
72-53).

COMMODITIES: Opal Agate Gemstones

MINERALS

SIGNIFICANT: Opal Agate Jasper Prehnite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Volcanogenic Industrial Min.
TYPE: Q11 Volcanic-hosted opal Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Brecciated Basaltic Lava
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Mount Savona is a good collecting locality for opal and agate with the best collecting areas along the cliffs below the microwave tower site. Green opal, moss agate and geodes occur in brecciated basaltic lavas of the Eocene Kamloops Group. Jasper-agate and prehnite occur along the gas pipeline right-of-way on the Indian Garden Ranch about 4 kilometres west of Mount Savona (Geological Survey of Canada Paper 72-53).

BIBLIOGRAPHY

GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; *72-53, pp. 23-25; 82-1A, pp. 293-297; 85-1A,
pp. 349-358
Western Homes & Living Oct.1961, Guide to BC Rocks and Gems

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE159**

NATIONAL MINERAL INVENTORY:

NAME(S): **VALLEYVIEW**, KAMLOOPS

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 40 00 N
LONGITUDE: 120 16 04 W
ELEVATION: 454 Metres

NORTHING: 5616320
EASTING: 693075

LOCATION ACCURACY: Within 1 KM

COMMENTS: Clay banks along the cliffs below a communications tower site, south of the subdivision of Valleyview, 4 kilometres east of Kamloops.

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Residual Industrial Min.
TYPE: B06 Fireclay

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Quaternary

GROUP
Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels

LITHOLOGY: Clay
Silt
Argillite
Sandstone
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Parts of the white silts along the Thompson Valley were used for common brick. A sample taken from a 0.9 metre thick bed of clay at road level from the banks on the cliffs below a communications tower site, south of the subdivision of Valleyview, indicated that the clay did not have value as a raw material for ceramic products. Bedrock geology consists of argillite, sandstone and tuff of the Upper Triassic Nicola Group.

BIBLIOGRAPHY

EMPR AR *1949-249
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE160**

NATIONAL MINERAL INVENTORY:

NAME(S): **RALEIGH SOUTH**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 46 42 N
LONGITUDE: 120 18 23 W
ELEVATION: 671 Metres

NORTHING: 5628634
EASTING: 689895

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on the surface trace of a southern limestone lens
(Minister of Mines Annual Report 1959, page 169, Figure 28).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica Dolomite
MINERALIZATION AGE: Pennsylvan.-Permian

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 300 x 46 Metres
COMMENTS: Limestone lenses trend northwest.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Harper Ranch

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1959

SAMPLE TYPE: Chip

COMMODITY

GRADE

Limestone 46.8200 Per cent

COMMENTS: Sample taken across 46 metre width. Grade given for calcium oxide.

REFERENCE: Minister of Mines Annual Report 1959, page 170, sample 4.

CAPSULE GEOLOGY

Three narrow, closely-spaced lenses of Permian-Carboniferous limestone outcrop on the northwest flank of Dome Hills on the east side of the North Thompson River, 12 kilometres north of the community of Kamloops. The three lenses lie within argillite of the Devonian to Permian Harper Ranch Group.

The southern lens extends up the mountainside for several hundred metres, averaging 46 metres in width. The lens is composed of dark grey, granular limestone with irregularly distributed patches and nodules of chert. A 46-metre chip sample taken across the lens analysed 46.82 per cent CaO, 0.39 per cent MgO, 15.04 per cent insolubles, 0.52 per cent R2O3, 0.33 per cent Fe2O3, 0.015 per cent MnO, 0.012 per cent P2O5, trace of sulphur and 37.16 per cent ignition loss (Minister of Mines Annual Report 1959, page 170, Sample 4).

The northern lens is 30 metres wide and is exposed for 60 metres up the mountainside. The lens consists of very fine grained, bluish grey and white, brittle limestone with calcite veins and some irregular patches of pale blue dolomite. A sample from this lens analysed 53.89 per cent CaO, 0.14 per cent MgO, 2.98 per cent SiO2, 0.37 per cent R2O3, 0.21 per cent Fe2O3 and 0.01 per cent sulphur (Canada Bureau of Mines Report 811, page 217). The central lens has similar dimensions as the northern lens.

Two larger lenses of limestone trending northwest for between

CAPSULE GEOLOGY

1800 and 3100 metres outcrop to the northeast.
Limestone was at one time quarried and burnt on site in a lime
kiln earlier this century.

BIBLIOGRAPHY

EMPR AR *1959-167-170
EMPR OF 1992-18
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 7
GSC OF 165; 980; 2490
GSC P 44-20; 79-1A, pp. 357-360; 82-1A, pp. 293-297; 85-1A,
pp. 349-358
CANMET RPT 811, Part 5, pp. 215,216

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE161**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK PINES NORTH**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 59 12 N
LONGITUDE: 120 16 23 W
ELEVATION: 1112 Metres

NORTHING: 5651882
EASTING: 691388

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centred on the surface trace of a northern limestone lens (Minister of Mines Annual Report 1959, page 169, Figure 28).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

ASSOCIATED: Silica

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Sedimentary Industrial Min.

TYPE: R09 Limestone

DIMENSION: 1800 Metres

COMMENTS: Limestone lenses trend northeast.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic
Upper Triassic

GROUP

Harper Ranch
Nicola

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Argillite
Quartzite
Mafic Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Harper Ranch

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1959

SAMPLE TYPE: Chip

COMMODITY

GRADE

Limestone 54.5400 Per cent

COMMENTS: A 152-metre long chip sample. Grade given for CaO.

REFERENCE: Minister of Mines Annual Report 1959, page 170, Sample 6.

CAPSULE GEOLOGY

Two northeast trending, parallel limestone lenses 770 metres apart, each 1.8 kilometres long, outcrop as two cliffs along the east flank of Jamieson Range, 35 kilometres north of the community of Kamloops. The lenses are hosted in a succession of argillite, quartzite and mafic volcanics of the Carboniferous to Triassic Harper Ranch and/or Nicola groups.

The two lenses are made up of light grey to white, medium to fine-grained limestone with scattered patches of chert. A sample taken along the base of the bluff of the northern lens for 152 metres analysed 54.54 per cent CaO, 0.08 per cent MgO, 1.70 per cent insolubles, 0.18 per cent R2O3, 0.10 per cent Fe2O3, 0.025 per cent MnO, 0.017 per cent P2O5, nil sulphur and 43.28 per cent ignition loss (Minister of Mines Annual Report 1959, page 170, Sample 6).

BIBLIOGRAPHY

EMPR AR *1959-167-170
EMPR OF 1992-18
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 7
GSC OF 165; 980; 2490
GSC P 44-20; 79-1A, pp. 357-360; 82-1A, pp. 293-297; 85-1A,

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 286
REPORT: RGEN0100

BIBLIOGRAPHY

pp. 349-358
CANMET RPT 811, Part 5, p. 216

DATE CODED: 1985/07/24
DATE REVISED: 2003/02/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE162**

NATIONAL MINERAL INVENTORY: 092115 Bnt1

NAME(S): **GORGE CREEK BENTONITE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092115W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 56 55 N
LONGITUDE: 120 59 39 W
ELEVATION: 730 Metres

NORTHING: 5646026
EASTING: 640898

LOCATION ACCURACY: Within 500M

COMMENTS: Location of exposures of bentonite-rich layers in andesite breccia near Deadman River, about 24 kilometres north of the community of Savona (Fieldwork 1987).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
ALTERATION: Montmorillonite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Volcanogenic Industrial Min.
SHAPE: Tabular
COMMENTS: The beds are probably gently dipping.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Bentonite
Andesite
Andesite Breccia
Volcanic Breccia
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: Syn-mineralization GRADE: Zeolite

CAPSULE GEOLOGY

From a kilometre north of Clemes Creek to a kilometre north of Gorge Creek, landslide debris underlies Deadman River and mantles the valley walls up to 1070 metres in elevation. The most extensive slides are from the east or dip slope side of the valley where an approximately 60-metre thick bentonite layer (see Split Rock, 092INE170), with intercalated fine volcanic breccia layers, outcrops for a kilometre along strike near the base of slope. On the west side of the valley from Barricade to Gorge creeks, bentonitic volcanic breccia and bentonite-rich lenses up to a few tens of metres in thickness are scattered throughout the andesite breccia that underlies the sedimentary lens. CANMET Summary Report 1918 and Geological Survey of Canada Memoir 249 describes bentonite near the mouth of Gorge Creek (Gorge Creek showing) which probably applies to the bentonite-rich layers in andesite breccia at 750 metres elevation (Fieldwork 1987). Hostrocks are Eocene Kamloops Group volcanics and sediments.

BIBLIOGRAPHY

EMPR FIELDWORK *1987, pp. 417-419
GSC MEM 249, p. 150
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET Summary Report 1918, p. 161

DATE CODED: 1985/07/24
DATE REVISED: 2001/09/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INE163**

NATIONAL MINERAL INVENTORY:

NAME(S): **GUICHON CREEK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 00 N
LONGITUDE: 120 52 09 W
ELEVATION: 1113 Metres

NORTHING: 5603806
EASTING: 650901

LOCATION ACCURACY: Within 500M

COMMENTS: A meadow along and just east of Guichon Creek, 4 kilometres south of Tunkwa Lake, about 21 kilometres south of the community of Savona.

COMMODITIES: Diatomite

MINERALS

SIGNIFICANT: Diatomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: F06 Lacustrine diatomite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Soil

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Diatomite occurs in a meadow located just east of Guichon Creek about 4 kilometres south of Tunkwa Lake. The diatomite occurs in undisturbed meadows from 1.8 to 3.6 metres above the present creek bed. Approximately 0.8 hectare of the meadow is underlain by 0.3 to 0.9 metre of white diatomite underlain by 0.3 to 0.9 metre of brown and yellow. The average thickness is about 0.9 metre with the best material occupying about 0.1 hectare at the east end. Both the white and the coloured diatomites calcine to a pale pink.

BIBLIOGRAPHY

CANMET RPT *691, pp. 44,81
EMPR OF 1988-13
EMPR MAP 30
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/23

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE165**

NATIONAL MINERAL INVENTORY:

NAME(S): **WOOD, HANK, SHELLY,**
JIM

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I10E
BC MAP:

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

LATITUDE: 50 36 51 N
LONGITUDE: 120 31 51 W
ELEVATION: 960 Metres

NORTHING: 5609830
EASTING: 674683

LOCATION ACCURACY: Within 500M

COMMENTS: Location of drillhole 97-1 about 600 metres south of a small unnamed lake just east of Cherry Creek, about 16 kilometres west-southwest of Kamloops (Assessment Report 25615).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper Chalcopyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Epidote Chlorite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Augite Feldspar Pyritic Andesite
Andesite
Andesite Tuff
Fragmental 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: 1992

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper

0.3000

Per cent

COMMENTS: Drilling intersected 275 metres of copper mineralization with a highest copper assay of 0.3 per cent.

REFERENCE: George Cross News Letter No. 228, 1998.

CAPSULE GEOLOGY

The Wood property is underlain by variably epidote and chlorite altered augite and feldspar pyritic andesite and associated volcanic tuffs and fragmental rocks of the Upper Triassic Nicola Group. The andesites are locally pyritic. The Wood property has been drilled over the past 10 years over a large area of the claim holdings. Several drillholes across the claim group have intersected andesite mineralized with trace amounts of native copper and chalcopyrite. Some of the chalcopyrite mineralization appears to be associated with quartz-carbonate veining.

Drilling in 1992 on the Wood claims intersected 275 metres of copper mineralization, with assays up to 0.3 per cent (George Cross News Letter No. 228, 1998). It should be noted that this information does not appear in assessment reports.

In 1972, the Shelly claim group partially covered the current Wood property claims where 37 kilometres of grid was established and 37 kilometres of ground magnetometer survey, geological mapping and soil sampling was completed on behalf of Coast Interior Ventures Limited. The Jim 1 claim was staked in 1975 and in 1976, a ground

CAPSULE GEOLOGY

magnetometer survey totalling 28 kilometres was completed on behalf of Mabee Minerals Inc. In 1979-80, eight diamond-drill holes totalling 1712 metres tested conductors from a combined VLF-EM, horizontal loop EM and radiometric survey completed on the Dave and A claims on behalf of Dorado Resources Ltd. In 1981 and 1983, soil sampling and VLF-EM surveys were run over the Hank claim on behalf of Anglo Western Petroleum Ltd. Between 1989-92, Green Valley Mine Inc. and Lakewood Mining Co. Ltd. completed one diamond-drill hole totalling 196 metres, 19.7 kilometres of grid were established and 15.1 kilometres of induced polarization survey and 12 kilometres of VLF-EM survey performed on behalf of C. Boitard. Between 1993-95, five diamond-drill holes totalling 1304 metres and five percussion-drill holes totalling 480 metres were put down on the Wood property claims by Green Valley Mines Inc. to test for copper mineralization. In 1997-98, diamond drilling by Green Valley Mines Ltd. on the Wood property claims totalled 1953 metres in eight holes to test for copper mineralization. In 2000, five diamond-drill holes totalling 1417 metres were drilled on the Wood property claims on behalf of Lakewood Mining Company Limited.

BIBLIOGRAPHY

EMPR ASS RPT 4055, 5961, 7180, 7850, 9533, 9554, 11550, 20116, 21608, 22404, 22630, 23420, 24017, 24317, *25615, 25967, 26292, 26852, 26915
EMPR BULL 77
EMPR PF (92INE General File - Report on Jim claim in Prospectus, Mabee Minerals Incorporated, 1976)
EM EXPL 2000-35
GCNL #173(Sept.9), #228(Nov.27), 1998
WWW <http://www.infomine.com/>
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1999/06/10
DATE REVISED: 2003/01/31

CODED BY: LDJ
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE166**

NATIONAL MINERAL INVENTORY:

NAME(S): **KAM, RICH**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092110E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 54 N
LONGITUDE: 120 34 01 W
ELEVATION: 1288 Metres

NORTHING: 5607985
EASTING: 672186

LOCATION ACCURACY: Within 500M

COMMENTS: Area of drilling and drillhole collars east of Cherry Creek, about 19 kilometres southwest of Kamloops (Assessment Report 9271).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Andesite Tuff
Andesite Flow
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Kam showing area is underlain by Upper Triassic Nicola Group volcanic rocks of mainly andesitic composition and are within 1 kilometre of the contact with the Late Triassic-Early Jurassic Iron Mask batholith. Nicola rocks are primarily greenstone and andesite flows and tuffs. In 1980, diamond drilling in three holes intersected very minor native copper mineralization in the form of flakes and disseminations confined along slip and fracture planes and calcite veining related to fault zones.

In 1972, a program of induced polarization (24 kilometres), ground magnetometer (56 kilometres) and soil sampling (1249 samples) was performed by Lewes River Mines Limited and Copper Giant Mining Corporation on the Rich claims. The Kam claim was staked in 1979 over a lapsed portion of the Rich claims and in that year work consisted of VLF-EM and ground magnetometer surveys (4.3 kilometres) and soil sampling. In 1980, about 700 metres of diamond drilling in 3 holes was completed on behalf of Lakewood Mining Company Limited. In 1981, induced polarization (3.6 kilometres), ground magnetometer (3.6 kilometres) and soil geochemical surveys were conducted on behalf of Lakewood Mining Company Limited and Green Valley Mine Inc.

BIBLIOGRAPHY

EMPR ASS RPT 4214, 8721, *9271
EMPR BULL 77
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 2003/01/26

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE167**

NATIONAL MINERAL INVENTORY:

NAME(S): **DARCY**, PASS LAKE, WATCHING CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092115E 092116W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5636703
EASTING: 675762

LATITUDE: 50 51 19 N
LONGITUDE: 120 30 10 W
ELEVATION: 925 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Drillholes along Watching Creek, west of Pass Lake, about 24 kilometres northwest of the community of Kamloops (Assessment Report 17413).

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Tetrahedrite Bornite Covellite Chalcocite
Sphalerite Gold

COMMENTS: Rare native gold.

ASSOCIATED: Quartz Carbonate Pyrite
ALTERATION: Carbonate K-Feldspar Serpentine Clay Sericite
Hematite Chlorite Magnetite

COMMENTS: Also albite.

ALTERATION TYPE: Carbonate Potassic Serpentin'zn Argillic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Hydrothermal
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	Unnamed/Unknown Informal
Triassic-Jurassic			

LITHOLOGY: Picrite
Volcanic Breccia
Hornblende Feldspar Porphyry
Tuff
Tuff Breccia
Ash Tuff
Argillite
Siltstone

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 GRADE
Silver 6.3000 Grams per tonne
Gold 2.0800 Grams per tonne
COMMENTS: Across a 0.5 metre intersection in drillhole PL88-01.
REFERENCE: Assessment Report 17413.

CAPSULE GEOLOGY

The Darcy property is centred around the contact of a large, elongate body of Triassic-Jurassic picrite which has intruded Upper Triassic Nicola Group volcanic rocks along a northwesterly axis. The most common volcanic lithology is green, fine to medium-grained tuff, but ash tuff, tuff breccia and fine to medium-grained porphyry also occur. These rocks have been affected by pervasive chlorite-sericite-epidote? alteration and varying degrees of carbonatization. Sedimentary rocks include grey, laminated argillite, grey to black siltstone and conglomerate. Disseminated pyrite is common in siltstone and is locally present in argillite. Volcanic rocks of unknown age resembling the Eocene Kamloops Group

CAPSULE GEOLOGY

(olivine present, amygdaloidal) appear to be associated with picrite and are assumed to be older than (or coeval with?) picrite (Assessment Report 14194). The picrite occurs as an elongate intrusive mass about 7 by 4 kilometres in size whose long axis is oriented in a northwesterly direction. Widespread alteration is characterized by serpentine, clay, magnetite, hematite and sericite.

Three showings have been located on the Darcy property. The discovery subcrop on Grid A consists of carbonate-potassium feldspar altered picrite and volcanic breccia cut by quartz sulphide veins. Grab samples analysed between 0.48 up to 7 grams per tonne gold and 0.11 to 0.14 per cent copper. Sulphides comprise minor amounts of bornite, chalcocite, covellite, tetrahedrite?, chalcopyrite and pyrite. The discovery showing is located within the boundaries of the Pass Lake Research Substation owned by Agriculture Canada who have refused application to allow further exploration work on their property (ca. 1988). On Grid B, located along Watching Creek about 4000 metres north of the discovery outcrop on Grid A, gold values are associated with tetrahedrite, pyrite, chalcopyrite, chalcocite, covellite, pyrite, rare native gold and/or sphalerite in carbonate and quartz veins in an area of carbonate-potassium feldspar altered picrite and volcanic rocks. At the Watching Creek showing, located about 2000 metres north of the Grid A showing, hornblende feldspar porphyries intrude picrite. There are significant strong fracture zones with abundant quartz vein stockwork and associated albite-sericite-carbonate-chlorite-epidote-pyrite alteration. Anomalous gold (up to 0.26 gram per tonne) is related to alteration associated with quartz vein stockworks and disseminated pyrite (Assessment 14194). A best assay from drilling in 1988 at the Watching Creek showing yielded 2.08 grams per tonne gold and 6.3 grams per tonne silver over a 0.5 metre intersection (Assessment Report 17413).

The Darcy claims were staked by Esso Resources in September 1984 to follow-up a grab sample that yielded high gold values. Work conducted in 1985 by Esso Resources comprised geological, magnetometer and VLF-EM 16 surveys, soil and rock sampling, trenching, test pits and access road. In 1987-88, Esso Resources completed 1.3 kilometres of drill access roads, soil, silt and rock sampling, geological mapping and 3 diamond-drill holes totalling 200 metres.

BIBLIOGRAPHY

EMPR ASS RPT *14194, *17413
EMPR PF (Report on the Darcy Claim Group by R.D. Willis, 1987 in Statement of Material Facts 07/88, Pass Lake Resources Ltd.)
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC OF 165; 980; 2490
GSC P 44-20; 79-1A, pp. 357-360; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1986/08/19
DATE REVISED: 2000/06/08

CODED BY: AFW
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE168**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUB**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 35 N
LONGITUDE: 120 28 34 W
ELEVATION: 1341 Metres

NORTHING: 5600202
EASTING: 678886

LOCATION ACCURACY: Within 500M

COMMENTS: Marshy area between McConnell and Stake lakes about 18.5 kilometres south of Kamloops (Geological Survey of Canada Open File 551).

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Unknown

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Sedimentary Syngenetic
TYPE: B08 Surficial U

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Cenozoic
Jurassic

Postglacial Sediments
Unnamed/Unknown Informal

LITHOLOGY: Soil
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Channel
COMMODITY
Uranium

YEAR: 1979

GRADE
0.0138 Per cent

COMMENTS: Assay over 0.5 metre.
REFERENCE: Culbert, R.R., 1979.

CAPSULE GEOLOGY

The Rub showing area is underlain by Jurassic granitic rocks and is located between McConnell and Stake lakes, about 18 kilometres south of Kamloops.

A 1 hectare organic-rich basin is enriched in uranium. The 2.0 metre layer averages 0.01 per cent uranium, with a 0.5-metre thickness assaying 0.0138 per cent uranium (Culbert, R.R., 1979).

BIBLIOGRAPHY

- EMPR BULL 77
- GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
- GSC MEM 249
- GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
- GSC OF 165; 551; 980; 2490
- CIM BULL 1978, Vol.71, No.783, pp. 103-110
- IAEA TECDOC 322 (Surficial Uranium Deposits, Technical Document, Vienna, 1984) pp. 179-191
- *Culbert, R.R. (1979): Post-Glacial Uranium Concentration in South Central British Columbia, Royal Commission on Uranium Mining, Accession List #2109S01, 20 pages
- *Culbert, R.R. and Leighton, D.G. (1988): Young Uranium; in Unconventional Uranium Deposits, Ore Geology Reviews, Vol. 3, pp. 313-330

DATE CODED: 1988/01/29
DATE REVISED: 2003/01/26

CODED BY: LDJ
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE169**

NATIONAL MINERAL INVENTORY:

NAME(S): **VICARS PASS**, VICARS FLATS

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 25 N
LONGITUDE: 120 08 44 W
ELEVATION: 1130 Metres

NORTHING: 5606301
EASTING: 702109

LOCATION ACCURACY: Within 500M

COMMENTS: Located from Geological Survey of Canada Open File 551.

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Sedimentary Syngenetic
TYPE: B08 Surficial U

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Recent
Triassic-Jurassic

Postglacial Sediments
Wild Horse Intrusion

LITHOLOGY: Soil
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Channel

YEAR: 1979

COMMODITY

GRADE

Uranium

0.0215

Per cent

COMMENTS: Assay over 0.5 metre.

REFERENCE: Culbert, R.R., 1979.

CAPSULE GEOLOGY

The Vicars Pass showing area is underlain by granitic rocks of the Triassic-Jurassic Wild Horse batholith. A 0.3 hectare area of surface sediments is enriched in uranium. The 3.0 metre layer averages 0.0132 per cent uranium, with a 0.5 metre thickness assaying 0.0215 per cent uranium (Culbert, R.R., 1979).

BIBLIOGRAPHY

- EMPR ASS RPT 6574
- EMPR EXPL 1977-150
- GSC OF 165; 551; 980; 2490
- GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
- GSC MEM 249
- GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
- CIM BULL 1978, Vol. 71, #783, pp. 103-110
- IAEA TECDOC 322 (Surficial Uranium Deposits, Technical Document, Vienna, 1984), pp. 179-191
- *Culbert, R.R. (1979): Post-Glacial Uranium Concentration in South Central British Columbia, Royal Commission on Uranium Mining, Accession List #2109S01, 20 pages
- *Culbert, R.R. and Leighton, D.G. (1988): Young Uranium; in Unconventional Uranium Deposits, Ore Geology Reviews, Vol. 3, pp. 313-330

DATE CODED: 1988/01/29
DATE REVISED: 2003/02/11

CODED BY: LDJ
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE170**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPLIT ROCK**, SIC, DEADMAN RIVER BENTONITE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5643357
EASTING: 642748

LATITUDE: 50 55 27 N
LONGITUDE: 120 58 08 W
ELEVATION: 701 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Although on the east side of Deadman River valley, the showing has been named after Split Rock which is the nearest topographic feature.

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
ALTERATION: Montmorillonite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E06 Bentonite
SHAPE: Tabular
DIMENSION: 500 x 100 Metres STRIKE/DIP:
COMMENTS: Two bentonite lenses up to a hundred metres thick and at least 500 metres long.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Eocene

GROUP

Kamloops

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Bentonite
Andesite Ash Tuff
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: Syn-mineralization GRADE: Zeolite

CAPSULE GEOLOGY

The Split Rock bentonite showing was discovered during a regional industrial mineral assessment of the Tertiary rocks in southern British Columbia by Peter Read (Fieldwork 1987). In 1994, Western Industrial Clay Products staked the Sic claims to cover the showing and performed geological investigations and sampling by means of drilling thirty 1.25-metre deep postholes with a gas-powered auger.

The Sic claims lie near the base of the Eocene Kamloops Group which forms a moderate northeasterly dipping sequence of aphanitic dacite to andesite ash tuff which is now dominantly montmorillonite. Outcrops of rare, unaltered andesite flows and dikes up to a few metres in thickness are present in the bentonite-rich ash tuff outcrops. Two bentonite lenses up to a hundred metres thick and at least 500 metres long forms within the ash tuff. A layer up to a metre thick composed of weathered bentonite "popcorn" covers the bentonite outcrops making it difficult to obtain unaltered samples of the bedrock.

BIBLIOGRAPHY

EMPR FIELDWORK *1987, pp. 417-419
EMPR ASS RPT *23865
EMPR OF 1988-13
GSC OF 980
GSC MAP 104A; 886A; 42-1989
GSC P 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1988/04/22
DATE REVISED: 2001/06/18

CODED BY: PBR
REVISED BY: GO

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092INE171**

NATIONAL MINERAL INVENTORY:

NAME(S): **GORGE CREEK DIATOMITE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 58 13 N
LONGITUDE: 120 58 47 W
ELEVATION: 1021 Metres

NORTHING: 5648463
EASTING: 641847

LOCATION ACCURACY: Within 500M

COMMENTS: Location given is between two roadcuts 100 metres apart. The roadcuts exposed diatomaceous clasts.

COMMODITIES: Diatomite

MINERALS

SIGNIFICANT: Diatomite
ASSOCIATED: Montmorillonite
ALTERATION: Montmorillonite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: F06 Lacustrine diatomite
SHAPE: Tabular
COMMENTS: Attitude is flat.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Miocene	Chilcotin	Deadman River	

ISOTOPIC AGE: 8.2 Ma +/- 0.3 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Whole rock

LITHOLOGY: Diatomite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

North of the junction of Gorge Creek and Deadman River, float of diatomaceous earth occurs in roadcuts. It must subcrop between the roadcuts at 1010 metres elevation and the base of the overlying olivine basalt flows at 1110 metres elevation (Fieldwork 1987). Hostrocks are sediments of the Miocene Deadman River Formation (Chilcotin Group).

BIBLIOGRAPHY

EMPR FIELDWORK *1987, pp. 417-419
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1988/04/22
DATE REVISED: 2001/09/18

CODED BY: PBR
REVISED BY: GO

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092INE172**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH UREN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I15W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 53 39 N
LONGITUDE: 120 54 31 W
ELEVATION: 1200 Metres

NORTHING: 5640139
EASTING: 647079

LOCATION ACCURACY: Within 500M

COMMENTS: A bulldozed trench, cut above an old logging road, located on the north side of an unnamed peak due north of Sedge Lake and Mount Uren, about 16 kilometres north of the community of Savona.

COMMODITIES: Diatomite

MINERALS

SIGNIFICANT: Diatomite
ASSOCIATED: Feldspar Quartz Montmorillonite
ALTERATION: Montmorillonite
MINERALIZATION AGE: Miocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: F06 Lacustrine diatomite
SHAPE: Tabular

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Miocene	Chilcotin	Deadman River	

LITHOLOGY: Diatomite
Rhyolite Ash
Olivine Basalt Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Quesnel

PHYSIOGRAPHIC AREA: Cariboo Plateau

CAPSULE GEOLOGY

Diatomaceous earth occurs at the top of a 10 metre thickness of rhyolite ash lying under olivine basalt flows of the Miocene Deadman River Formation of the Chilcotin Group.

BIBLIOGRAPHY

EMPR FIELDWORK 1988, pp. 515-518
EMPR OF 1989-21
GSC MAP 886A; 42-1989
GSC MEM 249
GSC OF 980
GSC P 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/02/03
DATE REVISED: 2001/06/11

CODED BY: PBR
REVISED BY: GO

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **092INE173**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOUTH THOMPSON RIVER**, HARPER RANCH

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 40 20 N
LONGITUDE: 120 07 47 W
ELEVATION: 610 Metres

NORTHING: 5617307
EASTING: 702805

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on surface trace of limestone lens (Minister of Mines Annual Report 1959, page 169, Figure 28).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica
MINERALIZATION AGE: Carboniferous
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
DIMENSION: 230 x 40 Metres
COMMENTS: Possible bedding strikes 170 degrees, dips steeply east.

Massive
Industrial Min.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Carboniferous	Harper Ranch	Undefined Formation	

DATING METHOD: Fossil
MATERIAL DATED: Fusulinids, Conodonts

LITHOLOGY: Limestone
Argillite
Quartzite
Chert

HOSTROCK COMMENTS: Contains early Pennsylvanian fusulinids, late Mississippian conodonts (Geological Survey of Canada Open File 980).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch
METAMORPHIC TYPE: Regional

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Limestone
GRADE: 54.6500 Per cent

COMMENTS: A 21.3 metre chip sample. Grade given for calcium oxide.
REFERENCE: Minister of Mines Annual Report 1959, page 170, sample 1.

CAPSULE GEOLOGY

A Carboniferous limestone lens forming a narrow north-trending ridge outcrops over a length of 230 metres with an average width of 40 metres on the north side of the South Thompson River, 14 kilometres due east of Kamloops. The lens lies within argillite and quartzite of the Devonian to Triassic Harper Ranch Group. Possible bedding strikes 170 degrees and dips steeply east.

The deposit consists of fine grained, light to dark grey limestone with scattered patches and irregular bands of chert. A chip sample taken across a 21.3 metre wide section free of chert analysed 54.65 per cent CaO, trace of MgO, 2.2 per cent insolubles and 42.63 per cent ignition loss (Minister of Mines Annual Report 1959, page 170, Sample 1).

BIBLIOGRAPHY

EMPR AR 1959-167,170
EMPR OF 1992-18

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 300
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 249, p. 7
GSC OF 165; 637; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT 811, Part 5, p. 184

DATE CODED: 1989/08/03
DATE REVISED: 2003/02/12

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE174**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNT HARPER**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I09E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 42 47 N
LONGITUDE: 120 05 54 W
ELEVATION: 1067 Metres

NORTHING: 5621933
EASTING: 704845

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on sample site #3 (Minister of Mines Annual Report 1959, page 169, Figure 28).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica
MINERALIZATION AGE: Permian
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
DIMENSION: 4500 x 1250 Metres
COMMENTS: Lenses trend west-northwest.

Massive
Industrial Min.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Harper Ranch	Undefined Formation	

DATING METHOD: Fossil
MATERIAL DATED: Fusulinids

LITHOLOGY: Limestone
Argillite
Quartzite

HOSTROCK COMMENTS: Harper Ranch limestones range from Mississippian to Permian in age. Group ranges from Devonian to Triassic.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch
METAMORPHIC TYPE: Regional

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: Greenschist

INVENTORY

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Limestone
GRADE: 51.0000 Per cent

YEAR: 1959

COMMENTS: Collected along south side. Grade given for calcium oxide.
REFERENCE: Minister of Mines Annual Report 1959, page 170, sample 3.

CAPSULE GEOLOGY

Two large lenses of Permian limestone accompanied by several smaller limestone lenses extend west-northwest for between 2.1 and 4.5 kilometres on Mount Harper just south of Paul Lake, 13 kilometres east-northeast of Kamloops. The lenses are exposed over widths up to 1250 metres. They lie within argillite and quartzite of the Devonian to Triassic Harper Ranch Group.

The lenses are composed of light to dark grey, fine to medium grained limestone with variable amounts of chert as nodules and discontinuous thin bands. The chert is largely confined to the edges of the lenses. A sample of chips collected randomly along the south side of the southern lens analysed 51.00 per cent CaO, 1.22 per cent MgO, 5.38 per cent insolubles, 0.44 per cent R2O3, 0.34 per cent Fe2O3, 0.013 per cent MnO, 0.019 per cent P2O5, 0.01 per cent sulphur and 41.76 per cent ignition loss (Minister of Mines Annual Report 1959, page 170, Sample 3).

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 302
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1959-168,170
EMPR OF 1992-18
GSC MEM 249, p. 7
GSC OF 165; 637; 980; 2490
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/08/03
DATE REVISED: 2003/02/13

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE175**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK PINES SOUTH**, MCLEAN'S LIMESTONE QUARRY

STATUS: Past Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I16W

BC MAP:

LATITUDE: 50 55 24 N

LONGITUDE: 120 15 49 W

ELEVATION: 426 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on the surface trace of a limestone lens (Minister of Mines Annual Report 1959, page 169, Figure 28).

UTM ZONE: 10 (NAD 83)

NORTHING: 5644866

EASTING: 692313

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE: Upper Mississippian

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Sedimentary Industrial Min.

TYPE: R09 Limestone

DIMENSION: 1800 x 500 Metres

COMMENTS: Limestone lens strikes northwest, dips steeply.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic
Upper Triassic

GROUP

Harper Ranch
Nicola

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Shale
Argillite
Quartzite
Mafic Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: ROADCUT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1959

SAMPLE TYPE: Chip

COMMODITY

GRADE

Limestone 52.7100 Per cent

COMMENTS: Average across 244 metres. Grade given for calcium oxide.

REFERENCE: Minister of Mines Annual Report 1959, page 170, samples 5 and 5A.

CAPSULE GEOLOGY

A steeply dipping, 300-metre thick limestone lens of late Mississippian age outcrops on the west side of the North Thompson River and continues northwestward up the valley side for 1800 metres. The lens is exposed for a width of 500 metres along a road following the west bank of the North Thompson River, 29 kilometres north of the community of Kamloops. The limestone is contained within a sequence of argillite, quartzite and mafic volcanics of the Carboniferous to Triassic Nicola and/or Harper Ranch groups.

The deposit consists mostly of massive, soft and brittle, white to light bluish grey, sugary textured limestone cut by numerous calcite veinlets. The lens contains some thin shale interbeds, especially along its southwest margin. Two chip samples taken in succession along the road for a total length of 244 metres starting from the northeast edge averaged 52.71 per cent CaO, 0.20 per cent MgO, 4.68 per cent insolubles, 0.29 per cent R2O3, 0.28 per cent Fe2O3, 0.21 per cent MnO, 0.01 per cent P2O5, trace of sulphur and 41.95 per cent ignition loss (Minister of Mines Annual Report 1959, page 170, Samples 5 and 5A).

The limestone was once quarried and burnt on site in a pot kiln at the river bank to produce lime up to 1911.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 304
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR *1913-216; *1959-167-170
EMPR OF 1992-18
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 7
GSC OF 165; 980; 2490
GSC P 44-20; 79-1A, pp. 357-360; 82-1A, pp. 293-297; 85-1A,
pp. 349-358
CANMET RPT 811, Part 5, pp. 216-217

DATE CODED: 1989/08/08
DATE REVISED: 2003/02/28

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE176**

NATIONAL MINERAL INVENTORY:

NAME(S): **SULLIVAN LAKE LIMESTONE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092116E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5652521
EASTING: 697689

LATITUDE: 50 59 25 N
LONGITUDE: 120 10 59 W
ELEVATION: 808 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on surface track of limestone lens about 36 kilometres north of the community of Kamloops (Geological Survey of Canada Map 886A).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 2500 x 60 Metres
COMMENTS: Limestone lens trends north-northwest.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Limestone
Mafic Volcanic
Chert

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Harper Ranch Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A 1 to 60 metre thick limestone lens trending north-northwest for 2.5 kilometres is exposed along a ranch road 5 kilometres northwest of Sullivan Lake. The limestone is enclosed in mafic volcanics of the Carboniferous to Triassic Nicola and/or Harper Ranch groups. The lens is comprised of light grey to white limestone with thin beds of chert and scattered quartz veinlets.

BIBLIOGRAPHY

EMPR AR *1959-167-169
EMPR OF 1992-18
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 7
GSC OF 165; 637; 980; 2490
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/08/08
DATE REVISED: 2000/04/20

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE177**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAYLEIGH NORTH**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5634003
EASTING: 691266

LATITUDE: 50 49 34 N
LONGITUDE: 120 17 03 W
ELEVATION: 457 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on the surface trace of a limestone lens (Minister of Mines Annual Report 1959, page 169, Figure 28).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica
MINERALIZATION AGE: Triassic

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 300 x 30 Metres
COMMENTS: Limestone lens.

STRIKE/DIP: 065/80N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
DATING METHOD: Fossil			
MATERIAL DATED: Paleozoic	Conodont Harper Ranch	Undefined Formation	

LITHOLOGY: Limestone
Chert Pebble Conglomerate
Cherty Arenite
Augite Hornblende Porphyry

HOSTROCK COMMENTS: Contains Middle to Upper Triassic conodonts (GSC Open File 980).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel Harper Ranch

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A 30-metre thick lens of limestone outcrops along a roadcut on Highway 5 and continues eastward for 300 metres, 1.3 kilometres north-northeast of Rayleigh Station and 17 kilometres north of the community of Kamloops. The limestone is hosted in a sequence of interbedded chert pebble conglomerate and chert arenite with minor augite/hornblende porphyry of the Carboniferous to Triassic Nicola and/or Harper Ranch groups. Bedding strikes 065 degrees and dips 80 degrees northwest. The lens is composed of grey, medium-grained limestone containing nodules and patches of chert and veinlets of calcite.

BIBLIOGRAPHY

EMPR AR *1959-167-170
EMPR OF 1992-18
GSC MAP 886A; 887A; 9-1963; 1394A; 42-1989
GSC MEM 249, p. 7
GSC OF 165; 980; 2490
GSC P 44-20; 79-1A, pp. 357-360; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/08/08
DATE REVISED: 2003/02/28

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INE178**

NATIONAL MINERAL INVENTORY:

NAME(S): **JS MOLYBDENITE** RAVE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I16W 092P01W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 59 58 N
LONGITUDE: 120 26 28 W
ELEVATION: 1725 Metres

NORTHING: 5652880
EASTING: 679546

LOCATION ACCURACY: Within 500M

COMMENTS: Location of a test pit (Assessment Report 8500).

COMMODITIES: Molybdenum Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry
TYPE: L08 Porphyry Mo (Climax-type)

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic	Harper Ranch	Undefined Formation	

LITHOLOGY: Argillite
 Quartzite
 Quartz Muscovite Schist

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: PIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY GRADE
Molybdenum 0.0980 Per cent

COMMENTS: Representative grab sample from a test pitted area, 20 by 20 metres.
REFERENCE: Assessment Report 8500.

CAPSULE GEOLOGY

The JS Molybdenite showing is located 24 kilometres north of Kamloops and is accessible via the Jamieson Creek logging roads. Molybdenite mineralization is developed within metasedimentary rocks (argillites, quartzites and quartz muscovite schists) of the late Paleozoic Harper Ranch Group. The metasedimentary rocks are intruded by dioritic rocks (diorite and quartz diorite) which are possibly part of the Late Triassic to Early Jurassic Thuya batholith. The molybdenum mineralization is best exposed in a 20 by 20 metre area that has been tested by pitting. Molybdenite occurs as smears, on dry fractures, in quartz veins and as finely disseminated grains (Assessment Report 8500). Disseminated pyrite is associated with the molybdenum mineralization within the hornfelsed metasedimentary hostrocks. A representative grab sample is reported to have yielded an assay of 0.098 per cent molybdenum. Isolated occurrences of chalcopyrite and molybdenite were noted within quartz veins within the intrusive unit (Assessment Report 8500). The mineralization is exposed in a creek valley in a window within flat lying plateau basalts of Miocene age which cover most of the area.

The prospect was staked as the Rave group in 1972 by Amoco Canada Petroleum Limited to cover a stream sediment molybdenum anomaly. Amoco completed a soil sampling program and geological mapping and related molybdenum soil anomalies to molybdenite mineralization in bedrock (Assessment Report 4665). The prospect was

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 308
REPORT: RGEN0100

CAPSULE GEOLOGY

subsequently staked by Joe Schmising as the JS claim and a program of geological mapping and prospecting undertaken in 1980 (Assessment Report 8500).

BIBLIOGRAPHY

EMPR ASS RPT 4665, *8500
EMPR FIELDWORK 2000, pp. 1-30; 2001, pp. 83-108
GSC OF 165; 980; 2490
GSC MAP 886A; 887A; 9-1963; 3-1966; 1278A; 1293A; 1394A; 42-1989
GSC MEM 249; 363
GSC P 44-20; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 2001/01/15
DATE REVISED: 2003/02/28

CODED BY: RHM
REVISED BY: RHM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW001**

NATIONAL MINERAL INVENTORY: 092114 Cr2

NAME(S): **SCOTTIE CREEK**, SCOT 1-2, FLINT (L.3532),
BARBARA (L.3534), WHITE TREE (L.3538), BROWN TREE (L.3539),
IRON KING, IRON QUEEN, FLINT NO. 2 (L.3533),
FLINT NO. 3 (L.3535), FLINT NO. 4 (L.3536), FLINT NO. 5 (L.3537),
SCOTTIE CREEK

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 09214W
BC MAP:

Open Pit Underground

MINING DIVISION: Kamloops

LATITUDE: 50 59 30 N
LONGITUDE: 121 23 42 W
ELEVATION: 823 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5650124
EASTING: 612639

LOCATION ACCURACY: Within 500M

COMMENTS: Main workings on the Flint No. 2 claim, located on the north side of
Chrome Creek, a tributary to Scottie Creek, about 5 kilometres east
of Highway 97 and 20 kilometres north of the community of Cache Creek
(Property File - Claim location map, 1941).

COMMODITIES: Chromium Gold Platinum

MINERALS

SIGNIFICANT: Chromite
ASSOCIATED: Bastite Orthopyroxene Olivine Magnetite Pyrite
ALTERATION: Serpentine Bastite Quartz Carbonate Talc
ALTERATION TYPE: Serpentin'zn Talc
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Massive Podiform
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M03 Podiform chromite
SHAPE: Irregular
MODIFIER: Sheared Fractured
DIMENSION: 300 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Serpentinite body.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	Ultramafic Intrusions
Upper Paleozoic			

LITHOLOGY: Serpentinite
Harzburgite
Serpentinized Ultramafic
Dunite
Chromitite

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic in age. An upper Paleozoic serpentinite wedge.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: OPENCUT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1918
SAMPLE TYPE: Rock
COMMODITY: Chromium GRADE: 15.4000 Per cent

COMMENTS: A sample from a 136-tonne pile of chromite ore from an opencut. Grade given was 22.5 per cent Cr₂O₃; conversion factor used for chromium is 1.4616.

REFERENCE: Minister of Mines Annual Report 1918, page K228.

CAPSULE GEOLOGY

The Scottie Creek chromite prospect is 20 kilometres north of Cache Creek and 5 kilometres east of Highway 97. The workings are in a steep bank on the north side of Chrome Creek, about 1000 metres upstream from its confluence with Scottie Creek. A road from the highway runs up along Scottie Creek and passes near the workings.

CAPSULE GEOLOGY

This chromite deposit has been used as a type deposit for mafic/ultramafic-hosted chromite mineralization by the Geological Survey of Canada (Geological Survey of Canada Economic Geology Report 36).

The hostrock for the Scottie Creek prospect is an upper Paleozoic serpentinite wedge in the eastern facies of the Carboniferous to Jurassic Cache Creek Complex. This consists of a Late Triassic accretionary prism/subduction complex associated with the Nicola volcanic arc. The melange contains Pennsylvanian and Early Permian limestones, chert, basalt and ultramafic rocks in a matrix of Permo-Jurassic chert and argillite.

Locally, only serpentinite is exposed at the chromite showings. The serpentinite is massive with abundant bastite, orthopyroxene and olivine, thus suggesting a harzburgite protolith. At Scottie Creek, the serpentinite is 300 metres wide with an unknown strike length. The body trends northerly and has a subvertical dip. It is extensively fractured in many directions with no dominant phase although many strike north +/- 15 degrees and dip gently to the west. Dunitic zones are scattered throughout the harzburgite. Contacts between dunite and harzburgite are irregular and sharp. Locally, the serpentinite is intensely altered to a quartz-carbonate-talc assemblage. The Cache Creek rocks including the serpentinite are overlain to the west by Tertiary plateau flood basalts. Locally, diamond drilling on the Barbara claim, near the old workings, has indicated that a thin conglomerate unit sits directly on top of the serpentinite. The whole area is mantled by a thick cover of Pleistocene till and Quaternary alluvium.

Chromite mineralization is restricted to the dunitic parts of the serpentinite. Chromite occurs as disseminations, small stringers and massive lenses. The stringers vary from vague wisps to zones 2 to 30 centimetres wide and 20 to 40 centimetres long composed of medium-grained chromite. Locally these stringers swell into massive chromitite lenses. To date, exploration has failed to identify any large zones of mineralization but this could be due to the extensive and thick cover. Magnetite and minor pyrite are present.

A sample from a 136-tonne pile of chromite ore from an opencut assayed 22.5 per cent Cr₂O₃ (15.4 per cent chromium) (Minister of Mines Annual Report 1918).

In 1918, panned samples from bars and old placer workings and diggings along Scottie Creek up to the mouth of Chrome Creek were analysed by J.T. King of the University of Toronto and yielded from 2.7 to 37.3 grams per tonne gold and 0.3 to 4.8 grams per tonne platinum. Panned samples from near the mouth of Chrome Creek to a point near and below the chromite showings were also analysed and yielded from 6.1 to 28.1 grams per tonne gold and 2.0 grams per tonne platinum. A general sample of chromite ore from dumps near the mouth of a drift analysed 14.4 grams per tonne gold and 3.4 grams per tonne platinum. A general sample of chromite ore piled near opencuts analysed 2.0 grams per tonne gold and 0.68 gram per tonne platinum. No platinum was seen in any of the placer samples taken, but small pieces of a pale grey metal had been occasionally observed by men panning or sluicing for gold some years previously (Thomlinson, 1918).

The original discoveries of chromite were made on the Barbara claim (Lot 3534) by Mike Ahearn in 1901, probably as a result of placer activity on Scottie Creek. Limited trenching was done and a sample of the mineralization was sent to the Geological Survey of Canada where it was examined and analysed by R.A.A. Johnston. The showing was not developed until the first half of 1918 when the price of chrome and wartime demands stimulated exploration. By 1918, the ground was held as the Iron King and Iron Queen claims owned by Henry Cargyle of Ashcroft and Mr. Bryson of Pavilion. All of the claims were optioned to Messrs. Stewart and Calvert of Oroville, Washington. Work included trenching and a 14-metre adit. About 453 tonnes of mineralized rock was mined by Stewart and Calvert from small opencuts but no shipments made.

In 1927, the Consolidated Mining and Smelting Company of Canada Limited optioned two claims on Ferguson Creek (092INW035) and one on Scottie Creek, and staked adjacent ground. In 1929, the company shipped 114 tonnes of chromite-bearing material to Trail for experimental purposes. Later, in 1930, the company did extensive testing of the property. They drove five adits and completed crosscutting, raising and sinking winzes as well as six major test pits, mainly on the Flint No. 2 claim (Lot 3533). Forty-five tonnes of chromitite material were shipped for testing but the results were not promising and operations ceased in 1931. The claims on Ferguson Creek were allowed to lapse and eight claims on Scottie and Chrome creeks were Crown granted in 1939. The eight claims are as follows: Flint (Lot 3532), Flint No. 2 (Lot 3533), Flint No. 3 (Lot 3535),

CAPSULE GEOLOGY

Flint No. 4 (Lot 3536), Flint No. 5 (Lot 3537), Barbara (Lot 3534), White Tree (Lot 3538) and Brown Tree (Lot 3539). The Granby Consolidated Mining and Smelting Company Limited reportedly held an option on the property in 1948.

In 1979, J. Whist acquired six Reverted Crown grants (Flint, Flint Nos. 2 and 3, Barbara, White Tree and Brown Tree) and staked the Scot 1 and 2 claims. In 1980, Granges Exploration Ltd. acquired a 50 per cent interest in the property and the other 50 per cent interest was transferred to Valhalla Minerals Inc., later renamed Valhalla Energy Corp. In 1980-81, work comprised linecutting, a ground magnetometer survey and two diamond-drill holes totalling 312 metres on behalf of Granges Exploration Aktiebolag. In 1986, a reconnaissance geochemical survey tested the area for platinum group metals in stream sediments, soils and rocks on behalf of Granges Exploration Ltd. and Valhalla Energy Corp. In 1993, the Scottie 1-6 claims were located over the showings. A program of heavy mineral stream sediment and soil sampling and a magnetometer survey was carried out on the claims owned by W.R. Gilmour on behalf of the Predator Syndicate. All but two of the original eight Crown grants have forfeited; the Flint No. 4 and 5 claims (Lots 3536, 3537) remain as Crown grants.

BIBLIOGRAPHY

- EM GEOFIL 2000-2; 2000-5
EMPR AR 1901-1091; 1902-H198; 1915-K285,K286; 1918-K227,K228,K242;
1920-N24; 1927-C211,C212; 1928-C220; 1929-C229; 1930-A198,A199;
1931-A110
EMPR ASS RPT 7859, 10208, 16025, 23515
EMPR BULL (*unpublished, Stevenson, J.S. (1941): Chromite Deposits
of B.C.)
EMPR EXPL 1980-243; 1981-233
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR OF 1986-7, pp. 18-20; 1987-13; 1988-30; 1990-23; *1990-27,
pp. 19-21
EMPR PF (*Gilbert, G. (1941): Report on the Flint Chrome Property,
The Consolidated Mining & Smelting Company of Canada Limited;
GCNL #252(Oct.21), 1986; Geological maps and plans of underground
workings; Newspaper article from Vancouver Herald, Business
Report, July 17, 1956; Excerpt from Whittaker, Ph.D. Thesis, 1983)
EMR MP COMM FILE MR-CR-301.00, Eardley-Wilmot, V.L. (1939): Chromite
Notes
EMR MP CORPFILE (Granges Exploration Ltd.; The Consolidated Mining
and Smelting Company of Canada Limited)
GSC OF 165; 866; 980
GSC ANN RPT 1900, Vol.XIII, pp. 11R-12R
GSC ECON GEOL 13, p. 102; 36, p. 45
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *118, pp. 86-91; *262, pp. 94,96,98,99
GSC P 46-8; 47-10; 69-23; 72-53, p. 80; 73-1A, p. 212; 74-49; 81-1A,
pp. 185-189,217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E
CANMET IR 1343 (1943)
CJES Vol.19 (1982), pp. 1156-1173
*Thomlinson, Wm. (1918): The Sampling of some Platinum-bearing Lodes
and Placers in British Columbia, pp. 177-180, in Munition Resources
Commission, Canada, Final Report of the Work of the Commission, 1920
Whittaker, P.J. (1983): Geology and Petrogenesis of Chromite and
Chrome and Chrome Spinel in Alpine-type Peridotites of the Cache
Creek Group, British Columbia; unpublished Ph.D. Thesis, Carleton
University

DATE CODED: 1985/07/24
DATE REVISED: 1998/12/03

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

At the Oppenheim showing, alternating bands of serpentinite and sediments, several metres thick, are exposed in a gully. The general strike of the rocks is northwest with an approximate 45 degree southwest dip. The serpentinite is extremely sheared, creating abundant flake talus in the gully. Contacts between the serpentinite and the sediments have not been seen. The chromite occurs as massive pods and is described as finely crystalline containing some pyrite along seams.

Trenching in 1918 and 1939 to 1941 exposed two chromite showings. A chip sample taken across the width of a chromite lens assayed 37.1 per cent Cr₂O₃ (Stevenson, 1941). In 1918, a shipment of 190 kilograms of chromite ore was sent to the Ore Dressing and Metallurgical Laboratories of the Mines Branch, Department of Mines, Ottawa, for a concentration test. Results show that practically all the chromite is freed from the gangue at 50 mesh; that a satisfactory separation can be made by water concentration on tables, resulting in a recovery of 72.7 per cent Cr₂O₃ contained in the first and second concentrates which averaged 45.8 per cent Cr₂O₃. Both grades of concentrates are metallurgical products and can be used for reduction to ferro-chrome, but on account of the iron sulphide present in the ore, which reports in the concentrates by water separation on tables, they cannot be classed as chemical products (Munition Resources Commission, 1920).

The showing was first discovered and staked in 1918 by Phillip Oppenheim of Ashcroft. Later that same year the showing was sampled by the Munition Resources Commission and a 190-kilogram sample was sent to Mines Branch, Ottawa, for testing; another sample was sent to the Provincial Assay Office. The ground was then restaked by R. Langdon in 1935 but there are no records of work done, if any. The showing was held from about 1937 by W.L. Starnes of Ashcroft, and J.W. Oakes of Calgary. Work carried out by A.E. Ames & associates in the period 1939-41 included a magnetic survey, prospecting and some diamond drilling; no other showings were found. In 1947, the property was held by Mr. Oakes as the Mac, Stan and Mae claims; a magnetic survey was carried out. Mariner Explorations Inc. acquired the property, Mariner claim, in about 1982; bulldozer trenching was reported. Cardinal Mineral Exploration optioned the property in December 1986 and carried out magnetic and gravimetric surveys.

BIBLIOGRAPHY

- EMPR AR 1918-K238; 1927-C211,C212
EMPR ASS RPT 36, 16050
EMPR BULL (*unpublished, Stevenson, J.S. (1941): Chromite Deposits of B.C.)
EMPR FIELDWORK 1981, pp. 270,271; 1996, pp. 117-123
EMPR OF 1988-30; 1990-23; *1990-27, pp. 23,24
GSC OF 165; 866; 980
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 94,96-98
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-222; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E
EMR MP CORPFILE (Cardinal Mineral Exploration)
EMR MP COMMFIL (Eardley-Wilmot, V.L., Chromite notes, British Columbia Trip, August 1939, MR-CR-301.00)
CANMET Summary Report, 1919, p. 62, Report No.542, Test No.110
CJES Vol.15, No.1 (January 1978), pp. 99-116
*Munition Resources Commission, Final Report of the Work of the Commission, 1920, Chromite near Ashcroft by W.F. Ferrier, pp. 42-44
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/04

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INW003**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLEN FRASER**, 17 MILE HOUSE

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 49 41 N
LONGITUDE: 121 51 51 W
ELEVATION: 469 Metres

NORTHING: 5631319
EASTING: 579994

LOCATION ACCURACY: Within 500M

COMMENTS: Bentonite occurs north-northwest of Glen Fraser siding of BC Rail along Highway 12, about 16 kilometres north of Lillooet.

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
ALTERATION: Montmorillonite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E06 Bentonite
SHAPE: Tabular

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Bentonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Pavilion Ranges
Methow
RELATIONSHIP: Syn-mineralization
GRADE: Zeolite

CAPSULE GEOLOGY

Bentonite is intercalated with brown, grey and maroon weathering, aphanitic volcanic breccias of the Eocene Kamloops Group. Exchangeable cation analyses yield in milli-equivalents per 100 grams, Ca 52.25, Mg 9.00, Na 31.75 and K 1.35. The cation exchange capacity (CEC) is 67.0.

BIBLIOGRAPHY

EMPR BULL 44
EMPR FIELDWORK 1975, pp. 109-115; 1981, pp. 270,271; *1987, pp. 411-415, 417-419
EMPR OF 1987-18; 1988-29
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 118, pp. 3,12,13,73,74; 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1988/03/24
DATE REVISED: 1997/07/21

CODED BY: PBR
REVISED BY: PBR

FIELD CHECK: Y
FIELD CHECK: Y

MINFILE NUMBER: **092INW004**

NATIONAL MINERAL INVENTORY: 092I14 Cr4

NAME(S): **CORNWALL CREEK CHROME** CHROME PIT, WILLIAMS,
CHROME ORE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 44 43 N
LONGITUDE: 121 22 09 W
ELEVATION: 815 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5622768
EASTING: 615057

LOCATION ACCURACY: Within 500M

COMMENTS: Location 8 on GSC Map 1010A, to accompany Memoir 262, on the
northeast bank of Cornwall Creek about 6.5 kilometres west of
Ashcroft.

COMMODITIES: Chromium

MINERALS

SIGNIFICANT: Chromite
ASSOCIATED: Bastite
ALTERATION: Serpentinite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M03 Podiform chromite
SHAPE: Irregular
MODIFIER: Sheared

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	Ultramafic Intrusions
Upper Paleozoic			

LITHOLOGY: Serpentinite
Serpentinized Ultramafic
Harzburgite
Greenstone
Chert
Limestone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1941

SAMPLE TYPE: Grab

COMMODITY

GRADE

Chromium 0.2000 Per cent

COMMENTS: A sample of the best disseminated material. Grade given was 0.3 per
cent Cr₂O₃; conversion factor used for chromium is 1.4616.

REFERENCE: Unpublished Bulletin, Stevenson, J.S., 1941.

CAPSULE GEOLOGY

The showings are on Cornwall Creek, about 5 kilometres upstream
from Ashcroft Manor (ca. 1939) and about 6.5 kilometres west of
Ashcroft. The workings and exposures are spread along the northeast
wall of the creek for several hundred metres.

The hostrock for the chromite prospect is projected to be
serpentinite of the eastern facies of the Carboniferous to Jurassic
Cache Creek Complex. This consists of a Late Triassic accretionary
prism/subduction complex associated with the Nicola volcanic arc.
The melange contains Pennsylvanian and Early Permian limestones,
chert, basalt, argillite and ultramafic rocks in a matrix of
Permo-Triassic chert and argillite.

At Cornwall Creek, two large bodies of serpentinite abut

CAPSULE GEOLOGY

greenstones, ribbon cherts and limestone. The greenstone consists of fragmental debris flows and lesser amounts of massive vesicular flow rocks. The ribbon chert is highly contorted with layering of up to several centimetres. Some thin argillite lenses are interbedded with the chert. Limestone is generally white, massive and recrystallized.

The serpentinite is massive and well fractured to sheared. Contacts with the surrounding rocks have not been described. The serpentinite contains abundant bastite, relict pyroxene and olivine, indicating harzburgite as the protolith. Chromite mineralization consists of disseminated grains in serpentinite. A sample from the best disseminated material from a dump of an opencut, presumably representing a pod intersected in the opencut, assayed 0.3 per cent Cr₂O₃ (Stevenson, 1941).

The original claims, the Chrome Ore 1-4 and 11-14, were staked in 1938 for the Calgary Mineral Syndicate; the Chrome Ore claim was staked by Lester Starnes of Ashcroft. In 1939, some exploratory work was carried out by the Syndicate with J.O. Williams of Ashcroft in charge. This work consisted of eight opencuts that exposed serpentinite, some minor chromite mineralization and adjacent sediments. One adit was driven into the bank at 080 degrees for 16 metres with a 10-metre opencut approach. This working exposed sheared serpentinite and a major fault zone trending 075 degrees and dipping 70 degrees south (Stevenson, 1941). The original claims were allowed to lapse and the showings were restaked (3 claims?) by T. Blakiston-Gray of Lytton and his associates, but no work was reported.

BIBLIOGRAPHY

- EMPR AR 1938-F69
- EMPR BULL (*unpublished, Stevenson, J.S. (1941): Chromite Deposits of B.C.)
- EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
- EMPR MAP 30
- EMPR OF 1987-13; 1988-30; 1990-23; *1990-27, pp. 20,25
- EMR MP COMFILE MR-CR-301.00 (Eardley-Wilmot, V.L. (1939): Chromite Notes, British Columbia Trip)
- GSC MAP 1010A; 1386A; 42-1989
- GSC MEM *262, pp. 96,98
- GSC OF 165; 866; 980
- GSC P 46-8; 47-10, p. 5; 69-23; 72-53, p. 80; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/18

CODED BY: GSB
REVISED BY: KDH

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW005**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAC**, SNO, MANOR

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 30 N
LONGITUDE: 121 06 45 W
ELEVATION: 1615 Metres

NORTHING: 5606119
EASTING: 633600

LOCATION ACCURACY: Within 500M

COMMENTS: Located east of Woods Creek, northwest of Cinder Hill, about 19 kilometres southeast of the community of Ashcroft (Assessment Report 2838).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
ALTERATION: Feldspar Malachite
ALTERATION TYPE: Potassic Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tac property lies near the northern edge of the Late Triassic-Early Jurassic Guichon Creek batholith and is underlain by granodiorite and diorite. Trace amounts of disseminated molybdenite and chalcopyrite and malachite occur in biotite granodiorite of the Guichon variety, Highland Valley phase. The granodiorite is slightly fractured and minor feldspar alteration was noted.

Manor Mines Ltd. conducted a geological survey in 1966 and during 1968 established a small grid and put down three short diamond-drill holes. In 1970, Manor Mines Ltd. conducted geological mapping and completed a magnetometer and soil geochemical survey.

BIBLIOGRAPHY

EMPR ASS RPT 1986, *2838
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1998/09/24
DATE REVISED: 1998/09/24

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW006**

NATIONAL MINERAL INVENTORY:

NAME(S): **NIM**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 21 N
LONGITUDE: 121 06 40 W
ELEVATION: 1432 Metres

NORTHING: 5598431
EASTING: 633894

LOCATION ACCURACY: Within 500M

COMMENTS: Located between Jim Black and Twentyfour Mile lakes, about 25 kilometres south of the community of Ashcroft (Assessment Report 2602).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Nim showing is located within the Late Triassic-Early Jurassic Guichon Creek batholith. The showing comprises disseminated chalcopyrite in Bethlehem phase granodiorite.

In 1967-69, a grid, soil geochemical survey and seven bulldozer trenches totalling 369 metres were completed on behalf of New Indian Mines Ltd. Also in 1969, Consolidated Gem Explorations Ltd. conducted a geological mapping program on the Mer property (092INW028) which overlapped onto the Nim claims. In 1970, an induced polarization survey was completed on behalf of Lornex Mining Corporation Limited.

BIBLIOGRAPHY

EMPR AR 1967-155; 1968-183
EMPR ASS RPT 1019, 1890, 2456, *2602
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-262; 1970-345,346
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/25

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW007**

NATIONAL MINERAL INVENTORY:

NAME(S): **LONE TREE CREEK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 43 03 N
LONGITUDE: 121 23 47 W
ELEVATION: 1006 Metres

NORTHING: 5619637
EASTING: 613204

LOCATION ACCURACY: Within 500M

COMMENTS: Located near a tributary of Lone Tree Creek, west of Highway 1, about 8 kilometres west of the community of Ashcroft (Geology in British Columbia 1977-1981, page 92).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Upper Triassic

GROUP

Cache Creek
Nicola

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greywacke
Dike
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

Quesnel
RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

Two subvertical chalcopyrite-bearing 'dikes' strike 358 and 335 degrees respectively, in Carboniferous-Jurassic Cache Creek Complex foliated greywacke near a fault contact with Upper Triassic Nicola Group greenstone. Chalcopyrite is partially altered to malachite. The showing is located near a tributary to Lone Tree Creek.

BIBLIOGRAPHY

EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271; 1996, pp. 117-123
EMPR GEOLOGY *1977-1981, pp. 91-97
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1998/09/01
DATE REVISED: 1998/09/02

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW008**

NATIONAL MINERAL INVENTORY:

NAME(S): **CORONATION, MAY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 43 36 N
LONGITUDE: 121 13 49 W
ELEVATION: 518 Metres

NORTHING: 5620923
EASTING: 624905

LOCATION ACCURACY: Within 500M

COMMENTS: Two adits along Barnes Creek, about 2.5 kilometres from the north end of Barnes Lake, 3.5 kilometres east of the community of Ashcroft (Assessment Report 2259).

COMMODITIES: Lead Zinc Copper Silver Gold

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Andesitic Flow
Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRIFT

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1938	
SAMPLE TYPE: Chip		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	27.4000	Grams per tonne
Lead	0.7000	Per cent
Zinc	1.2000	Per cent

COMMENTS: Sample taken over the full width of shearing in a drift.
REFERENCE: Property File - Special Report by R.J. Maconachie, 1938.

CAPSULE GEOLOGY

The Coronation showing comprises two short adits (19 and 5 metres) driven into silicified shear zones near a contact between light-coloured sandstone of the Middle-Lower Jurassic Ashcroft Formation and andesite and andesitic flows of the Upper Triassic Nicola Group. Several opencuts explore a shear zone which strikes 260 degrees and dips 65-75 degrees south. The other shear, parallel to the first, is 38 metres north and strikes between 275 and 290 degrees dipping 55-60 degrees south.

Mineralization consists of pyrite, sparse sphalerite and galena, and lesser chalcopyrite in a gangue of quartz and calcite. Malachite and azurite have also been observed along with limonitic staining. Samples taken across the full width of shearing in the longer adit analysed up to 27.4 grams per tonne silver, 0.7 per cent lead and 1.2 per cent zinc. In the shorter adit, a sample taken from 10 centimetres of quartz mineralized with pyrite, galena and sphalerite analysed 8.9 grams per tonne gold, 24 grams per tonne silver, 0.5 per cent lead and 15.7 per cent zinc (Maconachie, 1938).

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 321
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1938-F68
EMPR ASS RPT *2259, 4594
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-263
EMPR MAP 7; 30
EMPR PF (*Special Report by Roy J. Maconachie, Mining Engineer, 1938)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 94,108
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/07/09

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW009**

NATIONAL MINERAL INVENTORY:

NAME(S): **CORNWALL CREEK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 43 43 N
LONGITUDE: 121 20 54 W
ELEVATION: 670 Metres

NORTHING: 5620947
EASTING: 616568

LOCATION ACCURACY: Within 500M

COMMENTS: Located in Cornwall Creek, west of Highway 1, about 4.5 kilometres west of the community of Ashcroft (Geology in British Columbia 1977-1981, page 92).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

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>
Tertiary	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Rhyolite Porphyry
Rhyolite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

Chalcopyrite-bearing sodic rhyolite porphyry of Tertiary? age forms one large outcrop in Cornwall Creek. Chalcopyrite and pyrite are evenly disseminated throughout the rock.

BIBLIOGRAPHY

EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271; 1996, pp. 117-123
EMPR GEOLOGY *1977-1981, pp. 91-97
EMPR MAP 30
EMPR OF 1999-2
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1998/09/01
DATE REVISED: 1998/09/02

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW010**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHALCO**, LOUISE, TOFIN,
LOU, L & L

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 31 11 N
LONGITUDE: 121 14 16 W
ELEVATION: 701 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5597901
EASTING: 624923

LOCATION ACCURACY: Within 500M

COMMENTS: Adit at Pukaist Creek level, east of the Thompson River, about 23 kilometres south of the community of Ashcroft (Geology, Exploration and Mining in British Columbia 1970).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite			
ASSOCIATED:	Quartz	Pyrite	Magnetite	Hematite	Chlorite
	Amphibole	Calcite	Epidote		
ALTERATION TYPE:	Propylitic				
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Chalco property is located on the western edge of the Late Triassic-Early Jurassic Guichon Creek batholith and occurs entirely within a speckled grey-green and black quartz diorite of the Hybrid phase of the batholith. Steep east to southeast-striking faults are evident along Pukaist Creek and commonly host copper mineralization.

Chalcopyrite occurs in veins with quartz, chlorite, amphibole, calcite, magnetite and epidote. Bornite has also been reported. Chalcopyrite may also occur in veins with one or more of these components missing or in veins containing pyrite and/or hematite. Most of the chalcopyrite-magnetite bearing veins occur in easterly striking fault zones. Veins intersected in diamond-drill holes were commonly less than 3 centimetres wide and 1 to 3 metres apart. Near the old workings, major faults with gouge zones up to 12 metres wide but typically near 3 metres, occur approximately every 38 metres. Many faults do not contain chalcopyrite mineralization but in those which do, veined zones are commonly 0.9 to 1.2 metres wide and locally range up to 3.6 metres wide.

Within fault zones, mineralized veins were observed to branch off a major fault, follow a secondary shear across the gouge zone, then follow a second major fault. Post-mineralization subhorizontal faults occur which offset the steep easterly striking faults. Where it could be determined, dip-slip movement was less than 15 metres (Geology, Exploration and Mining in British Columbia 1970).

In 1958, New Hamil Silver-Lead Mines Limited conducted a magnetometer survey on the Tofin group of claims which cover the showing area along Pukaist Creek. Troy Silver Mines Ltd. put down seven diamond-drill holes to test mineralization exposed by road building and targets delineated by a ground magnetometer survey done in 1969. Troy Silver Mines Ltd. also conducted a soil geochemical survey in 1969. In 1975, percussion drilling of five holes totalling 159 metres was conducted on the L & L claims covering the Chalco showing on behalf of L.W. Reaugh.

Old workings consist of a 122-metre adit driven easterly on a shear zone at the Pukaist Creek level. Across the creek a shorter

CAPSULE GEOLOGY

tunnel has been driven on the same zone. Several small pits have been excavated on similar weakly mineralized veins on the east side of Pukaist canyon.

BIBLIOGRAPHY

EMPR AR 1958-71
EMPR ASS RPT 238, 2110, 2111, 5774
EMPR BULL 56; 62
EMPR EXPL 1975-E90,E91
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271; 1996, pp. 117-123
EMPR GEM 1969-249,250; *1970-333-335
EMPR MAP 7; 30
EMPR PF (Field notes and sketches by W.J. McMillan, 1970; Thin section slides)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
American Mineralogist Vol.47 (1962), pp. 851-870
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft, British Columbia, M.Sc. Thesis, University of British Columbia
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/23

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW011**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLOSSIE**, GLOSSY, FORGE (L.4574),
GLOSSIE (L.4576), CINDER (L.4575), GLOSSIE FR. (L.4577),
SAPPHIRE, TURQUOISE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 09211E
BC MAP:
LATITUDE: 50 34 57 N
LONGITUDE: 121 05 03 W
ELEVATION: 1676 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 4574 (Forge shaft), north of Cinder Hill, about 20.5 kilometres southeast from the community of Ashcroft (Mineral claim map 92111E ca. 1969).

Underground
MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5605151
EASTING: 635631

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Chalcocite Tetrahedrite
ASSOCIATED: Quartz Tourmaline Calcite Pyrite
ALTERATION: K-Feldspar Sericite Carbonate Chrysocolla Malachite
Azurite Hematite Melanterite
ALTERATION TYPE: Potassic Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I06 Cu±Ag quartz veins L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite
Quartz Plagioclase Porphyry Dike

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1974
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 15.4500 Grams per tonne
Gold 0.6200 Grams per tonne
Copper 3.9000 Per cent
REFERENCE: Geology, Exploration and Mining in British Columbia 1974.

CAPSULE GEOLOGY

The Glossie main showings were covered by the Forge Crown grant Lot 4574; adjacent lots were the Cinder (Lot 4575), Glossie (Lot 4576) and Glossie Fr. (Lot 4577). All the Crown grants forfeited on February 5, 1992.

The area of the workings is underlain by Guichon variety, Highland Valley phase granodiorite to quartz diorite of the Late Triassic-Early Jurassic Guichon Creek batholith which is cut by a dike or small plug of quartz plagioclase porphyry. Mineralization is fracture controlled and occurs in veins and as fracture coatings. Bornite is predominant with some chalcopyrite. Other minerals recognized are chalcocite, azurite, malachite, chrysocolla, tetrahedrite, melanterite, pyrite and specular hematite. Predominant gangue minerals are quartz, tourmaline and calcite. Thin section study of veins shows several stages of fracturing and vein formation. Veins often display cockscomb texture and are vuggy. Sulphides tend to be late and fill vugs.

Pink K-feldspar and sericite-carbonate alteration is common adjacent to veins. Alteration zones are roughly the width of the

CAPSULE GEOLOGY

associated veins, that is, 1 to 30 centimetres.

In 1974, grab samples from the dump at the eastern shaft analysed 3.9 per cent copper, 15.45 grams per tonne silver and 0.62 gram per tonne gold (Geology, Exploration and Mining in British Columbia 1974).

Historic work includes a 30-metre shaft on the Forge claim where it intersected 1.5 metres of ore at 9 metres depth. The vein at the shaft strikes 103 degrees with a steep northerly dip; the vein zone varies from a couple of centimetres to 2.7 metres width. The eastern shaft, about 76 metres east of the main shaft, had been sunk on a 1.5-metre vein that strikes 110 degrees, dipping north at 70 degrees. The vein is apparently a continuation of the vein tested by the main shaft. Several other showings had been exposed by opencutting.

The claims covering the Glossie showings were first staked in 1904 by I. Decker and owned by J.W. Burr and J. Wood who performed a little trenching. In 1915, the property was optioned to Messrs. L. Carlson, S.P. Dunlevy and O.B. Gerle who sank a 30-metre shaft on the Forge claim (Lot 4574) and an eastern shaft which is about 9 metres deep; several exploration pits were also dug. In 1915, about 20 tonnes of carefully selected ore was shipped to the Tacoma smelter; this assayed 1.0 gram per tonne gold, 101.4 grams per tonne silver and 12.62 per cent copper. The property reverted to the owners in 1916, and was inactive until 1946 when the property was held by J.L. Burr, a son of J.W. Burr who was one of the original owners.

BIBLIOGRAPHY

- EMPR AR *1915-K269,K270,K276-K278,K446; 1916-K265; 1917-F225;
1923-A388; 1924-B140
EMPR BC METAL MM00393
EMPR BULL 56; 62
EMPR GEM *1974-154-157
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 94,100,101
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
GSC SUM RPT 1915, pp. 85,86,88
CJES Vol.15, No.1 (January 1978), pp. 99-116
GCNL #84(May 1), 1997
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/01

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW012**

NATIONAL MINERAL INVENTORY:

NAME(S): **VERA**, PEARL, DIA,
TEMAC

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 32 04 N
LONGITUDE: 121 06 28 W
ELEVATION: 1257 Metres

NORTHING: 5599765
EASTING: 634096

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located near the south edge of the Highland Valley tailings waste,
about 24 kilometres south of the community of Ashcroft (Assessment
Report 2489).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ALTERATION: Sericite Chlorite
ALTERATION TYPE: Sericitic Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Alaskite
Feldspar Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Vera showing is located within the Late Triassic-Early Jurassic Guichon Creek batholith. Disseminated chalcopyrite and bornite occur in slightly sericite and chlorite-altered alaskite and feldspar porphyry. The showing may now be partially covered by the Highland Valley tailings waste.

In 1967-68, Canex Aerial Exploration Ltd., on behalf of Kel-Glen Mines Ltd., conducted soil geochemical, Ronka EM16 and induced polarization surveys. In 1969, Lornex Mining Corporation Ltd., on behalf of Kel-Glen Mines Ltd., completed six diamond-drill holes totalling 761 metres to test anomalies outlined by induced polarization and electromagnetic surveys. In 1970, Lornex Mining Corporation Ltd., on behalf of Kel-Glen Mines Ltd., conducted an induced polarization survey covering the Vera 21 and 23 claims. This survey was part of the Lornex tailings area programme.

BIBLIOGRAPHY

EMPR AR 1968-186,279
EMPR ASS RPT 1676, 1710, 2218, 2489
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-267; *1970-369,370
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/28

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW012**

MINFILE NUMBER: **092INW013**

NATIONAL MINERAL INVENTORY:

NAME(S): **HY 61, HY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5613334
EASTING: 627994

LATITUDE: 50 39 28 N
LONGITUDE: 121 11 21 W
ELEVATION: 1630 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches near the centre of Hy 61 claim on the westerly slopes of Glossy Mountain, about 10 kilometres south-southeast of Ashcroft (Assessment Report 3451).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Malachite Sphalerite
COMMENTS: Sphalerite inferred from drill chip assay results.
ASSOCIATED: Pyrite Pyrrhotite Magnetite
ALTERATION: Malachite Biotite Chlorite Calcite
ALTERATION TYPE: Oxidation Biotite Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Hy 61 showing lies on the westerly slopes of Glossy Mountain about 10 kilometres southeast of the community of Ashcroft. Late Triassic-Early Jurassic Guichon Creek batholithic rocks comprising mainly quartz diorite and related dikes occur on the property. Fracturing is evident but not strongly developed. Trenching (ca. 1971) has exposed altered intrusive rock. The altered rock is strongly sheared and banded with abundant fine-grained biotite, augite and chlorite. Fracture fillings appear to be mainly very fine grained chlorite and calcite. Magnetite is widely scattered with very finely disseminated pyrite. Malachite staining is evident in some of the calcite-filled vuggy fractures.

Percussion drilling (3 holes) in 1977 in the vicinity of the trenches yielded up to 0.7 per cent zinc in drill chips. Mineralization consists of pyrite and pyrrhotite and sphalerite is presumed to be present because of the assay results (Assessment Report 6632).

In 1970, work on the Hy property on behalf of Eagle Bay Mines Ltd., Gibbex Mines Ltd. and Q.C. Explorations Ltd. consisted of ground electromagnetic, magnetometer and soil geochemical surveys. In 1971, geological mapping and magnetometer surveys were conducted on behalf of Q.C. Explorations Ltd. and Eagle Bay Mines Ltd. In 1977, geological mapping, induced polarization, magnetometer and geochemical surveys, and percussion drilling was undertaken on claims that covered the Hy property; this work was done on behalf of Bethlehem Copper Corporation.

BIBLIOGRAPHY

EMPR ASS RPT 2825, 2830, 2865, *3378, 3379, 3451, 4067, 6632
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 329
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1998/08/10
DATE REVISED: 1998/08/10

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW014**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEN 38**, DEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 02 N
LONGITUDE: 121 02 37 W
ELEVATION: 1417 Metres

NORTHING: 5597968
EASTING: 638694

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southerly slopes of South Forge Mountain, northeast of Twentyfour Mile Lake, about 27 kilometres southeast of the community of Ashcroft (Assessment Report 990).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Den property is located within Bethlehem phase and Guichon variety (Highland Valley phase) quartz diorite of the Late Triassic-Early Jurassic Guichon Creek batholith. The intrusive rocks are locally faulted and sheared and contain small aplite and/or quartz porphyry dikes.

Weakly disseminated chalcopyrite and bornite with malachite occurs near northeast joints in quartz diorite.

In 1966, geological, geochemical and geophysical surveys were conducted by Adera Mining Ltd. In 1968, an induced polarization survey was carried out on behalf of Adera Mining Ltd. In 1972-73, geological mapping, geochemical, magnetic and induced polarization surveys, 1402 metres of drill access roads and percussion drilling of nine holes totalling 841 metres were conducted on behalf of Grandora Explorations Ltd. (formerly Adera Mining Ltd.).

BIBLIOGRAPHY

EMPR AR 1968-175
EMPR ASS RPT *990, 1575, 3660, 4404, 4804, 4889
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-251; 1972-225; 1973-206,207
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW014**

CAPSULE GEOLOGY

The Maggie porphyry copper-molybdenum deposit is associated with a Tertiary biotite quartz monzonite porphyry stock (Maggie stock) that intrudes weakly metamorphosed sedimentary and volcanic rocks of the Carboniferous-Jurassic Cache Creek Complex. Economic mineralization is largely confined to the stock but also extends into Cache Creek rocks.

The Maggie stock is approximately 1500 metres long and 425 metres wide, but does not outcrop. While much of the stock is homogeneous, a fine grained quartz diorite border phase is recognized along its margins. The stock is covered by 45 to 120 metres of till and alluvium and is cut by a number of premineral latite porphyry dikes. At some distance from the stock, several light coloured porphyritic dikes and small intrusions varying in composition from quartz latite to diorite, intrude the Cache Creek rocks.

Cache Creek strata exposed along the walls of the Bonaparte River valley strike mainly northwest and less commonly northeast, and dip both east and west at moderate to steep angles. Near the Maggie deposit, drill core indicates Cache Creek rocks dip at moderate angles. An anticlinal structure in the Bonaparte Valley is suspected, with the Maggie stock lying to the west of the anticlinal axial plane. The Maggie stock and several dikes trend northwest. Shear zones and a number of small ultramafic bodies trend northeast and dip steeply southeast or northwest. Some ultramafic bodies trend northwest and dip southwest.

The Cache Creek Complex comprises interbedded chert and argillite, limestone and intermediate to mafic volcanic rocks which are intruded by a number of small serpentinitized ultramafic bodies. These sill-like intrusions are cut by the Maggie stock or occur as large inclusions within it. The ultramafic rocks within the deposit are weakly mineralized with chalcopyrite and commonly contain fine grains of pentlandite.

Tertiary Kamloops Group basaltic to andesitic flows and breccia crop out east of the deposit where they are in fault contact with the Cache Creek strata. Diamond drilling indicates the Tertiary rocks are downfaulted a couple of hundred of metres with respect to Cache Creek rocks.

The Maggie deposit comprises low grade chalcopyrite-molybdenite mineralization in an elongate zone trending 323 degrees and dipping steeply toward the southwest. The long dimension is 1280 metres and its maximum width is 365 metres. The deposit contains two deeply rooted core zones with relatively high-grade mineralization which are surrounded by areas of shallower, lower grade mineralization. The principal host of the mineralization is the biotite quartz monzonite porphyry stock (Maggie stock). To a lesser extent, economic minerals occur in related intrusions, dikes, Cache Creek rocks and ultramafic bodies adjacent to the stock. Inclusions of older rocks and dikes cutting the stock are also mineralized.

Ore minerals comprise generally fine-grained chalcopyrite and molybdenite. These minerals occur in three principal associations: (1) fine disseminations in quartz veins; (2) fine disseminations throughout the hostrock; and (3) fine veinlets within or bordering quartz or, less commonly, calcite veins. The first two associations are approximately equally common while the third is less common and typically occurs near the edges of the deposit.

Rare bornite is reported only in the central part of the deposit. Tennantite was also reported in drill core as 2-4 millimetre wide veinlets and is concentrated at the periphery of the deposit.

Both copper and molybdenum grades decrease outward from two higher grade central areas. Similarly, the vertical distribution of these minerals is related to the two central cores. Within the core regions, mineralization persists to depth whereas in adjacent zones mineralization is relatively shallow.

Pyrite is the most common sulphide associated with the deposit and varies in content from 1 to 3 per cent in the central part of the deposit to over 10 per cent in a well-developed peripheral halo. In the central zone, pyrite is disseminated throughout the hostrock and, to a lesser extent, occurs in veins. On the margins of the deposit, however, pyrite in veinlets is as prominent as it is disseminated. The pyrite halo contains 1 to 14 per cent pyrite over widths of 450 to 750 metres east and west of the deposit and extends even greater distances north and south of it.

Quartz veining is prominent throughout and commonly constitutes 5 to 20 per cent of the rock. Calcite veining is less common and is generally restricted to the margins of the deposit.

The Maggie stock and bordering Cache Creek rocks have been pervasively modified by hydrothermal alteration. Overlapping potassic/phyllitic alteration assemblages are associated with the two northwest trending core zones in the deposit. Within these zones

CAPSULE GEOLOGY

plagioclase is almost completely altered to sericite, potassium feldspar and kaolinite; potassium feldspar is partly altered to biotite, sericite and secondary potassium feldspar; and biotite is altered to secondary biotite, sericite and rutile-leucoxene aggregates. The best grade mineralization is found within these core zones.

Outward from the core zones, alteration zones are complex and do not fall into simple annular patterns. Various overlapping phyllic, argillic and potassic alteration assemblages are present and associated chalcopyrite-molybdenite mineralization is relatively low grade. Argillic alteration is well developed in a northwest trending area between the two core zones. In this area, plagioclase is almost completely altered to kaolinite, sericite-illite and minor potassium feldspar. Primary potassium feldspar is virtually unaltered and biotite is altered to secondary biotite and sericite.

Strong phyllic (sericitic) alteration is associated with the western border phase of the Maggie stock. Plagioclase and biotite are completely altered to sericite and potassium feldspar is absent or present in minor amounts. Strong quartz-pyrite veining and very sparse chalcopyrite-molybdenite mineralization, mainly in quartz veins, are present.

Outward from the stock, bordering Cache Creek rocks and small felsic intrusions have sustained variable degrees of alteration. Drill core indicates strong alteration occurred laterally a distance of about 90 metres beyond the stock, then decreased gradually to almost nothing about 600 metres from the stock. Bordering the stock, argillites have been converted to rocks composed essentially of interlayered biotite and quartz; cherts to quartz-sericite aggregates; volcanic rocks are variably replaced by biotite, chlorite, epidote, sericite, quartz, calcite and other minerals; and small felsic intrusions have been affected by quartz-sericite-biotite alteration. In the outer part of the contact zone, the predominant alteration minerals are chlorite, epidote and calcite.

Surrounding the Maggie deposit are extensive gossans which have developed from the oxidation of the pyritic halo. Weathering has leached most of the sulphides from the gossan zones to a depth of approximately two metres.

In 1970, drilling outlined a deposit containing indicated reserves of 181,440,000 tonnes grading 0.28 per cent copper and 0.029 per cent molybdenum (Canadian Institute of Mining and Metallurgy Special Volume 15 (1976), page 329).

The Maggie claim is reported to have been staked in the 1890s by a Mr. Hocking. In about 1896, the B.C. Development Company, Limited acquired the Avoca, Avon, Amazon, Ankobra, Atrato, Atarboo, Arkansas, Axim, Alabama Fr., Athabaska Fr., Assiniboine Fr. and Amoor Fr. claims (Lots 410-421) covering a large conspicuous gossan zone. The relationship of this claim group to the Maggie claim is not clear. Apparently the Maggie claim was located on showings associated with a shear zone adjacent to the gossan zone. The Avoca, etc. claims were Crown granted to the company in 1898. Considerable exploration and development work was done on the Maggie property prior to 1905. A shaft was sunk about 81 metres and approximately 305 metres of drifts and crosscuts were driven on three levels; the upper (No. 1) level was driven at road level and connected to the shaft by a short crosscut. About 457 metres southwest of the shaft workings, two crosscuts were driven to prospect a zone of crossfracturing. In 1907, the Maggie claim was owned by Messrs. Hocking, Smith and Bryson. Work during the year, by Messrs. Rombauer and Adams, who held the property under bond, included stoping over a length of 21 metres and a height of 9 metres on No. 2 level, and rehabilitation work on No. 3 level. In 1907, 41 tonnes of sorted ore was shipped from the property. No further activity was reported until 1915 when W.J. Milne & associates of Vancouver, bonded the property. Work was begun by the Golden Gate Mining Company, Limited but little was accomplished other than pumping out the workings. The property was idle again until 1929 when J.C. Hocking, son of the original owner, and J.B. Bromley reported some assessment work. They also held a lease on three of the Crown-granted claims. The old workings were dewatered in 1930 but nothing further was done.

In about 1952, Kennco Explorations Limited is reported to have put down three drillholes on the property. In 1963-64, Froben Limited held, jointly with Tache Lake Mines Limited and Metal Mines Limited, two Crown grant leases and fifty-four claims. A small amount of drilling during this period is reported to have cut low values over considerable widths. In 1968, Bethlehem Copper Corporation acquired the property (Eiggam Group) comprising Mineral Lease 33R (Lots 410-421) and 10 recorded Beth claims; the M claims were subsequently staked for a total of 68 claims.

In 1968, percussion drilling totalled 227 metres in five holes.

CAPSULE GEOLOGY

Work in 1969 included geological mapping and 453 metres of diamond drilling in one hole. Drilling in 1970 on the valley floor, to the east of the gossan zone, intersected a mineralized zone. To the end of 1971 drilling totalled fifty-seven percussion holes (5163 metres) and thirty-two diamond-drill holes (12,939 metres). In 1972, a further 825 metres of diamond drilling in two holes was done to test the southeast extension of the mineralized zone. Topographic mapping was carried out in 1973 and 1974. Work in 1975 included 610 metres of diamond drilling in two holes. Additional work in 1977-78 included an induced polarization survey over 1.2 kilometres and 53 metres of drilling in an attempt to deepen a previous hole.

BIBLIOGRAPHY

EMPR AR 1898-1194; 1907-L134,L215; 1913-K183; 1915-K284,K285,K366,
K367; 1929-C215; 1930-A199; 1968-173,174
EMPR ASS RPT 2020, 3156, 5261, 5546, 6537, 7051
EMPR BC METAL MM00402
EMPR EXPL 1975-E91,E92; 1977-E162,E163; 1978-E172
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR GEM 1969-241; 1970-324,325; 1971-304; 1972-232; 1973-212; 1974-
159
EMPR MAP 65 (1989)
EMPR OF 1988-30; 1990-23; 1992-1
EMPR PF (*Miller, D.C. (1975): Geology of the Maggie Porphyry Copper-
Molybdenum Deposit (Final corrected draft for CIM Special Volume
15); Memorandum from Kamloops District Geologist to N.C. Carter,
1975; Special Report No. 2 on exploration of the Maggie Prospect,
Bethlehem Copper Corporation Ltd. (1970); Total Field Magnetic
maps)
EMR MIN BULL MR 223 B.C. 150
EMR MP CORPFILE (Bethlehem Copper Corporation; Frobex Limited; Tache
Lake Mines Limited)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 94,102
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; *75-17; 81-1A,
pp. 185-189,217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E
CIM Special Volume *15, pp. 329-335
GCNL #221(Oct.30), 1970
N MINER Aug.27, 1970
W MINER Sept. 1970
Chevron File

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW016**

NATIONAL MINERAL INVENTORY:

NAME(S): **SALLUS CREEK (NO. 1 SHOWING)**, SALLUS, SALLUS CREEK,
GOLD RIDGE, FRANCES, NO. 1

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:
LATITUDE: 50 46 03 N
LONGITUDE: 121 47 05 W
ELEVATION: 1676 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: No. 1 showing between Gibbs and Sallus creeks, about 14 kilometres
northeast of Lillooet (Assessment Report 2376).

MINING DIVISION: Lillooet
UTM ZONE: 10 (NAD 83)
NORTHING: 5624675
EASTING: 585700

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Molybdenite
ASSOCIATED: Quartz Pyrite Pyrrhotite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
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
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	
Lower Jurassic			Mount Martley Stock

LITHOLOGY: Quartz Monzonite
Argillite
Diorite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Regional Contact
PHYSIOGRAPHIC AREA: Pavilion Ranges
RELATIONSHIP: Cache Creek
GRADE:

INVENTORY

ORE ZONE: NO. 1
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY
Copper 1.1000 Per cent
Molybdenum 0.3200 Per cent
COMMENTS: Highest values.
REFERENCE: Assessment Report 2376.

CAPSULE GEOLOGY

Following the discovery of highly anomalous silts from Sallus Creek in the spring of 1969, Canadian Johns-Manville Co. Ltd. staked about 120 claims along the western contact of the Mount Martley stock. An additional 60 claims in subsequent years were staked to cover the northern and southeastern portion of the contact zone. Reconnaissance mapping and geochemistry were completed over the entire claim area in 1969 and 1970. During 1970 and 1971, detailed mapping, geochemistry and induced polarization surveys were completed over a possible porphyry copper-molybdenum deposit setting in the southern portion of the claim area (this description). In the fall and early winter of 1970, detailed mapping, sampling and diamond drilling were completed in black argillite near the contact of the stock, in the northern portion of the claims (see Sallus Creek (North Showing), 092INW094). The argillite at the North Showing was found to be very anomalous in zinc and copper, and moderately anomalous in molybdenum, lead and silver. Diamond drilling proved to be unsuccessful in that penetration of the argillite was costly, and after three attempts, the programme was abandoned. In 1973, the field programme in the North Showing area consisted of bedrock, soil

CAPSULE GEOLOGY

and talus geochemistry. Percussion drilling was performed on some claims in 1974 and totalled 450 metres in 25 holes.

The Sallus Creek area is underlain by the western contact of the Early Jurassic Mount Martley stock which intrudes the middle Permian to Middle Jurassic(?) Western belt of the Cache Creek Complex. The stock is a medium to coarse grained, massive granodiorite with local secondary silicification and sericitization near the contacts. Cache Creek rocks comprise argillite and limestone. Pervasive quartz veins and aplite dikes are found within the stock near the contact. Intense thermal alteration of the sediments is evident near the contact of the stock; limestone, in part, is totally recrystallized. Intense pyritization of the argillites is observed near the contacts, evidenced on surface by rust colouration and gossans.

Mineralization in the No. 1 showing area consists of malachite, bornite, chalcopyrite and molybdenite in 2-20 centimetre wide east trending quartz veins within quartz monzonite of the Mount Martley stock. Pyrite, pyrrhotite and malachite occur in Cache Creek rocks, particularly near diorite dikes. Assay values from samples taken from the showing range up to 1.10 per cent copper and 0.32 per cent molybdenum (Assessment Report 2376).

BIBLIOGRAPHY

EMPR AR 1935-F12,F13
EMPR ASS RPT *2376, 2429, 2447, 3095, 3574, *4405, *4796
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1970-228; 1972-229; 1973-210; 1974-158
EMPR PF (Claim map, 1970)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 118, pp. 3,96,97; 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1998/03/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW017**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAN**, MAN 44, MAN 1,
NEPA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 21 N
LONGITUDE: 121 16 41 W
ELEVATION: 884 Metres

NORTHING: 5605556
EASTING: 621889

LOCATION ACCURACY: Within 500M

COMMENTS: Showing north of Spatsum Creek and east of the Thompson River, about 15 kilometres south of the community of Ashcroft (Assessment Report 2840).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

ASSOCIATED: Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Feldspar Porphyry
Diorite
Quartz Monzonite
Greywacke

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Man occurrence is underlain by sediments of the Upper Triassic Nicola Group at the western contact of the Late Triassic-Early Jurassic Guichon Creek batholith. The sediments comprise fine grained, siliceous, well banded greywacke that strikes northeast and dips 30 to 40 degrees to the northwest. Guichon rocks comprise diorite and quartz monzonite. A feldspar porphyry also occurs and exhibits frequent brecciation and angular inclusions of volcanic rocks.

Mineralization occurs in two areas, about 700 metres apart, and comprises small blebs and very fine disseminations of chalcopyrite and pyrite in feldspar porphyry.

In 1970, a geological and soil geochemical survey was conducted by Oso Exploration Services Ltd. on behalf of D.R. Morgan. In 1973, geological and soil geochemical surveys were conducted by Mantle Minerals Ltd. on behalf of D.R. Morgan and R.G. Hawley. In 1977, Bethlehem Copper Corporation carried out geological mapping and a soil geochemical survey on the Nepa claims which covered part of the original Man group of claims.

BIBLIOGRAPHY

EMPR ASS RPT 2840, *4586, 6633
EMPR BULL 56
EMPR EXPL 1977-E161,E162
EMPR FIELDWORK 1981, pp. 270,271; 1996, pp. 117-123
EMPR GEM 1970-344; 1973-209,210
EMPR MAP 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 338
REPORT: RGEN0100

BIBLIOGRAPHY

CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW018**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRASSIE CREEK, BRASSIE, HASSO,
 GEO, WALHACHIN, WEDDING**

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092I11E
 BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 44 03 N
 LONGITUDE: 121 01 44 W
 ELEVATION: 762 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5622117
 EASTING: 639095

LOCATION ACCURACY: Within 500M

COMMENTS: Brassie showing located on the east bank of Brassie Creek, south of the Thompson River, about 18 kilometres east of the community of Ashcroft (Assessment Report 24809).

COMMODITIES: Copper Zinc Lead Silver Gold
 Iron Magnetite

MINERALS

SIGNIFICANT: Magnetite Galena Sphalerite
 ASSOCIATED: Magnetite Hematite Garnet Calcite Epidote
 Quartz Carbonate
 ALTERATION: Magnetite Hematite Garnet Epidote Calcite
 Silica Malachite Azurite

COMMENTS: Also limonite and actinolite.

ALTERATION TYPE: Skarn Silicific'n Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Vein Disseminated
 CLASSIFICATION: Skarn Industrial Min.
 TYPE: K03 Fe skarn K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Limestone
 Marble
 Diorite
 Basalt
 Skarn

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1998
 SAMPLE TYPE: Drill Core
 COMMODITY GRADE
 Silver 11.0200 Grams per tonne
 Copper 0.2400 Per cent
 Zinc 5.9000 Per cent

COMMENTS: Across a 3.62-metre intersection. A 2.35-metre interval above this intersection yielded 1.24 grams per tonne gold.
 REFERENCE: Press Release, Christopher James Gold Corp., June 10, 1999.

CAPSULE GEOLOGY

The property lies at the northern boundary of the Late Triassic-Early Jurassic Guichon Creek batholith. The batholith is a composite, calcalkaline intrusion consisting of granodiorite and granite, with diorite and quartz diorite common as border phases. Upper Triassic rocks of the Nicola Group envelop the batholith and locally form roof pendants. The Jurassic Ashcroft Formation unconformably overlies the Nicola Group and batholith. The Eocene Kamloops Group unconformably covers the older rocks along the north end of the batholith.

The Brassie Creek occurrence area is underlain by Nicola Group

CAPSULE GEOLOGY

basaltic flows and lesser limestone/marble intruded by a magnetite-rich diorite of the Guichon Creek batholith. Conglomerate, sandstone and basalt flows of the Ashcroft Formation unconformably overlies the Nicola Group rocks and diorite. The Ashcroft Formation is unconformably overlain by basalt flows and tuff of the Kamloops Group. Locally, magnetite-hematite-calcite or epidote-garnet-calcite skarn occurs within marble adjacent to diorite. Pervasive silicified zones up to 2 metres in width are common adjacent to skarn zones.

Skarn-type magnetite-copper mineralization is exposed at two locations on the property and occurs as pods generally less than 2 square metres in size. The first showing, the Brassie, comprises massive magnetite with minor malachite and azurite stains along fractures. A 1-metre chip sample yielded 0.26 per cent copper, 0.2 gram per tonne gold, 4.1 grams per tonne silver and 0.23 per cent zinc. A second showing, located about 1000 metres northeast of the Brassie showing, consists of malachite stains and coatings along fractures in magnetite-specular hematite skarn; a select sample analysed 0.45 per cent copper, 0.08 gram per tonne gold and 0.3 gram per tonne silver. Three drillholes (ca. 1973) at this second showing tested the depth extent of mineralization but did not intersect skarn (Assessment Report 24809).

Limonite-hematite fracture zones up to 15 centimetres wide with abundant malachite are exposed in an adit along a marble cliff on the east side of Brassy Creek about 275 metres north of the Brassie showing. Weakly developed actinolite skarn occurs adjacent to the fractures. The exploration adit, about 23 metres long, probably dates back to the late 1800s.

A select sample of diorite with malachite stains along fractures, located 1500 metres northeast of the Brassie showing, analysed 0.49 per cent copper and 9 grams per tonne silver (Assessment Report 24809). This area is near the Chief showing (092INW055).

The Hasso showing, 50 metres northeast of the Brassie showing, consists of galena blebs, sphalerite and minor disseminated malachite in hematitic and limonitic quartz-carbonate veinlets. The veinlets are narrow (less than 5 centimetres wide) and discontinuous along strike, and occur within a silicified zone along a marble/basalt contact. A select sample analysed 0.44 per cent copper, 0.99 gram per tonne gold, 200 grams per tonne silver, 0.38 per cent zinc and 0.76 per cent lead (Assessment Report 24809). Similar mineralization occurs 300 metres east.

Previous work consisted of a VLF-EM survey, induced polarization survey, geological mapping, three diamond-drill holes totalling 230 metres and a ground magnetometer survey in 1970-71 on behalf of Supertest Investments and Petroleum Ltd. BP Minerals diamond drilled six holes in 1973 but no report was filed. Between the period 1974 to 1987, work on behalf of Bethlehem Copper Corporation, BP Minerals Limited, Ninja Resources Ltd., MineQuest Exploration Associates Ltd. and QPX Minerals Inc., consisted of ground and/or airborne electromagnetic and magnetic surveys, induced polarization surveys, percussion drilling, soil geochemistry and geological mapping mainly focused on the Chief (092INW055) claims area which were adjacent to the Geo claims (now called the Brassie Creek showing). In 1991, geological mapping was carried out on the Brassie Creek showing area on behalf of Amex Exploration Services Ltd. In 1996 and 1997, geological mapping, soil geochemistry, IP and magnetic surveys were carried out on behalf of Christopher James Gold Corp. on the Brassie Creek property. The property was drilled in 1998 where the first hole drilled intersected 3.62 metres grading 11.02 grams per tonne silver, 0.24 per cent copper and 5.9 per cent zinc. A 2.35-metre interval above this intersection yielded 1.24 grams per tonne gold (Press Release, Christopher James Gold Corp., June 10, 1999). The first hole intersected 14 metres grading 0.23 gram per tonne gold, 7.25 grams per tonne silver, 0.24 per cent copper and 1.9 per cent zinc (Press Release, Christopher James Gold Corp., March 10, 1998).

BIBLIOGRAPHY

- EMPR ASS RPT 2476, 2772, 2773, 3506, 3743, 5730, 7531, 10148, 13329, 21625, *24809, 25285, 25502
EMPR BULL 56; 62
EMPR EXPL 1975-E91; 1976-E104
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1970-336; 1971-359,360; 1972-227; 1973-208
EMPR MAP 7; 30
EMPR PF (Claim location map with grid location, 1971; Geology map with IP conductors, grid location and drillholes, 1970; Regional geology maps; Lane, P.E. (1973): A Geological Report on Diamond Drilling)
GSC MAP 1010A; 1386A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 341
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
PR REL Christoper James Gold Corp., Mar.10, 1998; June 10, 1999
WWW <http://www.infomine.com/>
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/07/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW019**

NATIONAL MINERAL INVENTORY:

NAME(S): **AGATE B**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I14W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 56 47 N
LONGITUDE: 121 25 35 W
ELEVATION: 609 Metres

NORTHING: 5645042
EASTING: 610544

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of Agate 13 claim on the east side of Bonaparte River and Highway 97, about 16.5 kilometres north of the community of Cache Creek (Assessment Report 5261).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
COMMENTS: Mineralogy assumed from reference to 'copper and molybdenum sulphides'.

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	

LITHOLOGY: Meta Altered Sediment/Sedimentary
Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

Copper and molybdenum mineralization occur in altered metasediments of the Carboniferous to Jurassic Cache Creek Complex that have been intruded by porphyry dikes.

Work by Canada West Petroleum Ltd. in 1970 comprised rotary drilling in one hole totalling 152 metres on the Agate 13 claim. Work done by Pan Ocean Oil Ltd. in 1972 included a magnetometer survey over 11.4 line kilometres and a geochemical survey comprising 185 samples.

BIBLIOGRAPHY

EMPR ASS RPT *5261
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR GEM *1970-325; 1972-233
EMPR OF 1988-30; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW020**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUG**, IRISH, GOSSAN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I14W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 55 09 N
LONGITUDE: 121 24 22 W
ELEVATION: 609 Metres

NORTHING: 5642046
EASTING: 612034

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of the Bug 9 claim on the east side of Bonaparte River and Highway 97, about 13 kilometres north of the community of Cache Creek (Assessment Report 5261).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
COMMENTS: Mineralogy assumed from reference to 'copper and molybdenum sulphides'.

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Unknown

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Porphyry Intrusive
Meta Altered Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

Copper and molybdenum sulphides occur as disseminations and fracture fillings in a porphyry intrusion and highly altered metasediments of the Carboniferous to Jurassic Cache Creek Complex. Work done in 1970 included two diamond-drill holes totalling 350 metres on the Bug 9 claim, four rotary-drill holes totalling 457 metres on the Bug 7,8 and Irish 4 claims, and four percussion-drill holes totalling 238 metres on the Bug 9,10 claims. Work performed in 1971 comprised surface geological mapping, induced polarization survey, diamond drilling in seven holes totalling 1829 metres and percussion drilling in ten holes totalling 305 metres. The owner/operator at the time of work was Rolling Hills Copper Mines Limited.

BIBLIOGRAPHY

EMPR ASS RPT *5261
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR GEM *1970-325,326; 1971-302
EMPR OF 1988-30; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW021**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUSTY, NANCY**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 47 N
LONGITUDE: 121 48 02 W
ELEVATION: 1006 Metres

NORTHING: 5598217
EASTING: 585011

LOCATION ACCURACY: Within 500M

COMMENTS: Showing #4, north of Nesikep Creek and west of the Fraser River,
about 20 kilometres south-southeast of Lillooet (see Rickhill,
092INW022 - Report by Skerl, 1959).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Unknown

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Quartzitic/Quartzose Phyllite
Siliceous Chlorite Schist
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Pacific Ranges

Methow
RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

In June 1959, A.C. Skerl examined several copper showings under the guidance of Messrs. J.E. Rickard and A. Jenner of Lillooet. In January 1960, Askom Mines Ltd. optioned a group of 24 claims known as the Askom group, from A. Jenner and J.E. Rickard. It was reported that there are four or five outcrops with indications of copper mineralization over a distance of approximately 1.6 kilometres. Work in this year consisted chiefly of trenching and sampling on the main showings. Subsequently the property was acquired by Dalex Mines Ltd. and further work in 1966 consisted of 396 metres of bulldozer trenching and construction of 365 metres of road. In 1967, Dalex continued with an induced polarization survey, about 1524 metres of bulldozer trenching, 297 square metres of stripping, drilling and blasting 16 square metres of trenches, construction of about 3.2 kilometres of access road and drilling eight percussion-drill holes totalling 355 metres. Although some good assays, notably in copper with silver, were obtained from surface work the results from the drilling have been disappointing. From 1968 to 1970, an induced polarization survey, two bulldozer trenches totalling 62 metres, 1.6 kilometres of road and a geochemical survey were completed. The property comprised Rickhill, 092INW022 (showing #1), Cherry 2, 092INW024 (showing #2), Mud, 092INW025 (showing #3), Rusty, (showing #4), Sharon, 092INW026 (showing #5) and Cherry 7, 092INW023 (showing #6). The first four showings are located from a report by A.C. Skerl and the last two are from Assessment Report 2530.

Mineralization at the showings consists of small stringers and disseminations of chalcopyrite, largely weathered to malachite and limonite, hosted in what has been referred to as 'a siliceous metamorphic rock' and quartz diorite. This siliceous rock is inferred to be quartzose phyllite and/or siliceous chlorite schist of the Permian-Jurassic Bridge River Complex. Minor stains of malachite at surface give way to chalcopyrite within a metre of depth. The showings are near the north-northwest trending Marshall Creek and

CAPSULE GEOLOGY

Lillooet faults where the Jurassic-Cretaceous Relay Mountain Group and Bridge River Complex occur.

BIBLIOGRAPHY

EMPR AR 1960-24; 1966-148; 1967-149; 1968-175
EMPR ASS RPT 1098, 1918, 2530
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1969-242; 1970-327
EMPR PF (see Rickhill, 092INW022 - *Report by Skerl, 1959)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW022**

NATIONAL MINERAL INVENTORY:

NAME(S): **RICKHILL, NANCY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 03 N
LONGITUDE: 121 47 30 W
ELEVATION: 1013 Metres

NORTHING: 5596869
EASTING: 585663

LOCATION ACCURACY: Within 500M

COMMENTS: Showing #1, just north of Nesikep Creek and west of the Fraser River, about 22 kilometres south-southeast of Lillooet (Skerl, 1959).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Unknown

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Quartzitic/Quartzose Phyllite
Siliceous Chlorite Schist
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

Methow
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Pacific Ranges

GRADE:

INVENTORY

ORE ZONE: OPENCUT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1959

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

0.9500

Per cent

COMMENTS: An average of six samples over 12.9 metres.

REFERENCE: Property File - Report by A.C. Skerl, 1959.

CAPSULE GEOLOGY

In June 1959, A.C. Skerl examined several copper showings under the guidance of Messrs. J.E. Rickard and A. Jenner of Lillooet. In January 1960, Askom Mines Ltd. optioned a group of 24 claims known as the Askom group, from A. Jenner and J.E. Rickard. It was reported that there are four or five outcrops with indications of copper mineralization over a distance of approximately 1.6 kilometres. Work in this year consisted chiefly of trenching and sampling on the main showings. Subsequently the property was acquired by Dalex Mines Ltd. and further work in 1966 consisted of 396 metres of bulldozer trenching and construction of 365 metres of road. In 1967, Dalex continued with an induced polarization survey, about 1524 metres of bulldozer trenching, 297 square metres of stripping, drilling and blasting 16 square metres of trenches, construction of about 3.2 kilometres of access road and drilling eight percussion-drill holes totalling 355 metres. Although some good assays, notably in copper with silver, were obtained from surface work the results from the drilling have been disappointing. From 1968 to 1970, an induced polarization survey, two bulldozer trenches totalling 62 metres, 1.6 kilometres of road and a geochemical survey were completed. The property comprised Rickhill (showing #1), Cherry 2, 092INW024 (showing #2), Mud, 092INW025 (showing #3), Rusty, 092INW021 (showing #4), Sharon, 092INW026 (showing #5) and Cherry 7, 092INW023 (showing

CAPSULE GEOLOGY

#6). The first four showings are located from a report by A.C. Skerl and the last two are from Assessment Report 2530.

Mineralization at the showings consists of small stringers and disseminations of chalcopyrite, largely weathered to malachite and limonite, hosted in what has been referred to as 'a siliceous metamorphic rock' and quartz diorite. This siliceous rock is inferred to be quartzose phyllite and/or siliceous chlorite schist of the Permian-Jurassic Bridge River Complex. Minor stains of malachite at surface give way to chalcopyrite within a metre of depth. The showings are near the north-northwest trending Marshall Creek and Lillooet faults where the Jurassic-Cretaceous Relay Mountain Group and Bridge River Complex occur.

At showing #1 (Rickhill), a series of six samples from a northerly aligned upper cut containing considerable malachite and chalcopyrite yielded an average of 0.95 per cent copper over a 12.9 metre length (Skerl, 1959).

BIBLIOGRAPHY

EMPR AR 1960-24; 1966-148; 1967-149; 1968-175
EMPR ASS RPT 1098, 1918, 2530
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1969-242; 1970-327
EMPR PF (*Skerl, A.C. (1959): Report on the Copper Property of Askom Mining Company)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW023**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHERRY 7, NANCY**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092112W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 59 N
LONGITUDE: 121 46 41 W
ELEVATION: 609 Metres

NORTHING: 5596761
EASTING: 586630

LOCATION ACCURACY: Within 500M

COMMENTS: Showing #6, along Nesikep Creek and west of the Fraser River, about 22 kilometres south-southeast of Lillooet (Assessment Report 2530).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Unknown

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Quartzitic/Quartzose Phyllite
Siliceous Chlorite Schist
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

Methow
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Pacific Ranges

GRADE:

CAPSULE GEOLOGY

In June 1959, A.C. Skerl examined several copper showings under the guidance of Messrs. J.E. Rickard and A. Jenner of Lillooet. In January 1960, Askom Mines Ltd. optioned a group of 24 claims known as the Askom group, from A. Jenner and J.E. Rickard. It was reported that there are four or five outcrops with indications of copper mineralization over a distance of approximately 1.6 kilometres. Work in this year consisted chiefly of trenching and sampling on the main showings. Subsequently the property was acquired by Dalex Mines Ltd. and further work in 1966 consisted of 396 metres of bulldozer trenching and construction of 365 metres of road. In 1967, Dalex continued with an induced polarization survey, about 1524 metres of bulldozer trenching, 297 square metres of stripping, drilling and blasting 16 square metres of trenches, construction of about 3.2 kilometres of access road and drilling eight percussion-drill holes totalling 355 metres. Although some good assays, notably in copper with silver, were obtained from surface work the results from the drilling have been disappointing. From 1968 to 1970, an induced polarization survey, two bulldozer trenches totalling 62 metres, 1.6 kilometres of road and a geochemical survey were completed. The property comprised Rickhill, 092INW022 (showing #1), Cherry 2, 092INW024 (showing #2), Mud, 092INW025 (showing #3), Rusty, 092INW021 (showing #4), Sharon, 092INW026 (showing #5) and Cherry 7 (showing #6). The first four showings are located from a report by A.C. Skerl and the last two are from Assessment Report 2530.

Mineralization at the showings consists of small stringers and disseminations of chalcopyrite, largely weathered to malachite and limonite, hosted in what has been referred to as 'a siliceous metamorphic rock' and quartz diorite. This siliceous rock is inferred to be quartzose phyllite and/or siliceous chlorite schist of the Permian-Jurassic Bridge River Complex. Minor stains of malachite at surface give way to chalcopyrite within a metre of depth. The showings are near the north-northwest trending Marshall Creek and Lillooet faults where the Jurassic-Cretaceous Relay Mountain Group

CAPSULE GEOLOGY

and Bridge River Complex occur.

BIBLIOGRAPHY

EMPR AR 1960-24; 1966-148; 1967-149; 1968-175
EMPR ASS RPT 1098, 1918, 2530
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1969-242; 1970-327
EMPR PF (see Rickhill, 092INW022 - *Report by Skerl, 1959)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW024**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHERRY 2, NANCY**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 40 N
LONGITUDE: 121 46 53 W
ELEVATION: 823 Metres

NORTHING: 5596170
EASTING: 586404

LOCATION ACCURACY: Within 500M

COMMENTS: Showing #2, south of Nesikep Creek and west of the Fraser River,
about 23 kilometres south-southeast of Lillooet (see Rickhill,
092INW022 - Report by Skerl, 1959).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Unknown

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Quartzitic/Quartzose Phyllite
Siliceous Chlorite Schist
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

Methow
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Pacific Ranges

GRADE:

CAPSULE GEOLOGY

In June 1959, A.C. Skerl examined several copper showings under the guidance of Messrs. J.E. Rickard and A. Jenner of Lillooet. In January 1960, Askom Mines Ltd. optioned a group of 24 claims known as the Askom group, from A. Jenner and J.E. Rickard. It was reported that there are four or five outcrops with indications of copper mineralization over a distance of approximately 1.6 kilometres. Work in this year consisted chiefly of trenching and sampling on the main showings. Subsequently the property was acquired by Dalex Mines Ltd. and further work in 1966 consisted of 396 metres of bulldozer trenching and construction of 365 metres of road. In 1967, Dalex continued with an induced polarization survey, about 1524 metres of bulldozer trenching, 297 square metres of stripping, drilling and blasting 16 square metres of trenches, construction of about 3.2 kilometres of access road and drilling eight percussion-drill holes totalling 355 metres. Although some good assays, notably in copper with silver, were obtained from surface work the results from the drilling have been disappointing. From 1968 to 1970, an induced polarization survey, two bulldozer trenches totalling 62 metres, 1.6 kilometres of road and a geochemical survey were completed. The property comprised Rickhill, 092INW022 (showing #1), Cherry 2 (showing #2), Mud, 092INW025 (showing #3), Rusty, 092INW021 (showing #4), Sharon, 092INW026 (showing #5) and Cherry 7, 092INW023 (showing #6). The first four showings are located from a report by A.C. Skerl and the last two are from Assessment Report 2530.

Mineralization at the showings consists of small stringers and disseminations of chalcopyrite, largely weathered to malachite and limonite, hosted in what has been referred to as 'a siliceous metamorphic rock' and quartz diorite. This siliceous rock is inferred to be quartzose phyllite and/or siliceous chlorite schist of the Permian-Jurassic Bridge River Complex. Minor stains of malachite at surface give way to chalcopyrite within a metre of depth. The showings are near the north-northwest trending Marshall Creek and

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 351
REPORT: RGEN0100

CAPSULE GEOLOGY

Lillooet faults where the Jurassic-Cretaceous Relay Mountain Group and Bridge River Complex occur.

BIBLIOGRAPHY

EMPR AR 1960-24; 1966-148; 1967-149; 1968-175
EMPR ASS RPT 1098, 1918, 2530
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1969-242; 1970-327
EMPR PF (see Rickhill, 092INW022 - *Report by Skerl, 1959)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW025**

NATIONAL MINERAL INVENTORY:

NAME(S): **MUD, NANCY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 30 N
LONGITUDE: 121 46 47 W
ELEVATION: 853 Metres

NORTHING: 5595863
EASTING: 586527

LOCATION ACCURACY: Within 500M

COMMENTS: Showing #3, near a tributary of Nesikep Creek and west of the Fraser River, about 23.5 kilometres south-southeast of Lillooet (see Rickhill, 092INW022 - Report by Skerl, 1959).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Unknown

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Siliceous Chlorite Schist
Quartzitic/Quartzose Phyllite
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Pacific Ranges

Methow
RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

In June 1959, A.C. Skerl examined several copper showings under the guidance of Messrs. J.E. Rickard and A. Jenner of Lillooet. In January 1960, Askom Mines Ltd. optioned a group of 24 claims known as the Askom group, from A. Jenner and J.E. Rickard. It was reported that there are four or five outcrops with indications of copper mineralization over a distance of approximately 1.6 kilometres. Work in this year consisted chiefly of trenching and sampling on the main showings. Subsequently the property was acquired by Dalex Mines Ltd. and further work in 1966 consisted of 396 metres of bulldozer trenching and construction of 365 metres of road. In 1967, Dalex continued with an induced polarization survey, about 1524 metres of bulldozer trenching, 297 square metres of stripping, drilling and blasting 16 square metres of trenches, construction of about 3.2 kilometres of access road and drilling eight percussion-drill holes totalling 355 metres. Although some good assays, notably in copper with silver, were obtained from surface work the results from the drilling have been disappointing. From 1968 to 1970, an induced polarization survey, two bulldozer trenches totalling 62 metres, 1.6 kilometres of road and a geochemical survey were completed. The property comprised Rickhill, 092INW022 (showing #1), Cherry 2, 092INW024 (showing #2), Mud (showing #3), Rusty, 092INW021 (showing #4), Sharon, 092INW026 (showing #5) and Cherry 7, 092INW023 (showing #6). The first four showings are located from a report by A.C. Skerl and the last two are from Assessment Report 2530.

Mineralization at the showings consists of small stringers and disseminations of chalcopyrite, largely weathered to malachite and limonite, hosted in what has been referred to as 'a siliceous metamorphic rock' and quartz diorite. This siliceous rock is inferred to be quartzose phyllite and/or siliceous chlorite schist of the Permian-Jurassic Bridge River Complex. Minor stains of malachite at surface give way to chalcopyrite within a metre of depth. The showings are near the north-northwest trending Marshall Creek and

CAPSULE GEOLOGY

Lillooet faults where the Jurassic-Cretaceous Relay Mountain Group and Bridge River Complex occur.

BIBLIOGRAPHY

EMPR AR 1960-24; 1966-148; 1967-149; 1968-175
EMPR ASS RPT 1098, 1918, 2530
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1969-242; 1970-327
EMPR PF (see Rickhill, 092INW022 - *Report by Skerl, 1959)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW026**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHARON, NANCY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 18 N
LONGITUDE: 121 45 22 W
ELEVATION: 701 Metres

NORTHING: 5595520
EASTING: 588207

LOCATION ACCURACY: Within 500M

COMMENTS: Showing #5, south of Nesikep Creek and west of the Fraser River, about 24 kilometres south-southeast of Lillooet (Assessment Report 2530).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Unknown

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Quartzitic/Quartzose Phyllite
Siliceous Chlorite Schist
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Pacific Ranges

Methow
RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

In June 1959, A.C. Skerl examined several copper showings under the guidance of Messrs. J.E. Rickard and A. Jenner of Lillooet. In January 1960, Askom Mines Ltd. optioned a group of 24 claims known as the Askom group, from A. Jenner and J.E. Rickard. It was reported that there are four or five outcrops with indications of copper mineralization over a distance of approximately 1.6 kilometres. Work in this year consisted chiefly of trenching and sampling on the main showings. Subsequently the property was acquired by Dalex Mines Ltd. and further work in 1966 consisted of 396 metres of bulldozer trenching and construction of 365 metres of road. In 1967, Dalex continued with an induced polarization survey, about 1524 metres of bulldozer trenching, 297 square metres of stripping, drilling and blasting 16 square metres of trenches, construction of about 3.2 kilometres of access road and drilling eight percussion-drill holes totalling 355 metres. Although some good assays, notably in copper with silver, were obtained from surface work the results from the drilling have been disappointing. From 1968 to 1970, an induced polarization survey, two bulldozer trenches totalling 62 metres, 1.6 kilometres of road and a geochemical survey were completed. The property comprised Rickhill, 092INW022 (showing #1), Cherry 2, 092INW024 (showing #2), Mud, 092INW025 (showing #3), Rusty, 092INW021 (showing #4), Sharon (showing #5) and Cherry 7, 092INW023 (showing #6). The first four showings are located from a report by A.C. Skerl and the last two are from Assessment Report 2530.

Mineralization at the showings consists of small stringers and disseminations of chalcopyrite, largely weathered to malachite and limonite, hosted in what has been referred to as 'a siliceous metamorphic rock' and quartz diorite. This siliceous rock is inferred to be quartzose phyllite and/or siliceous chlorite schist of the Permian-Jurassic Bridge River Complex. Minor stains of malachite at surface give way to chalcopyrite within a metre of depth. The showings are near the north-northwest trending Marshall Creek and

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 355
REPORT: RGEN0100

CAPSULE GEOLOGY

Lillooet faults where the Jurassic-Cretaceous Relay Mountain Group and Bridge River Complex occur.

BIBLIOGRAPHY

EMPR AR 1960-24; 1966-148; 1967-149; 1968-175
EMPR ASS RPT 1098, 1918, 2530
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1969-242; 1970-327
EMPR PF (see Rickhill, 092INW022 - *Report by Skerl, 1959)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW027**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAF 16**, RAF 5, RAF

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 50 N
LONGITUDE: 121 06 55 W
ELEVATION: 1463 Metres

NORTHING: 5597466
EASTING: 633623

LOCATION ACCURACY: Within 500M

COMMENTS: Showing located between Jim Black and Twentyfour Mile lakes, about 26 kilometres south of the community of Ashcroft (Assessment Report 2602).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite
ASSOCIATED: Quartz
ALTERATION: Chlorite Sericite Malachite
ALTERATION TYPE: Chloritic Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Raf 16 showing is located in the Late Triassic-Early Jurassic Guichon Creek batholith. Minor disseminated bornite occurs in a chlorite-sericite alteration zone in Chataway variety, Highland Valley phase granodiorite. About 450 metres to the east of the showing, a few malachite-bearing quartz veinlets cut granodiorite. See Mer, 092INW028 for a detailed work history of the area.

BIBLIOGRAPHY

EMPR AR 1965-148; 1966-154; 1967-153,154; 1968-182,183
EMPR ASS RPT 2117, 2474, *2602, 4708, 4897
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-264,265; 1970-348,351,352; 1971-342; 1973-206
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/25

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW028**

NATIONAL MINERAL INVENTORY: 092111 Cu2

NAME(S): **MER, MER 5,6, TAM,
KAM, JAC, RAF,
CLEVELAND, CM, HIGHLAND**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092111E 092106E
BC MAP:
LATITUDE: 50 30 11 N
LONGITUDE: 121 08 13 W
ELEVATION: 1455 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Main showing located 3.5 kilometres southeast of Jim Black Lake,
about 26 kilometres south of the community of Ashcroft (Assessment
Report 2602).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5596223
EASTING: 632117

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Chlorite Sericite Epidote Malachite
ALTERATION TYPE: Chloritic Argillic Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Porphyritic Quartz Diorite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Indicated YEAR: 1965
QUANTITY: 580544 Tonnes
COMMODITY GRADE
Copper 0.3270 Per cent
COMMENTS: Copper-bearing zone 122 metres long, 73 metres wide and 24 metres
deep.
REFERENCE: National Mineral Inventory 092111 Cu2.

CAPSULE GEOLOGY

The property is located within the Late Triassic-Early Jurassic Guichon Creek batholith. The Mer showing occurs immediately to the north of a prominent northwesterly slough.

Stripping exposed Guichon variety quartz diorite that is cut by a west-northwesterly narrow porphyritic quartz diorite dike of the Bethlehem phase. Both rock types exhibit argillic bleaching, partial chloritization of hornblende crystals, some sericitization, and the local introduction of irregular quartz veins that are up to 7 centimetres wide.

Mineralization consists of bornite and chalcopyrite that is locally disseminated in chloritized patches and is partly concentrated near quartz veins and fractures. The showing is apparently limited on the southeast by a northeasterly fault which dips west at about 60 degrees. About 30 metres north of the main showing, malachite occurs weakly on north-dipping joints that contain quartz and epidote veins.

Percussion drilling in 1965 indicated a copper-bearing zone trending northeasterly and measuring 122 metres long by 73 metres wide and 24 metres deep, containing 580,544 tonnes averaging 0.327 per cent copper (Chisholm, E.O. (1971): Report on the CM, KAM, MER,

CAPSULE GEOLOGY

JAC, RAF and Cleve Fr's. claim groups - in Kalco Valley Mines Ltd., Statement of Material Facts, May 5, 1972).

The Mer showing was apparently discovered by Henry Krause prior to 1965. In 1965, the Cleveland Mining & Smelting Co. Ltd. held 102 claims in the Mer, Jac, Raf and Tam groups. Work during the year included trenching, road building and percussion drilling sixteen holes totalling 609 metres. In 1966, work by Cleveland Mining & Smelting Co. Ltd. included an induced polarization survey, soil sampling, percussion drilling of eight holes totalling 762 metres, 457 metres of trenching and 13 kilometres of road building. Utah Construction & Mining Co. held an option on the various claim groups in 1967. Work comprised seven bulldozer trenches totalling 274 metres, induced polarization and electromagnetic surveys, and geological mapping of the Tam claims. Two AX diamond-drill holes totalling 305 metres were drilled on induced polarization conductors at locations 800 metres apart near an east-flowing creek on either the Raf or Tam claims about 1600 metres west of Indian Reserve 12; it is not known what work was done on the Mer group. In 1968, work by Cleveland Mining & Smelting Co. Ltd. comprised nine bulldozer trenches totalling 484 metres, a chain and compass survey, an induced polarization survey and mapping of surface workings. Consolidated Gem Explorations Ltd. held an option on the property in 1969 and carried out an induced polarization survey and three diamond-drill holes totalling 457 metres. Twenty Raf and Tam claims were sold to Lornex for tailings disposal on October 31, 1969. Further work by Cleveland Mining & Smelting Co. Ltd. in 1970 included diamond drilling in four holes totalling 278 metres, an induced polarization survey and 30 metres of trenching. By an agreement of October 1971 Cleveland Mining optioned the Mer 1-40 and other claim groups to Kalco Valley Mines Ltd. In 1971, Kalco conducted percussion drilling of four holes totalling 122 metres. During 1972 the company spent \$13,000 on exploration work before terminating the option agreement. The company name (Cleveland Mining) was changed in March 1972 to Consolidated Cleveland Resources Ltd.

BIBLIOGRAPHY

EMPR AR 1965-148; *1966-154; 1967-153,154; 1968-182,183
EMPR ASS RPT 1638, 1837, 2117, 2474, *2602
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-264,265; 1970-351,352; 1971-342
EMPR MAP 7; 30
EMR MP CORPFILE (Kalco Valley Mines Ltd.; Consolidated Cleveland Resources Ltd.)
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/25

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW029**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOY 1**, JOY, CINDER

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 31 N
LONGITUDE: 121 05 02 W
ELEVATION: 1603 Metres

NORTHING: 5604349
EASTING: 635672

LOCATION ACCURACY: Within 500M

COMMENTS: Showing located on the northeasterly slopes of Cinder Hill, about 21.5 kilometres southeast of the community of Ashcroft (Assessment Report 2193).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite	Chalcocite		
ASSOCIATED:	Quartz	Tourmaline	Chlorite		
ALTERATION:	Chlorite	K-Feldspar	Sericite	Malachite	
ALTERATION TYPE:	Chloritic		Potassic	Sericitic	Oxidation
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Vein	Shear		
CLASSIFICATION:	Porphyry			
TYPE:	I06	Cu±Ag quartz veins	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			Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Joy 1 showing is located within the Late Triassic-Early Jurassic Guichon Creek batholith. Mineralization is hosted in granodiorite and is associated with strong shearing and chlorite, K-feldspar and minor sericite alteration. Chalcopyrite, bornite, chalcocite and malachite occur in quartz-tourmaline-chlorite veins that strike from 290 to 295 degrees and dip 80 degrees north. These veins are similar and parallel to the main vein at the Glossie showing (092INW011) about 750 metres to the north.

In 1969, Continental Cinch Mines Ltd. established a grid and conducted geological mapping, soil sampling and a magnetometer and induced polarization survey. In 1973, Quintana Minerals Corporation, on behalf of Continental Cinch Mines Ltd., conducted geological mapping, drill access road construction, diamond drilling two holes totalling 533 metres and percussion drilling ten holes totalling 838 metres.

BIBLIOGRAPHY

EMPR ASS RPT *2193, 2194
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-256,257; 1973-207,208
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW029**

MINFILE NUMBER: **092INW030**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLU 3,4**, BLU, CINDER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

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

LATITUDE: 50 34 47 N
LONGITUDE: 121 04 45 W
ELEVATION: 1661 Metres

NORTHING: 5604851
EASTING: 635993

LOCATION ACCURACY: Within 500M

COMMENTS: Showing located on the northeasterly slopes of Cinder Hill, about 21 kilometres southeast of the community of Ashcroft (Assessment Report 2193).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ALTERATION: Chlorite K-Feldspar Sericite Malachite
ALTERATION TYPE: Chloritic Potassic Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Porphyry
TYPE: I06 Cu±Ag quartz veins L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Blu 3,4 showing is located within the Late Triassic-Early Jurassic Guichon Creek batholith.

Mineralization is hosted in granodiorite and is associated with strong shearing and chlorite, K-feldspar and minor sericite alteration. Malachite and occasional chalcopyrite and bornite occur along shears and as narrow stringers. The Glossie showing (092INW011) is 500 metres to the northwest.

In 1969, Continental Cinch Mines Ltd. established a grid and conducted geological mapping, soil sampling and a magnetometer and induced polarization survey. In 1973, Quintana Minerals Corporation, on behalf of Continental Cinch Mines Ltd., conducted geological mapping, drill access road construction, diamond drilling two holes totalling 533 metres and percussion drilling ten holes totalling 838 metres.

BIBLIOGRAPHY

EMPR ASS RPT *2193, 2194
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-256,257; 1973-207,208
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/29

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW031**

NATIONAL MINERAL INVENTORY:

NAME(S): **BURR, PYRITE, MAY, KEY, COPPER KEG, COPPER KEY, COPPER KETTLE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092114E 092111E
BC MAP:
LATITUDE: 50 45 40 N
LONGITUDE: 121 10 11 W
ELEVATION: 396 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5624857
EASTING: 629084

COMMENTS: A spectacular gossan on the south side of the Thompson River valley, just above the Canadian Pacific Railway tracks, about 9 kilometres northeast of the community of Ashcroft (Assessment Report 12429).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Limonite Clay
ALTERATION: Pyrite Limonite Clay
ALTERATION TYPE: Leaching Oxidation Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: 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 Triassic-Jurassic	Nicola	Undefined Formation	Guichon Creek Batholith

LITHOLOGY: Gossan
Andesite Agglomerate
Andesite
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Burr showing comprises a spectacular gossan on the south side of the Thompson River valley about 9 kilometres northeast of Ashcroft and just south of the Canadian Pacific Railway tracks. The showing is located at the northern edge of the Late Triassic-Early Jurassic Guichon Creek batholith where the northwest striking Barnes Creek fault cuts across the batholith. The fault separates andesite agglomerate of the Upper Triassic Nicola Group on the southwest from a quartz diorite intrusion on the northeast. The medium-grained intrusion is believed to be a hybrid phase of the batholith.

The gossan, comprised of pyritic, limonitic and clay altered decomposed rock, overlies the quartz diorite-andesite contact zone. The bright coloured altered zone is up to 200 metres wide, highly fractured and is well exposed in a steep-sided ravine at the northern end of an unnamed creek; the southern extent of the zone is unknown and is covered by thick glacial drift and volcanic flows of the Eocene Kamloops Group. The ravine marks the northwestern end of the Barnes Creek fault.

The gossan was first described in the Minister of Mines Annual Report for 1898 where mention was made of 'a large body of ore, carrying gold and silver, but principally copper'. An adit, 24 metres long, was run in on the claims. No further work was reported until the late 1960s and 1970s when the property was known as the Pyrite. The Pyrite claims were staked by A. Ablett in 1967 and 1969. In 1969, under an option agreement with Placid Oil Co., the Pyrite and adjacent claims were extensively soil sampled and followed up with the drilling of three diamond-drill holes in 1970. In 1971, an induced polarization survey and geological mapping was completed on behalf of Thor Explorations Limited. In 1977, a geological and geochemical survey was performed by Bethlehem Copper Corporation. The Burr 1 claim was staked in 1982 by M. Morrison to cover the main

CAPSULE GEOLOGY

gossan zone and was prospected in the same year. In 1984, the Burr 2 claim was staked to cover the southern extent of the zone; a ground VLF-EM survey was conducted. The Burr property was allowed to lapse, but in May 1990, the Key claims were staked by M. Morrison. During April 1991, a ground magnetometer survey was conducted over portions of the claims and in 1992 a geological mapping program was carried out. The property was staked as the Copper Key claims in 1994 and then partially restaked again by M. Morrison in 1995 as the Copper Keg and Copper Kettle. Surveys conducted include a ground VLF-EM in 1996, a geological in 1997 and a biogeochemical in 1998.

BIBLIOGRAPHY

EMPR AR 1898-1107
EMPR ASS RPT 2259, 3246, 3247, 4594, 6634, 11145, 12429, 21498,
*22412, *24506, 25094, 25601
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR GEM 1969-263; 1970-348; 1977-E163
EMPR OF 1988-30; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/07/10

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW032**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEN 13.15**, DEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 37 N
LONGITUDE: 121 03 08 W
ELEVATION: 1432 Metres

NORTHING: 5599033
EASTING: 638055

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southerly slopes of South Forge Mountain, northeast of Twentyfour Mile Lake, about 27 kilometres southeast of the community of Ashcroft (Assessment Report 3660).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Den property is located within Bethlehem phase and Guichon variety (Highland Valley phase) quartz diorite of the Late Triassic-Early Jurassic Guichon Creek batholith. The intrusive rocks are locally faulted and sheared and contain small aplite and/or quartz porphyry dikes.

Weakly disseminated bornite occurs in and along northeast joints in quartz diorite.

In 1966, geological, geochemical and geophysical surveys were conducted by Adera Mining Ltd. In 1968, an induced polarization survey was carried out on behalf of Adera Mining Ltd. In 1972-73, geological mapping, geochemical, magnetic and induced polarization surveys, 1402 metres of drill access roads and percussion drilling of nine holes totalling 841 metres were conducted on behalf of Grandora Explorations Ltd. (formerly Adera Mining Ltd.).

BIBLIOGRAPHY

EMPR AR 1968-175
EMPR ASS RPT *990, 1575, 3660, 4404, 4804, 4889, 11634, 12945
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-251; 1972-225; 1973-206,207
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW033**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEN 76**, DEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 32 25 N
LONGITUDE: 121 01 14 W
ELEVATION: 1870 Metres

NORTHING: 5600575
EASTING: 640260

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on the southerly slopes of South Forge Mountain, northeast of Twentyfour Mile Lake, about 27 kilometres southeast of the community of Ashcroft (Assessment Report 990).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Den property is located within Bethlehem phase and Guichon variety (Highland Valley phase) quartz diorite of the Late Triassic-Early Jurassic Guichon Creek batholith. The intrusive rocks are locally faulted and sheared and contain small aplite and/or quartz porphyry dikes.

Scattered grains of bornite with malachite occurs along tight, steep northeast joints in quartz diorite.

In 1966, geological, geochemical and geophysical surveys were conducted by Adera Mining Ltd. In 1968, an induced polarization survey was carried out on behalf of Adera Mining Ltd. In 1972-73, geological mapping, geochemical, magnetic and induced polarization surveys, 1402 metres of drill access roads and percussion drilling of nine holes totalling 841 metres were conducted on behalf of Grandora Explorations Ltd. (formerly Adera Mining Ltd.).

BIBLIOGRAPHY

EMPR AR 1968-175
EMPR ASS RPT *990, 1575, 3660, 4404, 4804, 4889
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1969-251; 1972-225; 1973-206,207
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW034**

NATIONAL MINERAL INVENTORY:

NAME(S): **OREGON JACK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 38 37 N
LONGITUDE: 121 23 41 W
ELEVATION: 838 Metres

NORTHING: 5611424
EASTING: 613500

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1 kilometre north of Oregon Jack Creek, west of Highway 1, about 19.5 kilometres south of the community of Cache Creek (Geology in British Columbia 1977-1981, page 92).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ASSOCIATED: Siderite Quartz
ALTERATION: Malachite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	

LITHOLOGY: Limestone
Argillite
Volcaniclastic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
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
Silver GRADE
Copper 25.7000 Grams per tonne
0.1000 Per cent
REFERENCE: Assessment Report 13322.

CAPSULE GEOLOGY

An isolated knob, 1 kilometre north of Oregon Jack Creek, rises about 25 metres above the surroundings. It consists of a massive white to light brown coloured rock made up primarily of siderite with lesser amounts of quartz. Small areas carry 1 to 3 per cent chalcopyrite which has been partially altered to malachite which produces irregular blue bands throughout the rock. The siderite-quartz body is surrounded by altered limestone that is part of a melange unit in the Carboniferous to Jurassic Cache Creek Complex. The siderite-quartz body is approximately circular in plan. Copper mineralization is also found about 1250 metres south-southwest of the siderite-quartz body. Minor malachite, bornite and chalcopyrite occurs as fine-grained disseminations along multiple fracture surfaces in limonitic argillite and fine-grained volcaniclastics. One sample yielded a high of 0.1 per cent copper and 25.7 grams per tonne silver (Assessment Report 13322).

BIBLIOGRAPHY

EMPR ASS RPT *13322
EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271; 1996, pp. 117-123
EMPR GEOLOGY *1977-1981, pp. 91-97
GSC MAP 1010A; 1386A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 366
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1998/09/01
DATE REVISED: 1998/09/01

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW035**

NATIONAL MINERAL INVENTORY: 092114 Cr1

NAME(S): **FERGUSON CREEK**, FERG, WK CHROME,
WK, TIK, CHROME HAWK,
BEAR, JOE HENRY, HENRY JOE

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092114W
BC MAP:
LATITUDE: 50 56 41 N
LONGITUDE: 121 23 03 W
ELEVATION: 945 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adit on the north bank of Ferguson Creek, 3 kilometres east of Highway 97 and about 15.5 kilometres north of the community of Cache Creek (Assessment Report 18458).

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5644921
EASTING: 613514

COMMODITIES: Chromium Magnesite

MINERALS

SIGNIFICANT: Chromite Magnesite
ASSOCIATED: Bastite Silica
ALTERATION: Serpentine Magnesite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Podiform Stratabound Vein
CLASSIFICATION: Magmatic Industrial Min.
TYPE: M03 Podiform chromite M07 Ultramafic-hosted talc-magnesite
SHAPE: Irregular
MODIFIER: Sheared
DIMENSION: 8 x 1 Metres
COMMENTS: The largest of 2 pods is 7.6 by 0.6 metres.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	Ultramafic Intrusions
Upper Paleozoic			

LITHOLOGY: Serpentinite
Serpentinized Ultramafic
Dunite
Harzburgite
Chromitite

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic in age. The serpentinite wedge is upper Paleozoic.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Post-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: FERGUSON
REPORT ON: Y
CATEGORY: Inferred
QUANTITY: 18142 Tonnes
COMMODITY: Chromium
GRADE: 10.2000 Per cent
COMMENTS: Grade given was 15 per cent Cr2O3. Conversion used for chromium is 1.4616. A resource potential of 'reasonably assured' material.
REFERENCE: Geological Survey of Canada Memoir 262, page 99.

CAPSULE GEOLOGY

The Ferguson Creek chromite occurrences are located near its headwaters, about 15.5 kilometres north of Cache Creek and 3 kilometres east of Highway 97. The showings are in and near a prominent bluff on the northwest side of the creek. These showings are about 5 kilometres south of the Scottie Creek showings (092INW001).

The hostrock for the Ferguson Creek chromite prospect is an upper Paleozoic serpentinite wedge in the eastern facies of the Carboniferous to Jurassic Cache Creek Complex. This consists of a

CAPSULE GEOLOGY

Late Triassic accretionary prism/subduction complex associated with the Nicola volcanic arc. The melange contains Pennsylvanian and Early Permian limestones, chert, basalt and ultramafic rocks in a matrix of Permo-Jurassic chert and argillite.

Serpentinized dunite and harzburgite are exposed in outcrop and workings but the prospect is largely covered by a thick mantle of till and alluvium. The serpentinized dunite is massive and often appears to have a granular texture. The dunite, which trends northerly and has a steep eastward dip, has been traced across the creek and is projected to continue further north and south. This rock type is exposed across 61 metres and is bounded by serpentinized and extensively fractured harzburgite with a flaky texture and abundant bastite.

Numerous veinlets of silica occurs in a porous and earthy material which is presumably largely magnesite but for which the chemistry indicates low magnesia and high silica plus other insolubles. The material is divided into a stony variety which analysed 17 per cent MgO, 11 per cent CaO, 6.9 per cent Fe₂O₃ and 38.5 per cent insolubles. The porous and earthy variety analysed 8 per cent MgO, 9.3 per cent CaO, 8.3 per cent Fe₂O₃ and 58.5 per cent insolubles (Property File - correspondence from M.S. Hedley, 1941).

Chromite occurs as parallel layers of grains in the dunitic rock. Two showings in opencuts are lenticular pods consisting of closely-packed grains and stringers of chromitite. These pods measure 4.5 by 1.2 by 0.3 metres and 7.6 by 0.6 metres. A chip sample by Stevenson (1941) yielded 17.9 per cent Cr₂O₃ across 0.3 metre. A selected sample of cleaned chromite from this assay site yielded 28.2 per cent Cr₂O₃. A third exposure, in the exploration adit in the bluff, is 30 by 0.6 by 0.1 metres of stringer type chromite. These are the only reported showings at the site.

Showings on Scottie Creek, 5 kilometres to the north, were discovered in 1901 (see Scottie Creek, 092INW001), however, there is no report of activity on Ferguson Creek until the 1920s. In 1927, The Consolidated Mining and Smelting Company of Canada, Limited optioned two claims (Bear group?) on Ferguson Creek and one on Scottie Creek, and staked extra ground. Exploration work, confined to the northeast showing, included trenching and 51 metres of crosscut and drift in one adit. Operations ceased in 1931 and the claims were allowed to lapse. The Joe Henry and Henry Joe claims were staked in 1939 by Joe Burr of Ashcroft and owned jointly by Burr and Henry Cargyle, also of Ashcroft. During World War II, the Ferguson Creek deposits were covered by four claims held by D.B. Sterrett of Kamloops, and Henry Cargyle and Joe Burr. It was intended to option the Scottie Creek deposits from the Consolidated Mining and Smelting Company and to operate both deposits. However, nothing materialized and no work was done. H.M.A. Rice of the Geological Survey of Canada examined the Ferguson Creek deposits in 1942. He concluded that although they contained no ore of direct shipping grade, there were 18,142 tonnes of 15 per cent Cr₂O₃ reasonably assured, with an excellent chance of finding additional lenses to the extent of another 18,142 tonnes; the material would require concentration.

In 1977, St. Joseph Explorations Limited held ground in this vicinity as the Tik 1 claim; work included a ground magnetometer survey over 14.5 line kilometres. The claims were allowed to lapse. The ground was staked by R. Lodmell as Chrome Hawk in 1983 and was sold to Qume Resources Ltd. Qume cut a short grid over the showing with intention to conduct an induced polarization survey and, rock sampling of the showing was performed by J.D. Blanchflower; the induced polarization survey was not conducted. In 1986, the ground was restaked by Equinox Resources Ltd. A soil geochemical survey was completed but results were not encouraging. In 1987, the ground was restaked by R.J. Nethery as the Ferg claim who geologically mapped and sampled the showing. The ground was held in 1991-92 by Michael Dickens as Lil 1; no work was recorded. In 1993, the ground was restaked as WK Chrome 1 and in 1994 rock sampling was performed.

BIBLIOGRAPHY

- EMPR AR 1929-C216
- EMPR ASS RPT 6662, 15300, 18458, 23872, 25046, 25571
- EMPR BULL (*unpublished, Stevenson, J.S. (1941): Chromite Deposits of B.C.)
- EMPR EXPL 1978-E173
- EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
- EMPR OF 1987-13; 1988-30; 1990-23; *1990-27, pp. 20-21
- EMPR PF (*Sterrett, D.B. (1940): Report on Ferguson Creek Chromite; Correspondence from M.S. Hedley, 1941)
- EMR MIN BULL MR 223 B.C. 149
- EMR MP CORPFILE (The Consolidated Mining and Smelting Company of

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 369
REPORT: RGEN0100

BIBLIOGRAPHY

Canada Limited; Technigen Platinum Corporation)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, pp. 96,98-99
GSC OF 165; 866; 980
GSC P 46-8; 47-10, p. 5; 69-23; 72-53, p. 80; 73-1A, p. 212; 74-49;
81-1A, pp. 185-189,217-221; 82-1A, pp. 293-297; 85-1A,
pp. 349-358; 89-1E
CANMET IR 1343 (1943)
The B.C. Miner Vol.14, March 1941, p. 36,37

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW036**

NATIONAL MINERAL INVENTORY: 092113 Au1

NAME(S): **BIG SLIDE**, PLANT (L.5732), GRANGE,
BIG SLIDE MINE, MANDY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:

Underground

MINING DIVISION: Clinton

LATITUDE: 50 57 22 N
LONGITUDE: 121 52 05 W
ELEVATION: 274 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5645554
EASTING: 579502

LOCATION ACCURACY: Within 500M

COMMENTS: Adit located 275 metres south of where Kelly Creek enters the Fraser River and across a slide area (from which the mine takes its name), about 26 kilometres southwest of Clinton (Property File - Report by A.M. Richmond, 1933).

COMMODITIES: Gold Silver Copper Lead

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Arsenopyrite Chalcopyrite Marcasite

ASSOCIATED: Quartz Carbonate

ALTERATION: Limonite

ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	Unnamed/Unknown Informal
Lower Jurassic			

LITHOLOGY: Diorite
Shale
Chert
Greenstone
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Pavilion Ranges

TERRANE: Cache Creek

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: UNDERGROUND WORKINGS

REPORT ON: Y

CATEGORY: Indicated
QUANTITY: 861 Tonnes

YEAR: 1933

COMMODITY	GRADE	
Silver	42.1000	Grams per tonne
Gold	16.2000	Grams per tonne

COMMENTS: Probable ore in a block of ground averaging 31 centimetres in thickness.

REFERENCE: Property File - Report by A.M. Richmond, 1933.

CAPSULE GEOLOGY

The Big Slide property is located on the east side of the Fraser River where Kelly Creek enters the Fraser, about 26 kilometres southwest of Clinton. The showings were discovered in about 1872 by an Indian; subsequently the Foster Gold Milling and Mining Company was formed to develop the property. An unsuccessful attempt was made to recover the gold in the ore by means of a crude arrastra in about 1881. In 1886, after the ores from the mine had been tested in San Francisco, a 10-stamp mill with desulphurizing furnaces and chlorinating plant was constructed at the mine site. The property operated for a few months in 1887, during which time it was visited by G.M. Dawson of the Geological Survey of Canada. Material taken by Dawson from the concentrates assayed 13.9 grams per tonne gold and 31.9 grams per tonne silver. Active mining and milling was

CAPSULE GEOLOGY

discontinued in 1887 after a period of three or four months operations.

The property lay idle until 1928 when the Big Slide Mining & Smelting Development Company Limited was formed to acquire a group of 14 claims. Development work was carried on until 1933 when the assets of the company were taken over by Grange Mines Limited. A 25 tons per day mill was in operation from 1933 until August 1935 when the mine closed.

Grange Consolidated Mines Limited, incorporated in 1937, purchased the property from Grange Mines Limited and carried on intermittent operations until June 1938; underground maintenance work was carried on until 1941; the claims subsequently lapsed.

A group of 16 claims, adjoining to the south of the claims held by Grange Mines Limited, was acquired by Pavillion Gold Mines Limited in 1933 (see Pavilion, 092INW083).

In 1946, Rusdon Gold Mines Limited acquired the ground formerly held by Grange Consolidated Mines Limited and Pavillion Gold Mines Limited. During the year 579 metres of diamond drilling was done in four holes.

The Big Slide property has been developed on seven levels, three of which are adit levels. Number 3 level is the main haulage level, and from it access to the lower workings is by winze. In 1935, when the seventh level was opened, 79 metres of drifts, 16 metres of crosscuts and 15 metres of raises were run before the mine closed. The mill erected in 1886 was destroyed by fire.

The rocks in the vicinity of the Big Slide mine are fractured, sheared and faulted shales, cherts and greenstones with occasional interbedded limestone of the middle Permian to Middle(?) Jurassic western belt of the Cache Creek Complex which are here intruded by a small stock of Early Jurassic diorite. In the mine workings the diorite is the dominant rock type, and forms the host for two narrow lenticular quartz veins, referred to as the Footwall and Hangingwall veins. These veins pinch and swell and may reach widths 0.9 to 1.2 metres, but 20 centimetres is average. The Footwall vein has a much flatter dip than the Hangingwall vein and probably joins it at depth.

Northwest of the mine workings, the Hangingwall vein which is the stronger of the two, outcrops in the bluffs for 305 metres where it strikes 330 degrees and dips 70 degrees northeast.

The ore consists of pyrite, pyrrhotite, arsenopyrite, chalcopyrite, marcasite, limonite and native gold in a gangue of quartz and minor carbonate. The native gold is visible only in dense pyrite. The ore commonly occurs as banded sulphides with quartz, but in the wider sections of the veins may occur as isolated patches of sulphides. In most parts of the underground workings a thin parting of gouge appears between the vein filling and the walls.

An ore shoot between the number 3 and 5 levels in the area adjacent to and northwest of the number 2 winze connecting these two levels, has a block of ground averaging 31 centimetres in thickness that contains 861 tonnes of probable ore grading 16.2 grams per tonne gold and 42.1 grams per tonne silver (Richmond, 1933).

Intermittent production from 1934 to 1940 totalled 7214 tonnes mined and 6895 tonnes milled from which 76,607 grams of silver, 39,904 grams of gold, 6810 kilograms of copper and 54 kilograms of lead were recovered.

BIBLIOGRAPHY

- EMPR AR 1882-361; 1883-411; 1884-422; 1885-491; 1886-207-209;
1887-273; 1889-289; 1896-550; 1897-558; 1899-727; 1928-C214;
1930-A198; 1931-A110; *1932-A149-A154; *1933-A184,A185,A311,A312;
*1934-A28,A29,F23,F24,G48; 1935-A28,A30,F57; 1938-F67; 1940-A27,
A60; 1946-A121; 1968-160
EMPR ASS RPT 18366
EMPR BC METAL MM00262
EMPR BULL 20 (Part IV), p. 39; 44 (Fig.1, Sheet C)
EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1987-18; 1988-29; 1990-23
EMPR PF (*Richmond, A.M. (1933): Department of Mines Report on the
Big Slide Mining Property; Letter to Grange Consolidated Mines
Ltd., C.C. Starr, 1938; Starr, C.C. (1937): Report on the Grange
Mine; Grange Mine Plan, Scale 1"=20', 1937; Grange Mine, 6th and
7th levels south of Winze (assay plan), 1938; Grange Mine,
Longitudinal Section showing assays, Scale 1"=40', c. 1938?)
EMR MP CORPFILE (Big Slide Mining & Development Co.; Grange Mines
Limited; Pavillion Gold Mines Ltd.; Grange Consolidated Mines
Ltd.; Rusdon Gold Mines Ltd.)
GSC ANN RPT 1894 (Vol.VII), pp. 339B,340B
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 118, p. 97; *262, pp. 94,103,104
GSC OF 165; 866; 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 372
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358
CANMET IR 722, Gold Ore from the Grange Consolidated Mines, Ltd., at
Kelly Creek near Pavilion, British Columbia; 788, Investigations
in Ore Dressing and Metallurgy, July-December 1937, pp. 36-51)

DATE CODED: 1985/07/24
DATE REVISED: 1998/02/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW037**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAIRVIEW, P & L, QUINTO,**
MAIN, EAST, WALLA,
KAT, TOQ, CABIN

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092114E
BC MAP:
LATITUDE: 50 47 36 N
LONGITUDE: 121 02 52 W
ELEVATION: 701 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Trench on Main showing, north of Highway 1/97 and the Thompson River,
about 19.5 kilometres east of the community of Cache Creek
(Assessment Report 6527). See also P & L (092INW052).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5628660
EASTING: 637589

COMMODITIES: Zinc Copper Lead Silver

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Andesitic Tuff
Andesitic Flow
Quartz Feldspar Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1996
SAMPLE TYPE: Drill Core
COMMODITY: GRADE
Copper 0.1000 Per cent
Zinc 1.8000 Per cent
COMMENTS: Sample across 5.1 metres.
REFERENCE: Assessment Report 24483.

CAPSULE GEOLOGY

Regionally the area is underlain by the Upper Triassic Nicola Group which is intruded by an Early Jurassic medium grained quartz hornblende diorite to diorite intrusion. Alteration of mafic minerals to chlorite is common in the dioritic rocks. Local concentrations of epidote, pink feldspar +/- calcite +/- magnetite are also observed. Nicola Group rocks consist of andesitic volcanic flows, tuffs and feldspar porphyries, coarse fragmentals and sedimentary rocks. The sedimentary sequence is composed of grey to white, fine grained, locally fossiliferous limestone.

At the Main showing, previous trenching has exposed Nicola Group andesitic tuffs?, flows and amygdaloidal flows intruded by quartz feldspar porphyry. There is a weak to strong iron oxide capping associated with the volcanics. The contact of the porphyry with the volcanics is sheared at 220 degrees, dipping 45 degrees northwest. Associated with this contact is a silicified zone that is mineralized with stringers and disseminations of pyrite, sphalerite, chalcopyrite and minor galena. Where oxidization is not intense the mineralization in the volcanics is mainly widely disseminated pyrite,

CAPSULE GEOLOGY

sphalerite and chalcopyrite as well as rare stringers of the same. Mineralization within the porphyry is in the form of very widely dispersed pyrite, rare chalcopyrite and sphalerite.

The East showing is 300 hundred metres east of the Main showing and comprises pyrite, sphalerite and chalcopyrite in carbonatized and silicified volcanics.

In 1996, three diamond-drill holes were put down at the Main showing; the best intersection graded 0.10 per cent copper and 1.8 per cent zinc over a length of 5.1 metres (Assessment Report 24483).

The earliest known reference to work done in this area was in 1944, where the Fairview group of eight claims were held by Lester Starnes of Ashcroft and J.W. Oakes of Calgary. Some opencut work and diamond drilling were completed. The lowest working or pit is assumed to be the P & L showing (092INW052); about 914 metres northwest is a second pit that is assumed to be the Fairview or Main showing (this description). The Fairview property lapsed and then was restaked in 1955 by Ashdown and Winters. The B.C. Department of Mines completed a Geiger survey in 1958 but the results are unknown. In 1961, prospecting, line cutting and soil sampling was done in the area of the Main showing. In 1967, caterpillar trenching totalling 213 metres in four trenches was performed on the Main showing and supervised by M.P. Stadnyk. In 1971, Cache Creek Copper Mines Ltd. reportedly diamond drilled seven or eight holes totalling over 609 metres; some geological mapping was performed by Rio Tinto. L. Ovington restaked the area as the P & L claims in 1971. In 1972, Colt Management Ltd. contracted Kenting Earth Sciences to conduct a reconnaissance induced polarization survey consisting of two lines, 122 metres apart, totalling 3.2 kilometres. The property was optioned in 1972 to Northland Mines Ltd. and a magnetometer survey was done by M.P. Stadnyk. The claims lapsed in 1975 and were restaked as the Walla claim in the same year. The Walla claim lapsed in 1976 and the Quinto claims are a relocation of the lapsed Walla claim. In 1977, Quinto Mining Corporation completed geological mapping, geochemical and magnetometer surveying. In 1980, a geochemical and VLF-EM survey was completed. In 1983 and 1985, VLF-EM surveys were conducted. In 1996, three diamond-drill holes totalling 295 metres were put down on the Main showing by GWR Resources Inc.

BIBLIOGRAPHY

EMPR AR 1958-71; 1967-148
EMPR ASS RPT 20, 3691, 4303, 4718, *6527, 8763, 11628, 12069, 14229, 14723, *24483
EMPR EXPL 1977-E164
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR GEM 1972-230; 1973-214,215
EMPR OF 1988-30
EMPR PF (Claim location map)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, p. 94,107,108
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW038**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARTEL, MSG, MS,
MAR, MARTELL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 32 15 N
LONGITUDE: 121 20 03 W
ELEVATION: 731 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5599720
EASTING: 618046

LOCATION ACCURACY: Within 500M

COMMENTS: Adit portal 1 kilometre west of Venables Creek, about 21 kilometres south of the community of Ashcroft (Assessment Report 21031).

COMMODITIES: Molybdenum Copper Zinc Gold Silver

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Sphalerite Pyrite Pyrrhotite

ASSOCIATED: Arsenopyrite
Quartz Calcite

MINERALIZATION AGE: Unknown

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
Paleozoic-Mesozoic Cache Creek Undefined Formation

LITHOLOGY: Argillite
Chert
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Martel deposit consists of a group of small lenticular quartz veins and stringers in argillites, cherts and minor tuffs of the Carboniferous to Jurassic Cache Creek Complex. The veins range in thickness from 0.5 to 30 centimetres and from 0.6 to 18 metres in length. They strike 035 to 040 degrees, dip 70 to 75 degrees northwest and are displaced a metre by northwest-striking faults.

The gangue is mainly quartz with some calcite, and mineralized with small amounts of molybdenite, pyrite, chalcopyrite, pyrrhotite, sphalerite and arsenopyrite. The molybdenite occurs in very thin seams that parallel the vein walls.

The Martel property was operated by Martel Gold Mines, Limited during the mid-1930s. Mining operations were conducted at the property from 1934 to 1938, but in 1939 the entire operation was abandoned and the equipment sold. Underground work comprised 315 metres of drifting and crosscutting in an effort to follow the veins. Most of the work was done on the main adit level, but two winzes were sunk, to depths of 27 and 17 metres respectively. Some short lateral workings were driven from these in an effort to find the veins on their downward extension from the main level, but with little success. Rufus Argenta Mines Limited optioned the property in 1935 and did some diamond drilling. In 1937, a small shipment was sent to the Mines Branch at Ottawa for testing; this assayed 0.5 gram per tonne gold, 1.3 grams per tonne silver, 1.48 per cent MoS₂ and 0.11 per cent copper. In 1945, the property was restaked by Lester Starnes of Ashcroft. No further work was done until 1967 when Cannoo Mines Ltd. (formerly Martel Gold Mines, Limited) owned the MSG 1-8 mineral claims. In 1967, work consisted of cleaning out the adit and a pace and compass survey of the claims. In 1968, Cannoo Mines Ltd. diamond drilled four holes totalling 39 metres. No further work was recorded on the property until 1977 when Vantage Resources Ltd. carried out a geochemical soil survey, VLF-EM and magnetometer survey, cleaning debris and slides underground and underground geological mapping. In 1978, Vantage Resources Ltd. carried out a

CAPSULE GEOLOGY

total of 1262 metres of surface diamond drilling but results were not published. In 1981, an induced polarization survey was conducted on behalf of Vat Petroleum Ltd. In 1989-90, rock sampling was carried out on behalf of John Fleishman.

BIBLIOGRAPHY

EMPR AR 1935-G44; 1936-F63; 1937-F35; 1938-F68; 1939-A74; 1967-149;
1968-174
EMPR ASS RPT 6318, 9459, 21031
EMPR BULL *9, pp. 9-11
EMPR EXPL 1977-E160, E161; 1978-E171
EMPR FIELDWORK 1981, pp. 270, 271; 1996, pp. 117-123
EMPR PF (Report on the Mar Claim Group by D.W. Tully, 1976 - in
Prospectus, Vantage Resources Ltd.; Geological map of underground
workings; Occurrence location map)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, pp. 94, 106, 107
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/09

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW039**

NATIONAL MINERAL INVENTORY:

NAME(S): **BABY'S OWN**, MOLY, MARTEL,
EM

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:
LATITUDE: 50 32 26 N
LONGITUDE: 121 17 38 W
ELEVATION: 487 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Shaft, 250 metres west of Highway 1 and about 20.5 kilometres south of the community of Ashcroft (Assessment Report 21031).

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5600125
EASTING: 620892

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Arsenopyrite
ASSOCIATED: Magnetite Hematite
ALTERATION: Magnetite Hematite Malachite Azurite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Massive Shear
CLASSIFICATION: Skarn
TYPE: K03 Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Limestone
Cherty Limestone
Andesite
Argillite
Skarn
Intermediate Mafic Dike

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Rock
COMMODITY
Gold 0.3600 Grams per tonne
Copper 2.1400 Per cent
COMMENTS: Select samples.
REFERENCE: Assessment Report 21031.

CAPSULE GEOLOGY

The Baby's Own showing area is underlain by a sequence of argillite, andesite, limestone and cherty limestone of the Upper Triassic Nicola Group intruded by intermediate to mafic dikes. Mineralization is related to skarn zones and northerly trending, steeply dipping shear zones. Mineralization consists of disseminations, blebs and intermittent discontinuous stringers of chalcopyrite with lesser pyrite, arsenopyrite and hematite in association with semimassive magnetite. Some surface exposures reveal malachite and azurite occurring as splashes on limestone which contains pyrite and chalcopyrite. Select rock samples yielded up to 2.14 per cent copper and 0.36 gram per tonne gold (Assessment Report 21031). The Baby's Own workings include a 9-metre shaft, several trenches, opencuts and at least three drillholes (pre-1951). In 1956, a magnetometer and geological survey was performed on behalf of Ainsworth Base Metals Ltd. In 1967, soil sampling was carried out by Cosmic-Lode Mines Ltd. In 1970-71, work on the property comprised

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 378
REPORT: RGEN0100

CAPSULE GEOLOGY

VLF-EM and magnetic surveys and 29 metres of packsack drilling in two holes. In 1978, Penn Energy Corporation completed a VLF-EM and magnetic survey, and soil sampling. In 1989-90, rock sampling was carried out on behalf of J. Fleishman.

BIBLIOGRAPHY

EMPR AR *1951-A124,A125; 1958-70; 1967-149
EMPR ASS RPT *155, 6713, *21031
EMPR EXPL 1978-E170
EMPR FIELDWORK 1981, pp. 270,271; 1996, pp. 117-123
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/11

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

mineralization, indicating that both types of mineralization are more widespread than previously indicated by surface and underground showings. One 42-metre intersection analysed 0.26 per cent copper and 0.02 per cent molybdenum (George Cross News Letter No.101, 1997).

The Transvaal property was originally staked in 1899 and owned by J. Hosking, W. Knight and G. Novak. The claims were explored in 1901 and 1902, and extensive work was done in 1906 and 1907 when the property was under bond to the Consolidated Mining and Smelting Company of Canada, Limited. Further work was done by G. Novak in 1929-31. The workings consist of two shafts and an adit. Minister of Mines Annual Reports indicate that the main shaft was sunk for 61 metres. On the 30-metre level a drift was run to the west for 49 metres, and another drift run to the east for 55 metres. A 12-metre crosscut was run from the east drift. On the 60-metre level a drift was run to the east for 23 metres. About 274 metres northeast of the shaft a sinuous adit was run in for 106 metres. Lateral work in two main branch workings in the adit totalled about 86 metres. Numerous cuts and surface trenches are located between the adit and shaft and for 91 metres northward.

In 1955, Jackson Basin Mining Co. Ltd. (name changed to Jackson Mines Limited) rehabilitated the Transvaal shaft and conducted some cleanup in the 30 and 60-metre levels; a diamond drilling programme was also started. In 1956, Trojan Consolidated Mines Ltd. (merged as one company from the voluntary liquidation of Trojan Exploration Limited, Jackson Mines Limited and Tri-Side Mining Corporation Limited) cleaned out the 30 and 60-metre levels of the Transvaal shaft and erected a new headframe; underground work was discontinued after some sampling and diamond drilling had been done. In 1962, Highland Valley Mining Corporation Ltd. mapped and sampled the surface showings and the adit, and diamond drilled nine surface holes totalling 436 metres. In 1968, Taseko Mines Limited, on behalf of K.D. Houghton, conducted surface diamond drilling of five holes totalling 457 metres, eight trenches totalling 914 metres, blasting of four pits and an induced polarization survey. More recently, Cominco Ltd. conducted an induced polarization survey over the showings in 1989.

In 1995-96, Getty Copper Corp. conducted a large scale exploration program on the Getty property which consists of Getty North, 092INE038 (historically known as the Krain deposit), Getty South, 092INE043 (historically known as the Trojan/South Seas deposit) and Getty West (historically known as the Transvaal). As part of this program a soil and stream sediment survey covered the Transvaal showings, eight holes were diamond drilled totalling 2330 metres and an induced polarization and ground magnetic survey was conducted.

BIBLIOGRAPHY

- EMPR AR 1901-1090; 1902-H193; 1905-J205; 1906-H173; *1907-L135,L136;
1915-K269,K276; 1917-F224,F225; 1929-C228; 1930-A195,A196;
1931-A108; 1955-36; 1956-44; 1962-46; 1966-149,150; 1968-178
EMPR ASS RPT 19685, 24691, 24692, 25048, 25583
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30
EMPR PF (*Special Report by J.S. Stevenson, 1936; Legal survey map of Mafeking Fr. claim; see Getty North, 092INE038 - Getty Copper Corp. 1996 Annual Report; Assay plan and geologic map of Transvaal tunnels and surface workings, drillhole location and claim map, 1962; Report on Transvaal Group of Mineral Claims by C.B. Bask, 1916?)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, pp. 94,101
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
GSC SUM RPT *1915, pp. 89,90
CJES Vol.15, No.1 (January 1978), pp. 99-116
GCNL #101(May 27), 1997
N MINER Nov.28, 1968; May 4, 1998
PR REL Getty Copper Corporation, May 22, 1997
W MINER Apr., Dec., 1968
WWW <http://www.gettycopper.com/projects.html>; <http://www.infomine.com/>
Getty Copper Corporation, 1998 Annual Report
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia
*Preto, V.A. and Perry, B.I. (1998): Geological Overview and Progress

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 381
REPORT: RGEN0100

BIBLIOGRAPHY

to December 31, 1997, Getty Copper Corporation website

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/07

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW041**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGHLAND**, HIGHLAND NO. 2 (L.4468), GLENORA (L.4467)

STATUS: Prospect

Underground

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I11E 092I10W

BC MAP:

LATITUDE: 50 33 10 N

LONGITUDE: 121 00 35 W

ELEVATION: 1768 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft on Lot 4468 (Highland No. 2 claim) located on the easterly slopes of South Forge Mountain, about 28 kilometres southeast of the community of Ashcroft (Assessment Report 24692). See also Getty West (092INW040).

UTM ZONE: 10 (NAD 83)

NORTHING: 5601985

EASTING: 640990

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite

ASSOCIATED: Tourmaline Quartz

ALTERATION: Azurite Malachite Chrysocolla Hematite Magnetite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Porphyry Hydrothermal

TYPE: L04 Porphyry Cu ± Mo ± Au I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Quartz Diorite Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Highland property is about 1000 metres south of the Transvaal (or Getty West) workings, 092INW040. The veins are similar to those of the Transvaal in occurrence and character.

The Highland area is located within the Late Triassic-Early Jurassic Guichon Creek batholith and is underlain by Guichon variety (Highland Valley phase) quartz diorite which has been intruded by Bethlehem phase quartz diorite porphyry dikes and stocks. West and northwest of this area these rocks have been intruded by what appears to be a Tertiary? biotite quartz latite plug and associated dikes.

Veins occur in fractures and joint planes in the batholithic hostrocks. Veins consist of black, sooty tourmaline, quartz and fractured wallrock mineralized with minor amounts of azurite, malachite, chrysocolla, chalcopyrite, chalcocite, hematite and magnetite.

The Highland group of claims were staked in 1891 and at one time owned by the Bank of Montreal in Rossland, B.C. The property adjoined the Transvaal group on the south and owned by G. Novak and J.S.C. Fraser. Between 1905 and 1907, a shallow shaft was sunk on the Highland No. 2 claim (Lot 4468). In about 1915-17, the shaft was deepened to 23 metres; at the 17-metre level a crosscut was driven for 7 metres. A 35-metre adit located on Lot 4467 (Glenora claim), 609 metres northeast of the shaft, was driven in 1902; two crosscuts were driven to the left for a distance of 4.5 metres. Several opencuts extend northwards from the adit for about 609 metres.

BIBLIOGRAPHY

EMPR AR 1902-H194; *1907-L136; *1915-K275,K276; 1917-F225; 1922-N141; 1924-B139
EMPR ASS RPT 19685, 24692
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30

MINFILE NUMBER: **092INW041**

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 383
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (see Transvaal, 092INW040 - *Special Report by J.S. Stevenson,
1936)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 94,102
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
GSC SUM RPT 1915, p. 90
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW042**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED HILL, ADD, MOLY, MAP, REDHILL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 39 20 N
LONGITUDE: 121 20 31 W
ELEVATION: 618 Metres

NORTHING: 5612834
EASTING: 617201

LOCATION ACCURACY: Within 500M

COMMENTS: Pit on Red Hill, located 1 kilometre east of Highway 1 about 17.5 kilometres south of the community of Cache Creek (Geology in British Columbia 1977-1981). See also Silica (092INW057).

COMMODITIES: Copper Zinc Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite Pyrite

ASSOCIATED: Quartz

ALTERATION: Chlorite Epidote Sericite Silica Malachite

ALTERATION TYPE: Azurite
Chloritic

Epidote

Sericitic

Silicific'n

Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork

CLASSIFICATION: Volcanogenic

TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Permian-Triassic
Lower Triassic

GROUP

Undefined Group

FORMATION

Kutcho

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

ISOTOPIC AGE: 242 +/- 2 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Siliceous Greenstone
Felsic Crystal Tuff
Rhyolite Tuff
Rhyolite
Chloritic Mafic Schist
Chloritic Basalt
Tonalite
Granodiorite
Gossan

HOSTROCK COMMENTS: Age date of tonalite (Fieldwork 1996).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

Felsic volcanic and intrusive rocks which occur between the Martell and Bonaparte faults, near Ashcroft, are tentatively correlated with the Permo-Triassic Kutcho Assemblage, rather than the Upper Triassic to Lower Jurassic Nicola Group. Mafic volcanic rocks assigned to the Nicola Group occur both to the east and west of the Bonaparte fault. The presence of Upper Triassic fossils imply that this correlation is valid for basaltic rocks which occur east of the Bonaparte fault. However, the age of basaltic rocks that occur west of the Bonaparte fault, in proximity to, and possibly interbedded with rhyolite tuffs, is not constrained. These basaltic rocks may be contemporaneous with Lower Triassic felsic rocks, rather than the younger Nicola Group lavas. The presence of rocks of Kutcho Assemblage age and affinity raises the potential for Kutcho Creek-equivalent Cu-Zn volcanogenic massive sulphide mineralization (Fieldwork 1996).

Red Hill, as its name implies, displays an extensive oxidation surface of flamboyant colours of red, orange and yellow gossan. On Red Hill, volcanic rocks are extensively interbedded and are metamorphosed to varying degrees. They are subdivided into four

CAPSULE GEOLOGY

general units: felsic crystal tuffs characterized by large quartz grains; chlorite-rich mafic schist with relict phenocrysts; silicified greenstone; and altered massive chloritic basalt. The felsic tuffs are crosscut by a series of fine to coarse grained granodioritic to tonalitic plutons. Although chlorite alteration is pervasive throughout the volcanic section, significant epidote alteration, silicification and gossan are restricted to rocks near the plutons.

Most of the rocks show a cleavage which generally strikes 320 to 340 degrees and dips 50 to 70 degrees southwest. Contacts between the different units are parallel or subparallel to the cleavage, so it is assumed that the cleavage surface gives an estimate of the bedding surface. If this is the case, then the package of rocks forms a large upturned block dipping to the southwest.

The Red Hill showing is exposed in an old pit near the summit of Red Hill. Chalcopyrite and chalcocite occur with pyrite and quartz in veins which strike 060 degrees and are exposed for about 15 metres. The veins are in pyritic greenstone that has been subjected to intense epidote, chlorite and sericite alteration and bleaching in proximity to Lower Triassic rhyolite tuffs and tonalite. Secondary copper minerals, predominantly malachite and azurite, are widespread in the greenstone. At the base of the west side of Red Hill, about 550 metres south of the pit, there is a minor showing of malachite and azurite in a gossan zone. In general, however, the gossan zones are devoid of copper mineralization at the surface. In 1998, Teck Exploration drilled five holes on the property, four of which were southwest of Highway 1 where some holes intersected pyrite beds and veinlets in chlorite and epidote altered rocks. Copper mineralization is also exposed on the west side of Highway 1 about 2.5 kilometres south of the pit on Red Hill (see Silica, 092INW057).

In 1962, Noranda Exploration Company, Limited optioned a group of mineral claims on the northern part of Red Hill from the owner, H. Reynolds of Lillooet. Work included electromagnetic surveying, soil sampling, magnetometer surveying, stripping and surface diamond drilling of six or more holes. In 1966, work completed on behalf of Delkirk Mining Ltd. consisted of about 365 metres of bulldozer trenching and 91 metres of x-ray diamond drilling. In 1968, geological mapping and four rotary holes totalling 806 metres were drilled on the property on behalf of Delkirk Mining Ltd. and H. Reynolds. In 1970, geological mapping, magnetometer surveying and percussion drilling of twelve holes totalling 960 metres were completed by the operators Cerro Mining Company of Canada Limited and Ducanex Resources Limited. In 1971, an induced polarization survey was completed over 17 line kilometres and diamond drilling of four holes totalling 599 metres by the operators Cerro Mining Company of Canada Limited and Ducanex Resources Limited. In 1974, geological mapping, soil and rock sampling and percussion drilling of three holes totalling 176 metres was completed on behalf of Bethlehem Copper Corporation. In 1979, trenching and percussion drilling of eight holes totalling 100 metres was conducted on the Moly claims, across the highway from Red Hill, for the owner, L.W. Reaugh. In 1980, a geological mapping and geochemical sampling program was carried out on behalf of Guichon Explorco Limited on the Silica claims which adjoin and surround the Moly claim covering the Red Hill showing. Percussion drilling of six holes totalling 457 metres was conducted on the Silica claims in 1981 on behalf of Guichon Explorco Limited. In 1981, magnetometer surveys and a geochemical survey were carried out on the Moly and Add claims on behalf of Rea Petro Corp. In 1982-83, electromagnetic, induced polarization and magnetic surveys, topographic survey, rock sampling and diamond drilling eight holes totalling 1148 metres was carried out on the Silica claims on behalf of Selco Inc., A Division of BP Exploration Canada Limited. In 1985, diamond drilling six holes totalling 765 metres was completed on the Red Hill property on behalf of Rea Gold Corporation. During 1987-88, nine rotary percussion drill-holes totalling 1835 metres tested the Red Hill property for Rea Gold Corporation. A soil and litho-geochemical survey was completed on the Silica property in 1993 on behalf of D. de la Mothe. In 1998, Teck Exploration drilled 5 holes totalling about 750 metres.

BIBLIOGRAPHY

- EM EXPL 1998-57-64; 2001-33-43
- EMPR AR 1962-28-46; 1966-149; 1968-174
- EMPR ASS RPT 5308, 7907, 8892, 9415, 10459, 10513, 11067, 12100, 13826, 15132, 17263, 23423, 25537
- EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271; *1996, pp. 117-123
- EMPR GEM 1970-326; 1971-299,300; 1974-157,158
- EMPR GEOLOGY *1977-1981, pp. 91-97
- EMPR OF 1999-2

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 386
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (GCNL #233(Dec.4), 1984; Correspondence from J.T. Fyles, 1974;
Property description submitted with 1974 Exploration Form; Claim
map, 1971; Osborne, W.W. (1971): Preliminary Report on Red Hill;
Correspondence regarding forfeiture of claims, 1975)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/01

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW043**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASQUE NO. 1, BASQUE RANCH**

STATUS: Past Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I11W

BC MAP:

LATITUDE: 50 36 04 N

LONGITUDE: 121 21 31 W

ELEVATION: 693 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5606754

EASTING: 616157

LOCATION ACCURACY: Within 500M

COMMENTS: Ponds between Venables Valley and Highway 1, about 15 kilometres south of the community of Ashcroft (Bulletin 4).

COMMODITIES: Magnesium Sulphate Sodium Sulphate Hydromagnesite

MINERALS

SIGNIFICANT: Epsomite Bloedite Mirabilite

ASSOCIATED: Hydromagnesite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Residual Evaporite Industrial Min.

TYPE: F09 Playa and Alkaline Lake Evaporites

DIMENSION: 198 x 137

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Pond.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Greenstone
Argillaceous Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: NO. 1

REPORT ON: Y

CATEGORY: Probable

YEAR: 1924

QUANTITY: 58780 Tonnes

COMMODITY

GRADE

Magnesium Sulphate

100.0000

Per cent

COMMENTS: Combined magnesium and sodium salts assuming an average minimum depth of 3 metres; grades not given.

REFERENCE: Goudge, M.F. (1924): Magnesium Sulphate in British Columbia.

CAPSULE GEOLOGY

The Basque salt deposits occur in four small basins or mud-filled ponds 2 kilometres west of Highway 1 and 15 kilometres south of the community of Ashcroft. The deposits are the Basque No. 1, Basque No. 2 (092INW044), Basque No. 3 (092INW045) and Basque No. 4 (092INW046). The distance between the Basque No. 1 deposit in the north to the Basque No. 4 deposit in the south is about 1524 metres. The salts have accumulated in four small ponds that lie along a dry valley and are concentrated mainly in the two upper ponds (Basque Nos. 1, 2). Overburden is light or lacking, and in many places bare rock walls form part of the border of the ponds. These ponds are caused by dams of boulder clay and drift that cross the narrow valley.

A sequence of highly folded, metamorphosed, interbedded and nearly vertical dipping greenstone, argillite and argillaceous limestone of the Carboniferous to Jurassic Cache Creek Complex are exposed in the vicinity of the deposits. The Cache Creek rocks strike about 170 degrees.

The Basque deposits are hydrous salts of magnesium, sodium and calcium and consist primarily of mixed hydrous magnesium sulphate (epsomite or Epsom salt) and hydrous sodium magnesium sulphate (bloedite), as well as hydrous sodium sulphate (mirabilite or

CAPSULE GEOLOGY

Glauber's salt). The top one metre in all of the deposits is principally epsomite. Mirabilite generally occurs near the surface and the bloedite at depth. There are also small amounts of calcium sulphate, sodium bicarbonate and sodium chloride present. Potassium in small amounts has been determined in the brines.

The ponds vary in length from 137 to 183 metres and in width from 61 to 137 metres. The sodium and magnesium crystal in each of these ponds occurs as bowl-shaped masses of relatively clean crystal separated from each other by mud. This mud is raised up from 5 to 20 centimetres above the level surface of the crystal and forms a border or ring around the crystal bowl. The mud between the crystal bowls contains 45 to 60 per cent salts plus a little organic matter, the remainder being silt. In wet weather and during the spring and early summer there is brine on top of the crystal.

The Basque No. 1 is the largest of the ponds and it contains the largest deposit of the salts. It is roughly oval in shape, about 198 metres long and 137 metres wide. The pond covers approximately 21,738 square metres; about 17,651 square metres are covered by crystal deposits including mud between (ca. 1937). The Basque No. 1 deposit was the only one to be exploited by the Basque Chemical Production Co. Ltd. About 2086 tonnes of top crystal has been removed; about 1633 tonnes of this is stored in two sheds and in a stockpile on the bank (Goudge, 1924).

Assuming the average minimum depth of crystal in the Basque No. 1 deposit to be 3 metres, the total quantity of sodium and magnesium salts available would be about 58,780 tonnes (Goudge, 1924).

Some shallow, fresh-water ponds and small deposits of impure hydromagnesite and hydrous sodium sulphate (mirabilite) occur in small converging valleys close to and west of the Basque deposits.

The Basque deposits were staked in December 1917 by Messrs. Hammond of Basque. In 1919, the Basque Chemical Production Co. Ltd. was formed in Vancouver to develop the property and work was begun the same year. Crude surface crystal from Basque No. 1 was shipped to Vancouver and there prepared for market. At the deposits, the company erected 15 or 20 wooden buildings including a number of comfortable dwelling houses for their workmen. A large building intended as a mill was also erected but very little machinery was installed. Operations ceased in 1923, after some 2086 tonnes of crystal had been removed from the surface of Basque No. 1. The top crystal on Basque No. 1 was very pure when operations were first begun, but has since been contaminated. It was dug out of the various bowls by means of picks, crowbars and shovels and taken ashore in carts. As the market warranted, shipments of the crude crystal were made to the company's refining plant in Vancouver where it was prepared for market; the major part of the material, however, was stored in two sheds and in a large pile on the shore of the deposit. About 1633 tonnes is still in storage there (ca. 1924). In 1926, the deposits were carefully examined by M.F. Goudge of the Bureau of Mines, Ottawa, who published a full report in the Bureau of Mines Publication No. 632. It was not until 1933 that interest was again taken in the deposits and in 1934 Epsom Refineries, Limited took over the property. From then until 1938 about 2721 tonnes of salts were removed. In 1938, the property was acquired by the Ashcroft Epsom Salts Company of Winnipeg, which carried on operations during the winter of 1938-39. Since then little has been done except that in 1942, 59 tonnes of salts were shipped from the refinery at Ashcroft by Canadian Industries, Limited.

BIBLIOGRAPHY

- EMPR AR 1918-K237-K238; 1919-N180-N181; 1920-N168; 1922-N154,N155;
1923-A171; 1934-F22-F23
EMPR BULL *4, pp. 42-53,55,115
EMPR FIELDWORK 1981, pp. 270,271; 2000, pp. 327-336
EMPR OF 1987-13
EMPR PF (Records of Mineral Claim, 1974; Application for Production Permit, 1976)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, pp. 94,111-113
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 72-53, p. 104; 73-1A, p. 212; 74-49; 81-1A,
pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT *642 (Goudge, M.F. (1924): Magnesium Sulphate in British
Columbia), pp. 62-75
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

MINFILE NUMBER: **092INW044**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASQUE NO. 2**, BASQUE RANCH

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 38 N
LONGITUDE: 121 21 01 W
ELEVATION: 663 Metres

NORTHING: 5605964
EASTING: 616765

LOCATION ACCURACY: Within 500M

COMMENTS: Ponds between Venables Valley and Highway 1, about 15 kilometres south of the community of Ashcroft (Bulletin 4).

COMMODITIES: Magnesium Sulphate Sodium Sulphate Hydromagnesite

MINERALS

SIGNIFICANT: Epsomite Bloedite Mirabilite

ASSOCIATED: Hydromagnesite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Residual Evaporite Industrial Min.

TYPE: F09 Playa and Alkaline Lake Evaporites

DIMENSION: 137 x 84 Metres

STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Pond.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Greenstone
Argillaceous Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: NO. 2

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1924

QUANTITY: 7710 Tonnes

COMMODITY

GRADE

Magnesium Sulphate

100.0000 Per cent

COMMENTS: Combined magnesium and sodium salts assuming an average minimum depth of 1.2 metres; grades not given.

REFERENCE: Goudge, M.F. (1924): Magnesium Sulphate in British Columbia.

CAPSULE GEOLOGY

The Basque salt deposits occur in four small basins or mud-filled ponds 2 kilometres west of Highway 1 and 15 kilometres south of the community of Ashcroft. The deposits are the Basque No. 1 (092INW043), Basque No. 2, Basque No. 3 (092INW045) and Basque No. 4 (092INW046). The distance between the Basque No. 1 deposit in the north to the Basque No. 4 deposit in the south is about 1524 metres. The salts have accumulated in four small ponds that lie along a dry valley and are concentrated mainly in the two upper ponds (Basque Nos. 1, 2). Overburden is light or lacking, and in many places bare rock walls form part of the border of the ponds. These ponds are caused by dams of boulder clay and drift that cross the narrow valley.

A sequence of highly folded, metamorphosed, interbedded and nearly vertical dipping greenstone, argillite and argillaceous limestone of the Carboniferous to Jurassic Cache Creek Complex are exposed in the vicinity of the deposits. The Cache Creek rocks strike about 170 degrees.

The Basque deposits are hydrous salts of magnesium, sodium and calcium and consist primarily of mixed hydrous magnesium sulphate (epsomite or Epsom salt) and hydrous sodium magnesium sulphate (bloedite), as well as hydrous sodium sulphate (mirabilite or

CAPSULE GEOLOGY

Glauber's salt). The top one metre in all of the deposits is principally epsomite. Mirabilite generally occurs near the surface and the bloedite at depth. There are also small amounts of calcium sulphate, sodium bicarbonate and sodium chloride present. Potassium in small amounts has been determined in the brines.

The ponds vary in length from 137 to 183 metres and in width from 61 to 137 metres. The sodium and magnesium crystal in each of these ponds occurs as bowl-shaped masses of relatively clean crystal separated from each other by mud. This mud is raised up from 5 to 20 centimetres above the level surface of the crystal and forms a border or ring around the crystal bowl. The mud between the crystal bowls contains 45 to 60 per cent salts plus a little organic matter, the remainder being silt. In wet weather and during the spring and early summer there is brine on top of the crystal.

The Basque No. 2 deposit is about 853 metres down the valley from the Basque No. 1 and is about 23 metres lower elevation. This pond is roughly oval in shape, about 137 metres long and 84 metres wide. The lateral banks are very steep and the bank at the southwest is a solid rock cliff. At each end of the pond the slope is very gradual. The top crystal in this deposit is about 30 centimetres thick and covers practically the whole pond. Beneath this top crystal, however, there is the same bowl-like formation of crystal that characterizes the other Basque deposits. The top crystal was brought to this deposit, in solution, from Basque No. 1. When Basque No. 1 was being worked, the quantity of brine there interfered with the work of obtaining the surface crystal, and in order to facilitate operations the brine was pumped into a launder leading to Basque No. 2. In time, the soluble minerals in the brine crystallized out to form the top layer that exists today on Basque No. 2 (ca. 1924).

The area of this pond is 8361 square metres of which about 4366 square metres is occupied by the crystal bowls with their encircling mud rings. The crystal bowls, separated from each other in many cases by from only a few centimetres to 45 centimetres of mud, are from 18 to 30 metres from the shoreline, except along the northeast shore where the bowls occur to within 6 metres of the margin. The average depth of crystal including mud layers is about 1.6 metres.

Assuming the average minimum depth of crystal in the Basque No. 2 deposit to be 1.2 metres, the total quantity of sodium and magnesium salts available would be about 7710 tonnes (Goudge, 1924).

Some shallow, fresh-water ponds and small deposits of impure hydromagnesite and hydrous sodium sulphate (mirabilite) occur in small converging valleys close to and west of the Basque deposits.

The Basque deposits were staked in December 1917 by Messrs. Hammond of Basque. In 1919, the Basque Chemical Production Co. Ltd. was formed in Vancouver to develop the property and work was begun the same year. Crude surface crystal from Basque No. 1 was shipped to Vancouver and there prepared for market. At the deposits, the company erected 15 or 20 wooden buildings including a number of comfortable dwelling houses for their workmen. A large building intended as a mill was also erected but very little machinery was installed. Operations ceased in 1923, after some 2086 tonnes of crystal had been removed from the surface of Basque No. 1. The top crystal on Basque No. 1 was very pure when operations were first begun, but has since been contaminated. It was dug out of the various bowls by means of picks, crowbars and shovels and taken ashore in carts. As the market warranted, shipments of the crude crystal were made to the company's refining plant in Vancouver where it was prepared for market; the major part of the material, however, was stored in two sheds and in a large pile on the shore of the deposit. About 1633 tonnes is still in storage there (ca. 1924). In 1926, the deposits were carefully examined by M.F. Goudge of the Bureau of Mines, Ottawa, who published a full report in the Bureau of Mines Publication No. 632. It was not until 1933 that interest was again taken in the deposits and in 1934 Epsom Refineries, Limited took over the property. From then until 1938 about 2721 tonnes of salts were removed. In 1938, the property was acquired by the Ashcroft Epsom Salts Company of Winnipeg, which carried on operations during the winter of 1938-39. Since then little has been done except that in 1942, 59 tonnes of salts were shipped from the refinery at Ashcroft by Canadian Industries, Limited.

BIBLIOGRAPHY

- EMPR AR 1918-K237-K238; 1919-N180-N181; 1920-N168; 1922-N154,N155;
1923-A171; 1934-F22-F23
EMPR BULL *4, pp. 42-53,55,115
EMPR FIELDWORK 1981, pp. 270,271; 2000, pp. 327-336
EMPR OF 1987-13
EMPR PF (Records of Mineral Claim, 1974; Application for Production
Permit, 1976)

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 391
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, pp. 94,111-113
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 72-53, p. 104; 73-1A, p. 212; 74-49; 81-1A,
pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT *642 (Goudge, M.F. (1924): Magnesium Sulphate in British
Columbia), pp. 62-75
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW045**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASQUE NO. 3**, BASQUE RANCH

MINING DIVISION: Kamloops

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 30 N
LONGITUDE: 121 20 42 W
ELEVATION: 640 Metres

NORTHING: 5605726
EASTING: 617144

LOCATION ACCURACY: Within 500M

COMMENTS: Ponds between Venables Valley and Highway 1, about 15 kilometres south of the community of Ashcroft (Bulletin 4).

COMMODITIES: Magnesium Sulphate Sodium Sulphate Hydromagnesite

MINERALS

SIGNIFICANT: Epsomite Bloedite Mirabilite

ASSOCIATED: Hydromagnesite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Residual Evaporite Industrial Min.

TYPE: F09 Playa and Alkaline Lake Evaporites

DIMENSION: 167 x 61 Metres

STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Pond.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Greenstone
Argillaceous Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: NO. 3

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1924

QUANTITY: 1814 Tonnes

COMMODITY

GRADE

Magnesium Sulphate

100.0000 Per cent

COMMENTS: Combined magnesium and sodium salts assuming an average minimum depth of 0.76 metre; grades not given.

REFERENCE: Goudge, M.F. (1924): Magnesium Sulphate in British Columbia.

CAPSULE GEOLOGY

The Basque salt deposits occur in four small basins or mud-filled ponds 2 kilometres west of Highway 1 and 15 kilometres south of the community of Ashcroft. The deposits are the Basque No. 1 (092INW043), Basque No. 2 (092INW044), Basque No. 3 and Basque No. 4 (092INW046). The distance between the Basque No. 1 deposit in the north to the Basque No. 4 deposit in the south is about 1524 metres. The salts have accumulated in four small ponds that lie along a dry valley and are concentrated mainly in the two upper ponds (Basque Nos. 1, 2). Overburden is light or lacking, and in many places bare rock walls form part of the border of the ponds. These ponds are caused by dams of boulder clay and drift that cross the narrow valley.

A sequence of highly folded, metamorphosed, interbedded and nearly vertical dipping greenstone, argillite and argillaceous limestone of the Carboniferous to Jurassic Cache Creek Complex are exposed in the vicinity of the deposits. The Cache Creek rocks strike about 170 degrees.

The Basque deposits are hydrous salts of magnesium, sodium and calcium and consist primarily of mixed hydrous magnesium sulphate (epsomite or Epsom salt) and hydrous sodium magnesium sulphate (bloedite), as well as hydrous sodium sulphate (mirabilite or

CAPSULE GEOLOGY

Glauber's salt). The top one metre in all of the deposits is principally epsomite. Mirabilite generally occurs near the surface and the bloedite at depth. There are also small amounts of calcium sulphate, sodium bicarbonate and sodium chloride present. Potassium in small amounts has been determined in the brines.

The ponds vary in length from 137 to 183 metres and in width from 61 to 137 metres. The sodium and magnesium crystal in each of these ponds occurs as bowl-shaped masses of relatively clean crystal separated from each other by mud. This mud is raised up from 5 to 20 centimetres above the level surface of the crystal and forms a border or ring around the crystal bowl. The mud between the crystal bowls contains 45 to 60 per cent salts plus a little organic matter, the remainder being silt. In wet weather and during the spring and early summer there is brine on top of the crystal.

The Basque No. 3 deposit is about 305 metres down the valley from the Basque No. 2 and is about 25 metres lower elevation. The pond has steep banks with rock outcropping along the eastern shore and contains considerably less salts than Basque Nos. 1 and 2. This pond is about 167 metres long and 61 metres wide and has an area of 8361 square metres. The greater part of the pond is filled with mud and no crystal occurs within 12 metres of the shore. The crystal bowls, about 30 in number, are present only in the southern half of the pond, where they extend over an area of about 2508 square metres (ca. 1924). The bowls average about 9 metres in diameter with an average depth of about 0.9 metre.

Assuming an average depth of crystal of 0.76 metre, the quantity of hydrous salts would be about 1814 tonnes (Goudge, 1924).

Some shallow, fresh-water ponds and small deposits of impure hydromagnesite and hydrous sodium sulphate (mirabilite) occur in small converging valleys close to and west of the Basque deposits.

The Basque deposits were staked in December 1917 by Messrs. Hammond of Basque. In 1919, the Basque Chemical Production Co. Ltd. was formed in Vancouver to develop the property and work was begun the same year. Crude surface crystal from Basque No. 1 was shipped to Vancouver and there prepared for market. At the deposits, the company erected 15 or 20 wooden buildings including a number of comfortable dwelling houses for their workmen. A large building intended as a mill was also erected but very little machinery was installed. Operations ceased in 1923, after some 2086 tonnes of crystal had been removed from the surface of Basque No. 1. The top crystal on Basque No. 1 was very pure when operations were first begun, but has since been contaminated. It was dug out of the various bowls by means of picks, crowbars and shovels and taken ashore in carts. As the market warranted, shipments of the crude crystal were made to the company's refining plant in Vancouver where it was prepared for market; the major part of the material, however, was stored in two sheds and in a large pile on the shore of the deposit. About 1633 tonnes is still in storage there (ca. 1924). In 1926, the deposits were carefully examined by M.F. Goudge of the Bureau of Mines, Ottawa, who published a full report in the Bureau of Mines Publication No. 632. It was not until 1933 that interest was again taken in the deposits and in 1934 Epsom Refineries, Limited took over the property. From then until 1938 about 2721 tonnes of salts were removed. In 1938, the property was acquired by the Ashcroft Epsom Salts Company of Winnipeg, which carried on operations during the winter of 1938-39. Since then little has been done except that in 1942, 59 tonnes of salts were shipped from the refinery at Ashcroft by Canadian Industries, Limited.

BIBLIOGRAPHY

- EMPR AR 1918-K237-K238; 1919-N180-N181; 1920-N168; 1922-N154,N155; 1923-A171; 1934-F22-F23
EMPR BULL *4, pp. 42-53,55,115
EMPR FIELDWORK 1981, pp. 270,271; 2000, pp. 327-336
EMPR OF 1987-13
EMPR PF (Records of Mineral Claim, 1974; Application for Production Permit, 1976)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, pp. 94,111-113
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 72-53, p. 104; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT *642 (Goudge, M.F. (1924): Magnesium Sulphate in British Columbia), pp. 62-75
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 394
REPORT: RGEN0100

BIBLIOGRAPHY

British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW046**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASQUE NO. 4**, BASQUE RANCH

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5605389
EASTING: 617269

LATITUDE: 50 35 19 N
LONGITUDE: 121 20 36 W
ELEVATION: 638 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Ponds between Venables Valley and Highway 1, about 15 kilometres south of the community of Ashcroft (Bulletin 4).

COMMODITIES: Magnesium Sulphate Sodium Sulphate Hydromagnesite

MINERALS

SIGNIFICANT: Epsomite Bloedite Mirabilite
ASSOCIATED: Hydromagnesite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Residual Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	

LITHOLOGY: Argillite
Greenstone
Argillaceous Limestone

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: NO. 4
REPORT ON: Y
CATEGORY: Indicated
QUANTITY: 181 Tonnes
YEAR: 1924
COMMODITY: Magnesium Sulphate
GRADE: 100.0000 Per cent
COMMENTS: Combined sodium and magnesium salts; grades not given.
REFERENCE: Goudge, M.F. (1924): Magnesium Sulphate in British Columbia.

CAPSULE GEOLOGY

The Basque salt deposits occur in four small basins or mud-filled ponds 2 kilometres west of Highway 1 and 15 kilometres south of the community of Ashcroft. The deposits are the Basque No. 1 (092INW043), Basque No. 2 (092INW044), Basque No. 3 (092INW045) and Basque No. 4. The distance between the Basque No. 1 deposit in the north to the Basque No. 4 deposit in the south is about 1524 metres. The salts have accumulated in four small ponds that lie along a dry valley and are concentrated mainly in the two upper ponds (Basque Nos. 1, 2). Overburden is light or lacking, and in many places bare rock walls form part of the border of the ponds. These ponds are caused by dams of boulder clay and drift that cross the narrow valley.

A sequence of highly folded, metamorphosed, interbedded and nearly vertical dipping greenstone, argillite and argillaceous limestone of the Carboniferous to Jurassic Cache Creek Complex are exposed in the vicinity of the deposits. The Cache Creek rocks strike about 170 degrees.

The Basque deposits are hydrous salts of magnesium, sodium and calcium and consist primarily of mixed hydrous magnesium sulphate (epsomite or Epsom salt) and hydrous sodium magnesium sulphate (bloedite), as well as hydrous sodium sulphate (mirabilite or Glauber's salt). The top one metre in all of the deposits is principally epsomite. Mirabilite generally occurs near the surface and the bloedite at depth. There are also small amounts of calcium

CAPSULE GEOLOGY

sulphate, sodium bicarbonate and sodium chloride present. Potassium in small amounts has been determined in the brines.

The ponds vary in length from 137 to 183 metres and in width from 61 to 137 metres. The sodium and magnesium crystal in each of these ponds occurs as bowl-shaped masses of relatively clean crystal separated from each other by mud. This mud is raised up from 5 to 20 centimetres above the level surface of the crystal and forms a border or ring around the crystal bowl. The mud between the crystal bowls contains 45 to 60 per cent salts plus a little organic matter, the remainder being silt. In wet weather and during the spring and early summer there is brine on top of the crystal.

The Basque No. 4 deposit is about 160 metres down the valley from the Basque No. 3 and is about 2 metres lower elevation. The banks are fairly steep with a uniform slope. The only crystal in the pond is contained in 18 small crystal bowls, 1.8 to 4.5 metres in diameter and varying from 0.6 to 2.4 metres in depth, which are widely scattered over the southern half of the basin. The remainder of the pond is filled with a compact dry mud. There are about 181 tonnes of mixed sodium and magnesium salts in this deposit (Goudge, 1924).

Some shallow, fresh-water ponds and small deposits of impure hydromagnesite and hydrous sodium sulphate (mirabilite) occur in small converging valleys close to and west of the Basque deposits.

The Basque deposits were staked in December 1917 by Messrs. Hammond of Basque. In 1919, the Basque Chemical Production Co. Ltd. was formed in Vancouver to develop the property and work was begun the same year. Crude surface crystal from Basque No. 1 was shipped to Vancouver and there prepared for market. At the deposits, the company erected 15 or 20 wooden buildings including a number of comfortable dwelling houses for their workmen. A large building intended as a mill was also erected but very little machinery was installed. Operations ceased in 1923, after some 2086 tonnes of crystal had been removed from the surface of Basque No. 1. The top crystal on Basque No. 1 was very pure when operations were first begun, but has since been contaminated. It was dug out of the various bowls by means of picks, crowbars and shovels and taken ashore in carts. As the market warranted, shipments of the crude crystal were made to the company's refining plant in Vancouver where it was prepared for market; the major part of the material, however, was stored in two sheds and in a large pile on the shore of the deposit. About 1633 tonnes is still in storage there (ca. 1924). In 1926, the deposits were carefully examined by M.F. Goudge of the Bureau of Mines, Ottawa, who published a full report in the Bureau of Mines Publication No. 632. It was not until 1933 that interest was again taken in the deposits and in 1934 Epsom Refineries, Limited took over the property. From then until 1938 about 2721 tonnes of salts were removed. In 1938, the property was acquired by the Ashcroft Epsom Salts Company of Winnipeg, which carried on operations during the winter of 1938-39. Since then little has been done except that in 1942, 59 tonnes of salts were shipped from the refinery at Ashcroft by Canadian Industries, Limited.

BIBLIOGRAPHY

- EMPR AR 1918-K237-K238; 1919-N180-N181; 1920-N168; 1922-N154,N155;
1923-A171; 1934-F22-F23
EMPR BULL *4, pp. 42-53,55,115
EMPR FIELDWORK 1981, pp. 270,271; 2000, pp. 327-336
EMPR OF 1987-13
EMPR PF (Records of Mineral Claim, 1974; Application for Production Permit, 1976)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, pp. 94,111-113
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 72-53, p. 104; 73-1A, p. 212; 74-49; 81-1A,
pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT *642 (Goudge, M.F. (1924): Magnesium Sulphate in British
Columbia), pp. 62-75
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW047**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAT CREEK**, NO. 1, NO. 2,
HAT CREEK COAL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I13E 092I12E
BC MAP:

Open Pit Underground

MINING DIVISION: Kamloops

LATITUDE: 50 46 11 N
LONGITUDE: 121 36 15 W
ELEVATION: 929 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5625146
EASTING: 598427

LOCATION ACCURACY: Within 500M

COMMENTS: The Hat Creek coal deposit is divided into the No. 1 and No. 2 reserves. The No. 1 reserve has been mined on a limited scale while the No. 2 reserve, faulted south, is larger but not so well known. The location coordinates are for pits on the No. 1 reserve, located on the west side of Hat Creek, about 21 kilometres west of the community of Cache Creek. No. 2 reserve is located about 7.5 kilometres to the south, along Hat Creek.

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A03 Sub-bituminous coal
SHAPE: Tabular
MODIFIER: Faulted Folded

COMMENTS: The strata (No. 1 reserve) generally dips approximately 25 degrees south with local divergences due to faulting and minor folding. The strata in the No. 2 reserve dips 20 to 30 degrees, striking north.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Kamloops	Hat Creek	

LITHOLOGY: Claystone
Siltstone
Coal
Sandstone
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: Sub-bituminous B rank coal.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: Post-mineralization GRADE: Sub-Bituminous

INVENTORY

ORE ZONE: HAT CREEK REPORT ON: Y
CATEGORY: Combined YEAR: 1978
QUANTITY: 739523000 Tonnes
COMMODITY: Coal GRADE: 100.0000 Per cent
COMMENTS: Proven and probable reserves of the No. 1 deposit with a heating value of 17.71 MJ/kg, ash content of 34.82 per cent and sulphur content of 0.51 per cent.

REFERENCE: Coal Assessment Report 142, page 4-15.

ORE ZONE: HAT CREEK REPORT ON: Y
CATEGORY: Inferred YEAR: 1978
QUANTITY: 45000000 Tonnes
COMMODITY: Coal GRADE: 100.0000 Per cent
COMMENTS: Possible reserves.
REFERENCE: Coal Assessment Report 142, page 4-15.

CAPSULE GEOLOGY

The presence of an important coal deposit on Hat Creek has been known for many years. It was first reported by G.M. Dawson of the Geological Survey of Canada in 1877 and again in 1894. The first attempt to work the deposit was in 1893 when a rancher, George Finney, sank a 38-metre shaft and supplied coal to local residences and the village of Ashcroft. The next activity began in 1923 when a Chinese syndicate started a more ambitious operation, planning to use the nearby Pacific Great Eastern Railway (now BC Rail) to ship the coal to the coast. The syndicate ran out of funds before much was accomplished. The Clear Mountain Coal Company Ltd. took over and shipped three carloads of the coal, but the marketing of it in Vancouver proved a failure and the company went into bankruptcy. Early in 1925 the Hat Creek Coal Company acquired the property; to this point total development included three shallow exploration shafts, two tunnels driven 35 and 50 metres from the west side of Hat Creek, and seven drillholes which tested an area of about 45 hectares located approximately 1.5 kilometres south of Marble Canyon. The property lay dormant until 1933 when it was secured by L.D. Leonard. In the period 1933 to 1942 a few hundred tonnes of coal were mined each year and sold locally. This activity ceased because of World War II and no further work was done until 1957. In the mid-1950s, the B.C. Electric Company Limited asked its geological consultant, Dr. Victor Dolmage, if he could recommend a coal property in southern British Columbia that might be amenable to large-scale mining to support a major thermal power generating plant. Dr. Dolmage had previously examined the Hat Creek coal property for its owners, the Wilson family of Vancouver, and had noted the widespread occurrence of thick coal in a few scattered drillholes and the structures exposed in the mine that suggest unusually thick coal layers. Accordingly, he recommended the Hat Creek property and, in 1957, it was optioned to Western Development and Power Limited, a subsidiary of B.C. Electric Company Limited. The area of the exposed portion of the Hat Creek coal deposit was explored by eight reconnaissance diamond-drill holes and the investigation continued in 1959 when some trenching and six additional holes were completed west of Hat Creek near the old workings. Acquisition of British Columbia Electric by the Province ended further exploration until mid-1974 when British Columbia Hydro and Power Authority, a Crown-owned company, began systematic drilling. Twenty-five diamond-drill holes and two rotary holes totalling 11,418 metres were completed in 1974. FSI, petrographic, plasticity, washability, grindability, fusibility tests and proximate and ultimate analyses were performed on the coal. In addition, chemical analyses of the ash were done. Some of the holes were logged with varying combinations of caliper, density, gamma, neutron and resistance tools. Infra-red heat sensing and magnetometer surveys were run and test programmes were conducted for electromagnetic, resistivity and gravity techniques. In 1975, 76 diamond-drill holes totalling 22,556 metres were drilled. In addition, ground level magnetometer and gravity studies were undertaken covering the entire length of the valley. In 1976, 89 diamond-drill holes were completed totalling 20,422 metres, all of which were logged by gamma ray-density instruments and where possible, by caliper-resistance devices. Fifteen auger holes were drilled totalling 265 metres, yielding 108 tonnes coal for sampling. In the spring and summer of 1977, some 6350 tonnes of coal from two test trenches were transported by rail to the Battle River Powerplant of Alberta Power Ltd. Burning and other tests carried out there demonstrated that typical Hat Creek coal can be handled, pulverized and burned in a 32 megawatt commercial-scale powerplant unit (Final Report, Bulk Sample Program, August 1978).

The valley formed by the upper reaches of Hat Creek, site of the coal deposits, is a northerly trending topographic and structural depression 22 kilometres long and 3 to 5 kilometres wide. It is an open basin bounded by the rugged Clear Range on the west and Cornwall Hills on the east. Except for the coal beds now exposed at the north end of the valley, bedrock is rarely seen on the valley floor. Reconnaissance drilling shows that the average till cover is 51 metres thick.

The principal lithological units in the Hat Creek area consist of Tertiary coal and clastic sedimentary and volcanic formations which rest unconformably on Cretaceous volcanic rocks and metamorphosed Paleozoic carbonates and greenstones.

Two main coal deposits are present in the Hat Creek area, the No. 1 reserve (the original deposit) south of Marble Canyon, and the larger No. 2 reserve about 7.5 kilometres to the south along Hat Creek. Three main coal seams containing sub-bituminous rank coal are present in approximately 425 metres of strata of the Eocene Hat Creek Formation (Kamloops Group). The coal is interbedded with claystone, siltstone, sandstone and minor conglomerate. The coal is almost

CAPSULE GEOLOGY

everywhere overlain by a thick claystone sequence which in turn is overlain unconformably by a variety of volcanic rocks including lahars and dacite, basalt, rhyolite and trachyte lavas. Andesitic volcanic rocks of the Kamloops Group and Cretaceous Spences Bridge Group, exposed peripherally in the valley, appear to form the base of this succession. The age of the coal measures is believed to be early Tertiary, bracketed by a date of 51.2 +/- 1.4 Ma on overlying rhyolite of the Kamloops Group and a 91.6 +/- 3 Ma determination on much older feldspathic basalt tentatively assigned to the Spences Bridge Group which underlies unconformably below the Tertiary beds (Canadian Journal of Earth Sciences, Volume 16, Number 9 (1979), page 1883).

It was noted by Church (Geology 1975) that some of the coal at Hat Creek appeared to be burnt, evidence of this being yellow and reddish altered rocks and soil near coal seams. This observation was subsequently confirmed by British Columbia Hydro and Power Authority during excavation of a large trench for bulk sampling purposes. The term bocanne-buchite has been applied to high temperature metamorphic rocks and pseudo-volcanic rocks above the No. 1 coal deposit. According to Crickmay (1967) bocanne is the process of autogenous combustion of carbonaceous shale or coal-bearing strata, and buchite, by glossary definition, is a partly fused shale or clay resulting from intense thermal metamorphism. The extent of the burnt zone has been established by drilling. The thickest section, about 75 metres deep, underlies the Dry Lake gulch near the base of the coal measures. Other profiles of the burnt zone give an average thickness of about 25 metres, although thinning and some discontinuity is apparent. The present area of the burnt zone amounting to about 3.5 square kilometres is evidently only an erosional remnant of a once much broader area of altered rocks. Similar reddish rocks and soils can also be seen 8.5 kilometres to the south near the No. 2 coal deposit. The age of the bocanne appears to be interglacial; the burnt zone is covered by till and glacial alluvium indicating a minimum age of at least 10,000 years, the time of retreat of last glaciation. Maximum age, shown by a polarity test of magnetite-rich lenses in the burnt zone, is evidently less than 700,000 years, the time of the last major magnetic reversal (Fieldwork 1979, page 99). The phenomena of spontaneous combustion of low rank coal is widely known and it is suspected to be the ultimate cause of the Hat Creek bocanne. Tests have demonstrated that loose stacking of the coal promotes oxidation. Within several days temperatures can rise sharply causing ignition. It seems most likely that the original fire at Hat Creek may have begun in this manner in talus accumulations adjacent the coal measures.

The Hat Creek coal basin occupies a narrow depression bounded by steep faults. The central zone has been downwarped along a series of north-south tensional faults forming a graben. Locally the walls of the graben have been offset somewhat by a series of northwest and northeast striking conjugate shear faults. The basin is crosscut by an important system of east trending younger gravity faults. The strata in the No. 1 reserve generally dip approximately 25 degrees south with local divergences being due to faulting and minor folding. Beds in the No. 2 reserve dip 20 to 30 degrees west and strike north, parallel to a number of major gravity faults which downthrow the strata to the west.

The coal at Hat Creek is one of the most competent rocks in the succession. Physically, there is a full range of coals from bright to dull brown, but most of it is massive, compact, fine grained, relatively solid, dull brownish black rock. It is flaky where sheared or weathered. Relatively continuous horizons of resin beads and petrified wood fragments are common in the coal. Parts of the coal are characterized by small lenses, globules and irregular-shaped masses of light yellow semi-transparent fossilized amber or retinite.

The uppermost seam, approximately 160 metres thick (A zone), constitutes more than one-third of the formation and consists of a relatively impure sequence of interbedded coal, claystone and siltstone and sandstone lenses. The bands and partings represent approximately 28 per cent of the seam. The middle seam (B zone) is 50 metres thick while the lowermost seam (D zone) is 70 metres thick, and is separated from the former by sandy siltstone, conglomerate, sandstone, and a number of thin coal bands (C zone). Approximately 23 per cent of the seams consist of impurities. The lower portion of the lower seam, approximately 30 metres, consists of clean coal (approximately 14 per cent impurities) and represents the best quality coal in the Hat Creek coal measures. The mean composition of the coal is as follows: 32.6 per cent ash, 34.0 per cent fixed carbon, 34.4 per cent volatile matter and approximately 0.55 per cent sulphur.

Proven and probable coal reserves of the No. 1 deposit (for

CAPSULE GEOLOGY

selective mining with a 2 metre cutoff) with a heating value of 17.71 megajoules per kilogram, ash content of 34.82 per cent and sulphur content of 0.51 per cent are 739,523,000 tonnes. Possible (inferred) reserves constitute an additional 45 million tonnes. The volume of coal in the No. 2 reserve will surpass the No. 1 reserve and the coal also appears to be of better quality (approximately 15 to 25 per cent impurities). The potential for surface mining is greater in the No. 1 reserve, where seams are closer to the surface (Coal Assessment Report 142).

BIBLIOGRAPHY

EMPR AR 1895-668; 1899-728; 1901-1092; 1923-A159; 1924-B145,B146, B337; *1925-A187,A308-A333; 1933-A337; 1934-G31; 1936-G4,G6,G42; 1937-G32; 1942-A94,A96,A119; 1943-A89,A115,A116; 1944-A86,A88,A89, A93; 1945-A137,A139,A163; 1959-266; 1960-230
EMPR COAL ASS RPT 118, 128, 131, 135, 137, 138, 139, *141, 143, 144, 145
EMPR Coal in British Columbia 1976, p. 81
*Church, B.N., Ewing, T.E. and Hora, D. (1983): GAC-MAC 1983 Fieldtrip Guide; Fieldtrip 1
EMPR EXPL 1975-E217-E219; 1976-E216,E217
EMPR FIELDWORK *1975, pp. 104-108; 1979, pp. 97-99; 1980, pp. 73-78; 1981, pp. 270,271
EMPR GEM 1974-425,426
EMPR GEOLOGY *1975, pp. G99-G118
EMPR MAP 65 (1989)
EMPR OF 1987-18; 1988-29; 1990-23; 1992-1
EMPR P *1986-3, pp. 27-28
EMPR PF (Geology maps, pit development maps and photos; Church, B.N. and Gilchrist, R. (1975): Preliminary Geological Interpretation of the Hat Creek Coal Basin; *Hat Creek Project, Public Information Bulletin No.3, March 1979; Hat Creek Project, Quick Facts, Summer 1977, B.C. Hydro; *Church, B.N. (1976): Geology of the Hat Creek Coal Basin; *The Coal Association of Canada, 29th Canadian Conference on Coal, Edmonton, Alberta, Oct. 2-4, 1977, Coal Resource of the Hat Creek Valley; *The Hat Creek Project, Paper for Presentation at Spring Meeting of Canadian Electrical Association Engineering and Operating Division, Thermal and Nuclear Power Section, March 26-29, 1979, B.C. Hydro and Power Authority; *Hat Creek Project, Final Report Bulk Sample Program, August 1978, B.C. Hydro and Power Authority)
GSC ANN RPT 1877-78, pp. 120B-122B; 1894 (Vol. VII), pp. 207B-211B
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 69, pp. 289-294; 262, pp. 108-110
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
GSC SUM RPT 1925 Part A, pp. 164A-181A
CIM BULL *June 1977, Vol.70, No.782, pp. 99-108
CJES Vol.16, No.9, (1979), pp. 1882-1887 (Combustion Metamorphism in the Hat Creek area, B.C.)
Times Colonist, July 7, 2001, p. F8

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/01

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INW048**

NATIONAL MINERAL INVENTORY:

NAME(S): **TERRY (COLDSTREAM)**, SPATSUM, COLDSTREAM

STATUS: Showing

Underground

MINING DIVISION: Kamloops

REGIONS: British Columbia

NTS MAP: 092I11W

BC MAP:

LATITUDE: 50 33 00 N

LONGITUDE: 121 16 33 W

ELEVATION: 457 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit located about 900 metres north of Coldstream Creek on the east side of the Thompson River, about 19 kilometres south of the community of Ashcroft (Assessment Report 2257). See also Pukaist (092INW049).

UTM ZONE: 10 (NAD 83)

NORTHING: 5601204

EASTING: 622147

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

ASSOCIATED: Pyrite

Magnetite

ALTERATION: Malachite

Magnetite

Epidote

ALTERATION TYPE: Oxidation

Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

Shear

CLASSIFICATION: Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION: 457 x 30

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Coldstream gossan zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

Triassic-Jurassic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY:

Greywacke

Chert

Limestone

Gossan

Diorite

Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

Quesnel

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

The Terry property is located at the western contact of the Late Triassic-Early Jurassic Guichon Creek batholith with the Carboniferous to Jurassic Cache Creek Complex. Guichon rocks comprise diorite and quartz diorite. Cache Creek rocks comprise greywacke, chert and limestone that dip mainly eastward.

Disseminated magnetite, pyrite, chalcopyrite and malachite occur in gossans in altered Cache Creek sediments. Concentration of sulphides increases with brecciation and shearing. Two main gossans occur, the Coldstream zone and the Pukaist zone (092INW049). The Coldstream zone is located about 900 metres north of Coldstream Creek and occurs near Guichon diorite and a fault where shearing and brecciation is evident; malachite is abundant. The zone has an exposed length of 457 metres and width of 30 metres. A small 3-metre adit is evident and intersects a magnetite-epidote lens, 15 by 6 metres.

Work done on the Coldstream zone by Alscope Consolidated Ltd. during 1961-62 comprised induced polarization and magnetic surveys, caterpillar trenching and drilling seven diamond-drill holes totalling at least 640 metres with an uncompleted hole at 130 metres long. In 1969, Largo Mines Ltd. completed geological mapping on the Coldstream and Pukaist zones. In 1971, Largo Mines Ltd. conducted VLF-EM and magnetic surveys on both zones.

BIBLIOGRAPHY

EMPR AR *1962-28-46
EMPR ASS RPT *2257, 2980
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271; 1996, pp. 117-123
EMPR GEM 1971-298,299
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW049**

NATIONAL MINERAL INVENTORY:

NAME(S): **TERRY (PUKAIST)**, SPATSUM, PUKAIST

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 10 N
LONGITUDE: 121 15 44 W
ELEVATION: 884 Metres

NORTHING: 5597830
EASTING: 623191

LOCATION ACCURACY: Within 500M

COMMENTS: Adit about 1500 metres north of Pukaist Creek on the east side of the Thompson River, about 23 kilometres south of the community of Ashcroft (Assessment Report 2257). See also Coldstream (092INW048).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 38 x 15 Metres
COMMENTS: Shear zone.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Triassic-Jurassic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY:

Greywacke
Chert
Limestone
Diorite
Quartz Diorite
Gossan

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

Quesnel

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE:

CAPSULE GEOLOGY

The Terry property is located at the western contact of the Late Triassic-Early Jurassic Guichon Creek batholith with the Carboniferous to Jurassic Cache Creek Complex. Guichon rocks comprise diorite and quartz diorite. Cache Creek rocks comprise greywacke, chert and limestone that dip mainly eastward.

Disseminated magnetite, pyrite, chalcopyrite and malachite occur in gossans in altered Cache Creek sediments. Concentration of sulphides increases with brecciation and shearing. Two main gossans occur, the Coldstream zone (092INW048) and the Pukaist zone. The Pukaist zone is located about 1524 metres north of Pukaist Creek. The zone is about 1500 metres long and 45 metres wide. Early work consisted of hand trenches and a 30-metre adit driven to intersect a shear containing malachite and chalcopyrite; the adit did not intersect the shear. The shear is about 15 metres wide and 38 metres west of the adit.

In 1969, Largo Mines Ltd. completed geological mapping on the Coldstream and Pukaist zones. In 1971, Largo Mines Ltd. conducted VLF-EM and magnetic surveys on both zones.

BIBLIOGRAPHY

EMPR AR 1962-28-46
EMPR ASS RPT *2257, 2980
EMPR BULL 56; 62
EMPR EXPL 1979-179,180
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271; 1996, pp. 117-123

BIBLIOGRAPHY

EMPR GEM 1971-298,299
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW050**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLASGOW**, BABKIRK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:

Open Pit

MINING DIVISION: Clinton

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 59 06 N
LONGITUDE: 121 54 42 W
ELEVATION: 274 Metres

NORTHING: 5648721
EASTING: 576392

LOCATION ACCURACY: Within 500M

COMMENTS: Beach A along the Fraser River, just south of Leon Creek Indian Reserve 2, about 33 kilometres north of Lillooet (Assessment Report 3551).

COMMODITIES: Gold Platinum Silver

MINERALS

SIGNIFICANT: Gold Platinum
MINERALIZATION AGE:

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
Lower Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Gravel
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The portion of the Fraser River along which the Babkirk property is situated was first prospected by the gold rush miners of 1858 and 1859. After completion of the Canadian Pacific Railway in 1885, a large community of Chinese miners settled on the river at roughly the same location as the present property but centred on Little Leon Creek which cuts through Leon Creek Indian Reserves 2A and 2. Much evidence of their work, both north and south of Little Leon Creek, is present. They left the workings in the early 1900s when they were forced off the creeks and rivers by law. During the Depression many people made a living by panning. The Glasgow family of father and sons travelled and panned the river by boat during this period. Ford Glasgow remembered the present property as one of the best they had sampled and subsequently led W. Babkirk and associates to stake and open up a jeep road to the property during the last few years (ca. 1970, Assessment Report 3551). In 1970-71, sampling was carried out by Roy Erickson and Shore Explorations Ltd.

Sampling on the property was concentrated mainly on the 'beaches' along the Fraser River where samples consisted of 0.02 cubic metre panned by hand down to a black sand concentrate. All samples were taken of gravel at about 0.3 metre depth. Gold is quite fine and only a few pieces in all of the samples could be considered of nugget size. Analytical results from some samples yielded 89.8 grams per tonne gold, 40.7 grams per tonne gold and 11.9 grams per tonne platinum (Assessment Report 3551). Geological Survey of Canada Map 42-1989 shows the area to be underlain by Early Jurassic granodiorite.

BIBLIOGRAPHY

EM FIELDWORK 2001, pp. 303-312
EM GEOFILE 2000-2; 2000-5
EMPR ASS RPT *3551
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 406
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW051**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAIDEN CREEK**, BEATRICE, AV,
MAIDEN, SNOW, MAID,
BULL

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092113E

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 50 57 34 N
LONGITUDE: 121 31 40 W
ELEVATION: 914 Metres

NORTHING: 5646347
EASTING: 603393

LOCATION ACCURACY: Within 5 KM

COMMENTS: Along the valley of Maiden Creek near Highway 97, about 22 kilometres north-northwest of the community of Cache Creek (Assessment Report 7063).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Placer

TYPE: C04 Paleoplacer U-Au-PGE-Sn-Ti-diam-mag-gar-zir

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Paleozoic-Mesozoic

GROUP

Spences Bridge
Cache Creek

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Pebble Conglomerate
Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A report by F. Soues, Gold Commissioner, in the 1901 Minister of Mines Annual Report refers to a gold discovery on Maiden Creek. He describes a large deposit of fine quartz conglomerate. Samples were forwarded to the Department at Ottawa where a Dr. Hoffman advised that the sample was a yellowish white conglomerate carrying fine parts of native gold. Reported assays from this conglomerate yielded up to \$3.75 per ton (Minister of Mines Annual Report 1901).

No further mention is made of this area until 1932 where it was referred to in Bulletin 1 (1932). There was no activity until 1973 when the Au 5-10 claims were staked by John McGoran and geological mapping and soil sampling was conducted; some anomalous soil samples were obtained (up to 570 parts per billion gold) but the claims were allowed to expire. In 1977, the area was restaked on behalf of Seymour Resources Incorporated, and in 1978 an extended soil sampling program was conducted; numerous anomalous samples (highest value of 1400 parts per billion gold) were obtained. In 1980, a more extensive soil survey was conducted resulting in scattered anomalous gold values throughout the grid area; the claims were subsequently allowed to expire. The area was restaked in 1985, abandoned and restaked in 1986; no assessment work is reported. Bay Resources Ltd. and Edgemont Resources Corp. conducted grid preparation, geological mapping and rock sampling, a soil survey and magnetometer survey in 1987. The Maid 1-2 claims were staked in early 1988 after a regional heavy mineral stream sediment survey. In November of that year, heavy mineral sampling of two streams draining an area of pebble conglomerate yielded gold values over 15,000 parts per billion gold. Prospecting and soil sampling followed in 1989 in an attempt to find the bedrock source of the heavy mineral anomalies. In 1990, more claims were located to cover the possible extensions to the heavy mineral anomalies. Teck Corporation established a 45-kilometre grid and 625 soil samples taken and geological mapping performed; scattered gold values of up to 445 parts per billion were obtained. In 1991, Teck Corporation continued with a 72.2 kilometre grid covering the drainages of both the southern tributaries of Maiden

MINFILE NUMBER: **092INW051**

CAPSULE GEOLOGY

Creek. A VLF-EM survey, geological mapping, magnetometer survey and soil survey were completed. This work failed to locate any sign of bedrock mineralization; no further work was recommended. In 1993 and 1994, Cameco Corporation performed geological mapping, heavy mineral sampling, induced polarization survey and rock and soil sampling to locate the source of unexplained anomalous gold values. Due to the results of this exploration program, no further work was recommended. The Maiden Creek area is covered by extensive overburden. Rock exposures reveal bedded sandstone and polymictic pebble-cobble conglomerate of the middle and Upper Cretaceous Spences Bridge Group. To the west are middle Permian to Upper Triassic Marble Canyon Formation limestone of the Central belt Cache Creek Complex. To the east are middle Pennsylvanian to Upper Triassic Eastern belt Cache Creek Complex rocks.

BIBLIOGRAPHY

EMPR AR *1901-1091; 1931-A111
EMPR ASS RPT 3288, 3289, 4304, 7063, 8700, 15986, 18655, 19676,
21231, 22273, 22275, 23752
EMPR BULL 1 (1932), pp. 71,72
EMPR EXPL 1978-E172
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1973-210,211
EMPR OF 1987-18; 1988-29; 1990-23
EMPR PF (Report on the Maiden Creek Property by M.H. Sanguinetti,
1987 - in Bay Resources Ltd. Prospectus, Feb.1, 1988)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/05/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW052**

NATIONAL MINERAL INVENTORY:

NAME(S): **P & L, QUINTO, FAIRVIEW,
WALLA, TOQ**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 09214E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 03 N
LONGITUDE: 121 02 26 W
ELEVATION: 518 Metres

NORTHING: 5627654
EASTING: 638125

LOCATION ACCURACY: Within 500M

COMMENTS: Trench, north of Highway 1/97 and the Thompson River, about 21.5 kilometres east of the community of Cache Creek (Assessment Report 6527). See also Fairview (092INW037).

COMMODITIES: Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite
ASSOCIATED: Quartz Carbonate Magnetite
ALTERATION: Silica Carbonate Magnetite Malachite Epidote
ALTERATION TYPE: Silicific'n Carbonate Oxidation Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Skarn
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Andesitic Tuff
Andesitic Flow
Quartz Feldspar Porphyry
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Regionally the area is underlain by the Upper Triassic Nicola Group which is intruded by an Early Jurassic medium grained quartz hornblende diorite to diorite intrusion. Alteration of mafic minerals to chlorite is common in the dioritic rocks. Local concentrations of epidote, pink feldspar +/- calcite +/- magnetite are also observed. Nicola Group rocks consist of andesitic volcanic flows, tuffs and feldspar porphyries, coarse fragmentals and sedimentary rocks. The sedimentary sequence is composed of grey to white, fine grained, locally fossiliferous limestone.

At the main P & L showing, sphalerite and chalcopyrite occur as veins and stringers in silicified and carbonatized Nicola Group andesitic tuffs and flows which are in contact with quartz feldspar porphyry. About 350 metres north are two small showings 200 metres apart of malachite +/- chalcopyrite in quartz feldspar porphyry and andesitic volcanics. About 700 metres east of the main P & L showing, massive fine-grained magnetite with minor malachite was observed in andesitic volcanics in contact with quartz diorite. Six hundred metres south of this magnetite showing, magnetite and malachite occur in massive epidote-pink feldspar replacements in andesitic volcanics.

The earliest known reference to work done in this area was in 1944, where the Fairview group of eight claims were held by Lester Starnes of Ashcroft and J.W. Oakes of Calgary. Some open-cut work and diamond drilling were completed. The lowest working or pit is assumed to be the P & L showing (this description); about 914 metres northwest is a second pit that is assumed to be the Fairview or Main showing (092INW037). The Fairview property lapsed and then was restaked in 1955 by Ashdown and Winters. The B.C. Department of Mines completed a Geiger survey in 1958 but the results are unknown.

MINFILE NUMBER: **092INW052**

CAPSULE GEOLOGY

In 1961, prospecting, line cutting and soil sampling was done in the area of the Main showing. In 1967, caterpillar trenching totalling 213 metres in four trenches was performed on the Main showing and supervised by M.P. Stadnyk. In 1971, Cache Creek Copper Mines Ltd. reportedly diamond drilled seven or eight holes totalling over 609 metres; some geological mapping was performed by Rio Tinto. L. Ovington restaked the area as the P & L claims in 1971. In 1972, Colt Management Ltd. contracted Kenting Earth Sciences to conduct a reconnaissance induced polarization survey consisting of two lines, 122 metres apart, totalling 3.2 kilometres. The property was optioned in 1972 to Northland Mines Ltd. and a magnetometer survey was done by M.P. Stadnyk. The claims lapsed in 1975 and were restaked as the Walla claim in the same year. The Walla claim lapsed in 1976 and the Quinto claims are a relocation of the lapsed Walla claim. In 1977, Quinto Mining Corporation completed geological mapping, geochemical and magnetometer surveying. In 1980, a geochemical and VLF-EM survey was completed. In 1983 and 1985, VLF-EM surveys were conducted. In 1996, three diamond-drill holes totalling 295 metres were put down on the Main showing by GWR Resources Inc.

BIBLIOGRAPHY

EMPR AR 1958-71; 1967-148
EMPR ASS RPT 20, 3691, 4303, 4718, *6527, 8763, 11628, 12069, 14229, 14723, 24483
EMPR EXPL 1977-E164
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR GEM 1972-230; 1973-214,215
EMPR OF 1988-30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, p. 94,107,108
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW053**

NATIONAL MINERAL INVENTORY:

NAME(S): **MO**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 33 54 N
LONGITUDE: 121 06 05 W
ELEVATION: 1478 Metres

NORTHING: 5603174
EASTING: 634462

LOCATION ACCURACY: Within 1 KM

COMMENTS: Drillhole located on Cinder Hill north of the Highland Valley road,
about 21.5 kilometres southeast of the community of Ashcroft.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ASSOCIATED: Quartz Tourmaline Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Mo showing is underlain by Guichon variety and Hybrid phase quartz diorite or granodiorite of the Late Triassic-Early Jurassic Guichon Creek batholith. Specular hematite-quartz-tourmaline-chalcopyrite-bornite occur in fracture fillings as irregular and discontinuous patches.

In 1973, Quintana Minerals Corporation conducted geological mapping, drill road construction and percussion drilling in one hole totalling 61 metres. In 1979, Invex Resources Ltd. conducted a VLF-EM 16 survey.

BIBLIOGRAPHY

EMPR ASS RPT *8267
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM *1973-207
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/28

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW054**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPATSUM**, HART, FLORA,
MARIE, BELLE, TOM,
LOFAR, ORION, HIFAR,
SOFAR, MARS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092111W
BC MAP:

Underground

MINING DIVISION: Kamloops

LATITUDE: 50 33 28 N
LONGITUDE: 121 18 11 W

UTM ZONE: 10 (NAD 83)

NORTHING: 5602025
EASTING: 620199

ELEVATION: 366 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: Adit, just west of Highway 1 and opposite the Spatsum station on the Canadian Pacific Railway, about 18.5 kilometres south of the community of Ashcroft (Assessment Report 6918).

COMMODITIES: Copper Zinc Lead Gypsum

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite Galena Gypsum
ALTERATION: Gypsum Pyrite Silica Barite Talc
ALTERATION TYPE: Silicific'n Leaching Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Disseminated Massive
CLASSIFICATION: Hydrothermal Volcanogenic Industrial Min.
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

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

LITHOLOGY: Rhyolite Tuff
Rhyolite
Dacite Tuff
Dacite
Granite
Andesite Tuff
Andesite
Limestone
Diorite
Chert

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

Felsic volcanic and intrusive rocks which occur between the Martell and Bonaparte faults, near Ashcroft, are tentatively correlated with the Permo-Triassic Kutcho Assemblage, rather than the Upper Triassic to Lower Jurassic Nicola Group. Mafic volcanic rocks assigned to the Nicola Group occur both to the east and west of the Bonaparte fault. The presence of Upper Triassic fossils imply that this correlation is valid for basaltic rocks which occur east of the Bonaparte fault. However, the age of basaltic rocks that occur west of the Bonaparte fault, in proximity to, and possibly interbedded with rhyolite tuffs, is not constrained. These basaltic rocks may be contemporaneous with Lower Triassic felsic rocks, rather than the younger Nicola Group lavas. The presence of rocks of Kutcho Assemblage age and affinity raises the potential for Kutcho Creek-equivalent Cu-Zn volcanogenic massive sulphide mineralization (Fieldwork 1996).

The Spatsum property covers calcalkaline andesite to rhyolite metavolcanics and related chemical and clastic metasediments. They occur as a north to north-northwest striking, west dipping monoclinial sequence that has been metamorphosed to the mid-greenschist facies. The volcanics and sedimentary units have been locally intruded by diorite, granite, dacite and rhyolite plugs and dikes. Most of the intrusions are thought to be subvolcanic equivalents of the volcanic units. The metavolcanics include primarily andesite, dacite and

CAPSULE GEOLOGY

rhyolite tuffs and tuff breccias and the metasediments consist of thin limestone and chert beds.

The most significant mineralization occurs where the rhyolite and locally the dacite units have been variably leached, silicified and pyritized and impregnated with gypsum, trace talc and barite, and very small amounts of chalcopyrite, sphalerite and galena. The mineralized and altered zones are heavily gossaned and pyrite concentrations are difficult to estimate due to the intense surface weathering and leaching. Gypsum occurs in significant concentrations in the zones as massive and/or disseminated clots commonly distributed throughout the altered rhyolite pyroclastics. Two mineralized gypsum-rich zones are about 600 metres apart and stand out prominently as large white masses. The larger and more southerly gypsum outcrop occurs over a strike length of 60 metres and a vertical height of 90 metres and strikes north-northeast with a moderate dip to the northwest. In 1913, an 8-metre exploratory adit was driven at the base of the southerly exposure; from the end of the adit a winze was sunk to a depth of 9 metres. The adit intersected a band of nearly pure white massive gypsum, 1.5 metres wide, which analysed 32.70 per cent CaO, 46.72 per cent SO₃, 20.60 per cent H₂O and 0.04 per cent insolubles (CANMET Report 714).

The alteration zones, because of the abundance of gypsum, are interpreted to represent a facies which commonly develops adjacent to many base metal-bearing Kuroko-type massive sulphide deposits. It is felt that base metal-bearing massive sulphide concentrations may exist along strike or downdip adjacent to these alteration zones. The only other mineralization observed on the property includes minor disseminated pyrite which occurs locally in some rhyolite units (Assessment Report 6918).

The Spatsum gypsum showings were first staked about in 1896 by a prospector named Munro, who did a small amount of development work, but allowed the lease to lapse. It was then taken up about 1906 by Messrs. Sinclair and Spencer, who staked four mineral claims called the Hart, Flora, Marie and Belle; the claims were surveyed in 1907. Work conducted by the El Paso Mining and Milling Company in 1972 comprised geological mapping and a soil geochemical survey. In 1978, D.H. Wilson prospected the Orion claim which covered the gypsum showings. In 1978-80, geological mapping, soil geochemical survey, induced polarization, VLF-EM and magnetic surveys, and percussion drilling of eight holes totalling 594 metres were performed by Cominco Ltd. In 1987-88, geological mapping and an induced polarization survey were completed on behalf of P.G. Dasler who interprets that the gypsum showings are vein gypsum and part of the zoning of an epithermal event. In 1995, prospecting was performed by D. Javorsky and F.M. Smith to evaluate the epithermal potential.

BIBLIOGRAPHY

- EMPR AR 1907-L134,L135; 1912-K185; 1922-N153; 1926-A194; 1962-42,43
EMPR ASS RPT 3680, *6918, 7102, 7638, 8263, 16963, 18388, 24280
EMPR EXPL 1978-E287,E288; 1979-332,333
EMPR FIELDWORK 1981, pp. 270,271; 1996, pp. 117-123
EMPR OF 1991-15; 1999-2
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, p. 110
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT *245 pp. 95-97; *714 pp. 63,64
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft, British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/17

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW055**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHIEF**, WALHACHIN, WAL,
THOM, BRASSIE

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 44 40 N
LONGITUDE: 121 00 44 W
ELEVATION: 853 Metres

NORTHING: 5623291
EASTING: 640241

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of area of percussion drilling on the west bank of Rattlesnake
Creek, south of the Thompson River, about 19 kilometres east of the
community of Ashcroft (Assessment Report 6107).

COMMODITIES: Copper Gold

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Hornblende Diorite
Intrusive Breccia
Quartz Syenite
Quartz Monzonite
Quartz Porphyry
Rhyolite
Andesite
Basalt
Andesitic Basaltic Tuff
Andesitic Basaltic Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies at the northern boundary of the Late Triassic-Early Jurassic Guichon Creek batholith. The batholith is a composite, calcalkaline intrusion consisting of granodiorite and granite, with diorite and quartz diorite common as border phases. Upper Triassic rocks of the Nicola Group envelop the batholith and locally form roof pendants. The Jurassic Ashcroft Formation unconformably overlies the Nicola Group and batholith. The Eocene Kamloops Group unconformably covers the older rocks along the north end of the batholith.

Between Brassy and Rattlesnake creeks, Nicola Group andesitic and basaltic flows and tuffs have been intruded by multiphase intrusive bodies that are correlated with the Guichon Creek batholith. The predominant plutonic lithology is a hornblende diorite. Quartz syenite-quartz monzonite and associated intrusive breccia and a small quartz porphyry (rhyolite?) plug have intruded the hornblende diorite and are exposed along Rattlesnake Creek. In this vicinity a prominent gossan has formed due to weathering of heavily pyritized and silicified quartz porphyry and hornblende diorite. The intrusive breccia contains disseminated chalcopyrite and was the target of a 1976 percussion drilling programme by BP Minerals Ltd.

Exploration in 1984 uncovered a quartz-carbonate stockwork that is exposed for about 7 metres in altered hornblende diorite; gold values range up to 780 parts per billion. Alteration consists of

MINFILE NUMBER: **092INW055**

CAPSULE GEOLOGY

intense carbonate-silica and quartz-pyrite veining. Previous work on the Geo claims (now called Brassie Creek (092INW018) and which adjoined the Chief claims) consisted of a VLF-EM survey, induced polarization survey, geological mapping, three diamond-drill holes totalling 230 metres and a ground magnetometer survey in 1970-71 on behalf of Supertest Investments and Petroleum Ltd. BP Minerals diamond drilled 6 holes in 1973 but no report was filed. Between the period 1974 to 1987, work on the Chief property on behalf of Bethlehem Copper Corporation, BP Minerals Limited, Ninja Resources Ltd., MineQuest Exploration Associates Ltd. and QPX Minerals Inc. consisted of ground and/or airborne electromagnetic and magnetic surveys, induced polarization surveys, percussion drilling, soil geochemistry and geological mapping.

BIBLIOGRAPHY

EMPR ASS RPT 2772, 2773, 3743, 5730, 6107, *7531, *7736, 10148, 12258, *13329, 13740, 15635, 16641, 21625, 24809, 25285, 25502
EMPR BULL 56; 62
EMPR EXPL 1975-E91; 1976-E104; 1979-179
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM 1971-359,360; 1972-227; 1973-208
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/08/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW056**

NATIONAL MINERAL INVENTORY:

NAME(S): **A**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 32 54 N
LONGITUDE: 121 10 59 W
ELEVATION: 1097 Metres

NORTHING: 5601176
EASTING: 628724

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located south of Pukaist Creek, about 21 kilometres south of the community of Ashcroft (Exploration in British Columbia 1976).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The A showing is located within quartz diorite of the Late Triassic-Early Jurassic Guichon Creek batholith. Several northwest and northeast trending faults cross the property. Mineralization observed on the property is mainly disseminated chalcopyrite and pyrite. In oxidized zones, malachite and limonite are evident. In 1976, four diamond-drill holes totalling 457 metres were drilled on behalf of Bethlehem Copper Corporation.

BIBLIOGRAPHY

EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM *1976-E103
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW057**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILICA, ADD, MOLY, RED HILL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

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

LATITUDE: 50 38 04 N
LONGITUDE: 121 21 17 W
ELEVATION: 567 Metres

NORTHING: 5610467
EASTING: 616350

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of drilling on the west side of Highway 1 about 3 kilometres south of Red Hill, 20.5 kilometres south of the community of Cache Creek (Assessment Report 12100). See also Red Hill (092INW042).

COMMODITIES: Copper Zinc Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite
ASSOCIATED: Quartz Calcite Pyrite Magnetite Hematite
ALTERATION: Sericite Malachite Azurite
ALTERATION TYPE: Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Stratiform
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Permian-Triassic
Triassic

GROUP

Undefined Group

FORMATION

Kutcho

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Rhyolite Tuff
Rhyolite Tuff Breccia
Rhyolite
Felsic Crystal Tuff
Argillaceous Siltstone
Andesite
Chert
Andesite Pyroclastic
Trondhjemite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Silver	5.1000	Grams per tonne
Copper	0.1200	Per cent
Zinc	0.1200	Per cent

COMMENTS: Over 4 metres.

REFERENCE: Assessment Report 12100.

CAPSULE GEOLOGY

Felsic volcanic and intrusive rocks which occur between the Martell and Bonaparte faults, near Ashcroft, are tentatively correlated with the Permo-Triassic Kutcho Assemblage, rather than the Upper Triassic to Lower Jurassic Nicola Group. Mafic volcanic rocks assigned to the Nicola Group occur both to the east and west of the Bonaparte fault. The presence of Upper Triassic fossils imply that this correlation is valid for basaltic rocks which occur east of the Bonaparte fault. However, the age of basaltic rocks that occur west of the Bonaparte fault, in proximity to, and possibly interbedded with rhyolite tuffs, is not constrained. These basaltic rocks may be contemporaneous with Lower Triassic felsic rocks, rather than the

CAPSULE GEOLOGY

younger Nicola Group lavas. The presence of rocks of Kutcho Assemblage age and affinity raises the potential for Kutcho Creek-equivalent Cu-Zn volcanogenic massive sulphide mineralization (Fieldwork 1996).

Red Hill, as its name implies, displays an extensive oxidation surface of flamboyant colours of red, orange and yellow gossan. On Red Hill, volcanic rocks are extensively interbedded and are metamorphosed to varying degrees. They are subdivided into four general units: felsic crystal tuffs characterized by large quartz grains; chlorite-rich mafic schist with relict phenocrysts; silicified greenstone; and altered massive chloritic basalt. The felsic tuffs are crosscut by a series of fine to coarse grained granodioritic to tonalitic plutons. Although chlorite alteration is pervasive throughout the volcanic section, significant epidote alteration, silicification and gossan are restricted to rocks near the plutons.

Most of the rocks show a cleavage which generally strikes 320 to 340 degrees and dips 50 to 70 degrees southwest. Contacts between the different units are parallel or subparallel to the cleavage, so it is assumed that the cleavage surface gives an estimate of the bedding surface. If this is the case, then the package of rocks forms a large upturned block dipping to the southwest.

Two showings of copper occur in a rhyolite tuff unit, about 1 kilometre east of a trondhjemite body, southwest of Red Hill. The trondhjemite grades into rhyolite tuffs. The more northerly showing consists of chalcopyrite partially altered to malachite in a narrow quartz vein. Malachite and azurite are also found in a small outcrop of felsic crystal tuff about 1250 metres to the south. Pyrite is associated with both showings. Diamond drilling in 1983 by Selco Inc. in the area of the northerly showing intersected a rhyolite tuff section with an argillaceous siltstone/andesite horizon. Mineralization occurs as disseminated stringer and conformable stringer chalcopyrite and pyrite in a strongly sericite altered rhyolite tuff to tuff breccia. One of the better intersections yielded 0.12 per cent copper, 0.12 per cent zinc and 5.1 grams per tonne silver over 4 metres (Assessment Report 12100). Selco Inc. also discovered the 'Iron Formation' zone in an area underlain by a repetitive sequence of andesitic pyroclastics and sediments about 1000 metres west of their drilling. Magnetite, pyrite and chalcopyrite mineralization is hosted by a laterally persistent but narrow chert horizon from 0.1 to 0.3 metre wide. The mineralized chert horizon is conformable with the surrounding strata and it has been traced on surface for over 200 metres. Chalcopyrite occurs as fine grained disseminations in the chert, and with crosscutting quartz-calcite veinlets in the footwall. Diamond drilling tested the horizon at depth and intersected very narrow widths mineralized with hematite, magnetite, pyrite and minor chalcopyrite. The only intercepts with any significant chalcopyrite mineralization occur as quartz-calcite-pyrite-chalcopyrite veins or fracture fillings, parallel or subparallel to the foliation.

Blasted pits in the occurrence area was sampled by E.P. Sheppard in April 1972. Hostrock is described as chlorite or sericite schists that are heavily stained with limonite. Mineralization consists of pyrite, chalcopyrite, bornite and chalcocite along foliation planes (Property File - Sheppard, 1972).

In 1962, Noranda Exploration Company, Limited optioned a group of mineral claims on the northern part of Red Hill from the owner, H. Reynolds of Lillooet. Work included electromagnetic surveying, soil sampling, magnetometer surveying, stripping and surface diamond drilling of six or more holes. In 1966, work completed on Red Hill on behalf of Delkirk Mining Ltd. consisted of about 365 metres of bulldozer trenching and 91 metres of x-ray diamond drilling. In 1968, geological mapping and four rotary holes totalling 806 metres were drilled on the Red Hill property on behalf of Delkirk Mining Ltd. and H. Reynolds. In 1970, geological mapping, magnetometer surveying and percussion drilling of twelve holes totalling 960 metres were completed on Red Hill by the operators Cerro Mining Company of Canada Limited and Ducanex Resources Limited. In 1971, an induced polarization survey was completed over 17 line kilometres and diamond drilling of four holes totalling 599 metres on Red Hill by the operators Cerro Mining Company of Canada Limited and Ducanex Resources Limited. In 1974, geological mapping, soil and rock sampling and percussion drilling of three holes totalling 176 metres was completed on Red Hill on behalf of Bethlehem Copper Corporation. In 1979, trenching and percussion drilling of eight holes totalling 100 metres was conducted on the Moly claims, across the highway from Red Hill, for the owner, L.W. Reaugh. In 1980, a geological mapping and geochemical sampling program was carried out on behalf of Guichon Explorco Limited on the Silica claims which adjoin and surround the

CAPSULE GEOLOGY

Moly claim covering the Red Hill showing. Percussion drilling of six holes totalling 457 metres was conducted on the Silica claims in 1981 on behalf of Guichon Explorco Limited. In 1981, magnetometer surveys and a geochemical survey were carried out on the Moly and Add claims on behalf of Rea Petro Corp. In 1982-83, electromagnetic, induced polarization and magnetic surveys, topographic survey, rock sampling and diamond drilling eight holes totalling 1148 metres was carried out on the Silica claims on behalf of Selco Inc., A Division of BP Exploration Canada Limited. In 1984-85, diamond drilling of three holes totalling 638 metres and a trenching program consisting of 16 trenches totalling 616 metres was completed on the Silica property on behalf of Selco Division, BP Resources Canada Limited. In 1985, six holes totalling 765 metres were diamond drilled on the Red Hill property on behalf of Rea Gold Corporation. During 1987-88, nine rotary percussion drill-holes totalling 1835 metres tested the Red Hill property for Rea Gold Corporation. A soil and lithochemical survey was completed on the Silica property in 1993 on behalf of D. de la Mothe.

BIBLIOGRAPHY

EM EXPL 2001-33-43
EMPR AR 1962-28-46; 1966-149; 1968-174
EMPR ASS RPT 2978, 3359, 5308, 7907, 8892, 9415, 10459, 10513, 11067, *12100, 13826, *15132, 17263, 22981, 23423
EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271; *1996, pp. 117-123
EMPR GEM 1970-326; 1971-299,300; 1974-157,158
EMPR GEOLOGY *1977-1981, pp. 91-97
EMPR OF 1999-2
EMPR PF (Report on the Oregon Jack Group by E.P. Sheppard, 1972)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Albrechtsons, E.A. (1981): The Geology of the Silica Claim Group, Red Hill Area, BSc. Thesis, Lakehead University, Thunder Bay, Ontario
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft, British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1998/08/19
DATE REVISED: 1998/09/02

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW058**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUINTO**, WALLA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 09214E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 46 38 N
LONGITUDE: 121 01 23 W
ELEVATION: 609 Metres

NORTHING: 5626915
EASTING: 639379

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of magnetite showings, north of Highway 1/97 and the Thompson River, about 22 kilometres east of the community of Cache Creek (Assessment Report 6527).

COMMODITIES: Copper Magnetite Iron

MINERALS

SIGNIFICANT: Chalcopyrite Magnetite
ASSOCIATED: Magnetite Garnet Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Skarn Replacement
TYPE: K03 Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Limestone
Andesite
Andesitic Tuff
Andesitic Flow
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Regionally the area is underlain by the Upper Triassic Nicola Group which is intruded by an Early Jurassic medium grained quartz hornblende diorite to diorite intrusion. Alteration of mafic minerals to chlorite is common in the dioritic rocks. Local concentrations of epidote, pink feldspar +/- calcite +/- magnetite are also observed. Nicola Group rocks consist of andesitic volcanic flows, tuffs and feldspar porphyries, coarse fragmentals and sedimentary rocks. The sedimentary sequence is composed of grey to white, fine grained, locally fossiliferous limestone.

The Quinto showings comprise magnetite-garnet replacement zones with minor chalcopyrite and pyrite occurring in andesitic tuffs and flows and limestone near a quartz diorite intrusion. There are three small showings within a 600 metre radius.

The earliest known reference to work done in this area was in 1944, where the Fairview group of eight claims were held by Lester Starnes of Ashcroft and J.W. Oakes of Calgary. Some open cut work and diamond drilling were completed. The lowest working or pit is assumed to be the P & L showing (092INW052); about 914 metres northwest is a second pit that is assumed to be the Fairview or Main showing (092INW037). The Fairview property lapsed and then was restaked in 1955 by Ashdown and Winters. The B.C. Department of Mines completed a Geiger survey in 1958 but the results are unknown. In 1961, prospecting, line cutting and soil sampling was done in the area of the Main showing. In 1967, caterpillar trenching totalling 213 metres in four trenches was performed on the Main showing and supervised by M.P. Stadnyk. In 1971, Cache Creek Copper Mines Ltd. reportedly diamond drilled seven or eight holes totalling over 609 metres; some geological mapping was performed by Rio Tinto. L. Ovington restaked the area as the P & L claims in 1971. In 1972, Colt Management Ltd. contracted Kenting Earth Sciences to conduct a reconnaissance induced polarization survey consisting of two lines, 122 metres apart, totalling 3.2 kilometres. The property was

MINFILE NUMBER: **092INW058**

CAPSULE GEOLOGY

optioned in 1972 to Northland Mines Ltd. and a magnetometer survey was done by M.P. Stadnyk. The claims lapsed in 1975 and were restaked as the Walla claim in the same year. The Walla claim lapsed in 1976 and the Quinto claims are a relocation of the lapsed Walla claim. In 1977, Quinto Mining Corporation completed geological mapping, geochemical and magnetometer surveying. In 1980, a geochemical and VLF-EM survey was completed. In 1983 and 1985, VLF-EM surveys were conducted. In 1996, three diamond-drill holes totalling 295 metres were put down on the Main showing by GWR Resources Inc.

BIBLIOGRAPHY

EMPR ASS RPT 20, 3691, 4303, 4718, *6527, 8763, 11628, 12069, 14229,
14723, 24483
EMPR EXPL 1977-E164
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR OF 1988-30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW059**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUINTO III**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092114E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 42 N
LONGITUDE: 121 00 56 W
ELEVATION: 838 Metres

NORTHING: 5628906
EASTING: 639855

LOCATION ACCURACY: Within 500M

COMMENTS: Showing located north of Highway 1/97 and the Thompson River, about 22 kilometres east of the community of Cache Creek (Assessment Report 6527).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Copper
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Replacement Skarn
TYPE: K01 Cu skarn
DIMENSION: Metres

STRIKE/DIP: TREND/PLUNGE: /

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Andesite
Andesitic Tuff
Andesitic Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock

YEAR: 1977

COMMODITY	GRADE	
Copper	1.5800	Per cent
Zinc	0.2000	Per cent

REFERENCE: Assessment Report 6527.

CAPSULE GEOLOGY

Regionally the area is underlain by the Upper Triassic Nicola Group which is intruded by an Early Jurassic medium grained quartz hornblende diorite to diorite intrusion. Alteration of mafic minerals to chlorite is common in the dioritic rocks. Local concentrations of epidote, pink feldspar +/- calcite +/- magnetite are also observed. Nicola Group rocks consist of andesitic volcanic flows, tuffs and feldspar porphyries, coarse fragmentals and sedimentary rocks. The sedimentary sequence is composed of grey to white, fine grained, locally fossiliferous limestone.

The Quinto III occurrence comprises a very small showing of native copper, malachite and azurite in dark grey limestone that assayed 1.58 per cent copper and 0.2 per cent zinc (Assessment Report 6527). The limestone is bounded to the east and west by andesitic tuffs and flows.

The earliest known reference to work done in this area was in 1944, where the Fairview group of eight claims were held by Lester Starnes of Ashcroft and J.W. Oakes of Calgary. Some opencut work and diamond drilling were completed. The lowest working or pit is assumed to be the P & L showing (092INW052); about 914 metres northwest is a second pit that is assumed to be the Fairview or Main showing (092INW037). The Fairview property lapsed and then was

CAPSULE GEOLOGY

restaked in 1955 by Ashdown and Winters. The B.C. Department of Mines completed a Geiger survey in 1958 but the results are unknown. In 1961, prospecting, line cutting and soil sampling was done in the area of the Main showing. In 1967, caterpillar trenching totalling 213 metres in four trenches was performed on the Main showing and supervised by M.P. Stadnyk. In 1971, Cache Creek Copper Mines Ltd. reportedly diamond drilled seven or eight holes totalling over 609 metres; some geological mapping was performed by Rio Tinto. L. Ovington restaked the area as the P & L claims in 1971. In 1972, Colt Management Ltd. contracted Kenting Earth Sciences to conduct a reconnaissance induced polarization survey consisting of two lines, 122 metres apart, totalling 3.2 kilometres. The property was optioned in 1972 to Northland Mines Ltd. and a magnetometer survey was done by M.P. Stadnyk. The claims lapsed in 1975 and were restaked as the Walla claim in the same year. The Walla claim lapsed in 1976 and the Quinto claims are a relocation of the lapsed Walla claim. In 1977, Quinto Mining Corporation completed geological mapping, geochemical and magnetometer surveying. In 1980, a geochemical and VLF-EM survey was completed. In 1983 and 1985, VLF-EM surveys were conducted. In 1996, three diamond-drill holes totalling 295 metres were put down on the Main showing by GWR Resources Inc.

BIBLIOGRAPHY

EMPR ASS RPT 20, 3691, 4303, 4718, *6527, 8763, 11628, 12069, 14229,
14723, 24483
EMPR EXPL 1977-E164
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR OF 1988-30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/30

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW060**

NATIONAL MINERAL INVENTORY:

NAME(S): **CORNWALL**, CORNWALL GROUP, NITA,
JEFF

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 42 30 N
LONGITUDE: 121 25 46 W
ELEVATION: 1737 Metres

NORTHING: 5618568
EASTING: 610892

LOCATION ACCURACY: Within 500M

COMMENTS: Area of trenching on the easterly slopes of Cornwall Hills, about
10.5 kilometres west of the community of Ashcroft (Assessment Report
2947).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Pyrrhotite
ALTERATION: Limonite Garnierite
ALTERATION TYPE: Oxidation Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Skarn Porphyry
TYPE: K01 Cu skarn L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Diorite
Greenstone
Limestone
Quartzite
Siltstone
Chert
Serpentinite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE:

CAPSULE GEOLOGY

Diorite intrudes a sequence of Carboniferous-Jurassic Cache Creek Complex greenstone, quartzite, siltstone, chert and Marble Canyon Formation (Cache Creek Complex) limestone. Small, irregular serpentinite bodies occur in the diorite.

The diorite contains abundant disseminated pyrrhotite and numerous fault and fracture zones which are mineralized with pyrrhotite, chalcocite, limonite and garnierite.

Work in 1969-71 comprised geochemical and geological surveys, and six trenches by G.G. Krause and Lone Creek Mines Ltd. In 1973, a ground magnetometer survey and geochemical survey was completed on behalf of Lone Creek Mines Ltd. In 1984-85, geochemical and geological surveys were completed on behalf of Desperado Resources Inc. on the Nita claim which appears to cover the original Cornwall showing.

BIBLIOGRAPHY

EMPR AR 1898-1108
EMPR ASS RPT *2947, 3380, 4550, 4920, 12952, 13874
EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271
EMPR GEM 1971-298; 1973-210
EMPR GEOLOGY 1977-1981, pp. 91-97
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 425
REPORT: RGEN0100

BIBLIOGRAPHY

Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/08/13

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW061**

NATIONAL MINERAL INVENTORY:

NAME(S): **WAL**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092114E 092111E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 02 N
LONGITUDE: 121 00 52 W
ELEVATION: 427 Metres

NORTHING: 5623966
EASTING: 640066

LOCATION ACCURACY: Within 500M

COMMENTS: Percussion-drill hole south of the Thompson River, about 1.8 kilometres west of the community of Walhachin (Assessment Report 7736).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Mafic Volcanic
Andesite
Felsic Quartz Porphyry

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
Copper

YEAR: 1979

GRADE
0.1920 Per cent

REFERENCE: Assessment Report 7736.

CAPSULE GEOLOGY

The area is dominated by Upper Triassic Nicola Group hydrothermally altered andesite flows and fragmental volcanic rocks containing moderate to high concentrations of fine grained, disseminated magnetite and variable amounts of pyrite. Several large limestone/marble bodies occur within the Nicola volcanics, commonly in fault contact. They strike north to northwest and are steeply dipping. A large body of hornblende diorite intrudes the Nicola Group. A smaller body of quartz porphyry intrudes both the Nicola rocks and the diorite.

A six hole, 597 metre percussion drilling program was carried out in 1979 by Bethlehem Copper Corporation on the Wal property in order to assess the mineral potential around the periphery of a gossan and to attempt to intersect a mineralized intrusive breccia (Chief, 092INW055) which crops out on the west bank of a creek near the south part of the Wal claim. Hole W-79-1, the northernmost hole, was drilled in the bed of a creek north of the first gossan outcrop. It intersected dark green Nicola volcanics and felsic intrusive quartz porphyry. Both units show strong pyrite mineralization with traces of chalcopyrite and malachite. Copper contents vary from 0.004 to 0.192 per cent with higher grades near the intrusive contact (Assessment Report 7736).

In 1978, Bethlehem Copper Corporation performed geological mapping, an electromagnetic survey over 5.6 kilometres and a

CAPSULE GEOLOGY

geochemical survey.

BIBLIOGRAPHY

EMPR ASS RPT 7531, *7736
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271; 1987, pp. 417-419
EMPR MAP 7; 30
EMPR OF 1988-30; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1998/06/30
DATE REVISED: 1998/07/02

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW062**

NATIONAL MINERAL INVENTORY:

NAME(S): **CM**, DN, NEPA

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 36 58 N
LONGITUDE: 121 16 06 W
ELEVATION: 987 Metres

NORTHING: 5608567
EASTING: 622507

LOCATION ACCURACY: Within 500M

COMMENTS: Main pit located between Barnard and Spatsum creeks, on the east side of the Thompson River about 12 kilometres south of the community of Ashcroft (Assessment Report 2596).

COMMODITIES: Copper Zinc Silver

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite Covellite Pyrite
ASSOCIATED: Pyrite
ALTERATION: Malachite Azurite Hematite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Skarn Porphyry
TYPE: K01 Cu skarn L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Mudstone
Siltstone
Limestone
Diorite
Quartz Diorite
Greywacke

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: PIT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	2.3000	Grams per tonne
Copper	0.5100	Per cent

REFERENCE: Assessment Report 16428.

CAPSULE GEOLOGY

The CM showings area is underlain by diorite and quartz diorite of the Late Triassic-Early Jurassic Guichon Creek batholith which intrudes limestones, mudstones, siltstones and greywackes of the Upper Triassic Nicola Group. The sediments strike north to northeast and dip 25 to 50 degrees west.

Copper mineralization is present in mudstone and siltstone. A 3-metre pit has been sunk in mudstone adjacent to quartz diorite where the mudstone exhibits malachite and azurite stains and contains blebs of pyrite, chalcopyrite and chalcocite. A sample from here analysed 0.51 per cent copper and 2.3 grams per tonne silver. A smaller pit has been sunk in siltstone, 25 metres east of the main pit. The sediments have also been trenched to the north of the main pit and a grab sample from here analysed 0.27 per cent copper (Assessment Report 16428).

Another copper showing is located approximately 1100 metres to the southwest of the main pit. At this showing, two small pits and one trench were made in dark grey to cream-coloured limestones; mineralization in the trench consists of chalcopyrite, covellite and

CAPSULE GEOLOGY

chalcocite. Malachite and azurite stains are common. A sample from the trench in 1984 analysed 0.85 per cent copper, 0.71 per cent zinc and 34.3 grams per tonne silver (Assessment Report 16428).

A trench about 1000 metres directly south of the main pit exposes minor malachite, chalcopyrite and hematite along fractures and shears in a weakly altered diorite. Less than three metres of mineralization is exposed in bedrock adjacent to a 16-metre trench.

Grandora Explorations Ltd. conducted a magnetic survey in 1970. In 1977, geological and geochemical surveys were conducted by Bethlehem Copper Corporation on the Nepa claims which covered part of the CM showings. United Liberty Resources Ltd. conducted a soil geochemical survey in 1984. In 1987, United Liberty Resources Ltd. completed a VLF-EM and magnetic survey and soil and rock geochemistry.

BIBLIOGRAPHY

EMPR ASS RPT 2236, 2596, 6633, 12241, *16428
EMPR BULL 56
EMPR FIELDWORK 1981, pp. 270,271; 1996, pp. 117-123
EMPR GEM 1969-241; 1970-326
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/18

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW063**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRASER RIVER (LILLOOET)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

Open Pit

MINING DIVISION: Lillooet

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 38 04 N
LONGITUDE: 121 52 03 W
ELEVATION: 206 Metres

NORTHING: 5609787
EASTING: 580089

LOCATION ACCURACY: Within 5 KM

COMMENTS: On the Fraser River about 8 kilometres south of Lillooet
(Bulletin 28).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

C02 Buried-channel placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Glacial/Fluvial Gravels

Quaternary

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

Most of the production from the Lillooet Mining Division has come from bars and low benches along the Fraser River and along the Bridge River. Placers along both rivers were found in 1858, and although a large amount of gold was mined from them, no records of production before 1874 are available. In many years the production recorded for both rivers was combined.

Up to 1902 all production from Lillooet Mining Division, and from 1883 to 1900 all production for Clinton Mining Division (see 092INW066) are recorded under this occurrence.

BIBLIOGRAPHY

EMPR BULL *28, pp. 40,41

EMPR FIELDWORK 1981, pp. 270,271

GSC MAP 1010A; 1386A; 42-1989

GSC MEM 262

GSC OF 165; 866; 980

GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A,
pp. 349-358

DATE CODED: 1998/03/26
DATE REVISED: 1998/03/26

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW064**

NATIONAL MINERAL INVENTORY:

NAME(S): **LILLOOET CLAY**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 40 12 N
LONGITUDE: 121 57 00 W
ELEVATION: 213 Metres

NORTHING: 5613655
EASTING: 574199

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 1.6 kilometres west of the community of Lillooet on the road to Seton Lake (Bulletin 30).

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Silt

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

Green-grey bedded silt occurs in a 12 by 122-metre bank along the road to Seton Lake, about 1.6 kilometres west of Lillooet. A 5.4-metre thick section was sampled; analysis indicates the clay makes good common brick by the soft mud process but is not plastic enough for wirecut brick or drain tile (Bulletin 30).

BIBLIOGRAPHY

EMPR BULL 30, p. 50
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *118, pp. 3,72,73; 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/14

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW065**

NATIONAL MINERAL INVENTORY:

NAME(S): **K**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 08 N
LONGITUDE: 121 14 38 W
ELEVATION: 1219 Metres

NORTHING: 5605211
EASTING: 624316

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 16 kilometres south of the community of Ashcroft near the Highland Valley road.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola
Triassic-Jurassic

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER
Guichon Creek Batholith

LITHOLOGY: Quartz Monzonite
Diorite
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

In 1969, Bethlehem Copper Corporation conducted geological mapping, drill road access and two percussion-drill holes totalling 183 metres on the K 1 and K 3 claims. Utica Mines Ltd. worked on the property in 1964.

Copper minerals occur in veins and shear zones in propylitized intrusive rocks of the Late Triassic-Early Jurassic Guichon Creek batholith. The area is inferred to be underlain by sediments of the Upper Triassic Nicola Group at the western contact of the Guichon Creek batholith. Guichon rocks are inferred to be diorite and quartz monzonite.

BIBLIOGRAPHY

EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR GEM *1969-258
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of
British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/21

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW066**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRASER RIVER (CLINTON)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:

Open Pit

MINING DIVISION: Clinton

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 58 17 N
LONGITUDE: 121 53 34 W
ELEVATION: 267 Metres

NORTHING: 5647227
EASTING: 577740

LOCATION ACCURACY: Within 5 KM

COMMENTS: On the Fraser River about 32 kilometres north of Lillooet
(Bulletin 28).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C01 Surficial placers

C02 Buried-channel placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Glacial/Fluvial Gravels

Quaternary

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Methow

Cache Creek

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

Most of the placer gold of the Clinton Mining Division has come from the Fraser River and Watson Bar Creek. The records of early production are incomplete, and from 1883 to 1900 the production of Fraser River in the Clinton Mining Division is included with that of the Lillooet Mining Division (see Fraser River (Lillooet), 092INW063).

Most of the production has come from bars and low benches along the Fraser River.

BIBLIOGRAPHY

EMPR BULL *28, pp. 32,33

EMPR FIELDWORK 1981, pp. 270,271

GSC MAP 1010A; 1386A; 42-1989

GSC MEM 262

GSC OF 165; 866; 980

GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1998/03/26
DATE REVISED: 1998/03/26

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW067**

NATIONAL MINERAL INVENTORY:

NAME(S): **TEXAS CREEK**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 33 16 N
LONGITUDE: 121 49 59 W
ELEVATION: 335 Metres

NORTHING: 5600929
EASTING: 582665

LOCATION ACCURACY: Within 1 KM

COMMENTS: Along the lower reaches of Texas Creek above the Texas Creek road
(Geological Survey of Canada Paper 78-19).

COMMODITIES: Jade/Nephrite

MINERALS

SIGNIFICANT: Nephrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Igneous-contact Industrial Min.
TYPE: Q01 Jade

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	

LITHOLOGY: Serpentinite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Pacific Ranges

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

A few small outcrops of serpentinite of the Permian-Jurassic Bridge River Complex appear to lie in a north-northeasterly trending zone extending from the head of Texas Creek to its mouth on Fraser River. Reports of nephrite near the head of the creek have not been confirmed but contact reaction zones with some nephritic selvages were seen on Lot 237 along the lower reaches of the creek above the Texas Creek road (Geological Survey of Canada 78-19, page 21).

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1988-29; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; *78-19, p. 21; 82-1A,
pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/28

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW068**

NATIONAL MINERAL INVENTORY:

NAME(S): **FOUNTAIN**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:

Open Pit

MINING DIVISION: Lillooet

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 11 N
LONGITUDE: 121 53 11 W
ELEVATION: 198 Metres

NORTHING: 5622956
EASTING: 578555

LOCATION ACCURACY: Within 1 KM

COMMENTS: On the Fraser River opposite Fountain, about 8 kilometres north of Lillooet (Bulletin 44).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Quaternary

GROUP

Jackass Mountain

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels

LITHOLOGY: Gravel
Sandstone
Argillite
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

In 1958, reference was made to a placer mine operating on the Fraser River, opposite Fountain (Bulletin 44, page 4). No other information is available.

Geological Survey of Canada Map 42-1989 indicates the area to be underlain by Lower-Middle Cretaceous Jackass Mountain Group sandstone, argillite and conglomerate.

BIBLIOGRAPHY

EMPR BULL *44, p. 4
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1998/03/26
DATE REVISED: 1998/03/26

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW069**

NATIONAL MINERAL INVENTORY:

NAME(S): **BASQUE RANCH**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5607571
EASTING: 616768

LATITUDE: 50 36 30 N
LONGITUDE: 121 20 59 W
ELEVATION: 548 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: A deposit of gypsite occurs on the ranch belonging to W.H. Hammond, known as the 'Basque Ranch' (Minister of Mines Annual Report 1922).

COMMODITIES: Gypsum

MINERALS

SIGNIFICANT: Gypsum
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Evaporite Industrial Min.
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gypsite
Argillite
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

A deposit of gypsite occurs on the ranch belonging to W.H. Hammond, known as the 'Basque Ranch', and located near Ashcroft. Mr. Hammond claims there is 90,710 tonnes of gypsite material. Mr. Hammond has placed several carload orders amongst the farmers of the district (Minister of Mines Annual Reports 1922, 1924).

Gypsite is an earthy variety of gypsum containing dirt and sand and is found as an efflorescent deposit occurring over the ledge outcrop of gypsum or of a gypsum-bearing stratum.

Rock in the vicinity appear to be Carboniferous to Jurassic Cache Creek Complex argillite and greenstone.

BIBLIOGRAPHY

EMPR AR 1922-N153; *1924-B157
EMPR FIELDWORK 1981, pp. 270,271; 1996, pp. 117-123
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CANMET RPT 714, p. 70
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft, British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/09

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW070**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLU**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 40 48 N
LONGITUDE: 121 12 14 W
ELEVATION: 1280 Metres

NORTHING: 5615780
EASTING: 626893

LOCATION ACCURACY: Within 1 KM

COMMENTS: Showing located on the westerly slopes of Glossy Mountain about 7.5 kilometres southeast of the community of Ashcroft (Assessment Report 2191).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Volcanic Siliceous Rock
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Blu showing is located near the western edge of the Late Triassic-Early Jurassic Guichon Creek batholith. Quartz diorite is in contact with Upper Triassic Nicola Group volcanics and sediments. The Nicola and Guichon rocks are commonly fractured. Nicola volcanics are typically a fine grained siliceous rock and the sediments are a dense grey siltstone. Minor finely disseminated pyrite and chalcopyrite occur in both quartz diorite and volcanics. Geological mapping, geochemical, induced polarization and magnetometer surveys were completed on the property in 1969 on behalf of Hudson Bay Mountain Silver Mines Ltd.

BIBLIOGRAPHY

EMPR ASS RPT *2191, 2192
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1998/08/11
DATE REVISED: 1998/08/11

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW071**

NATIONAL MINERAL INVENTORY:

NAME(S): **LILLOOET TAILINGS**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 41 05 N
LONGITUDE: 121 55 55 W
ELEVATION: 198 Metres

NORTHING: 5615310
EASTING: 575451

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in the placer tailings on each side of the Lillooet bridge and the bar downstream (Western Homes & Living, October 1961).

COMMODITIES: Jade/Nephrite Agate Gemstones

MINERALS

SIGNIFICANT: Nephrite Agate Jasper

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer Industrial Min.
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: Bridge River

Methow

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

The placer tailings on each side of the Lillooet bridge and the bar downstream are good hunting grounds for jade, agate and jasper. This bar extends south to the Seton River.

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Western Homes & Living, *October 1961, p. 21

DATE CODED: 1985/07/24
DATE REVISED: 1997/06/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW072**

NATIONAL MINERAL INVENTORY:

NAME(S): **UPPER HAT CREEK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 32 N
LONGITUDE: 121 34 28 W
ELEVATION: 1067 Metres

NORTHING: 5623982
EASTING: 600546

LOCATION ACCURACY: Within 1 KM

COMMENTS: On the ridge about 800 metres east of the 'Lehman ranch buildings'
on Upper Hat Creek road, accessed from Highway 12, located about 18
kilometres west of Cache Creek (Western Homes & Living, October
1961).

COMMODITIES: Agate Gemstones

MINERALS

SIGNIFICANT: Agate Jasper
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Volcanogenic 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	Kamloops	Undefined Formation	

LITHOLOGY: Agate
Jasper
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Jaspagate (synonymous with agate jasper) and petrified wood occurs on the ridge about 800 metres east of the 'Lehman ranch buildings'. Access is via the Upper Hat Creek road, off of Highway 12, about 18 kilometres west of Cache Creek (Western Homes & Living, October 1961).

Geological Survey of Canada Map 42-1989 shows the area to be underlain by volcanic and sedimentary rocks of the Eocene Kamloops Group.

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; *72-53, pp. 26,73; 73-1A, p. 212; 74-49; 82-1A,
pp. 293-297; 85-1A, pp. 349-358; 89-1E, pp. 127-132
Western Homes & Living, *October 1961, p. 21

DATE CODED: 1985/07/24
DATE REVISED: 1997/06/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW073**

NATIONAL MINERAL INVENTORY:

NAME(S): **THOMPSON RIVER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 35 12 N
LONGITUDE: 121 18 43 W
ELEVATION: 267 Metres

NORTHING: 5605222
EASTING: 619496

LOCATION ACCURACY: Within 5 KM

COMMENTS: Along the Thompson River about 15.5 kilometres south of Ashcroft (Bulletin 28).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE:

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: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Intermittent placer production has been recorded from the Thompson River between the period 1884 to 1945. From 1884 to 1887 production from Thompson River is combined with production from the part of the Fraser River that is in the New Westminster Mining Division (Bulletin 28, pages 40,42).

BIBLIOGRAPHY

EMPR BULL *28, pp. 37,38,40
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; *72-53, pp. 26,73; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1998/03/26
DATE REVISED: 1998/03/27

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW074**

NATIONAL MINERAL INVENTORY:

NAME(S): **WALHACHIN, MCABEE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I14E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 46 25 N
LONGITUDE: 121 08 48 W
ELEVATION: 366 Metres

NORTHING: 5626288
EASTING: 630675

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 13 kilometres east of Cache Creek, in the cliff behind McAbee station on the Canadian National Railway (Western Homes & Living).

COMMODITIES: Gemstones

MINERALS

SIGNIFICANT: Jasper
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Volcanogenic Industrial Min.
TYPE: Q05 Jasper

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Jasper
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Green jasper occurs in an area underlain by Eocene Kamloops Group volcanic rocks. The jasper occurs in a cliff facing the Thompson River located behind McAbee station on the Canadian National Railway. Indian artifacts are also found in this area.

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1988-30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 72-53, p. 26; 73-1A, p. 212; 74-49; 82-1A,
pp. 293-297; 85-1A, pp. 349-358
Western Homes & Living *October, 1961, p. 21

DATE CODED: 1997/06/19
DATE REVISED: 1997/06/19

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 442
REPORT: RGEN0100

MINFILE NUMBER: **092INW075**

NATIONAL MINERAL INVENTORY:

NAME(S): **SCOTTY CREEK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I14W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 59 34 N
LONGITUDE: 121 23 29 W
ELEVATION: 823 Metres

NORTHING: 5650253
EASTING: 612890

LOCATION ACCURACY: Within 1 KM

COMMENTS: Amethyst occurs in a cliff along Chrome Creek, which is a tributary to Scottie Creek, located about 20 kilometres north of Cache Creek (Western Homes & Living, October 1961).

COMMODITIES: Agate Amethyst Gemstones

MINERALS

SIGNIFICANT: Agate Amethyst
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Volcanogenic 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	Kamloops	Undefined Formation	

LITHOLOGY: Agate
Quartz
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Agate and amethyst occur in a cliff along Chrome Creek, which is a tributary to Scottie Creek, located about 20 kilometres north of Cache Creek. Geological Survey of Canada Map 42-1989 indicates this area is underlain by Eocene Kamloops Group volcanics.

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1988-30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 72-53, p. 26; 73-1A, p. 212; 74-49; 82-1A,
pp. 293-297; 85-1A, pp. 349-358
Western Homes & Living, *October 1961, p. 21

DATE CODED: 1985/07/24
DATE REVISED: 1997/06/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW075**

MINFILE NUMBER: **092INW076**

NATIONAL MINERAL INVENTORY:

NAME(S): **PERRY RANCH**, CACHE CREEK AGATE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I14E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 47 59 N
LONGITUDE: 121 13 39 W
ELEVATION: 609 Metres

NORTHING: 5629051
EASTING: 624906

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 7.5 kilometres east of Cache Creek, behind the 'Perry Ranch' (Geological Survey of Canada Paper 72-53).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Volcanogenic Industrial Min.
TYPE: Q03 Agate

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Eocene

GROUP

Kamloops

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic
Volcanic Flow
Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Petrified trunks of trees occur in Eocene Kamloops Group sandstone interbedded with volcanic flows behind 'Perry Ranch' about 7.5 kilometres east of Cache Creek. The sedimentary beds weather to a light sandy colour, readily spotted in the darker flows. Agate is abundant in the area and much may be picked up on the slopes leading up to the sedimentary beds (Geological Survey of Canada Paper 72-53). Quartz crystals also occur in a white seam (Western Homes & Living).

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1988-30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; *72-53, pp. 26,73; 73-1A, p. 212; 74-49; 82-1A,
pp. 293-297; 85-1A, pp. 349-358
Western Homes & Living *October, 1961, p. 21

DATE CODED: 1997/06/19
DATE REVISED: 1997/06/19

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW077**

NATIONAL MINERAL INVENTORY:

NAME(S): **GENESIS**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 44 30 N
LONGITUDE: 121 22 57 W
ELEVATION: 1158 Metres

NORTHING: 5622345
EASTING: 614125

LOCATION ACCURACY: Within 1 KM

COMMENTS: Rock sample site located west of Cornwall Creek about 7.5 kilometres west of the community of Ashcroft (Assessment Report 15002).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Volcanogenic
TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Siliceous Volcanic
Rhyolite Breccia
Rhyolite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Rock

COMMODITY

GRADE

Copper

0.1700

Per cent

COMMENTS: Sample of highly silicified volcanic.

REFERENCE: Assessment Report 15002.

CAPSULE GEOLOGY

The Genesis property is underlain by a long, relatively narrow, northwesterly trending belt of volcanics and sediments belonging to the Upper Triassic Nicola Group. The majority of the property is underlain by felsic volcanics with interbedded mafic volcanics and minor sediments. A rock sample of highly silicified volcanic with chalcopyrite in an area of rhyolite breccia analysed 0.17 per cent copper (Assessment Report 15002).

Prospecting over the Genesis property was completed in 1985 on behalf of Samarkand Resources Inc.

BIBLIOGRAPHY

EMPR ASS RPT *15002
EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271
EMPR GEOLOGY 1977-1981, pp. 91-97
EMPR OF 1999-2
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 445
REPORT: RGEN0100

BIBLIOGRAPHY

British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1998/08/12
DATE REVISED: 1998/08/12

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW078**

NATIONAL MINERAL INVENTORY:

NAME(S): **WALHACHIN LIMESTONE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I14E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 30 N
LONGITUDE: 121 02 00 W
ELEVATION: 366 Metres

NORTHING: 5624795
EASTING: 638710

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on a limestone lens just south of the Walhachin road bridge, about 21.5 kilometres east of the community of Cache Creek (Minister of Mines Annual Report 1958, page 92).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica Dolomite
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
MODIFIER: Fractured
DIMENSION: 60 x 23 Metres
COMMENTS: Dimensions given for a limestone lens just south of the Walhachin road bridge.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Upper Triassic
GROUP: Nicola
DATING METHOD: Fossil
MATERIAL DATED: Various fossils

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Limestone
Mafic Volcanic
Quartzite
Argillite
Greywacke

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Limestone
GRADE: 52.4000 Per cent
YEAR: 1958

COMMENTS: A 61-metre chip sample taken along length of lens. Grade given for CaO.

REFERENCE: Minister of Mines Annual Report 1958, page 92 - Sample 12.

CAPSULE GEOLOGY

Five lenses of limestone outcrop in the sides of a valley just southwest of Walhachin, 21.5 kilometres east of Cache Creek. The lenses are contained within a sequence of mafic volcanics, quartzite, argillite and greywacke of the Upper Triassic Nicola Group. One 15 to 23-metre thick lens outcrops for 60 metres along the west side of the valley 750 metres due south of the Walhachin road bridge. The lens is composed of extensively fractured, dark grey limestone with inclusions of chert and dolomite. A 61-metre chip sample taken along the length of the lens analysed 52.40 per cent CaO, 0.61 per cent MgO, 3.76 per cent insolubles, 1.16 per cent R2O3, 0.37 per cent Fe2O3, 0.543 per cent MnO, 0.04 per cent P2O5, 0.03 per cent sulphur and 42.01 per cent ignition loss (Minister of Mines Annual Report 1958, page 92, Sample 12).

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 447
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR *1958-92,93
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR OF 1988-30; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 29-31
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/24

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW079**

NATIONAL MINERAL INVENTORY:

NAME(S): **CORNWALL CREEK LIMESTONE**, ASHCROFT, LONE TREE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:
LATITUDE: 50 43 31 N
LONGITUDE: 121 20 04 W
ELEVATION: 610 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location centred on surface outcrop of limestone (Minister of Mines Annual Report 1958, page 93, Figure 2).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5620598
EASTING: 617557

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Silica Dolomite
MINERALIZATION AGE: Pennsylvan.-Permian
ISOTOPIC AGE: DATING METHOD: Fossil MATERIAL DATED: Fossils

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 400 x 180 Metres STRIKE/DIP: 125/65N TREND/PLUNGE:
COMMENTS: Attitude of shale bed in limestone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	

DATING METHOD: Fossil
MATERIAL DATED: Various fossils

LITHOLOGY: Limestone
Shale
Argillite
Quartzite
Chert

HOSTROCK COMMENTS: Cache Creek Complex ranges from Carboniferous to Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1958
SAMPLE TYPE: Chip
COMMODITY: Limestone GRADE: 55.1200 Per cent
COMMENTS: Taken across 152.4 metres of limestone. Grade given for CaO.
REFERENCE: Minister of Mines Annual Report 1958, page 92, Sample 9.

CAPSULE GEOLOGY

A lens of limestone forms a north trending, 400 metre long by 180 metre wide, double crested hill on the north side of Cornwall Creek, 3 kilometres due west of Ashcroft. The lens lies in the Eastern belt of the Carboniferous to Jurassic Cache Creek Complex, consisting of a melange of chert, argillite, limestone, greenstone and ultramafic blocks of Pennsylvanian to Triassic age. A 46-metre thick bed of shale, argillite and quartzite striking 125 degrees and dipping 65 degrees northeast is exposed along the central depression. The hill is comprised of uniform, medium grained, light grey to mottled limestone with a few scattered streaks of chert and some irregular patches of dolomite that become more frequent on the north side of the deposit. Thin films of rusty weathering calcareous shale are also present in the limestone. A 152.4-metre long chip sample across the top of the south crest analysed 55.12 per cent CaO, 0.31 per cent MgO, 0.34 per cent insolubles, 0.52 per cent R2O3, 0.03 per cent Fe2O3, 0.011 per cent MnO, 0.135 per cent P2O5, nil sulphur and

CAPSULE GEOLOGY

43.55 per cent ignition loss (Minister of Mines Annual Report 1958, page 92, Sample 9).

Sampling of the limestone in 1991 yielded weighted averages of up to 54.55 per cent CaO, 0.20 per cent MgO and 0.50 per cent SiO₂ across 20 metres (Assessment Report 22278). In 1992, 0.8 kilometre of magnetometer survey was completed and 49 samples collected and analysed.

BIBLIOGRAPHY

EMPR AR 1958-91-93
EMPR ASS RPT *22278, *22843
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419; 1996, pp. 117-123
CANMET RPT 811, Part 5, pp. 183,184
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 19,111
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-222; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft, British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/22

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW080**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARTEL LIMESTONE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 38 N
LONGITUDE: 121 17 06 W
ELEVATION: 285 Metres

NORTHING: 5596804
EASTING: 621599

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on sample site Number 11 along a roadcut of Highway 1, about 11 kilometres north of the community of Spences Bridge (Minister of Mines Annual Report 1958, page 91).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Upper Triassic

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 1600 x 1300 Metres STRIKE/DIP: 155/
COMMENTS: Northern lens strikes 155 degrees for 1600 metres and dips southwest.

TREND/PLUNGE:

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: Limestone
Argillite
Quartzite
Dike
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1958
SAMPLE TYPE: Chip

COMMODITY GRADE
Limestone 54.1200 Per cent

COMMENTS: Taken across 300 metres. Grade given for calcium oxide.
REFERENCE: Minister of Mines Annual Report 1958, page 92, sample 11.

CAPSULE GEOLOGY

Two lenses of limestone of the Upper Triassic Nicola Group outcrop on the west side of the Thompson River, just north of Martel, 23 kilometres south of Ashcroft.

The first lens consists of a triangular mass of limestone exposed over a width of 90 metres in a roadcut along Highway 1, 800 metres north of Martel. The limestone continues northwest of the highway for 120 metres. The mass is bounded to the west by quartzite and to the northeast by skarn. Indistinct bedding strikes west. The deposit consists mostly of dark grey to black, extensively fractured limestone veined with calcite. The limestone becomes interbedded with argillite near the northern edge of the lens. A 46-metre chip sample taken along the roadcut analysed 53.68 per cent CaO, 0.56 per cent MgO, 2.62 per cent insolubles, 0.50 per cent R2O3, 0.11 per cent Fe2O3, 0.031 per cent MnO, 0.031 per cent P2O5, 0.02 per cent sulphur and 42.50 per cent ignition loss (Minister of Mines Annual Report 1958, page 92, Sample 10).

About 300 metres to the north a second limestone lens is exposed in the highway roadcut over a width of 1300 metres. The lens strikes 155 degrees for 1600 metres and dips southwest. Extensive faulting and folding has taken place. The deposit is comprised of well fractured, uniform black, fine-grained limestone veined with calcite

CAPSULE GEOLOGY

and cut by numerous dikes, which become less frequent to the northwest. A few chert nodules and stringers and some scattered interbeds of argillite are present. A sample of randomly collected chips taken across 300 metres along the south end of the roadcut analysed 54.12 per cent CaO, 0.89 per cent MgO and 1.34 per cent insolubles (Minister of Mines Annual Report 1958, page 92, Sample 11).

BIBLIOGRAPHY

EMPR AR 1958-91-93; 1962-35
EMPR FIELDWORK 1977, pp. 89-95; 1981, pp. 270,271; 1996, pp. 117-123
CANMET RPT 811, Part 5, pp. 181,184
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, p. 111
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/03

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW081**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAVILION LIMESTONE**, PAVILION, MARBLE CANYON,
STEEL BROTHERS, PAVILION LAKE LIME, CONTINENTAL LIME,
PAVILLION, GRAYMONT, TS'KW'AYLAXW

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092113E
BC MAP:
LATITUDE: 50 49 04 N
LONGITUDE: 121 39 16 W
ELEVATION: 884 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location centred on an open pit adjacent to the lime plant on Marble Canyon Indian Reserve 3, about 23 kilometres west of Cache Creek (National Topographic System Map 0921/13).

Open Pit

MINING DIVISION: Kamloops
Lillooet
UTM ZONE: 10 (NAD 83)
NORTHING: 5630424
EASTING: 594785

COMMODITIES: Limestone Aggregate

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Dolomite Quartz
MINERALIZATION AGE: Permian
ISOTOPIC AGE:
DATING METHOD: Fossil
MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
DIMENSION: Metres
COMMENTS: Limestone near the quarry strikes 120 degrees and dips steeply southwest.
MASSIVE
INDUSTRIAL MIN.
STRIKE/DIP: 120/
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Cache Creek	Marble Canyon	
	DATING METHOD: Fossil		
Jurassic	MATERIAL DATED: Fusulinids		Unnamed/Unknown Informal

LITHOLOGY: Limestone
Dolomite
Chert
Argillite
Granodiorite
Quartz Diorite
Basalt

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

Limestone is quarried for lime manufacturing in Marble Canyon, 5 kilometres southeast of Pavilion Lake, 23 kilometres west of the community of Cache Creek. The plant began operation in 1974.

The quarry lies on the south end of a 10 to 15-kilometre wide exposure of limestone of the Permian Marble Canyon Formation (Carboniferous to Jurassic Cache Creek Complex) that continues north-northwest of Marble Canyon for 65 kilometres. The limestone is bounded to the east by underlying argillite, chert and basalt and to the west by similar sediments and volcanics, all of the Cache Creek Complex. To the south, the limestone is truncated by a Jurassic stock of granodiorite and quartz diorite along the south side of Marble Canyon. Near the quarry, the strata strikes 120 degrees and dips steeply southwest.

In the vicinity of Marble Canyon, the deposit is composed of mostly light grey to white, fine-grained limestone containing some chert nodules and veinlets of dolomite. Exposures along the Hat Creek Valley to the east reveal light grey to black, fine to medium-grained limestone sporadically veined with quartz and calcite. Patches of chert and dolomite are frequent, especially near the eastern margin of the deposit. A 30-metre long chip sample taken across a bluff in the vicinity of the present quarry analysed 55.53

CAPSULE GEOLOGY

per cent CaO, 0.27 per cent MgO, 0.08 per cent insolubles, 0.16 per cent R2O3, 0.02 per cent Fe2O3, 0.009 per cent MnO, 0.071 per cent P2O5, nil sulphur and 43.81 per cent ignition loss (Minister of Mines Annual Report 1958, page 92, Sample 6).

Production from the quarry averages 54.1 per cent CaO (96.5 per cent CaCO3), less than 1 per cent MgO, 1 per cent SiO2 and 1 to 1.5 per cent R2O3 (J.M. Jordon, personal communication, 1989).

Steel Brothers Canada Ltd. began quarrying limestone in Marble Canyon on Indian Reserve 3 in 1974 to supply an adjacent lime manufacturing plant. The operation was taken over by Continental Lime Ltd. in October 1988. Between 1975 and 1991, approximately 2.5 million tonnes of limestone were quarried. Production is about 200,000 tonnes limestone annually. Quicklime is produced and sold to the mining, pulp and paper industries throughout British Columbia and northwestern United States.

In 2000, Graymont Western Canada Inc. acquired the property from Continental Lime Ltd.

BIBLIOGRAPHY

- EM EXPL 1996-A13
EMPR AR *1958-90-93
EMPR ENG INSP Annual Report 1989
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1974-384
EMPR INF CIRC 1991-1, p. 59; 1996-1, p. 9; 1997-1, p. 12; 2000-1, pp. 8, 11
EMPR MAP 65 (1989)
EMPR MINING 1975-1980 Vol.I, p. 47; 1981-1985, pp. 64,65; 1986-1987, p. 91; 1988, p. 91
EMPR OF 1987-18; 1988-29; 1990-23; 1992-1; 1992-9; 1994-1
EMPR PF (Continental Lime Ltd. Website (Feb.1999): Pavillion Plant, 1 p.)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 16,18
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E
CANMET RPT 811, Part 5, pp. 221,222
W MINER Nov. 1976, pp. 9-12
WWW <http://www.continentallime.com>

DATE CODED: 1985/07/24
DATE REVISED: 1998/05/07

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW082**

NATIONAL MINERAL INVENTORY:

NAME(S): **RATTLESNAKE HILL**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092114E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 49 N
LONGITUDE: 121 12 05 W
ELEVATION: 579 Metres

NORTHING: 5625080
EASTING: 626844

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on the east slope of Rattlesnake Hill (CANMET Report 811, page 183).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Quartz Silica
MINERALIZATION AGE: Upper Triassic
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
DATING METHOD: Fossil
MATERIAL DATED: Various fossils

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Argillite
Quartzite
Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: OUTCROP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1944

COMMODITY

Limestone

GRADE

48.0000 Per cent

COMMENTS: Grade given for CaO.

REFERENCE: CANMET Report 811, page 184 - Sample 48.

CAPSULE GEOLOGY

Several masses of limestone outcrop on the east side of and near the top of Rattlesnake Hill on the north side of the Thompson River, 5.3 kilometres northeast of Ashcroft. The limestone is contained within a sequence of argillite and quartzite of the Upper Triassic Nicola Group.

The limestone is sugary textured, light grey to white with small masses and grains of white quartz and blue chert. Several dikes intrude the limestone. A sample of chips taken at irregular intervals over the main outcrop analysed 48.00 per cent CaO, 0.33 per cent MgO, 11.56 per cent SiO₂, 1.38 per cent Al₂O₃, 0.66 per cent Fe₂O₃ and a trace of sulphur (Canada Bureau of Mines Report 811, page 184, Sample 48).

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-420
EMPR OF 1988-30; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 29-31
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 455
REPORT: RGEN0100

BIBLIOGRAPHY

CANMET RPT 811, Part 5, pp. 183,184
CJES Vol.15, No.1 (Jan. 1978), pp. 99-116

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/08

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW083**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAVILION**, PAVILION MINE, PAVILLION

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092I13W
 BC MAP:

Underground

MINING DIVISION: Clinton

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 56 38 N
 LONGITUDE: 121 51 37 W
 ELEVATION: 487 Metres

NORTHING: 5644204
 EASTING: 580069

LOCATION ACCURACY: Within 500M

COMMENTS: Shaft, west of the BC Rail railway between the Fraser River and the railway, about 2 kilometres north of the Moran siding, 29 kilometres north of Lillooet (Assessment Report 18366).

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Chalcopyrite Galena Sphalerite
 ASSOCIATED: Quartz Carbonate
 ALTERATION: Malachite Limonite
 ALTERATION TYPE: Oxidation
 MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
 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>
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	Unnamed/Unknown Informal
Lower Jurassic			

LITHOLOGY: Hornblende Diorite
 Argillite
 Chert
 Siltstone
 Volcaniclastic
 Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Cache Creek
 METAMORPHIC TYPE: Regional
 PHYSIOGRAPHIC AREA: Pavilion Ranges
 RELATIONSHIP:
 GRADE:

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Silver	15.0000 Grams per tonne
Gold	2.0200 Grams per tonne
Copper	1.1000 Per cent
Lead	0.5000 Per cent
Zinc	12.6000 Per cent

REFERENCE: Assessment Report 18366.

CAPSULE GEOLOGY

The Pavilion mine consists of a 53-metre shaft and about 99 metres of lateral work. The mine saw limited production during the 1930s; no production statistics are available. During shaft sinking operations, an intersection assaying 68.5 grams per tonne gold over 0.9 metre was reported. In 1946, Rudson Mines Ltd. performed 579 metres of diamond drilling in four holes; vein intersections were obtained but no assay data is available. Numerous undocumented surface workings are evident. Prospecting and rock sampling was performed by Ashworth Explorations Limited between 1986-88.

The property is underlain by middle Permian to Middle(?) Jurassic Western belt rocks of the Cache Creek Complex. These consist of highly contorted chert, argillite, siltstone, lesser limestone, as well as volcaniclastic 'Pavilion Beds'. The chert and argillite contain small quartz veinlets and lenses of massive pyrite.

CAPSULE GEOLOGY

Early Jurassic hornblende diorite bodies also occur, and host mineralized quartz-carbonate veins. The main Fraser River fault, trending 170 degrees, is approximately 500 metres west.

The Big Slide mine (092INW036) is about 1500 metres north of the Pavilion shaft and quartz veins at the Big Slide appear to continue along strike onto the Pavilion property.

The Pavilion mine vein strikes 150 degrees and dips southwest; exposed strike length is over 60 metres. Most of the quartz veins located on the property strike from 290 to 350 degrees, vary from 0.5 to 3.5 metres in width and pinch and swell. Mineralization consists of disseminations and pods of pyrite, arsenopyrite, chalcopyrite, galena and sphalerite. Limonite and malachite staining are also evident. Rock sampling by Ashworth Explorations Limited from 1986 to 1988 yielded up to 2.02 grams per tonne gold, 1.1 per cent copper, 15 grams per tonne silver, 0.5 per cent lead and 12.6 per cent zinc (Assessment Report 18366).

A total of five adits were located that are related to the Pavilion occurrence. Adits 1-2 are 1200 metres north of the Pavilion shaft (or 750 metres southeast of the Big Slide shaft); adit 3 is 550 metres north-northeast of the Pavilion shaft; adit 4 is 600 metres west of the shaft, just above the Fraser River; and adit 5 is about 1900 metres north of the Big Slide shaft or 3500 metres north of the Pavilion shaft.

BIBLIOGRAPHY

EMPR ASS RPT *16827, *18366
EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1987-18
EMPR PF (Holland, S.S. (1957): Geological Investigations at Moran)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1997/07/22
DATE REVISED: 1998/02/12

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW084**

NATIONAL MINERAL INVENTORY:

NAME(S): **PACIFIC BENTONITE**, HAT CREEK, BEN,
HAT CREEK BENTONITE

STATUS: Developed Prospect

MINING DIVISION: Clinton

REGIONS: British Columbia

NTS MAP: 092I13E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 46 17 N

LONGITUDE: 121 37 02 W

ELEVATION: 987 Metres

NORTHING: 5625314

EASTING: 597503

LOCATION ACCURACY: Within 500M

COMMENTS: Bentonite exposure in the western of two trenches on the property, located west of Hat Creek about 21 kilometres west of Cache Creek (Open File 1990-23). The formerly located Hat Creek bentonite is a misplaced attempt at recording this property.

COMMODITIES: Bentonite

Coal

MINERALS

SIGNIFICANT: Montmorillonite Coal

ASSOCIATED: Feldspar Cristobalite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform Massive

CLASSIFICATION: Sedimentary Syngenetic Industrial Min.

TYPE: E06 Bentonite

SHAPE: Tabular

COMMENTS: Dips moderately eastward. On the west limb of the Hat Creek syncline.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Hat Creek

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Bentonite

Coal

Siltstone

Claystone

Conglomerate

Sandstone

Shale

Bentonite Clay

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: Syn-mineralization

GRADE: Zeolite

INVENTORY

ORE ZONE: HAT CREEK

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1991

QUANTITY: 30000000 Tonnes

COMMODITY

GRADE

Bentonite

100.0000

Per cent

COMMENTS: Grade not given; possible reserves.

REFERENCE: Open File 1992-1.

CAPSULE GEOLOGY

This bentonite prospect is located in the Hat Creek Valley, 20 kilometres west-southwest of the community of Cache Creek.

Hat Creek is underlain by a north trending, fault bounded trough containing over 1000 metres of clastic sediments of the Eocene Hat Creek Formation (Princeton Group) overlain by 400 to 600 metres of felsic to intermediate volcanics of the Eocene Kamloops Group. The Hat Creek Formation consists of a lower unit of coal with intercalations of siltstone, conglomerate and sandstone overlain by an upper unit of siltstone and claystone up to 600 metres thick. Bentonite is widely distributed within both the coal and the siltstone-claystone sequence. The basin is warped into two northerly plunging synclines and an intervening faulted anticline preserved within a northerly trending system of easterly dipping reverse and

CAPSULE GEOLOGY

strike-slip faults.

A zone of bentonitic clay and sandstone, up to 100 metres thick, overlain by coal and underlain by conglomerate, outcrops along the nose of a subsidiary southward plunging syncline and contains zones of clean bentonite, several metres in thickness (N. Skermer, personal communication, 1991). Near surface, the bentonite is brown and oxidized. The unoxidized bentonite below is blue in colour and displays more desirable swelling properties. On surface, bentonite occurs in siltstone and minor shale intercalations at the south end of a partly slumped, 9-metre deep bulldozer trench. An x-ray diffractogram of this material shows that it consists mostly of montmorillonite and feldspar. Exchangeable cation analyses and cation exchange capacity of this uncontaminated surface sample show that it contains mainly divalent exchangeable cations (Table).

Table
 Exchangeable Ca, Na, K and Mg Analyses
 and Cation Exchange Capacity (CEC)*
 Exchangeable Cation Analysis

Unit/ Sample	Loc. #'	Mg	(mequiv./100g)			Total	CEC (mequiv./100g)
			Ca	K	Na		
Hat Creek Member C86-439A B1		10.6	18.3	1.6	14.7	45.4	46.8

' B = Bentonite

* Analysed samples weigh 10-15 grams and are crushed to -120 mesh.

Other samples of bentonite are reported to contain excess amounts of cristobalite (N. Skermer, personal communication, 1991).

Significant bentonite-bearing sections were first noted by Pacific Bentonite Ltd. in a hole drilled by B.C. Hydro and Power Authority (DDH 76-802). The deposit was auger-drilled in 1989 and 1990 by Pacific Bentonite to search for extensions of bentonitic horizons discovered during development of the Hat Creek coal deposit by B.C. Hydro. Inferred (possible) reserves are 30 million tonnes of bentonite (Open File 1992-1).

Pacific Bentonite Ltd. proposed to mine 10,000 tonnes of bentonite in 1995.

BIBLIOGRAPHY

EMPR ASS RPT 20358, 22547, 23562, 24854, 25404
 EMPR FIELDWORK 1975, pp. 104-115; 1979, pp. 97-99; 1980, pp. 73-78;
 1981, pp. 270,271; *1986, pp. 253, 254
 EMPR GEOLOGY 1975, pp. 99-118
 EMPR INF CIRC 1991-1, pp. 18,61
 EMPR OF 1987-18; 1988-29; *1990-23; 1992-1; 1992-9; 1996-1, p. 20
 EMPR PF (B.C. Hydro and Power Authority, Environmental Studies
 Report, May 1978)
 GSC MAP 1010A; 1386A; 42-1989
 GSC MEM 262
 GSC OF 165; 866; 980
 GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,217-221;
 82-1A, pp. 293-297; 85-1A, pp. 349-358
 GSC SUM RPT 1925 Part A, pp. 164-181

DATE CODED: 1985/07/24
 DATE REVISED: 1998/03/25

CODED BY: GSB
 REVISED BY: PSF

FIELD CHECK: N
 FIELD CHECK: Y

MINFILE NUMBER: **092INW085**

NATIONAL MINERAL INVENTORY:

NAME(S): **PUKAIST CREEK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 33 54 N
LONGITUDE: 121 08 26 W
ELEVATION: 1219 Metres

NORTHING: 5603104
EASTING: 631688

LOCATION ACCURACY: Within 1 KM

COMMENTS: Just north of the Highland Valley road, along Woods Creek, about 20 kilometres south of the community of Ashcroft (CANMET Report 691).

COMMODITIES: Diatomite

MINERALS

SIGNIFICANT: Diatomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Residual Industrial Min.
TYPE: F06 Lacustrine diatomite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Soil
Clay

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

About 45 centimetres of dry, yellowish grey diatomite occurs under 60 to 90 centimetres of soil in the meadows where Woods Creek joins Pukaist Creek. Immediately under the diatomite is a thin bed of chocolate-coloured clay which is underlain by slate-grey clay. It should be noted that this area is now under tailings waste from the Highland Valley operations.

The valley and meadows at the junction of Woods and Pukaist creeks extend northeast for at least 9 kilometres and in many places over this area test holes showed thin beds of diatomite under 60 to 90 centimetres of soil (CANMET Report 691).

BIBLIOGRAPHY

EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CANMET RPT *691, pp. 44,94
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Ph.D. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW086**

NATIONAL MINERAL INVENTORY:

NAME(S): **AURUM RULER**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 41 57 N
LONGITUDE: 121 55 21 W
ELEVATION: 214 Metres

NORTHING: 5616926
EASTING: 576095

LOCATION ACCURACY: Within 500M

COMMENTS: Sample sites along the Fraser River in Lillooet, about 1.5 kilometres south of the bridge crossing the river at the north end of town (Assessment Report 20662).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE:

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: Bridge River

Methow

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

A magnetometer survey, prospecting and sampling were completed on the Aurum Ruler placer claims in 1989. In 1990, work consisted of hand panning and/or shovelling gravel into a 1.5-metre long sluice set in the Fraser River current. Gravels sampled were primarily within the top 25 to 30 centimetres of the floodplain. A total of 15 plus grams of extremely fine gold was recovered. Samples on the east bank of the river in areas of shallow bedrock yielded the majority of the gold.

BIBLIOGRAPHY

EMPR ASS RPT 19422, *20662
EMPR BULL 28
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/06/02

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW087**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIVERSIDE PYROPHYLLITE**, SEMLIN, JUNIPER,
SONNY, SHIELA FRACTION, MARGARET

STATUS: Prospect Open Pit
REGIONS: British Columbia
NTS MAP: 092I14E
BC MAP:

MINING DIVISION: Kamloops

LATITUDE: 50 46 38 N
LONGITUDE: 121 06 00 W
ELEVATION: 433 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5626773
EASTING: 633955

COMMENTS: Quarry, located south of the Canadian Pacific Railway tracks at Semlin siding, 14 kilometres northeast of Ashcroft (Minister of Mines Annual Report 1951).

COMMODITIES: Pyrophyllite

MINERALS

SIGNIFICANT: Pyrophyllite
ASSOCIATED: Quartz Calcite Pyrite Selenite
ALTERATION: Pyrophyllite Limonite
COMMENTS: Iron staining.
ALTERATION TYPE: Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Shear
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: H09 Hydrothermal alteration clays-Al-Si

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Rhyolite Porphyry
Rhyolite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Riverside pyrophyllite showing is in the gully of a small creek on the south side of the Thompson River, 14 kilometres northeast of Ashcroft. A quarry, 450 metres south of the Canadian Pacific Railway tracks at Semlin siding, joins two deep opencuts.

L. Stairnes was the original discoverer of the pyrophyllite deposit. The Juniper, Sonny, Shiela Fraction and Margaret claims were located over the deposit in 1947 and 1948 and surveyed in the autumn of 1951. A rough road has been bulldozed from the Semlin siding to the quarry (ca. 1951). Other work comprised a 27-metre trench south of the quarry and two smaller cuts, all on the Juniper claim. One small trench and a few pits are on the Sonny claim.

The hostrock is rhyolite porphyry of the Upper Triassic Nicola Group, which is schistose, greenish grey and contains quartz, orthoclase and minor albite phenocrysts in a fine-grained groundmass.

Pyrophyllite occurs with quartz, calcite and minor pyrite as wallrock alteration along a shear zone in the rhyolite porphyry. The pyrophyllite is yellow stained with small selenite crystals. In the quarry, the pyrophyllite is light grey-white but very iron stained.

A bulk sample was sent to the Bureau of Mines, Ottawa, in 1948 for grinding tests. The conclusions reached were that if impurities were removed prior to grinding, the product obtained was suitable for ceramics or as a filler (Minister of Mines Annual Report 1951, page A222). In 1950-52, shipments totalling 305 tonnes were sent to the Mountain Minerals Limited grinding plant in Lethbridge, Alberta.

BIBLIOGRAPHY

EMPR AR *1951-A222-A224
EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1988-19, pp. 7,89,90
GSC BULL 30, pp. 38-39
GSC MAP 1010A; 1386A; 42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 463
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 72-53, p. 75; 73-1A, p. 212; 74-49; 82-1A,
pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/06/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW088**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPRAY CREEK**, SPRAY, TOW,
SOUTH, BREW

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

MINING DIVISION: Lillooet

LATITUDE: 50 32 25 N
LONGITUDE: 121 53 14 W
ELEVATION: 2000 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5599295
EASTING: 578851

COMMENTS: Drillhole, located between Spray and Texas creeks, west of the Fraser River, about 17 kilometres south of Lillooet (Assessment Report 15835).

COMMODITIES: Molybdenum Copper Gold Zinc

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Sphalerite Pyrrhotite Pyrite
Arsenopyrite

ASSOCIATED: Quartz

ALTERATION: Biotite Silica Sericite
ALTERATION TYPE: Biotite Sericitic Oxidation
MINERALIZATION AGE: Silicific'n

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic-Cretaceous
Unknown

GROUP

Relay Mountain

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Porphyritic Quartz Diorite
Schistose Argillite
Quartz Diorite Dike
Dacite Dike
Andesite Dike
Biotite Hornfels

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

Plutonic Rocks

PHYSIOGRAPHIC AREA: Pacific Ranges

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Gold

3.3000

Grams per tonne

COMMENTS: Intersection across 1.01 metres of quartz veining.

REFERENCE: Assessment Report 15835.

CAPSULE GEOLOGY

Evidence of past work are old claim posts and small trenches that date from the 1960s. In 1978 and 1979, geological mapping, geochemical sampling and prospecting were undertaken on the Tow 1-4 claims by Duval International Corporation to evaluate the molybdenum potential. The North (see Tow, 092INW090) and South (this description) zone mineralized areas were discovered. Work completed during 1980 by Duval consisted of geological mapping and geochemical sampling in and near areas of known molybdenite mineralization, the construction of helipads and drillsites, and the excavation of trenches. In 1981 and 1982, two diamond-drill holes totalling 450 metres were completed by Duval on the Tow 1 and 2 claims. In 1984, Duval closed their Vancouver office and in 1985 their claims expired. The claims were subsequently re-staked as the Spray and Brew claims in 1985 and were optioned to Geostar Mining Corp. and Miramar Energy Corp. who in June and July 1986 took limited soil and rock samples. In 1986, Southern Gold Resources undertook investigative geological

CAPSULE GEOLOGY

examinations and a six hole, 264-metre diamond drilling program to substantiate Duval's results on the South zone. In 1988, Kerr Addison Mines optioned the Spray property and diamond drilled 746 metres in five holes and completed a geological and geochemical survey.

The Spray occurrence is underlain by a thick sequence of schistose argillites of the Jurassic-Cretaceous Relay Mountain Group which have been intruded by a 200 metre plus thick sill-like body of porphyritic quartz diorite. A northerly trending swarm of vertical to steep west dipping micro-quartz diorite/dacite dikes intrude the sediments and the porphyritic quartz diorite. The dikes are cut by a later set of northwesterly trending andesite dikes.

The porphyritic quartz diorite and, to a lesser degree, the enclosing sediments, have undergone multiple episodes of fracturing and related quartz veining. Disseminated pyrrhotite and subordinate pyrite are ubiquitous. Molybdenite and minor chalcopyrite are associated with the quartz stockwork veining. A later set of larger (5-160 centimetre), 090 to 130 degree trending pyrrhotite, pyrite, molybdenite, sphalerite and arsenopyrite-bearing quartz veins cut the porphyritic quartz diorite and the enclosing sediments. The micro-quartz diorite dikes crosscut the late quartz veins and are not veined or mineralized. Surface oxidation has leached nearly all sulphide minerals from the exposed surface of the veins.

An extensive biotite hornfels aureole postdating the porphyry-type mineralization envelopes the intrusion and the sediments.

Drillholes reveal zones of intense silicification with accompanying sericitization that totally obscure porphyritic textures and most quartz veinlets.

Drillhole intersections of quartz veins across 1.75, 1.01 and 0.88 metres analysed 3200, 3300 and 10,270 parts per billion gold respectively (Assessment Report 15835).

BIBLIOGRAPHY

- EMPR ASS RPT 7211, 7569, 8347, 9405, 9427, 14971, 14973, 15073,
*15835, 18160, 21181
EMPR FIELDWORK 1981, pp. 270,271
EMPR OF 1988-29; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189; 82-1A,
pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1997/04/30
DATE REVISED: 1997/05/27

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW089**

NATIONAL MINERAL INVENTORY:

NAME(S): **FOSTER BAR**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 30 14 N
LONGITUDE: 121 43 56 W
ELEVATION: 167 Metres

NORTHING: 5595425
EASTING: 589903

LOCATION ACCURACY: Within 500M

COMMENTS: Test pit on gravel bar in Fraser River, about 25 kilometres south-southeast of Lillooet (Property File - Report by Dawson, 1973).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic-Cretaceous
Quaternary
Unknown

GROUP

Relay Mountain

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels
Unnamed/Unknown Informal

LITHOLOGY: Gravel
Argillite
Shale
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Bridge River

Methow

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

A test pit was dug on 'Foster Bar' in the Fraser River in 1973. Note that this bar is not the same as the Foster Bar on NTS map 92I/12 but is a further 3 kilometres downstream. The pit was 2.7 metres deep, 1.8 metres long and 0.9 metre wide from which a total of 4.6 cubic metres were removed. The gravel was concentrated by the use of a sluice box. The concentrates taken from the sluice box were cleaned up approximately 24 times in the processing of the 4.6 cubic metre sample. All the concentrates washed from the blanket were washed out into a round bathtub and were hand panned. The 4.6 cubic metre sample yielded 163 grams gold; there was one 54-gram nugget and another one about 37 grams.

Bedrock to the north of the placer leases consists of granite and to the south, argillite and shale of the Jurassic-Cretaceous Relay Mountain Group.

BIBLIOGRAPHY

EMPR BULL 28
EMPR FIELDWORK 1981, pp. 270,271
EMPR PF (*Dawson, J. (1973): Report on Fosters Bar Placers)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/06/02

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW090**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOW, NORTH, BREW,
SPRAY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:
LATITUDE: 50 33 39 N
LONGITUDE: 121 54 21 W
ELEVATION: 1646 Metres

MINING DIVISION: Lillooet
UTM ZONE: 10 (NAD 83)
NORTHING: 5601561
EASTING: 577499

LOCATION ACCURACY: Within 500M
COMMENTS: Drillsite CH81-2 on the North zone, between Towinock and Spray creeks, west of the Fraser River, about 15 kilometres south of Lillooet (Assessment Report 9427).

COMMODITIES: Molybdenum Copper Gold Zinc

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Sphalerite Pyrrhotite Pyrite
 Arsenopyrite
ASSOCIATED: Quartz
ALTERATION: Biotite Silica Sericite Ferrimolybdenite
ALTERATION TYPE: Biotite Silicification Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: 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>
Jurassic-Cretaceous	Relay Mountain	Undefined Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Porphyritic Quartz Diorite
Schistose Argillite
Quartz Diorite Dike
Dacite Dike
Andesite Dike
Biotite Hornfels

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

Plutonic Rocks

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

Evidence of past work are old claim posts and small trenches that date from the 1960s. In 1978 and 1979, geological mapping, geochemical sampling and prospecting were undertaken on the Tow 1-4 claims by Duval International Corporation to evaluate the molybdenum potential. The North (this description) and South (see Spray, 092INW088) zone mineralized areas were discovered. Work completed during 1980 by Duval consisted of geological mapping and geochemical sampling in and near areas of known molybdenite mineralization, the construction of helipads and drillsites, and the excavation of trenches. In 1981 and 1982, two diamond-drill holes totalling 450 metres were completed by Duval on the Tow 1 and 2 claims. In 1984, Duval closed their Vancouver office and in 1985 their claims expired. The claims were subsequently re-staked as the Spray and Brew claims in 1985 and were optioned to Geostar Mining Corp. and Miramar Energy Corp. who in June and July 1986 took limited soil and rock geochemical samples. In 1986, Southern Gold Resources undertook investigative geological examinations and a six hole, 264-metre diamond drilling program to substantiate Duval's results on the South zone. In 1988, Kerr Addison Mines optioned the Spray property and diamond drilled 746 metres in five holes and completed a geological and geochemical survey.

The area is underlain by a thick sequence of schistose argillites of the Jurassic-Cretaceous Relay Mountain Group which have been intruded by porphyritic quartz diorite stocks. A northerly trending swarm of vertical to steep west dipping micro-quartz diorite/dacite dikes intrude the sediments and the porphyritic quartz diorite. The dikes are cut by a later set of northwesterly trending

CAPSULE GEOLOGY

andesite dikes. Practically all mineralization is restricted to the larger two stocks, the northernmost which is referred to as the North zone (this description) and the southernmost or South zone known as the Spray occurrence (092INW088).

The porphyritic quartz diorite and, to a lesser degree, the enclosing sediments, have undergone multiple episodes of fracturing and related quartz veining. Disseminated pyrrhotite and subordinate pyrite are ubiquitous. Molybdenite and minor chalcopyrite are associated with the quartz stockwork veining. A later set of larger (5-160 centimetre), 090 to 130 degree trending pyrrhotite, pyrite, molybdenite, sphalerite and arsenopyrite-bearing quartz veins cut the porphyritic quartz diorite and the enclosing sediments. Strong stockwork zones are often indicated on surface by a light yellow stain caused by weathering pyrite or pyrrhotite which occur in veins, on fractures and as disseminations. Ferrimolybdite has been observed.

An extensive biotite hornfels aureole postdating the porphyry-type mineralization envelopes the intrusion and the sediments. Drillholes reveal zones of intense silicification with accompanying sericitization that totally obscure porphyritic textures and most quartz veinlets.

BIBLIOGRAPHY

- EMPR ASS RPT 7211, 7569, *8347, 9405, 9427, 14971, 14973, 15073,
15835, 18160, 21181
EMPR FIELDWORK 1981, pp. 270,271; 1988, pp. 99-104
EMPR OF 1988-29; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189; 82-1A,
pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1985/07/24
DATE REVISED: 1997/05/27

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW091**

NATIONAL MINERAL INVENTORY:

NAME(S): **BONAPARTE RIVER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I14W
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 45 26 N
LONGITUDE: 121 17 09 W
ELEVATION: 389 Metres

NORTHING: 5624229
EASTING: 620905

LOCATION ACCURACY: Within 5 KM

COMMENTS: Along the Bonaparte River about 6.5 kilometres south of Cache Creek (Bulletin 28).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Quaternary

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Glacial/Fluvial Gravels

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Placer gold production (1431 grams) has been recorded from the Bonaparte River in the period 1876 to 1880 (Bulletin 28, page 38).

BIBLIOGRAPHY

EMPR BULL *28, p. 38
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; *72-53, pp. 26,73; 73-1A, p. 212; 74-49; 82-1A,
pp. 293-297; 85-1A, pp. 349-358
WWW <http://www.infomine.com/index/properties/BONAPARTE.html>

DATE CODED: 1998/03/26
DATE REVISED: 1998/03/26

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW092**

NATIONAL MINERAL INVENTORY:

NAME(S): **WEST BLUE RIDGE** BLUE RIDGE RANCH

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:

MINING DIVISION: Lillooet

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 53 37 N
LONGITUDE: 121 53 27 W
ELEVATION: 564 Metres

NORTHING: 5638580
EASTING: 578007

LOCATION ACCURACY: Within 500M

COMMENTS: Named West Blue Ridge because it is on Blue Ridge Ranch, west of the Fraser River, about 23 kilometres north of Lillooet (Fieldwork 1987).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
ALTERATION: Montmorillonite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E06 Bentonite
SHAPE: Tabular
DIMENSION: 200 x 100 x 50 Metres
COMMENTS: Within 500 metres of the Fraser fault.

STRIKE/DIP: 340/28W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Bentonite
Volcanic Breccia
Acid Tephra

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional

Methow

PHYSIOGRAPHIC AREA: Pavilion Ranges

RELATIONSHIP: Syn-mineralization

GRADE: Zeolite

CAPSULE GEOLOGY

At the West Blue Ridge showing, bentonite-rich layers occur in a sequence of brown, maroon and grey-weathering aphanitic volcanic breccias and cream-weathering acid tephra of the Eocene Kamloops Group.

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271; *1987, pp. 411-415
EMPR OF 1987-18; 1988-29
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1988/03/24
DATE REVISED: 1997/07/21

CODED BY: PBR
REVISED BY: PBR

FIELD CHECK: Y
FIELD CHECK: Y

MINFILE NUMBER: **092INW093**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAST BLUE RIDGE** BLUE RIDGE RANCH

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 53 28 N
LONGITUDE: 121 52 21 W
ELEVATION: 457 Metres

NORTHING: 5638322
EASTING: 579300

LOCATION ACCURACY: Within 500M

COMMENTS: Located below the fields of Blue Ridge Ranch, west of the Fraser River, about 23 kilometres north of Lillooet (Fieldwork 1987).

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
ALTERATION: Montmorillonite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E06 Bentonite
SHAPE: Tabular
DIMENSION: 100 x 100 x 30 Metres
COMMENTS: The dimensions of the deposit are those of the area of slumped bentonite outcrop.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Kamloops	Undefined Formation	

LITHOLOGY: Bentonite
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane	PHYSIOGRAPHIC AREA: Pavilion Ranges	
TERRANE: Overlap Assemblage	Methow	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Syn-mineralization	GRADE: Zeolite

CAPSULE GEOLOGY

An area 100 by 100 by 30 metres of slumped bentonite outcrop constitutes the East Blue Ridge showing. Although only a single outcrop area exists, additional material may subcrop beneath the benches. Eocene Kamloops Group volcanics appear to underly the area.

BIBLIOGRAPHY

EMPR BULL 44
EMPR FIELDWORK 1981, pp. 270,271; *1987, pp. 411-415
EMPR OF 1987-18; 1988-29
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1988/03/24
DATE REVISED: 1997/07/21

CODED BY: PBR
REVISED BY: PBR

FIELD CHECK: Y
FIELD CHECK: Y

MINFILE NUMBER: **092INW094**

NATIONAL MINERAL INVENTORY:

NAME(S): **SALLUS CREEK (NORTH SHOWING)**, SALLUS CREEK, SALLUS,
NORTH

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13W
BC MAP:
LATITUDE: 50 48 06 N
LONGITUDE: 121 46 26 W
ELEVATION: 1615 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: North showing, on the north side of Sallus Creek about 16 kilometres
northeast of Lillooet (Assessment Report 4796).

MINING DIVISION: Lillooet
UTM ZONE: 10 (NAD 83)
NORTHING: 5628486
EASTING: 586401

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Copper Sphalerite
COMMENTS: Sphalerite is inferred from analytical results.
ALTERATION: Pyrite Malachite
ALTERATION TYPE: Oxidation Leaching
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Igneous-contact
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Cache Creek	Undefined Formation	
Lower Jurassic			Mount Martley Stock

LITHOLOGY: Argillite
Diorite
Granodiorite
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional Contact
Plutonic Rocks
RELATIONSHIP: PHYSIOGRAPHIC AREA: Pavilion Ranges
GRADE:

INVENTORY

ORE ZONE: NORTH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Rock
COMMODITY GRADE
Copper 0.2500 Per cent
Zinc 2.0000 Per cent
COMMENTS: Samples from rusty and weathered argillite.
REFERENCE: Assessment Report 4796.

CAPSULE GEOLOGY

Following the discovery of highly anomalous silts from Sallus Creek in the spring of 1969, Canadian Johns-Manville Co. Ltd. staked about 120 claims along the western contact of the Mount Martley stock. An additional 60 claims in subsequent years were staked to cover the northern and southeastern portion of the contact zone. Reconnaissance mapping and geochemistry were completed over the entire claim area in 1969 and 1970. During 1970 and 1971, detailed mapping, geochemistry and induced polarization surveys were completed over a possible porphyry copper-molybdenum deposit setting in the southern portion of the claim area (see Sallus Creek (No. 1 Showing), 092INW016). In the fall and early winter of 1970, detailed mapping, sampling and diamond drilling were completed in black argillite near the contact of the stock, in the northern portion of the claims (this description). The argillite at the North showing was found to be very anomalous in zinc and copper, and moderately anomalous in molybdenum, lead and silver. Diamond drilling proved to be unsuccessful in that penetration of the argillite was costly, and after three attempts, the programme was abandoned. In 1973, the

CAPSULE GEOLOGY

field programme in the North showing area consisted of bedrock, soil and talus geochemistry. Percussion drilling was performed on some claims in 1974 and totalled 450 metres in twenty-five holes.

The Sallus Creek area is underlain by the western contact of the Early Jurassic Mount Martley stock which intrudes the middle Permian to Middle Jurassic(?) Western belt of the Cache Creek Complex. The stock is a medium to coarse grained, massive granodiorite with local secondary silicification and sericitization near the contacts. Cache Creek rocks comprise argillite and limestone. Pervasive quartz veins and aplite dikes are found within the stock near the contact. Intense thermal alteration of the sediments is evident near the contact of the stock. Limestone, in part, is totally recrystallized. Intense pyritization of the argillites is observed near the contacts, evidenced on surface by rust colouration and gossans.

At the Sallus Creek (North showing), samples from rusty and weathered argillite yielded from 0.2 to 2.0 per cent zinc and 0.02 to 0.25 per cent copper, with moderately high contents of lead, silver and molybdenum (Assessment Report 4796). Diamond drilling indicates intense surface weathering and oxidation to depths of 30 metres. Below this altered horizon, pyrite is abundant (2-5 per cent).

About 2500 metres south-southwest of the North showing, a plug of rusty, weathered and altered diorite and quartz diorite intrudes argillite. This plug has a very irregular contact, approximately 914 metres long by 609 metres wide, and is probably genetically related to the Mount Martley stock, 1600 metres to the east. Pyrite is abundantly disseminated and smeared along fracture faces throughout the diorite. Very fine traces of native copper have been recognized in the highly weathered diorite. Malachite stain is evident in the argillite.

BIBLIOGRAPHY

EMPR AR 1935-F12,F13
EMPR ASS RPT 2376, 2429, 2447, 3095, 3574, *4405, *4796
EMPR FIELDWORK 1981, pp. 270,271
EMPR GEM 1970-228; 1972-229; 1973-210; 1974-158
EMPR OF 1987-18
EMPR PF (see Sallus Creek (No. 1 Showing), 092INW016 - Claim map, 1970)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 118, pp. 3,96,97; 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358
Placer Dome File

DATE CODED: 1998/03/03
DATE REVISED: 1998/03/24

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW095**

NATIONAL MINERAL INVENTORY:

NAME(S): **RANCHLANDS**, CACHE CREEK ZEOLITE, MOUNTAIN MINERALS,
Z-1, Z-2, MCABEE,
Z2, Z1

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092I14W
BC MAP:
LATITUDE: 50 49 44 N
LONGITUDE: 121 16 24 W
ELEVATION: 716 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Group A outcrop between Lopez and Cache creeks, about 4.5 kilometres northeast of the community of Cache Creek (Z1, Industrial Mineral Conference Field Trip Notes, 1993).

Open Pit

MINING DIVISION: Lillooet
UTM ZONE: 10 (NAD 83)
NORTHING: 5632218
EASTING: 621601

COMMODITIES: Zeolite

MINERALS

SIGNIFICANT: Clinoptilolite Heulandite Stilbite
ALTERATION: Zeolite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: D01 Open-system zeolites
COMMENTS: Burial metamorphism.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: Eocene GROUP: Kamloops FORMATION: Undefined Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Tuff
Rhyolite
Shale
Siltstone
Clay

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP: Syn-mineralization
GRADE: Zeolite

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Inferred YEAR: 1993
QUANTITY: 800000 Tonnes
COMMODITY: Zeolite GRADE: 100.0000 Per cent
COMMENTS: Visual estimates indicate in excess of 500,000 tonnes in Group A, and in excess of 300,000 tonnes in Group A1.
REFERENCE: Property File - Hogg, 1993.

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Proven YEAR: 1998
QUANTITY: 2000000 Tonnes
COMMODITY: Zeolite GRADE: 100.0000 Per cent
COMMENTS: C2C Mining Corp. News Release, November 1998.
REFERENCE: Exploration in BC 1998, page 62.

CAPSULE GEOLOGY

The Cache Creek zeolite deposits are located about 4.5 kilometres northeast of Cache Creek. The deposit was discovered by P.B. Read while mapping for the B.C. Geological Survey Branch. The area is underlain by volcanic and sedimentary rocks of the Eocene Kamloops Group. The zeolitized materials in the Cache Creek area outcrop in four locations. These have been divided into two groups: A and B.

CAPSULE GEOLOGY

Group A (Z-1) is zeolitized tuffs which are grey to light grey, competent, with 10 per cent porosity and a minimum thickness of 6 to 8 metres. Group A1, below Group A, comprises light to dark green lithified and zeolitized tuffs. These are competent with 6 to 12 per cent porosity and a minimum thickness of 5 to 7 metres. The contact between the two groups is sharp. The zeolite is clinoptilolite and minor heulandite.

Group B (Z-2), near McAbee, is zeolitized rhyolite tuffs, smectite clay, shale and siltstone. Zeolites are not the main component of this sedimentary sequence. Frequent yellow stains on microfractures exposed in a bulldozer cut are probably jarosite (Z.D. Hora, personal communication). The sequence is light to dark brown and grey to dark green, bedded, friable and contains minor fossil organics. The sequence has a minimum thickness of 50 to 70 metres. The zeolites are heulandite, stilbite and clinoptilolite.

Visual estimates indicate in excess of 500,000 tonnes in Group A, in excess of 300,000 tonnes in Group A1 and 1.5 to 2 million tonnes in Group B (Hogg, 1993).

Limeco Products Division of Highwood Resources Ltd. continued to develop its market, in a variety of agricultural applications in Alberta, from the Z-1 and Z-2 (McAbee) pits. Mountain Minerals Company Ltd. operated the property in 1997. Production statistics are not available.

In 1998, C2C Mining Corp. purchased the Z2 property from Highwood Resources Ltd. The Z2 deposit is reported to contain 2 million tonnes of proven reserves (C2C Mining Corp. News Release, November 1998). C2C built a zeolite processing plant at Ashcroft to produce barn deodorizers (Mucker's Mate), feed binders, cat litters (Zippity Doo) and industrial absorbents (Cage). C2C plans to use zeolites in environmental remediation and enhancement including hazardous waste encapsulation systems.

BIBLIOGRAPHY

- EM EXPL 1996-A24,D6; 1998-62
EMPR FIELDWORK 1981, pp. 270,271; 1987, pp. 417-419
EMPR INF CIRC 1995-9, p. 19; 1996-1, p. 19; 1997-1, p. 22; 1998-1, p. 15
EMPR OF 1988-30; 1990-23
EMPR PF (*Hogg, L. (1993): Cache Creek Zeolite Deposits, Project Development, Mountain Minerals Co. Ltd.)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189, 217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358; 89-1E
CJES Vol.15, No.1 (Jan. 1978), pp. 99-116
N MINER Dec. 20, 1993
PR REL C2C Mining Corp. July 20, Nov. 1998
WWW <http://www.highwood-resources.com>; <http://c2cminingcorp.com>
Placer Dome File

DATE CODED: 1994/01/10
DATE REVISED: 1998/06/05

CODED BY: DEJ
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092INW096**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAGRATH PLACER**, P.L. 1658-59

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 31 43 N
LONGITUDE: 121 45 49 W
ELEVATION: 183 Metres

NORTHING: 5598137
EASTING: 587632

LOCATION ACCURACY: Within 500M

COMMENTS: Sample site on a bench of the Fraser River, just upstream from Foster Bar, about 21.5 kilometres south-southeast of Lillooet (Assessment Report 7856).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C02 Buried-channel placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Gravel
Sand

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage Methow

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

In the area of the two Magrath placer leases, old workings on the bench about 30 metres above the present Fraser River level (ca. 1979) may stem from work done by the Chinese near the turn of the century. The work was apparently by hand with a sluice box using water from the small creek in the area. The workings are in the form of trenches of cuts (water) in the bench with larger rocks piled up along and near the end of the box. The work is fairly extensive with possibly as much as one-third of the bench having been worked (Assessment Report 7856).

Three samples taken from the bench consisted of sand and gravel and were carefully panned down and studied for heavy mineral content. No effort was made to evaluate the values in gold content since the gold was very fine.

BIBLIOGRAPHY

EMPR ASS RPT *7856
EMPR BULL 28
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1997/05/30
DATE REVISED: 1997/05/30

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW097**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANDERSON CREEK LIMESTONE**, CHIPUIN MOUNTAIN

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I12E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5619312
EASTING: 591907

LATITUDE: 50 43 06 N
LONGITUDE: 121 41 53 W
ELEVATION: 1800 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of sampled outcrops (Industrial Mineral File - B.C. Hydro Report SE 8221, Figure 3-1).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Permian
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary

Massive
Industrial Min.

TYPE: R09 Limestone
DIMENSION: 5000 x 2500

Metres

STRIKE/DIP: 135/58S

TREND/PLUNGE:

COMMENTS: Bedding strikes northwest, dips 35 to 78 degrees southwest.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Permian

GROUP

Cache Creek

FORMATION

Marble Canyon

IGNEOUS/METAMORPHIC/OTHER

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

LITHOLOGY: Limestone

HOSTROCK COMMENTS: The Cache Creek Complex is Carboniferous to Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Pavilion Ranges

INVENTORY

ORE ZONE: OUTCROP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Bulk Sample

COMMODITY

GRADE

Limestone

55.7000

Per cent

COMMENTS: Average of 3 bulk samples (AC-2-1, AC-2-2, AC-2-3). Grade given for CaO.

REFERENCE: Industrial Mineral File - B.C. Hydro Report SE 8221.

CAPSULE GEOLOGY

Limestone outcrops for 6 kilometres along a westerly trending ridge on the southeastern flank of Chipuin Mountain, 17 kilometres east-northeast of Lillooet.

A mass of limestone of the middle to Upper Permian Marble Canyon Formation (Carboniferous to Jurassic Cache Creek Complex) lies as a remnant along the south end of the granodioritic Mount Martley stock of Jurassic age. To the south, the limestone is overlain by andesite of the middle-Upper Cretaceous Spences Bridge Group. The limestone generally strikes 135 degrees and dips 35 to 78 degrees southwest near the southern margin of the deposit.

Various outcrops on a steep side of the ridge to the north of Anderson Creek expose mostly well bedded, dark grey and less commonly light grey to white, fine grained, rarely medium to coarse grained limestone frequently displaying black or white streaks. The limestone is locally veined by white calcite. A number of bulk samples were collected from three sites along the top of the ridge (Sites AC 1, AC 2, AC 3). Three bulk samples were analysed from each site. The bulk samples from the three sites averaged as follows in per cent (B.C. Hydro Report SE 8221, Table 3-1, Samples AC-1-1 to 1-3, AC-2-1 to 2-3, AC-3-1 to 3-3):

CAPSULE GEOLOGY

Site	CaO	MgO	SiO2	Al2O3	Fe2O3	TiO2	Na2O	K2O	P2O5	Ig.Loss
AC 1	51.86	0.57	6.98	0.54	0.28	0.23	0.22	0.02	0.02	40.05
AC 2	55.70	0.70	0.26	0.53	0.26	0.20	0.33	0.02	0.02	43.03
AC 3	55.21	0.86	0.76	0.62	0.20	0.20	0.32	0.02	0.02	41.94

The deposit was mapped and sampled by B.C. Hydro in 1981 and 1982 during a search for dolomite in the Hat Creek area to scrub gases from a proposed coal-fired electrical generating plant utilizing pressurized fluidized bed combustion.

BIBLIOGRAPHY

EMPR AR 1958-90
EMPR FIELDWORK 1981, pp. 270,271
EMPR PF (*B.C. Hydro Reports SE 8117 (1981), Addendum, pp. 1-3;
SE 8221 (1983), pp. 3-1,3-2 (in 092INW098, Langley Lake)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, p. 16
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189; 82-1A,
pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/08/04
DATE REVISED: 1997/06/03

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW098**

NATIONAL MINERAL INVENTORY:

NAME(S): **LANGLEY LAKE**, WHITE ROCK CREEK, HAT CREEK

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I12E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5614821
EASTING: 601351

LATITUDE: 50 40 35 N
LONGITUDE: 121 33 56 W
ELEVATION: 1311 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on site of Sample 19 south of White Rock Creek,
about 22 kilometres southwest of Cache Creek (British Columbia Hydro
Report SE 8221, Figure 5-2).

COMMODITIES: Limestone Dolomite

MINERALS

SIGNIFICANT: Calcite Dolomite
ASSOCIATED: Silica
MINERALIZATION AGE: Permian
ISOTOPIC AGE:

DATING METHOD: Fossil MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: Metres STRIKE/DIP: 025/22W
COMMENTS: Bedding strikes 010 to 055 degrees and dips 22 to 86 degrees
northwest.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Cache Creek	Marble Canyon	
DATING METHOD:	Fossil		
MATERIAL DATED:	Fusulinids		

LITHOLOGY: Limestone
Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Chip
COMMODITY: Limestone GRADE: 55.5000 Per cent

COMMENTS: Grade given for CaO.
REFERENCE: B.C. Hydro Report SE 8221, Table 3-1, Sample 19.

CAPSULE GEOLOGY

An elongate, north trending, fault bounded block (horst) of middle to Upper Permian Marble Canyon Formation (Cache Creek Complex) forms a series of carbonate bluffs between White Rock and Blue Earth creeks on the east side of the upper Hat Creek valley, 22 kilometres southwest of Cache Creek. The block is 9.5 kilometres long and up to 1.7 kilometres wide. Bedding strikes 010 to 055 degrees (commonly 025 degrees) and dips 22 to 86 degrees northwest.

Mapping and sampling over the northern half of the block revealed mostly light to dark grey, rarely white or black, massive to bedded, fine to medium grained limestone, magnesian limestone and dolomite, with variable amounts of white calcite as blebs, veinlets and streaks. Rare beds of quartzite, shale and sedimentary breccia are present within these carbonates. Some of the limestone and dolomite beds are quite siliceous.

A sample of dark grey, fine-grained limestone taken just south of White Rock Creek near the north end of the block analysed 55.50 per cent CaO, 0.18 per cent MgO, 0.26 per cent SiO₂, 0.58 per cent Al₂O₃, 0.18 per cent Fe₂O₃, 0.20 per cent TiO₂, 0.02 per cent Na₂O, 0.02 per cent K₂O, 0.02 per cent P₂O₅ and 42.49 per cent ignition

CAPSULE GEOLOGY

loss (B.C. Hydro Report SE 8221, Table 3-1, Sample 19). Five 20-kilogram bulk samples collected further south yielded the following percentage range of values (B.C. Hydro Report 8221, Addendum, Samples 30 to 35):

CaO	31.77	-	53.32
MgO	1.91	-	10.59
SiO ₂	2.79	-	27.20
Al ₂ O ₃	0.02	-	0.03
Fe ₂ O ₃	0.10	-	0.26
TiO ₂	0.02	-	0.03
Na ₂ O	0.02	-	0.10
K ₂ O	0.02	-	0.03
P ₂ O ₅	0.02	-	0.07
Ig.Loss	31.96	-	40.18

The deposit was mapped and sampled by B.C. Hydro between 1981 and 1983 during a search for dolomite in the Hat Creek area to scrub gases from a proposed coal-fired electrical generation plant utilizing pressurized fluidized bed combustion.

BIBLIOGRAPHY

EMPR AR 1958-90
EMPR FIELDWORK 1975, pp. 104-108; 1979, pp. 97-99; 1980, pp. 73-78; 1981, pp. 270,271
EMPR GEOLOGY 1975, pp. 99-118
EMPR OF 1988-29; 1990-23
EMPR PF (*B.C. Hydro Reports SE 8117 (1981), p. AD3; SE 8221 (1983), pp. 3-2 to 3-4,5-2,5-3,AD 5 to AD 7)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, p. 16
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,217-221; 82-1A, pp. 293-297; 85-1A, pp. 349-358
GSC SUM RPT 1925 Part A, pp. 164-181

DATE CODED: 1989/10/24
DATE REVISED: 1998/03/25

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW099**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROBERTSON CREEK**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 52 05 N
LONGITUDE: 121 34 54 W
ELEVATION: 1460 Metres

NORTHING: 5636111
EASTING: 599804

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on site of Sample 22, 1100 metres northeast of Robertson Creek (British Columbia Hydro Report SE 8221, Figure A-1).

COMMODITIES: Limestone Dolomite

MINERALS

SIGNIFICANT: Calcite Dolomite
MINERALIZATION AGE: Permian
ISOTOPIC AGE:

DATING METHOD: Fossil MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone

SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 2500 x 1000 Metres

STRIKE/DIP: TREND/PLUNGE:

COMMENTS: West of fault, bedding strikes 108 to 152 degrees and dips 30 to 90 degrees southwest. East of fault, bedding strikes north to 147 degrees and dips 63 degrees southwest to 76 degrees northwest.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Permian Cache Creek Marble Canyon

DATING METHOD: Fossil
MATERIAL DATED: Fusulinids

LITHOLOGY: Limestone
Dolomite
Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Pavilion Ranges

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1983

SAMPLE TYPE: Bulk Sample

COMMODITY Limestone GRADE 55.5500 Per cent

COMMENTS: Grade given for CaO.

REFERENCE: B.C. Hydro Report SE 8221, Addendum 1, sample 22.

CAPSULE GEOLOGY

Limestone outcrops along several low ridges just east of Robertson Creek, 32 kilometres northeast of Lillooet. The deposit lies near the eastern margin of a 10 to 15 kilometre wide belt of carbonate of the middle to Upper Permian Marble Canyon Formation (Cache Creek Complex) that trends north-northwest for 65 kilometres. The strata are locally dissected by a north-trending fault. Bedding west of the fault strikes 108 to 152 degrees and dips 30 to 90 degrees southwest. On the east side, bedding strikes north to 147 degrees and dips 63 degrees southwest to 76 degrees northwest. Detailed mapping and sampling over a 1 by 1.5 kilometre area along the ridge tops encountered mostly light grey to dark grey, rarely black or white, fine to medium grained, commonly massive, locally thin bedded or brecciated limestone with a few irregular zones of light grey, fine to medium-grained dolomite and magnesian limestone up to 7 metres thick. These zones commonly overlie fine grained, thin bedded limestone strata. The dolomite is siliceous in a few instances. Veins and blebs of white calcite occur sporadically

CAPSULE GEOLOGY

throughout the carbonates. Ten 20-kilogram samples collected from various outcrops yielded the following range in values and average compositions in per cent (B.C. Hydro Report SE 822, Addendum, Samples 20 to 29):

	Range	Average
CaO	44.08 - 55.55	52.02
MgO	1.68 - 9.97	4.09
SiO ₂	1.56 - 3.72	2.31
Al ₂ O ₃	0.02 - 0.03	0.02
Fe ₂ O ₃	0.09 - 0.14	0.115
TiO ₂	0.02 - 0.03	0.02
Na ₂ O	0.02 - 0.11	0.035
K ₂ O	0.02 - 0.03	0.02
P ₂ O ₅	0.02 - 0.06	0.027
Ig.Loss	37.29 - 41.98	39.69

Mapping and sampling was carried out by B.C. Hydro during 1981 and 1983. The company was exploring for dolomite in the Hat Creek area for use as sulphur sorbent to scrub gases from a proposed coal-fired electrical generating plant utilizing pressurized fluidized bed combustion.

BIBLIOGRAPHY

- EMPR AR 1958-90
- EMPR FIELDWORK 1981, pp. 270,271
- EMPR PF (*B.C. Hydro Reports SE 8117 (1981), Addendum, p. 4; SE 8221 (1983), pp. 3-4,3-5, Addendum 1, pp. 1-5 (in 092INW098 - Langley Lake))
- GSC MAP 1010A; 1386A; 42-1989
- GSC MEM 262, p. 16
- GSC OF 165; 866; 980
- GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/10/25
DATE REVISED: 1998/04/03

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW100**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAIDEN CREEK LIMESTONE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 55 29 N
LONGITUDE: 121 33 38 W
ELEVATION: 1341 Metres

NORTHING: 5642440
EASTING: 601166

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on sample site 10, on the north end of a ridge in the headwaters of Maiden Creek (British Columbia Hydro Report 8117, Figure Addendum-1).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Dolomite Silica
MINERALIZATION AGE: Permian
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 300 Metres
COMMENTS: Bedding strikes north-northwest.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Permian
GROUP: Cache Creek
DATING METHOD: Fossil
MATERIAL DATED: Fusulinids

FORMATION: Marble Canyon

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Limestone
Siliceous Magnesian Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Pavilion Ranges

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Limestone

YEAR: 1981

GRADE: 53.9000 Per cent

COMMENTS: Grade given for CaO.

REFERENCE: B.C. Hydro Report SE 8117, Table Addendum 1, sample 10.

CAPSULE GEOLOGY

Fine grained, grey limestone of the middle to Upper Permian Marble Canyon Formation (Cache Creek Complex) outcrops at the north end of a small ridge trending north-northwest in the headwaters of Maiden Creek, 38 kilometres northeast of Lillooet. Bedding is subparallel to the ridge. A sample of this rock analysed 53.90 per cent CaO, 2.45 per cent MgO, 0.46 per cent SiO₂, 0.50 per cent Al₂O₃, 0.11 per cent Fe₂O₃, 0.02 per cent TiO₂, 0.02 per cent Na₂O, 0.02 per cent K₂O, 0.02 per cent P₂O₅ and 43.49 per cent ignition loss (B.C. Hydro Report SE 8117, Table Addendum 1, Sample 10).

Further south along the same ridge the limestone is fine grained, slightly siliceous and magnesian. A sample taken 300 metres south of the previous sample yielded 49.76 per cent CaO, 4.69 per cent MgO and 2.78 per cent SiO₂ (Sample 11).

B.C. Hydro sampled the ridge in 1981 during a search for dolomite in the Hat Creek area for use in gas scrubbers in the company's proposed coal-fired electrical generating plant.

BIBLIOGRAPHY

EMPR AR 1958-90
EMPR FIELDWORK 1981, pp. 270,271

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 484
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (*B.C. Hydro Reports 8117 (1981), Addendum, p. 3;
SE 8221 (1983) (in 092INW098 - Langley Lake))
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, p. 16
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189; 82-1A,
pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/10/25
DATE REVISED: 1998/10/08

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW101**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAVILION MOUNTAIN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I13E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 59 15 N
LONGITUDE: 121 44 04 W
ELEVATION: 1920 Metres

NORTHING: 5649197
EASTING: 588826

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on sample site 16, along a roadcut 3850 metres west-northwest of the summit of Pavilion Mountain (British Columbia Hydro Report 8117).

COMMODITIES: Dolomite Limestone

MINERALS

SIGNIFICANT: Dolomite Calcite
MINERALIZATION AGE: Permian
ISOTOPIC AGE:

DATING METHOD: Fossil MATERIAL DATED: Fusulinids

DEPOSIT

CHARACTER: Massive Breccia
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
SHAPE: Tabular
MODIFIER: Fractured
DIMENSION: Metres
COMMENTS: Bedding in roadcut.

STRIKE/DIP: 157/76W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Cache Creek	Marble Canyon	
DATING METHOD:	Fossil		
MATERIAL DATED:	Fusulinids		

LITHOLOGY: Limestone
Dolomite
Limestone Breccia
Dolomitic Breccia
Greenstone
Agglomerate
Shale
Slate
Phyllite
Magnesian Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Pavilion Ranges

RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1981
SAMPLE TYPE: Grab
COMMODITY: Dolomite GRADE: 20.4400 Per cent

COMMENTS: Grade given for MgO.
REFERENCE: B.C. Hydro Report SE 8221, Table 3-1, sample 16.

CAPSULE GEOLOGY

Limestone and dolomite are exposed in a roadcut 3850 metres west-northwest of the summit of Pavilion Mountain, 36 kilometres north-northeast of Lillooet.

This showing is situated near the western margin of a 10 to 15 kilometre wide belt of carbonate of the middle to Upper Permian Marble Canyon Formation (Cache Creek Complex) that extends north-northwest from Marble Canyon for 65 kilometres. Various exposures along the roadcut and just north and west of the roadcut reveal carbonate beds of up to 130 metres thick contained in a sequence of massive greenstone, agglomerate, shale, pebbly slate and

CAPSULE GEOLOGY

sandy phyllite. Bedding along the roadcut strikes 157 degrees and dips 76 degrees southwest. A slaty cleavage strikes northwest and dips 43 to 89 degrees northeast.

Dolomite and magnesian limestone occur in individual beds up to 2 metres thick lying between agglomerates and limestone. Along the roadcut, half of the exposed carbonate is limestone and limestone breccia, while the remaining half is dolomite breccia. The dolomite breccia is dark grey with angular, black clasts. The limestone is medium to dark grey and commonly medium grained, rarely coarse grained. Some of the limestone breccia contains dolomite clasts. A sample of fine-grained dolomite from the roadcut analysed 33.22 per cent CaO, 20.44 per cent MgO, 0.73 per cent SiO₂, 0.70 per cent Al₂O₃, 0.26 per cent Fe₂O₃, 0.05 per cent TiO₂, 0.02 per cent Na₂O, 0.02 per cent K₂O, 0.03 per cent P₂O₅ and 46.13 per cent ignition loss (B.C. Hydro Report SE 8221, Table 3-1, Sample 16).

B.C. Hydro mapped and sampled the occurrence in 1981. The company was searching for dolomite in the vicinity of Hat Creek for sulphur sorbent to be used in the gas scrubbers of a proposed coal-fired electrical generating station.

BIBLIOGRAPHY

EMPR AR 1958-90
EMPR ASS RPT 3826
EMPR FIELDWORK 1981, pp. 270,271
EMPR IND MIN FILE (*B.C. Hydro Reports SE 8117 (1981), Addendum 1, p. 4; SE 8221 (1983), pp. 3-5 to 3-7 (in 092INW098 - Langley Lake))
EMPR OF 1987-18; 1988-29; 1990-23
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262, pp. 15-24
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1989/10/25
DATE REVISED: 1998/02/24

CODED BY: PSF
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 487
REPORT: RGEN0100

MINFILE NUMBER: **092INW102**

NATIONAL MINERAL INVENTORY:

NAME(S): **WATKINSON**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 32 04 N
LONGITUDE: 121 45 42 W
ELEVATION: 331 Metres

NORTHING: 5598788
EASTING: 587759

LOCATION ACCURACY: Within 1 KM

COMMENTS: The locality is about 800 metres south of the intersection of Highway 12 and Cinquefoil Creek (Geological Survey of Canada Memoir 262).

COMMODITIES: Antimony Silver Copper Gold

MINERALS

SIGNIFICANT: Stibnite Tetrahedrite
ASSOCIATED: Quartz Calcite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I09 Stibnite veins and disseminations

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic-Cretaceous	Relay Mountain	Undefined Formation	

LITHOLOGY: Sediment/Sedimentary
Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

Bridge River

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

Dawson (1894) reported that 'stibnite occurs near Watkinson's, about 23 miles above Lytton, on the Fraser'. The vein is reported to be about 35 centimetres wide, with quartz and calcite. The stibnite yielded traces of gold and 74.9 grams per tonne silver. The locality is about 800 metres south of the intersection of Highway 12 and Cinquefoil Creek. Rocks in the vicinity are tightly folded sediments of the Jurassic-Cretaceous Relay Mountain Group cut by rusty granitic dikes. Abundant quartz-calcite veinlets were observed; pyrite occurs irregularly in the dikes. Tetrahedrite is reported from near this same locality (Geological Survey of Canada Memoir 262, page 96).

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
GSC ANN RPT *1887, pp. 58T,79R; 1888-89, p. 60T; *1894, Vol. VII, pp. 343B,344B
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, p. 96
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1997/06/02
DATE REVISED: 1997/06/02

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW102**

MINFILE NUMBER: **092INW103**

NATIONAL MINERAL INVENTORY:

NAME(S): **LILLOOET TRAVERTINE**

MINING DIVISION: Lillooet

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 34 23 N
LONGITUDE: 121 48 34 W
ELEVATION: 274 Metres

NORTHING: 5603025
EASTING: 584304

LOCATION ACCURACY: Within 1 KM

COMMENTS: About 17 kilometres south-southeast of Lillooet in a roadcut along Highway 12 (Geological Survey of Canada Paper 72-53).

COMMODITIES: Travertine

MINERALS

SIGNIFICANT: Calcite Carbonate

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: H01 Travertine

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic-Cretaceous

GROUP

Relay Mountain

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Travertine
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

Overlap Assemblage

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

Travertine occurs along Highway 12 about 17 kilometres south-southeast of Lillooet. The Department of Highways loosened up much of the deposit during road work and dumped the rocks over the side of the road where it may be collected in convenient sizes. Some fine material remains in place in the rockcut, but a ladder and chisel would be needed to reach and collect it. The locality is easily found, being marked by a very large talus slide just south of the exposure and a widening of the highway at an access road marked Walter Fredriksen - a private house on the lower side of the road (Geological Survey of Canada Paper 72-53, page 63).

Geological Survey of Canada Map 42-1989 indicates this area is underlain by Jurassic-Cretaceous Relay Mountain Group sediments.

BIBLIOGRAPHY

EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; *72-53, pp. 33,63; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297; 85-1A, pp. 349-358

DATE CODED: 1997/06/20
DATE REVISED: 1997/06/20

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW104**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASH**, ASHCROFT

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092I11E
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 43 18 N
LONGITUDE: 121 13 46 W
ELEVATION: 701 Metres

NORTHING: 5620369
EASTING: 624977

LOCATION ACCURACY: Within 500M

COMMENTS: Located just east of Barnes Creek, about 4 kilometres east of the community of Ashcroft.

COMMODITIES: Aggregate

MINERALS

SIGNIFICANT: Unknown

MINERALIZATION AGE: Upper Triassic

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Volcanogenic Industrial Min.
TYPE: R15 Crushed rock

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Andesitic Ash Tuff
Mafic Lapilli Tuff
Mafic Tuff
Dacitic Crystal Tuff
Mafic Lapilli Tuff Breccia
Dacite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Ash property is underlain by Upper Triassic Nicola Group volcanic rocks. In the most prospective southern part of the property, lithologies encountered in outcrop and drillholes include black mafic tuff (andesitic ash tuff), mafic lapilli tuff/breccia and minor dacitic crystal tuff (Husak, August 12, 1998, Application for a Mine Development Certificate, Proposed Roofing Granule Quarry, Ashcroft, British Columbia, I.G. Machine & Fibers Ltd.).

I.G. Machine & Fibers Ltd. (a subsidiary of IKO Industries Ltd.) has applied for a permit to mine 24,900 tonnes per year of volcanic rock to produce roofing granules. The product would supply an existing shingle plant in Calgary and a soon-to-be-built plant in Sumas, Washington. This source would replace the supply from Grand Forks which is currently supplying material to the Calgary plant.

The Ash claim was staked in 1997 and is held by W. Husak. In 1997, nine BQ holes were drilled totalling 917 metres and 32 test pits were dug. A small bulk sample was taken in 1998.

BIBLIOGRAPHY

EM EXPL 1999-33-39
EMPR ASS RPT *25484
EMPR BULL 56; 62
EMPR FIELDWORK 1974, pp. 27-34; 1981, pp. 270,271
EMPR MAP 7; 30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 82-1A, pp. 293-297;
85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Ph.D. Thesis, University of

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 490
REPORT: RGEN0100

BIBLIOGRAPHY

British Columbia

DATE CODED: 1998/10/13
DATE REVISED: 1998/10/13

CODED BY: MC
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092INW105**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOP HAT**, BLUSTRY MOUNTAIN

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I12E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 37 12 N
LONGITUDE: 121 42 05 W
ELEVATION: 2040 Metres

NORTHING: 5608374
EASTING: 591864

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite Galena
ASSOCIATED: Scorodite
ALTERATION TYPE: Argillic Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cretaceous	Spences Bridge	Pimainus	

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: MAIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY

YEAR: 1984

	<u>GRADE</u>	
Gold	15.4500	Grams per tonne
Silver	861.0000	Grams per tonne

REFERENCE: EM OPEN FILE 1996-20 (East Part).

CAPSULE GEOLOGY

The Top Hat occurrence is located 18 kilometres east southeast of Lillooet in the headwaters of Cinquefoil Creek between Blustry Mountain and Cairn Peak, at approximately 2040 metres elevation.

Ryan Exploration Company Ltd. acquired the property in 1983 to cover a large colour anomaly that had returned anomalous gold values in a reconnaissance geochemical survey. During 1984, 988 soil samples, 3 silt and 85 rock chip samples were taken and analyzed (EMPR Assessment Report 12948). A number of multi-element geochemical areas were identified on the property.

In 1987 Kangeld Resources Limited contracted Aerodat Limited to conduct a 222-kilometre airborne EM, Magnetometer and VLF survey (EMPR Assessment Report 16352, Part 1) and Archean Engineering to carry out a geochemical survey over a 900-metre by 1000-metre area (EMPR Assessment Report 16352, Part 2).

Lower Cretaceous andesitic volcanic rocks of the Pimainus Formation, Spences Bridge Group, underlie the area. These are intruded by two small syenitic plugs and several dyke swarms. In the vicinity of the occurrence the generally flat lying andesitic rocks are interlayered with rhyolitic and dacitic pyroclastic rocks. A light pink feldspar porphyritic dyke swarm trends northeasterly and is spatially associated with a northeast trending zone of argillic alteration. Silicification occurs in the area in the form of quartz breccia, dark grey banded quartz and vuggy quartz in rhyolite breccia and is found only in float. Tetrahedrite, galena and pyrite occur in the breccia in an amount generally less than 1 per cent. The highest assay for silver of 861 grams per tonne and the highest assay for gold, 15.45 grams per tonne, both came from quartz breccia float (EMPR Assessment Report 12948).

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 492
REPORT: RGEN0100

BIBLIOGRAPHY

EM OF 1996-20
EMPR ASS RPT 12948, 16352
GSC Map 1010A

DATE CODED: 2002/09/01
DATE REVISED: 2002/09/19

CODED BY: IW
REVISED BY: IW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE001**

NATIONAL MINERAL INVENTORY: 092I7 Cu1

NAME(S): **BETHLEHEM**, BETHLEHEM MINE, BETHLEHEM COPPER,
BETHLEHEM (JERSEY), JERSEY, HIGHLAND VALLEY COPPER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I07W 092I10W
BC MAP:
LATITUDE: 50 29 53 N
LONGITUDE: 120 59 16 W
ELEVATION: 1475 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Open pit.

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5595943
EASTING: 642709

COMMODITIES: Copper Silver Gold Molybdenum

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Chalcocite Copper Cuprite
Molybdenite
ASSOCIATED: Quartz Calcite Zeolite Pyrite Specularite
Magnetite Malachite Azurite
COMMENTS: Also chrysocolla, hematite and goethite.
ALTERATION: Biotite Sericite Kaolinite Montmorillonite Epidote
Chlorite
ALTERATION TYPE: Potassic Argillic Propylitic Oxidation
MINERALIZATION AGE: Lower Jurassic
ISOTOPIC AGE: 199 +/- 8 Ma DATING METHOD: Potassium/Argon MATERIAL DATED: Biotite

DEPOSIT

CHARACTER: Disseminated Stockwork Breccia
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
COMMENTS: Age date sample is a mixture of magmatic and hydrothermal biotite from the Iona ore zone (092ISE006) (Canadian Institute of Mining and Metallurgy Special Volume 15, page 114).

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Breccia
Dacite Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: JERSEY REPORT ON: Y
CATEGORY: Unclassified YEAR: 1988
QUANTITY: 22900000 Tonnes
COMMODITY GRADE
Copper 0.4000 Per cent
REFERENCE: CIM Special Volume 46, page 175.

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Unclassified YEAR: 1988
QUANTITY: 49500000 Tonnes
COMMODITY GRADE
Gold 0.0130 Grams per tonne
Copper 0.4000 Per cent
COMMENTS: Includes East Jersey, Jersey and Iona.
REFERENCE: CIM Special Volume 46, page 175.

CAPSULE GEOLOGY

The Bethlehem property lies within the Early Jurassic-Late Triassic Guichon Creek batholith and straddles an intrusive contact where younger Bethlehem phase rocks form an irregular embayment in older Guichon variety rocks. The Bethlehem phase is medium-grained granodiorite to quartz diorite which ranges from equigranular to

CAPSULE GEOLOGY

hornblende-biotite porphyry. The Guichon variety is medium-grained granodiorite. Igneous breccias are postulated to have been forcefully emplaced. Clasts up to 20 centimetres in diameter are subrounded and sit in a generally compact, but sometimes vuggy matrix. The granodiorites and breccias are intruded by north trending, steeply dipping dykes which are compositionally similar to the enclosing rocks; contacts are chilled. Most of the dykes are dacite porphyry and range in width from less than 1 metre to 60 metres.

The Bethlehem ore deposits (East Jersey (092ISE002), Huestis (092ISE004), Iona (092ISE006), and Snowstorm (092ISE005) are controlled by north trending faults and are localized in zones of closely-spaced fractures. Mineralization is concentrated in breccia bodies, faults and highly fractured areas. The Jersey fault cuts through the centre of the Jersey pit.

Hydrothermal alteration is restricted to the immediate area of the ore zones. The distribution of secondary biotite defines an inner potassic zone, sericite with kaolinite and montmorillonite define an intermediate phyllic zone, and epidote defines a peripheral propylitic zone. There is an outer halo of chloritized mafic minerals. Calcite, zeolite and quartz veining and vug-filling is common.

Metallic mineral zoning is very similar to alteration patterns. Bornite and chalcopyrite occur in the hydrothermal biotite zone, specularite in the epidote zone and minor pyrite in the outer halo. Molybdenite, chalcocite and magnetite occur in minor amounts. Malachite, azurite, chrysocolla, cuprite, native copper, hematite, goethite and manganese oxides occur to shallow depths. An age date from a sample of a mixture of magmatic and hydrothermal biotite from the Iona ore zone (092ISE006) returned 199 Ma +/- 8 Ma (Canadian Institute of Mining and Metallurgy Special Volume 15).

The Jersey orebody hosts disseminated mineralization and occurs in an area of relatively evenly distributed and variously oriented pervasive fracturing. Irregular, discontinuous quartz veins also hosts mineralization. Production from the Jersey pit began in 1964 and from the Jersey pit extension in 1977.

Production from 1963 to 1982 totalled 96,324,510 tonnes, yielding 99,826,893 grams silver, 1,279,833 grams gold, 398,112,545 kilograms copper and 851,048 kilograms molybdenum.

The Bethlehem concentrator milled Valley ore (092ISW012) until its closure in June of 1989.

Reserves for the Jersey deposit are 22.9 million tonnes of 0.40 per cent copper. Total reserves for the Bethlehem deposits (Jersey, East Jersey and Iona) are 43.5 million tonnes (plus 6 million tonnes oxide) grading 0.40 per cent copper, minor molybdenum and 0.013 grams per tonne gold (CIM Special Volume 46, page 175).

BIBLIOGRAPHY

- EMPR AR 1901-1090; 1907-137; 1915-274; 1955-34; 1956-45; 1957-26; 1958-21; 1959-29; 1964-86; 1965-146; 1966-152; 1967-153; 1968-179
EMPR ASS RPT 116, 5753
EMPR BC METAL MM00034
EMPR BULL 56
EMPR EXPL 1977-E147; 1979-169; 1989-119-134
EMPR GEM 1969-245; 1970-331; 1971-357; 1972-170; 1973-179; 1974-146
EMPR IR 1984-2, pp. 99, 100; 1984-3, pp. 105, 106; 1984-4, p. 120
EMPR MAP 30; 65 (1989)
EMPR MINING Vol.1 1975-1980; 1981-1985
EMPR OF 1992-1; 1998-8-K, pp. 1-22
EMPR PF (Numerous claim location maps, sample location maps, drill sections, geology maps, mining plan sections and maps, various memos and letters, air photos, information booklet, metallurgical reports, various CIM reports and papers; M.A.Sc. Thesis on Potassium-Argon Age Determinations on Biotites and Amphiboles, Bethlehem Copper Property, B.C. by Gavin Ewan Dirom, U.B.C., 1965; Thesis by Allan D. Wood, Oregon State University, 1966 on A Geologic and Mineralogic Study of the Bethlehem Copper Property at Highland Valley, British Columbia; Aeromagnetic maps; Geological maps of the Highland Valley Area, 1966; Company data and Mike Carr's work on the Bethlehem property, 1960s; J.M. Carr (1969): Geology of the Highland Valley (unfinished draft))
EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
EMR MP RESFILE (Bethlehem (Jersey))
EMR MIN BULL MR 166
GSC MAP 886A
GSC MEM 249, p. 117
GSC OF 980; 2167, pp. 99-114
GSC SUM RPT 1915, p. 85
CIM BULL Vol. 58 (1965) pp. 823-826; Vol.61 (1968)

BIBLIOGRAPHY

CIM Spec. Vol. *8, pp. 321-328; *15, p. 105-119; 46, pp. 161-191
CIM Trans. Vol. 68 (1965), pp. 238-241
CMJ Feb., Nov., 1960; Jun., 1978
EMJ Aug. 1955
GAC FIELDGUIDE 1, 1985
GCNL #228, 1971; #51, Jun.12, 1972; Sept., 1973; #102, 1974; Jun.11,
Aug.9, 1976; #84, Jun.10, Jul.19, Nov.2, 1977; Feb.21, May 8, Jul.28,
Oct.23, 1978; Feb.2, #83, 1979; #26, #115, #208, 1980; #16, 1981
N MINER May 5, 1977; Feb.23, May 25, Oct.26, 1978; Mar.22, Jun.21,
1979; Feb.7, Apr.10, 1980; Jan.20, 1983; Apr.28, 1997
USGS OF 81-355, pp. 106-126
W MINER Feb., 1962 (VOL. 35), pp. 41-43; Jan., 1963; Aug., 1969;
May, 1977; Feb., May, Jun., 1979; May, 1980; April, 1982
Cominco Ltd. Annual Report 1988, p. 12
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
Wood, A.D. (1968): A Geologic and Mineralogic Study of the Bethlehem
Copper Property at Highland Valley, B.C., unpublished MSc thesis,
Oregon State University, Corvallis, Oregon
Placer Dome File
Falconbridge File
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

wall failed. See Bethlehem mine (092ISE001) for production statistics.

Reserves for the East Jersey are 20.6 million tonnes of 0.40 per cent copper (CIM Special Volume 46, page 175).

BIBLIOGRAPHY

EMPR AR 1957-26; 1958-21; *1959-29; 1960-26; 1961-30; 1962-47;
1963-46; 1964-86; 1965-146
EMPR ASS RPT 116
EMPR BULL 56
EMPR EXPL 1977-E147; 1979-169; 1989-119-134
EMPR MAP 30; 65 (1989)
EMPR PF (see 092ISE001 for numerous reports, maps, etc.; *Company data
and Mike Carr's work on the Bethlehem property, 1960s)
EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
GSC MEM 249, p. 117
GSC OF 980; 2167, pp. 99-114
CIM Special Volume *15, pp. 105-119; 46, pp. 161-191
GAC Fieldguide *1, 1985
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
Placer Dome File
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE003**

NATIONAL MINERAL INVENTORY: 092I7 Cu1

NAME(S): **BETHLEHEM COPPER (SIMONS)**, SJ 45, SOUTH SIMONS

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092I07W 092I06E

BC MAP:

LATITUDE: 50 29 36 N

LONGITUDE: 121 00 04 W

ELEVATION: 1372 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5595393

EASTING: 641778

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite Malachite

ALTERATION: Malachite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Quartz Diorite

Granodiorite

Granodiorite

HOSTROCK COMMENTS: Guichon variety, Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies within the Early Jurassic-Late Triassic Guichon Creek batholith and straddles an intrusive contact where younger Bethlehem phase rocks form an irregular embayment in older Guichon variety rocks. Both types are medium-grained granodiorite to quartz diorite. Outcrops indicate that the Bethlehem Copper (Simons) occurrence area is underlain by Guichon quartz diorite which is altered, malachite-stained and brecciated.

Mineralization consists of masses of copper carbonates and disseminations and irregular seams of chalcopyrite, bornite and some chalcocite. Mineralization is apparently controlled by a fault zone striking 345 degrees and dipping steeply westward and is exposed along this trend for 18.2 metres. Malachite occurs as films on joint planes.

BIBLIOGRAPHY

EMPR AR 1955-34
EMPR ASS RPT *116
EMPR BULL 56; 62
EMPR EXPL 1989-119-134
EMPR MAP *30
EMPR PF (*Topographic map showing geology, claims, drillholes, etc.)
GSC MAP 42-1989
GSC MEM 249
GSC OF 980
CIM Spec. Vol. 15, 1976; 46, pp. 161-191
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia
Placer Dome File
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/03

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE003**

MINFILE NUMBER: **092ISE004**

NATIONAL MINERAL INVENTORY: 092I7 Cu1

NAME(S): **BETHLEHEM (HUESTIS)**, HUESTIS, HIGHLAND VALLEY COPPER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 29 36 N
LONGITUDE: 120 59 53 W
ELEVATION: 1458 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Open pit

Open Pit

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5595398
EASTING: 641995

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ALTERATION TYPE: Sericitic Propylitic Pyrite Oxidation
MINERALIZATION AGE: Lower Jurassic
ISOTOPIC AGE: 199 +/- 8 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

DEPOSIT

CHARACTER: Breccia Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
SHAPE: Regular
MODIFIER: Fractured
COMMENTS: Age date sample is a mixture of magmatic and hydrothermal biotite from the Iona ore zone (092ISE006) (Canadian Institute of Mining and Metallurgy Special Volume 15, page 114).

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite
Dacite Dike
Quartz Latite Dike
Breccia

HOSTROCK COMMENTS: Bethlehem phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bethlehem (Huestis) property lies within the Early Jurassic-Late Triassic Guichon Creek batholith and straddles an intrusive contact where younger Bethlehem phase quartz diorite and granodiorite forms an irregular embayment in older Guichon variety granodiorite. The majority of the Huestis orebody occurs in Bethlehem quartz diorite which is medium grained and ranges from equigranular to hornblende-biotite porphyry. These rocks are cut by northeast trending, steeply dipping dacite and quartz latite dykes ranging in width from less than 1 metre to 60 metres.

Ore controls are intrusive contacts, north trending faults and closely-spaced fracturing. The Huestis deposit is a true crackle breccia-type porphyry copper deposit where the host rock has been highly fractured and mineralization is widespread and fairly evenly distributed. The orebody is arcuate and exhibits a peripheral zone of propylitic alteration with an inner zone of sericitization. A distinct pyrite halo of restricted size surrounds the orebody. The main copper mineral is chalcopyrite with lesser amounts of bornite. The majority of the deposit's oxide cap has been removed by glaciation. An age date from a sample of a mixture of magmatic and hydrothermal biotite from the Iona ore zone (092ISE006) returned 199 Ma +/- 8 Ma (Canadian Institute of Mining and Metallurgy Special Volume 15).

The Huestis pit was mined from 1970 to 1976 when production was switched over to the Iona pit (092ISE006). See Bethlehem mine (092ISE001) for production statistics.

BIBLIOGRAPHY

EMPR AR 1962-47; 1964-88; 1968-179
EMPR ASS RPT 116
EMPR BULL 56
EMPR EXPL 1989-119-134
EMPR GEM 1970-331; 1971-357; 1972-170; 1973-179; *1974-146
EMPR MAP 30; 65 (1989)
EMPR PF (see 092ISE001 for numerous reports, maps, etc.)
EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
GSC MEM 249
GSC OF 980; 2167, pp. 99-114
CIM Special Volume *15, pp. 105-119; 46, pp. 161-191
GAC FIELDGUIDE *1, 1985
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
Placer Dome File
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 502
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BC METAL MM00034, MM00414
EMPR BULL 56
EMPR EXPL 1989-119-134
EMPR MAP 30; 65 (1989)
EMPR PF (Drillhole location and plan maps, claim location maps,
various memos, reports by S. Holland, 1944, M.S. Hedley, 1937
and P.B. Freeland, 1943)
EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
GSC MAP 886A
GSC MEM 249, p. 117
GSC OF 980; 2167, pp. 99-114
CIM Special Volume 15, pp. 105-119; 46, pp. 161-191
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
Placer Dome File
Falconbridge File
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE005**

CAPSULE GEOLOGY

extensive oxide zone which reaches a depth of 60 metres. Malachite is the most common oxidation product. Hydrothermal alteration, similar to the other Bethlehem deposits, consists of sericite, kaolinite, quartz and epidote. An age date from a sample of a mixture of magmatic and hydrothermal biotite returned 199 Ma +/- 8 Ma (Canadian Institute of Mining and Metallurgy Special Volume 15).

The Iona pit was mined from 1976 to 1979. See Bethlehem mine (092ISE001) for production statistics.

Oxide reserves for Iona are 6,000,000 tonnes of 0.40 per cent copper (CIM Special Volume 46, page 175).

BIBLIOGRAPHY

- EMPR AR 1917-224; 1919-183; 1920-168,172; 1955-34; 1956-45; 1957-26;
1958-21; 1965-146; 1966-152; 1967-153
EMPR ASS RPT 116
EMPR BULL 56
EMPR EXPL 1989-119-134
EMPR GEM 1973-179; 1974-146
EMPR MAP 30; 65 (1989)
EMPR MINING 1975
EMPR PF (see 092ISE005, plans maps and reports; see 092ISE001 for
numerous maps, reports, etc.)
EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
GSC MEM 249, p. 121
GSC OF 980; 2167, pp. 99-114
CIM Special Volume *15, pp. 105-119; 46, pp. 161-191
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
Placer Dome File
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE007**

NATIONAL MINERAL INVENTORY: 092I7 Cu1

NAME(S): **BETHLEHEM COPPER-WHITE** BRYNELSON, SJ

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 23 N
LONGITUDE: 120 58 25 W
ELEVATION: 1490 Metres

NORTHING: 5595044
EASTING: 643739

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Malachite
ALTERATION: Chlorite Epidote
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Creek fault

STRIKE/DIP: 035/85E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite
Breccia
Dacite Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies within the Lower Jurassic Guichon Creek batholith and straddles an intrusive contact where younger Bethlehem phase quartz diorite and granodiorite form an irregular embayment in older Guichon variety granodiorite. These rocks are cut by north trending igneous breccias and dacite porphyry dykes. North trending faults and closely spaced fracturing partly control mineralization. The Creek fault trends north-northeast immediately west of the White zone and east of the Iona deposit (092ISE006).

The original showing, the Brynelson, is a 3.65 metre wide zone striking 035 degrees, dipping 85 degrees southeast and consisting of narrow parallel stringers of bornite in Bethlehem phase quartz diorite. There are two sets of joints; one closely spaced, striking 020 degrees and dipping steeply to the east, and the other, less well developed, striking 080 degrees and dipping steeply south. The zone of strong jointing strikes slightly east of north and is 12 metres wide. Rocks adjacent to joints are propylitized. Chalcopyrite and malachite occur in similar zones 100 metres to the southeast and northeast.

BIBLIOGRAPHY

EMPR AR 1955-34; 1965-146; 1966-152; 1967-153
EMPR ASS RPT *116
EMPR BULL 56
EMPR EXPL 1989-119-134
EMPR MAP *30
EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
GSC MAP 886A
GSC MEM *249, p. 123
GSC OF 980
CIM Spec. Vol. 46, pp. 161-191
W MINER Aug. 1969
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 506
REPORT: RGEN0100

BIBLIOGRAPHY

Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE008**

NATIONAL MINERAL INVENTORY: 092I7 Cu1

NAME(S): **BETHLEHEM COPPER-SPUD LAKE**, SJ, WHITE

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 18 N
LONGITUDE: 120 52 59 W
ELEVATION: 1493 Metres

NORTHING: 5595069
EASTING: 650166

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite	Bornite	Specularite	Magnetite
ASSOCIATED:	Quartz	Calcite	Zeolite		
ALTERATION:	Sericite	Chlorite	Epidote	Kaolinite	Limonite
ALTERATION TYPE:	Malachite		Propylitic	Argillic	Oxidation
ALTERATION TYPE:	Sericitic				
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Dacite Porphyry Dike

HOSTROCK COMMENTS: Guichon variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies in the Lower Jurassic Guichon Creek batholith. The Spud Lake area is underlain primarily by medium-grained Guichon variety quartz diorite and granodiorite. This unit is cut by north trending dacite porphyry dykes up to 60 metres wide. To the west, at the Bethlehem mine (092ISE001), Guichon rocks have been intruded by Bethlehem phase granodiorite. Mineralization is controlled by intrusive contacts, north trending faults and closely spaced fractures.

Alteration is generally weak and consists of chlorite, epidote and sericite. Minor fault zones have sericite-kaolinite gouges. Quartz, calcite and zeolite (laumontite, heulandite) veining occurs sporadically. Oxidation consists of malachite and limonite.

Mineralization is spotty and consists of disseminations and veinlets of chalcopyrite, bornite and pyrite. Specularite and magnetite are also present in small amounts.

BIBLIOGRAPHY

EMPR AR 1963-46
EMPR ASS RPT 116, 5270
EMPR BULL 56
EMPR EXPL 1977-E147; 1989-119-134
EMPR GEM 1974-146
EMPR MAP 30
EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
GSC MAP 886A
GSC MEM 249, p. 116
GSC OF 980
CIM Spec. Vol. 46, pp. 161-191
CMJ Oct. 1981
GLOBE & MAIL Nov.25, 1981
W MINER Dec. 1979
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 508
REPORT: RGEN0100

BIBLIOGRAPHY

Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE009**

NATIONAL MINERAL INVENTORY: 09217 Cu9

NAME(S): **FORD, CHARTRANDT'S, ASH,
CASH, BB, JG,
FIR**

STATUS: Past Producer
REGIONS:
NTS MAP: 092107E
BC MAP:
LATITUDE: 50 29 11 N
LONGITUDE: 120 44 08 W
ELEVATION: 1172 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5595161
EASTING: 660635

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT:	Bornite	Chalcocite			
ASSOCIATED:	Chlorite	Sericite	Clinozoisite	Zeolite	Calcite
ALTERATION:	Albite	Epidote	Zoisite	Calcite	Chlorite
ALTERATION TYPE:	Albitic		Propylitic	Sericitic	Epidote
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Volcanogenic
DIMENSION:
COMMENTS: Mineralized shear zone
STRIKE/DIP: 040/
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Porphyritic Amygdaloidal Flow
Olivine Basalt
Augite Andesitic Basalt

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: Copper
GRADE: 0.2200 Per cent
COMMENTS: Assays range from 0.22 to 2.8 per cent copper over an interval of less than 1 metre.
REFERENCE: Minister of Mines Annual Report 1973, page 188.

CAPSULE GEOLOGY

The Ford occurrence occupies the area north of Meadow Creek, which is underlain by dark grey to purplish red porphyritic amygdaloidal flows of the Upper Triassic Nicola Group. The lavas are typically amygdaloidal and vary in composition from olivine basalt to augite andesitic basalt. Alteration consists of albitization of plagioclase and propylitization of pyroxene to epidote, zoisite and calcite, with or without chlorite. The rock is locally shot through with sericite and epidote. Flows averaging 1.8 metres thick strike 050 degrees and dip 30 degrees northeast.

The original open cuts (pre-1915) expose copper carbonate ore with occasional flecks of bornite and chalcocite along fracture planes in amygdaloidal flows. The adit follows a mineralized shear zone striking 040 degrees and intersects an east trending set of faults.

Chalcocite(?), bornite and some malachite occur in amygdules and associated veins in flow tops. Gangue minerals include chlorite, sericite, clinozoisite, zeolite and calcite. Some mineralization also occurs in calcite veins, calcite-epidote-sericite veins, sericite-zoisite veins and chlorite veins. Carbonate-zeolite veins

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 510
REPORT: RGEN0100

CAPSULE GEOLOGY

are barren.

Drill core assays range from 0.22 to 2.8 per cent copper over an interval of less than one metre (Minister of Mines Annual Report 1973).

BIBLIOGRAPHY

EMPR AR 1915-212; *1929-217,228; 1930-182; 1967-148; 1968-174
EMPR ASS RPT 2252, 3778, 4051, 13792, 15134, 17337, 18048
EMPR EXPL 1985-C194; 1986-C229; 1988-C111; 1989-119-134
EMPR GEM 1972-158,185; *1973-186-189
EMPR PF (Air photos, geology map, drill sections)
EMR MP CORPFILE (Cannoo Mines Ltd.; Nicola Copper Mines Ltd.)
GSC MAP 44-20A; 886A; 887A
GSC MEM 249, p. 126
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE010**

NATIONAL MINERAL INVENTORY: 092I7 Cu14

NAME(S): **SHEBA**, JAY 101, PEEL

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092I07W

BC MAP:

LATITUDE: 50 26 40 N

LONGITUDE: 120 59 55 W

ELEVATION: 1500 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5589962

EASTING: 642102

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite Pyrite

ASSOCIATED: Quartz

ALTERATION: Sericite K-Feldspar Kaolinite Chlorite Epidote

Calcite

ALTERATION TYPE: Sericitic

Potassic

Argillic

Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Stockwork

Disseminated

CLASSIFICATION: Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION:

STRIKE/DIP: 100/90

TREND/PLUNGE:

COMMENTS: Faults

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

Granodiorite

Quartz Plagioclase Porphyritic Dike

Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Sheba occurrence is located in the central part of the Jurassic Guichon Creek batholith. The northeastern portion of the property is underlain by Guichon and Chataway quartz diorite and granodiorite. These varieties belong to the Highland Valley phase of the batholith and differ only slightly in texture and colour index. To the west they are flanked by Bethlehem phase rocks. The central and western portions of the property are underlain by Skeena variety quartz diorite to granodiorite. This unit is texturally and compositionally transitional between the Bethlehem phase to the east and the Bethsaida phase, which comprises the core of the batholith. A small body of Bethsaida phase quartz monzonite lies in the north central area, along with several related swarms of north and east-northeast trending quartz-plagioclase porphyritic and aplite dykes.

Weak argillic and propylitic alteration is widespread. Kaolinite, chlorite, epidote and calcite are common. Sericite-feldspar alteration is moderately to intensely developed in areas affected by faulting, heavy fracturing and porphyry dyke emplacement. The predominant fault trend is 100 degrees with well-developed steeply inclined joint sets striking 025, 065 and 160 degrees.

Disseminated and quartz vein-controlled mineralization is hosted by altered Skeena and Bethlehem rocks. Chalcopyrite, bornite and some pyrite replace mafic minerals and occur on fractures in quartz-epidote, pyrite-chlorite-epidote-chalcopyrite and quartz-sericite veins. Molybdenite coats fractures and shears and occurs in quartz or quartz-chalcopyrite veins.

BIBLIOGRAPHY

EMPR AR 1957-26; 1958-68; *1962-49; 1963-47; 1964-89; 1965-148;
1967-158; 1968-193

MINFILE NUMBER: **092ISE010**

BIBLIOGRAPHY

EMPR ASS RPT 242, 1087, 5365, 6241, 7725, 13347
EMPR BULL 56
EMPR EXPL 1976-E94; *1977-E146; 1979-169; 1984-209; 1989-119-134
EMPR GEM 1969-264; 1970-350; *1971-348-357; *1972-163-167; *1973-
175-177; 1974-145
EMPR MAP *30
EMPR PF (Claim location maps, 1956, 1957, 1958; *Numerous memos and
reports - A. Komura, 1974, L.W. Saleken, 1971, 1972, T.D.
Wilkinson, 1968; Drill hole location maps and logs; Geology maps,
geochemistry maps, plan maps, drill sections; Report on Diamond
Drilling by J.R. Bellamy, 1977; Report on Percussion Drilling by
R.H. Seraphim, 1977; Trench geology map)
EMR MR CORPFILE (Sheba Copper Mines Ltd.; Peel Resources Ltd.;
The Dowa Mining Co. Ltd.)
GSC MAP 886A
GSC MEM 249
GSC OF 980
CMJ Nov. 1960, pp. 71-73 (J.M. Carr)

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/07

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE011**

NATIONAL MINERAL INVENTORY: 09217 Cu2

NAME(S): **JERICO, JIM 3, BOB 14,**
NO. 1, 1725

STATUS: Developed Prospect

MINING DIVISION: Kamloops

REGIONS:
NTS MAP: 092107W

Nicola
UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 50 26 40 N

LONGITUDE: 120 54 49 W

ELEVATION: 1432 Metres

NORTHING: 5590128

EASTING: 648136

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

Molybdenum

Silver

MINERALS

SIGNIFICANT: Bornite Chalcocite Chalcopyrite Molybdenite

ASSOCIATED: Quartz

ALTERATION: Sericite Chlorite Clay Kaolin

ALTERATION TYPE: Sericitic Chloritic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Breccia

Disseminated

CLASSIFICATION: Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Guichon variety, Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1973

QUANTITY: 272130 Tonnes

COMMODITY

GRADE

Copper

1.0000

Per cent

COMMENTS: Approximate.

REFERENCE: Highmont Mining Corporation Annual Report, 1977.

CAPSULE GEOLOGY

The Jericho adit zone is situated on the eastern flank of the Lower Jurassic Guichon Creek batholith. The property is underlain by Guichon variety rocks of the older Highland Valley phase of the batholith. These rocks are medium to coarse-grained, cream grey-pink coloured granodiorite to quartz diorite, rich in biotite and plagioclase. Foliation strikes 305 degrees. Intense sericite, chlorite and clay alteration is associated with east-northeast striking and north dipping fault zones which host mineralized quartz veins.

The No. 1 zone was discovered in 1956 and subsequently developed by two adits. The upper adit, located on a low ridge, was driven 269.4 metres at a bearing of 084 degrees. Starting approximately 45.7 metres from the portal, the adit intersects mineralized quartz veins which generally strike west to northwest and dip 65 degrees to the north. The principal sulphides are bornite associated with primary chalcocite, chalcopyrite and seams and disseminations of molybdenite. The vein walls are sheared and strongly altered. From 190 metres to its end, the upper adit intersects the No. 1 zone. The lower adit was driven in a south direction. At 525.8 metres, the 1725 zone was intersected and crosscut for a short distance. The No. 1 zone is about 685 metres from the portal and was drifted on for short distances.

Approximate (indicated) reserves are 272,130 tonnes grading 1.0

CAPSULE GEOLOGY

per cent copper (Highmont Mining Corporation Annual Report 1977).

BIBLIOGRAPHY

EMPR AR 1956-46; 1957-27; 1958-24; 1960-26; 1961-30; 1962-50;
1963-47; *1964-89; 1965-147; 1966-159; 1967-159
EMPR ASS RPT 483, 922, 2052, 7277, 7756, 8479, 9444, 13318
EMPR BULL 56
EMPR EXPL 1979-168; 1980-228; 1981-39; 1984-209; 1989-119-134
EMPR GEM 1969-253; 1971-348; 1972-169
EMPR OF 1998-8-K, pp. 1-22
EMPR PF (Geology maps, grid locations, geology report)
EMR MIN BULL MR 223 B.C. 132
EMR MP CORPFILE (Jericho Mines Ltd.)
EMR MP RESFILE (Jericho)
EMPR MAP *30
GSC MAP 886A
GSC MEM 249
GSC OF 980
Highmont Annual Report 1970

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/04

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE012**

NATIONAL MINERAL INVENTORY:

NAME(S): **BERTHA - MOLLY, DUNMORE, DUPONT,
WRT, WINDSOR, LOST**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:
LATITUDE: 50 26 36 N
LONGITUDE: 120 42 41 W
ELEVATION: 1493 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5590427
EASTING: 662497

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT:	Cuprite	Malachite	Azurite	Chalcopyrite	Pyrite
ALTERATION:	Chlorite	Calcite	Epidote	Silica	Malachite
ALTERATION TYPE:	Azurite				
MINERALIZATION AGE:	Propylitic	Silicific'n		Oxidation	
	Unknown				

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Amygdaloidal Andesite
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Dupont Lake area is underlain mainly by Upper Triassic Nicola Group intermediate volcanics and derivatives. Approximately 8 kilometres to the west, Nicola Group rocks are in contact with the Lower Jurassic Guichon Creek batholith. Quartz diorite outcrops southwest of Dupont Lake.

In 1942, George Campbell did some surface-stripping on a copper showing, about 457 metres west of an old shaft. Production from this occurrence, known as the Lost group, was 31 tonnes, yielding 218 grams of silver and 626 kilograms of copper.

The Bertha-Molly showing is hosted by purplish amygdaloidal andesites with intercalated reddish tuffs. These rocks are strongly fractured and chloritized. The original shaft was sunk at a point where patches of cuprite occur in fractures. Small shipments were made.

Recent development has exposed malachite, azurite, chalcopyrite, cuprite and pyrite hosted by shears and fracture-fillings in vesicular volcanics and red tuffs. Mineralization is structurally controlled with an apparent north trend. A common alteration is calcite and epidote with silicification becoming stronger at depth.

BIBLIOGRAPHY

EMPR AR 1929-228; 1930-195; 1942-A26,A69; 1955-37; 1956-46; 1958-29;
1959-38,143
EMPR ASS RPT 265, 3668, 3763, 3764, 14959, 15060, 17337, 18048
EMPR BC METAL MM00380
EMPR EXPL 1986-C228; 1988-C111; 1989-119-134
EMPR GEM 1972-183
EMPR INDEX 3-203
EMPR OF 1998-8-K, pp. 1-22
GSC MAP 44-20A; 886A; 887A
GSC MEM 249, p. 126
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE012**

MINFILE NUMBER: **092ISE013**

NATIONAL MINERAL INVENTORY: 09216,7 Cu3

NAME(S): **HIGHMONT, HIGHMONT MINE, HIGHMONT (EAST),
HIGHLAND VALLEY COPPER, ZONE 1, EAST PIT**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092107W 092106E
BC MAP:
LATITUDE: 50 25 54 N
LONGITUDE: 120 59 53 W
ELEVATION: 1650 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: East pit

Open Pit

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5588542
EASTING: 642179

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite Chalcocite
ASSOCIATED: Quartz Calcite Zeolite Pyrite Specularite
ALTERATION: Biotite K-Feldspar Sericite Kaolinite Chlorite
Epidote Albite Tourmaline
ALTERATION TYPE: Potassic Sericitic Argillic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Quartz Feldspar Porphyry Dike
Quartz Porphyry
Plagioclase Quartz Porphyry Dike
Aplite Dike
Lamprophyre Dike
Andesite Dike

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: EAST PIT REPORT ON: Y
CATEGORY: Unclassified YEAR: 1988
QUANTITY: 87600000 Tonnes
COMMODITY GRADE
Copper 0.2600 Per cent
Molybdenum 0.0210 Per cent
REFERENCE: Cominco Limited Annual Report 1988. CIM Spec. Vol. 46, page 175.

CAPSULE GEOLOGY

The Highmont mine is situated in the central core of the Early Jurassic-Late Triassic Guichon Creek batholith and is underlain primarily by Skeena variety quartz diorite. Skeena rocks are intruded by the composite Gnawed Mountain porphyry dyke which trends west-northwest and dips vertically in the central part of the property and 75 degrees north in the eastern part. This dyke consists of biotite-quartz-feldspar porphyry derived from Bethsaida phase leucocratic quartz porphyry and breccia. The two major ore zones roughly parallel the Gnawed Mountain dyke, which itself is partly mineralized. Near the southeast corner of the East pit there is a breccia consisting of granitoid fragments in a tourmaline-hematite matrix, which appears to be gradational into crackle breccia. Smaller plagioclase-quartz porphyry dykes and narrow aplite dykes are scattered throughout the property. Tertiary lamprophyre and andesite porphyry dykes also occur.

The property is cut by several north-northeast trending

CAPSULE GEOLOGY

post-mineral faults. The Waterhole fault strikes 025 degrees, dips westward at 60 degrees and has clay and gouge sections up to 7.5 metres wide bounded by hematitic shattered zones. Apparent left-lateral offset of up to 30 metres is evident. The fracture pattern in the East pit is well-defined and involves four main attitudes: 140 to 150 degree strike and 80 degree northeast dips; 040 to 050 degree strike and 45 degree northwest dips; 075 degree strike and vertical dip; and 095 degree strike and vertical dip. Fractures are concentrated in parallel swarms up to 60 metres in width which coincide with higher grade mineralization.

The Highmont deposits exhibit the lowest overall intensity of alteration of any producing Highland Valley deposits. Potassic alteration is weak although minor potassium feldspar occurs as veins and alteration envelopes. Secondary biotite is widespread. Quartz-sulphide veinlets with sericitic envelopes comprise phyllic alteration which coincides with the 0.28 copper isopleth in the East pit. Argillic and propylitic alteration are entirely fracture-related.

Alteration grades outward from a central vein, fracture or shear, through a zone of kaolinite and montmorillonite, into chlorite-epidote-sericite-albite alteration and then into unaltered rock. The widths of these zones vary from several centimetres to 50 metres. Late-stage calcite and zeolite veins are also present.

The principal economic minerals are chalcopyrite, bornite and molybdenite occurring predominantly in four types of veins and fracture-fillings. In the East pit, quartz veins are generally 1 to 25 millimetres wide with a vuggy texture. Chalcopyrite and bornite occur in the centre of the veins with scattered flaky molybdenite. Alteration envelopes 2.5 to 5.0 centimetres wide are characterized by coarse white sericite flakes, tourmaline clusters, minor potassium feldspar and limonite. Chalcocite is present in small amounts. Pyrite and specular hematite are gangue minerals.

Unclassified reserves in Zone 1 are 87.6 million tonnes grading 0.26 per cent copper and 0.021 per cent molybdenum (Cominco Limited Annual Report 1988).

The West Pit (092ISW036) was mined first; East Pit production began concurrently.

Production from 1981 to 1984 totalled 37,247,399 tonnes, yielding 50,219 tonnes of copper and 6865.6 tonnes of molybdenite.

BIBLIOGRAPHY

- EMPR AR 1957-27; 1959-30; 1962-49; 1963-47; 1964-89; 1965-148;
1966-158; 1967-158; *1968-189-191
EMPR ASS RPT 286, 290, 1757, 5342, 5409, 5754, 9604, 11945, 13257
EMPR BC METAL MM00037
EMPR BULL 56; 62
EMPR EXPL 1981-70; 1983-276; 1984-205; 1985-C193; 1989-119-134
EMPR FIELDWORK 1983, p. 67
EMPR GEM 1969-244; 1970-330; 1971-344; 1974-131; 1975-E83
EMPR IR 1984-3, pp. 105, 106; 1984-4, p. 120; 1984-5, pp. 113, 114;
1986-1, pp. 109, 110
EMPR MAP *30; 65 (1989)
EMPR MINING Vol.1 1975-1980
EMPR OF 1992-1
EMPR PF (The Province Newspaper article, Apr.3, 1971; Mercury soil
geochemistry map, 1972; Map of plantsite/minesite, 1985)
EMR MP RESFILE (Ide)
EMR MP CORPFILE (Torwest Resources (1962) Ltd.; Highmont Mining Corp.
Teck Corp. Ltd.; Anaconda Co. (Canada) Ltd.)
GSC MAP 886A; 1010A; 42-1989
GSC MEM 249; 262
GSC OF 980; 2167, pp. 99-114
GSC P 46-8; 47-10; 77-9; 77-12
CIM Spec. Vol. 15, 1976; *46, pp. 161-191
CMH 1972-73; 1975-76; 1981-1986
CMJ May 1980
GAC FIELDGUIDE 1, 1985
GCNL Jul.2, 1971; Dec.7, 1978; #53,#80,#199, 1979; #1, 1980; #42,
#105, 1981; #31,#104,#109,#171,#193,#225, 1982; #9,#117, 1983;
#14,#182, 1984
N MINER Jan.13,Mar.10, 1977; Dec.21, 1978; Jan.4,Mar.22,Apr.26,
May 13, 1979; Nov.27, 1980; Jan.15,22,Feb.12,Jun.18, 1981;
Jan.28,Mar.25,Jun.3,Oct.14,Dec.2, 1982; Jan.20,Dec.22, 1983;
Jan.26,Sept.20, 1984; Apr.28, 1997
W MINER Jan.,Apr., 1977; May,Jun.,Dec., 1979; Dec. 1980; Feb. 1981;
May,Nov., 1982
Cominco Ltd. Annual Report 1988, p. 12
Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 518
REPORT: RGEN0100

BIBLIOGRAPHY

Mining Magazine Jan. 1981
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia
Placer Dome File
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/03

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE014**

NATIONAL MINERAL INVENTORY:

NAME(S): **CU 16, CLARKE, GNAWED MTN**

MINING DIVISION: Nicola
Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5587355
EASTING: 643969

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:

LATITUDE: 50 25 14 N
LONGITUDE: 120 58 24 W
ELEVATION: 1529 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT:	Bornite	Chalcopyrite	Molybdenite	Malachite	Azurite
ASSOCIATED:	Molybdenite				
ALTERATION:	Chlorite	Epidote	Sericite	Kaolinite	Malachite
	Azurite	Limonite	Albite		
ALTERATION TYPE:	Propylitic		Sericitic	Argillic	Oxidation
MINERALIZATION AGE:	Unknown				Albitic

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Aplite Dike

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Cu 16 showing is situated in the central portion of the Lower Jurassic Guichon Creek batholith. The area is underlain by Skeena variety granodiorite to quartz diorite which is intruded by north trending dykes of Bethsaida phase porphyritic granodiorite. Fine-grained aplite dykes are also common. Alteration minerals, including chlorite, epidote, sericite and kaolinite, occur in small amounts. Regional faults trend north-northeast. Fracture zones host mineralized quartz vein stockworks.

A 2.4 metre deep shaft was sunk prior to the 1940's on a 60 to 90 centimetre wide quartz vein striking 080 degrees and dipping vertically. Mineralization in the vein consists of bornite, chalcopyrite, molybdenite, malachite, azurite, molybdenite and limonite. The granodiorite contains sparse disseminations and veinlets of molybdenite. Propylitic alteration is more intense and some secondary albite is present in the granodiorite.

BIBLIOGRAPHY

EMPR AR 1963-47; 1964-89; 1965-148; 1966-151; 1967-158; 1968-193
EMPR EXPL 1976-E93; 1986-C231
EMPR ASS RPT *247, 1087, 6054, 6564, 15203
EMPR MAP 30
EMPR BULL 56
GSC MEM 249, p. 123
GSC MAP 886A; 887A
GSC OF 980
N MINER Mar.10,17, 1977; Dec.21, 1978; Apr.26, 1979
GCNL Aug.17, 1976; Mar.15, 1977
EMR MP CORPFILE (B.X. Mining Co. Ltd.; The Anaconda Company (Canada) Ltd.; Trojan Consolidated Mines Ltd.)
FIN POST (Survey of Mines, 1964-79)

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 520
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE015**

NATIONAL MINERAL INVENTORY: 092I7 Cu13

NAME(S): **BORNITE RIDGE**, JERICHO

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 25 24 N
LONGITUDE: 120 55 59 W
ELEVATION: 1524 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5587742
EASTING: 646821

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Bornite	Chalcopyrite	Tetrahedrite				
ASSOCIATED:	Quartz	Calcite					
ALTERATION:	Chlorite	Epidote	Sericite	K-Feldspar	Quartz		
	Limonite	Malachite					
ALTERATION TYPE:	Propylitic		Sericitic	Potassic	Silicific'n		Oxidation
MINERALIZATION AGE:	Unknown						

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Chataway variety, Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is located on the eastern flank of the Lower Jurassic Guichon Creek batholith. The area is underlain by fine to medium-grained hornblende-rich granodiorite designated as the Chataway variety of the Highland Valley phase of the batholith. Regional faults trend north.

In the vicinity of Bornite Ridge, the rocks contain chloritized mafic minerals and incipient sericite alteration of plagioclase. Some fractures have potassium feldspar-epidote stringers along them, some have coarsely crystalline secondary potassium feldspar with or without quartz and resemble pegmatite dykes, and others are coated by quartz-epidote or chlorite with some bornite. Alteration increases in intensity near quartz veining.

The Bornite Ridge showing consists of a set of mineralized quartz veins within a limonitic, north-northeast trending shear zone which can be traced for 60 metres. Veins are branching, narrow and pinch and swell up to 20 centimetres in width. The two sets of veins strike approximately 015 and 065 degrees, with gentle (25 degrees) northwest dips. Bornite with some chalcopyrite and tetrahedrite fill vugs in the quartz veins. Malachite stains fractures in the veins. Unmineralized veins have narrow potassium feldspar, sericitic and propylitic alteration envelopes.

BIBLIOGRAPHY

EMPR AR 1956-46; 1957-27; *1958-24; *1960-26; 1966-159
EMPR GEM 1971-348; 1972-169; *1974-141
EMPR EXPL 1978-161; 1979-168
EMPR ASS RPT 922, 7277, 7756, 8479, 9444, 13318
GSC OF 980
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/04

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE016**

NATIONAL MINERAL INVENTORY:

NAME(S): **GEO, PICK, BRUCE,
SELISH, CS, BL**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 00 24 N
LONGITUDE: 120 48 58 W
ELEVATION: 1251 Metres

NORTHING: 5541657
EASTING: 656485

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Galena
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Silica Jasper K-Feldspar
ALTERATION TYPE: Propylitic Silicific'n Potassic Chloritic Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: L04 Porphyry Cu ± Mo ± Au
COMMENTS: Fault zone STRIKE/DIP: 125/75N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Dacitic Flow
Dacitic Breccia
Dacite
Tuff
Fossiliferous Limestone
Greywacke
Diorite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Geo showings lie in the western belt of the Upper Triassic Nicola Group. The slopes of Selish Mountain are underlain by generally green, massive to layered dacitic flows, breccias and local tuffs, interbedded with massive grey fossiliferous limestone and minor greywacke. Bedding strikes east and dips moderately to the south. Nicola Group rocks exhibit widespread weak chlorite-epidote alteration and occasional quartz veining. A large dioritic stock and isolated small plugs intrude the volcanics. A 1.5 metre wide fault zone strikes 125 degrees and dips 75 degrees north.

In the northeast portion of the property, jasper and silica with minor chalcopyrite and galena occur along fractures which parallel the main fault zone. To the southwest the intrusive contact is marked by potassium feldspar and more intense chlorite-epidote alteration. Chalcopyrite and pyrite comprise the minimal copper mineralization.

BIBLIOGRAPHY

EMPR ASS RPT 802, *3018, 9795, 11591
EMPR AR 1965-154; *1966-170,246
EMPR GEM 1970-376; 1971-288
EMPR EXPL 1981-121; 1983-270
EMPR FIELDWORK *1978, p. 41
EMPR MAP *47
GSC MEM 243; 249
GSC MAP 886A
GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 523
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/08

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE017**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOB**, CHATAWAY, ROSCOE

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092107W

BC MAP:

LATITUDE: 50 23 15 N

LONGITUDE: 120 56 24 W

ELEVATION: 1555 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5583745

EASTING: 646438

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Malachite Pyrite Chalcopyrite Hematite Chalcocite

Bornite Molybdenite

ALTERATION: Limonite Hematite

ALTERATION TYPE: Propylitic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite
Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is situated on the southeastern flank of the Lower Jurassic Guichon Creek batholith in an area underlain primarily by Skeena variety granodiorite. About 1500 metres to the west of the Bob showing, the Skeena rocks are in contact with the younger Bethsaida phase, which consists of quartz monzonite to granodiorite and slightly younger porphyry dykes and plugs. The contact is characterized by a broad zone of moderate to extreme propylitic alteration and fracturing.

On the Bob showing, the Skeena granodiorite is intruded by a 75 metre wide Bethsaida dyke trending 015 degrees. Drill hole results (1965) indicate the dyke is moderately altered and fractured with extensive limonitic staining. Widespread sparse amounts of malachite, pyrite and chalcopyrite are exposed near the surface. At depth the altered rocks are mineralized with disseminations and fracture-fillings of hematite, minor bornite, secondary chalcocite and molybdenite.

BIBLIOGRAPHY

EMPR AR 1963-48; 1964-90; 1965-149; 1968-194
EMPR GEM 1970-371; 1971-369; 1972-160
EMPR ASS RPT *1790, 3552, 3709, *4050
EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (see 092ISE020, Report by K.C. McTaggart, 1963; see 092ISE092, Air photo base maps and sample location map; see 092ISE063, numerous maps and reports)
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMR MP CORPFILE (Chataway Exploration Co. Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE017**

MINFILE NUMBER: **092ISE018**

NATIONAL MINERAL INVENTORY: 09217 Cu3

NAME(S): **JAY 1**, THREE CREEKS, CHATAWAY,
NOVA

STATUS: Showing
REGIONS:
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 22 35 N
LONGITUDE: 120 56 10 W
ELEVATION: 1508 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5582517
EASTING: 646749

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Malachite
ALTERATION: Silica Limonite Malachite
ALTERATION TYPE: Argillic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Hydrothermal 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>
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Chataway variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Jay 1 showing is situated east of Rusty Creek in the southeastern portion of the Lower Jurassic Guichon Creek batholith. The area is underlain primarily by coarse-grained granodiorite Chataway variety of the Highland Valley phase of the intrusion. Approximately 800 metres west of Rusty Creek, the Chataway granodiorite is in contact with Skeena variety granodiorite of the Bethsaida phase. Intermediate between these two stages of intrusion is the Bethlehem phase, which is represented by granodioritic to granitic porphyry dykes and plugs.

On the Jay 1 showing Chataway rocks are fractured, faulted, argillized, silicified and deeply oxidized to limonite. Widespread sparse amounts of malachite are evident. Extensive trenching (1963) exposed low grade mineralization consisting chiefly of fracture-fillings and disseminations of chalcopyrite and bornite(?).

BIBLIOGRAPHY

EMPR ASS RPT 1790, 3552, 3709, *4050, 7560, 9953
EMPR AR 1962-50; 1963-48; *1964-90; 1965-149; 1967-159; 1968-194
EMPR GEM 1970-371; 1971-369; 1972-160
EMPR EXPL 1979-167; 1981-164
EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (see 092ISE020, Report by K.C. McTaggart, 1963; see 092ISE092, Air photo base maps and sample location map; see 092ISE063, numerous maps and reports)
GSC OF 980
GSC MEM 249
GSC MAP 886
EMR MP CORPFILE (Chataway Exploration Co. Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE019**

NATIONAL MINERAL INVENTORY: 09217 Cu8

NAME(S): **WIZ 3**, WIZ 5, CHATAWAY

STATUS: Showing

MINING DIVISION: Nicola

REGIONS:

NTS MAP: 092107W

BC MAP:

LATITUDE: 50 21 06 N

LONGITUDE: 120 53 35 W

ELEVATION: 1428 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5579854

EASTING: 649888

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

ISOTOPIC AGE: 190 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Quartz Diorite Porphyry

Quartz Diorite

Granodiorite

HOSTROCK COMMENTS: Chataway variety, Highland Valley phase; Age date from Bulletin 56

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Wiz 3 showing is located in the southeastern part of the Lower Jurassic Guichon Creek batholith underlain primarily by coarse-grained granodiorite designated as the Chataway variety of the Highland Valley phase of the intrusion (Map 30). The Guichon Creek batholith is transected by north and west trending regional faults.

A trench and drill hole intersected disseminated bornite hosted by quartz diorite porphyry and adjacent quartz diorite.

BIBLIOGRAPHY

EMPR AR 1962-50; *1963-48; *1964-90; 1965-149; 1968-194
EMPR ASS RPT 737, 749, 764, 1790, 3552
EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (see 092ISE020, Report by K.C. McTaggart, 1963; see 092ISE063, numerous maps and reports)
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMR MP CORPFILE (Chataway Exploration Co. Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE020**

NATIONAL MINERAL INVENTORY: 09217 Cu8

NAME(S): **SHO**, SHO 11, CHATAWAY

STATUS: Showing
REGIONS:
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 20 22 N
LONGITUDE: 120 54 55 W
ELEVATION: 1373 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5578451
EASTING: 648345

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Malachite Chalcocite
ALTERATION: Sericite Kaolinite Chlorite Limonite Hematite
ALTERATION TYPE: Sericitic Argillic Chloritic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Chataway variety, Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Sho showing is located in the southeastern portion of the Lower Jurassic Guichon Creek batholith underlain primarily by Chataway variety granodiorite of the Highland Valley phase, the oldest phase of the intrusion. The coarse-grained granodiorite is intruded by north-northeast trending granodiorite and porphyry dykes (up to 150 metres wide) and plugs belonging to the Bethlehem phase (Map 30). The Guichon Creek batholith is cut by north and west trending regional faults.

Mineralization and alteration on the Sho 11 showing are structurally controlled. Heavy malachite lenses in a white sericite gouge occur along narrow northwest trending shears. Alteration consists of extensive kaolinite, sericite and chlorite, with minor limonite and hematite staining. Malachite is observed over an area 183 by 76 metres. Bulldozer cuts and drill holes have intersected narrow sections of erratic malachite and chalcocite mineralization in sericitized and chloritized Chataway granodiorite.

BIBLIOGRAPHY

EMPR AR 1962-50; *1963-48; *1964-90; 1965-149; 1968-194
EMPR GEM 1970-371; 1972-160
EMPR ASS RPT 737, 749, 764, *1790, 3552, *3709, *4050
EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (McTaggart, K.C. (1963): Report on The Highland Valley Property of Chataway Exploration Co. Ltd.; see 092ISE063, numerous maps and reports)
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMR MP CORPFILE (Chataway Exploration Co. Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE021**

NATIONAL MINERAL INVENTORY:

NAME(S): **RHYOLITE** WRT

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 28 N
LONGITUDE: 120 42 24 W
ELEVATION: 1310 Metres

NORTHING: 5592043
EASTING: 662782

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches, 1.25 kilometres north-northwest of Homfray Lake, 8.5 kilometres south-southeast from Logan Lake (Assessment Report 18048).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite
ASSOCIATED: Quartz Carbonate
ALTERATION: Azurite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION:
COMMENTS: Shear zone; dips steeply west.

STRIKE/DIP: 335/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Amygdaloidal Basalt
Volcaniclastic Breccia
Felsic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: VEINLETS

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1988
SAMPLE TYPE:	Rock		
COMMODITY	GRADE		
Copper	0.3770	Per cent	
Zinc	0.2180	Per cent	

COMMENTS: Sample from quartz-carbonate veinlets.
REFERENCE: Assessment Report 18048.

CAPSULE GEOLOGY

The area straddles a northwest trending contact between two volcanic sequences of the Upper Triassic Nicola Group. To the west are plagioclase, plagioclase-augite intermediate pyroclastic and epiclastic breccia, conglomerate, tuff, sandstone, local shale and augite porphyry bodies. The central portion to the east is underlain by aphanitic pillowed mafic flows. The contact between these two sequences hosts the Rhyolite occurrence.

The Rhyolite showing is underlain by grey, green or black amygdaloidal basalt of the Upper Triassic Nicola Group. Varicoloured calcite amygdules occur within an aphanitic groundmass. Several beds of maroon to green volcaniclastic breccia occur within the basalt and contain maroon, subrounded to subangular clasts ranging up to 30 by 15 centimetres. Two northwest trending, light grey-green, aphanitic, siliceous and pyritic felsic dykes, 3 to 4 metres wide, also occur.

Mineralization occurs in amygdaloidal basalt near the flow-volcaniclastic contact and is related to narrow quartz-carbonate veinlets within shears. Several old trenches indicate the shear zone strikes approximately 335 to 345 degrees and dips steeply west. Pyrite is present with minor chalcopyrite, azurite, malachite and sphalerite. Rock samples from this zone assayed up to 0.377 per cent copper, 0.218 per cent zinc and are weakly anomalous in gold and

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 529
REPORT: RGEN0100

CAPSULE GEOLOGY

silver values (Assessment Report 18048).

BIBLIOGRAPHY

EMPR ASS RPT 17337, *18048
EMPR EXPL 1988-C111
GSC OF 980
GSC MEM 249
EMPR EXPL 1989-119-134

DATE CODED: 1989/10/24
DATE REVISED: 2001/10/30

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE022**

NATIONAL MINERAL INVENTORY:

NAME(S): **DIANE, STIRLING, ORIGINAL,
SOUTH, LOWELL, ZINC**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 50 02 27 N
LONGITUDE: 120 47 22 W
ELEVATION: 1370 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5545512
EASTING: 658283

LOCATION ACCURACY: Within 500M

COMMENTS: Original zone, 250 metres south of Stirling Creek, 2.5 kilometres west-southwest from the summit of Iron Mountain, 7.5 kilometres south of the town of Merritt (Assessment Report 17721).

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite	Gold		
ASSOCIATED:	Quartz	Hematite	Specularite	Limonite	Malachite
	Pyrite	Chlorite	Sericite		
ALTERATION:	Hematite	Limonite	Malachite		
COMMENTS:	Minor clay				
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Vein	Stockwork		
CLASSIFICATION:	Hydrothermal	Epigenetic		
TYPE:	105 Polymetallic veins	Ag-Pb-Zn±Au		
DIMENSION:	0250 Metres		STRIKE/DIP: 133/	TREND/PLUNGE:
COMMENTS:	Original zone; steep southwest dips.			

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite Flow
Andesite Pyroclastic
Siliceous Volcaniclastic Rock
Lithic Tuff
Porphyritic Andesite Flow
Rhyolite Tuff
Andesite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: LOWELL	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Copper	0.2000 Per cent
COMMENTS: Sample over 7 metres	
REFERENCE: Assessment Report 16058.	

ORE ZONE: ORIGINAL	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Drill Core	
COMMODITY	GRADE
Silver	16.4300 Grams per tonne
Gold	15.5600 Grams per tonne
COMMENTS: Sample across 1.38 metres	
REFERENCE: Assessment Report 17721.	

INVENTORY

ORE ZONE: ZINC REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY Zinc GRADE 1.6000 Per cent
COMMENTS: Sample over 3 metres
REFERENCE: Assessment Report 16058.

ORE ZONE: SOUTH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY Copper GRADE 0.4500 Per cent
COMMENTS: Sample over 2 metres
REFERENCE: Assessment Report 16058.

CAPSULE GEOLOGY

Regionally the area is underlain by a northeast trending belt of volcanic and sedimentary rocks of the Upper Triassic Nicola Group. These have been divided into three subparallel belts by two persistent north trending, high angle fault systems, the Alleyne-Summers Creek system to the east and the Allison system to the west. The north to northeast trending, steeply east dipping western belt, in which the Diane occurrence is wholly situated, comprises an east to southeast facing sequence of calc-alkaline flows that grade upward into pyroclastic rocks, epiclastic sediments and abundant limestone. The rocks are chiefly andesites, but range compositionally from basalt to rhyolite and vary from aphanitic to coarsely porphyritic. The pyroclastic members include tuff, lapilli tuff, breccia and tuff breccia, and are intimately related with the flows. Local calcareous marine sedimentary members, chiefly limestone with lesser argillite and conglomerate, also occur.

The Diane occurrence is underlain by a complex basal package of aphanitic, amygdaloidal and porphyritic flows and pyroclastic rocks of intermediate composition. These rocks are overlain by a transitional sequence of intermediate to felsic flows and pyroclastics with local fossiliferous limestone and limy sediment interbeds and minor lenses of banded jasper. These sequences form part of the Upper Triassic Nicola Group and have been subdivided into four units. The first unit is comprised of limestones and limy sediments, the second is mixed rhyolite to rhyodacite flows and minor tuffs, the third is mixed dacite to rhyolite flows and pyroclastics and the fourth is mixed andesite flows and pyroclastics. The rocks exposed on the property have undergone lower greenschist facies metamorphism (chlorite, epidote, sericite and carbonate alteration mineralogy). The Nicola Group rocks strike north-northeast with variable southeast dips. Gentle large scale folding is apparent. Two sets of northeast and northwest trending faults are evident.

Massive hematite, controlled and localized in fractures and occurring in association with limonite and malachite, is the predominant mineralization. Both the limonite and malachite appear to be secondary after pyrite and chalcopryrite, which occurs locally. Fracture intensity appears to determine both the distribution of hydrothermal mineralization and the amount of alteration in the host rock. At present, seven mineralized zones have been located and the majority of these zones follow northwest fractures. In several locations, late-stage quartz-hematite-limonite veining has been superimposed on the massive hematite mineralization. The width and continuity of this veining vary along strike, but appear to be strongest where fracturing in the volcanics is most intense. The emplacement of this mineralization, which is locally auriferous, has not had an effect on the massive hematite, but has resulted in intense alteration of the surrounding rocks.

The Original zone, where trenching has exposed fault-controlled hematite-limonite +/- malachite mineralization over a distance of approximately 250 metres, is the only location where gold values occur. This mineralization is hosted by andesitic flows and pyroclastics and strikes between 133 and 143 degrees, with steep southwest dips. The mineralized trend varies up to several metres in width and appears to splay into several thinner zones to the north. A discontinuous zone of auriferous quartz veining hosting iron oxides with lesser chlorite and sericite has been defined within this trend and appears to have resulted in the pervasive silicification of the host volcanics. Rock samples have assayed up to 9.73 grams per tonne gold (Assessment Report 17721). Recent diamond drilling has

CAPSULE GEOLOGY

intersected extensions of the Original zone at a depth of 59 metres and averaged 15.56 grams per tonne gold and 16.43 grams per tonne silver across 1.38 metres. Values of over 1 per cent copper have also been recorded (Assessment Report 17721).

The South and Lowell zones, 225 and 500 metres south of the Original zone respectively, contain malachite, chalcopyrite, pyrite and quartz-specularite veins or stockwork along narrow shears and fractures in mixed porphyritic and aphanitic andesite flows and lithic tuffs. Trench samples from the South zone returned assays of up to 0.45 per cent copper over 2 metres and from the Lowell zone, up to 0.20 per cent copper over 7 metres (Assessment Report 16058). Fracture sets in the Lowell zone appear to strike 040 degrees and dip steeply to the southeast.

The Zinc zone is approximately 960 metres south of the Original zone and comprises a homogeneous felsic tuff with a small shear or fracture containing limonite and a few quartz veinlets. A rock sample of a limonitic, grey-pink rhyolitic tuff assayed 5.4 per cent zinc (Assessment Report 16058). Three samples from a trench averaged 1.6 per cent zinc over 3 metres (Assessment Report 16058).

BIBLIOGRAPHY

EMPR ASS RPT 1735, 6248, 10114, 12799, 12860, 13114, *16058, *17721
EMPR AR 1951-128; 1961-47; 1963-53; 1968-199,200
EMPR GEM 1970-376; 1971-291; 1974-126,127; 1977-139,140
EMPR BULL 69
GSC MEM 249
GSC OF 980
GSC MAP 886A
EMPR EXPL 1981-207; 1983-267; 1984-200,202; 1987-C190; 1988-C110
EMPR MAP 47
EMPR EXPL 1989-119-134

DATE CODED: 1987/08/31
DATE REVISED: 1989/10/24

CODED BY: LLC
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE023**

NATIONAL MINERAL INVENTORY: 09217 Cu7

NAME(S): **DOT, VIMY, VIMY MINE,
UPPER VIMY, LOWER VIMY, IXL,
VIMY RIDGE, LOT 1864, LOT 2003,
LOT 2004, LOT 2005, NORTHWEST,
SOUTHEAST**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 19 18 N
LONGITUDE: 120 50 58 W
ELEVATION: 1071 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Shaft, located south-southwest of Mamit Lake and west of Guichon Creek, about 20 kilometres south of Logan Lake.

Underground
MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5576608
EASTING: 653087

COMMODITIES: Copper Gold Silver Molybdenum

MINERALS

SIGNIFICANT: Bornite Copper Chalcocite Chalcopyrite Covellite
Cuprite Specularite
ALTERATION: Chlorite Sericite Kaolinite K-Feldspar Carbonate
Hematite
ALTERATION TYPE: Argillic Potassic Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Stockwork Breccia
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 450 x 100 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Southeast zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Monzodiorite

HOSTROCK COMMENTS: Guichon variety, Highland Valley phase.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: NORTHWEST REPORT ON: Y
CATEGORY: Indicated YEAR: 1992
QUANTITY: 2930000 Tonnes
COMMODITY GRADE
Copper 0.5000 Per cent
COMMENTS: A preliminary geological resource based on current and past drilling.
REFERENCE: Assessment Report 22839.

CAPSULE GEOLOGY

The Vimy mine is located on the east side of an unnamed stream which flows southward into Broom Creek. The area is underlain by the Early Jurassic Guichon Creek batholith which intrudes Upper Triassic Nicola Group volcanic rocks in the east. North of the property, near Gypsum Mountain, the intrusive rocks are unconformably overlain by Eocene Kamloops Group volcanic flows.

The Vimy property is underlain primarily by the Guichon variety of the Highland Valley phase of the Guichon Creek batholith. This unit is comprised of fine to medium-grained quartz monzodiorite to granodiorite. Outcrops of coarser grained granodiorite (Chataway variety) are found in the vicinity of the mine. Younger porphyry intrusions are also present. The granodiorite is strongly altered (chlorite, sericite and kaolinite alteration mineralogy).

Mineralization is structurally controlled. Disseminations and veinlets of bornite, native copper, chalcocite, chalcopyrite and minor covellite and cuprite are concentrated in a zone of intense

CAPSULE GEOLOGY

brecciation and alteration at the intersection of north and northwest trending faults. Intense alteration adjacent to mineralization consists of potassium feldspar, sericite, kaolinite, chlorite, carbonate and oxidation of specular hematite. Associated silver values range up to 6.8 grams per tonne.

The two main showings on the property are designated as the Upper and Lower Vimy. The Upper Vimy showing consists of a shaft and a short crosscut west of the Gypsum Mountain road. About 300 metres to the east, two short adits develop the Lower Vimy. A small shipment of high-grade ore was made in 1925.

Indicated reserves of the main copper zone are estimated at 819,188 tonnes grading 0.35 per cent copper (Assessment Report 9699).

The main or Northwest copper zone, explored by surface trenches and drillholes, has been traced for approximately 270 metres with a width of up to 55 metres and a depth of 100 metres. The zone strikes at 140 degrees. The deposit remains open along strike and to depth. Previous drilling by various companies and drilling by Zappa Resources Ltd. in 1992 have outlined a preliminary geological resource of 2.93 million tonnes grading 0.5 per cent copper (Assessment Report 22839).

The Southeast zone is a new discovery by Alhambra Resources Ltd. in 1996, and is located about 200 metres along strike from the Northwest zone. The zone of bornite-rich porphyry copper mineralization was discovered beneath 20-30 metres of overburden. It has been intersected by 13 angle holes over a strike length of 450 metres and is still open to the southeast. It varies in width up to about 100 metres, however, no drilling has been done off the main trend so it is not known if a more widespread stockwork zone is present. The best hole, #15, cut 119.8 metres grading 0.58 per cent copper which included a high-grade zone of about 40 metres with numerous assays in the 1-3 per cent copper range. Local kicks of gold (to 2.49 grams per tonne), silver (to 149.8 grams per tonne) and molybdenum (to 0.29 per cent molybdenum over 5 metres in hole 11) occur but are very sporadic (M. Cathro, personal communication, 1997).

The Southeast zone is hosted by a fine to medium-grained granodiorite of Guichon or Chataway variety. Alteration consists of moderate to intense phyllic and intense pervasive potassic zones which are associated with the better mineralization. Bornite is predominant over chalcopyrite and is associated with specular hematite in many intersections. There are fairly large zones of gouge and sericitized fault breccia in some of the holes, however, it is too early to know which way these faults are trending. The degree of alteration suggests this may be a fairly large mineralizing system (M. Cathro, personal communication, 1997).

In 1997, Alhambra completed about 4570 metres of diamond drilling. In an area to the west of the southeast zone, drilling intersected native copper in oxidized and unoxidized porphyry, representing an apparently very low sulphur, oxygenated porphyry system. Drill intercepts were up to 119.8 metres grading 0.58 per cent copper (Exploration in BC 1997, page 37).

BIBLIOGRAPHY

- EMPR AR 1901-1186; 1903-182; 1905-204; 1923-161; 1924-136; 1925-183; 1926-199; 1927-213; 1928-211; 1956-46; 1957-28; 1959-35; 1962-50; 1963-48; 1964-90; 1965-149; 1966-164; 1967-159; 1968-194
EMPR ASS RPT 737, 749, 764, *1790, 4043, *4056, 7494, 9187, *9699, *22839, 24884
EMPR BC METAL MM00307
EMPR EXPL 1979-167; 1981-94; 1989-119-134; 1996-D2; 1997-37
EMPR GEM 1970-371; 1971-347; 1972-159
EMPR INF CIRC 1998-1, p. 25
EMPR PF (A Compilation of the Geology, Mineralization and Exploration, Southeast Quarter - Highland Valley Property for Chataway Exploration Co. Ltd., February 1971; Geological plans; Reports by S.F. Kelly, 1979 and R.H. Seraphim, 1979, 1980; Drill hole plan; see 092ISE063, numerous maps and reports; Mike Cathro (April 1997): Dot Property Visit - Guichon Creek Batholith, 2 p.)
GSC MAP 886A; 887A
GSC MEM 249, p. 124
GSC OF 980
GCNL #216, 1980; #79, #80, #85, #119, #157, #163, #179, #181, #203, 1981; #7, #72, #142, 1982; #99, 1983
N MINER Aug.27, Sept.10, 1981; Jan.21, Mar.4, 1982; May 4, 1998
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1997/04/23

CODED BY: GSB
REVISED BY: MC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **092ISE023**

MINFILE NUMBER: **092ISE024**

NATIONAL MINERAL INVENTORY: 09217 Cu8

NAME(S): **ABERDEEN (L.960)**, ABERDEEN MINE, CROWN,
PLYMOUTH QUEEN (L.997)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 18 13 N
LONGITUDE: 120 51 31 W
ELEVATION: 1036 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5574582
EASTING: 652492

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcocite Specularite Copper Chalcopyrite Pyrite
Bornite Malachite
ASSOCIATED: Tourmaline Quartz Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Concordant
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Lenses dip steeply to the northeast.

STRIKE/DIP: 310/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Unknown

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

Lower Jurassic

ISOTOPIC AGE: 190 +/- 8 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Quartz Monzodiorite
Greenstone

HOSTROCK COMMENTS: Age date from Bulletin 56.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Aberdeen mine is located immediately west of Broom Creek approximately 2 kilometres northwest of its confluence with Guichon Creek. The area is underlain by rocks of the Lower Jurassic Guichon Creek batholith which are covered for the most part by extensive glacial overburden. Near the mine, Broom Creek parallels the contact between two varieties of the older Highland Valley phase of the Guichon Creek batholith. To the west is the Chataway granodiorite (190 Ma +/- 8 Ma). To the east, rocks previously designated by Northcote (1969) as fine-grained granodiorite belonging to the Witches Brook phase (199 Ma +/- 8 Ma) have been remapped by McMillan (1978) as quartz monzodiorite of the older Guichon variety.

The Aberdeen deposit lies along a mass of greenstone between two coarse joint planes striking 300 degrees in the plutonic rocks. A series of high-grade, en echelon lenses, striking 310 degrees and dipping steeply to the northeast, occur in a fracture zone to a depth of 30 metres. Mineralization consists of chalcocite, specularite, minor native copper, chalcopyrite, pyrite and bornite in a gangue of tourmaline, quartz and hematite. Malachite staining is also present.

The mine was developed by a vertical shaft from which levels have been run at depths of 15.2, 30.5, 45.7 and 61 metres. Several of these drifts are stated to be 125 metres long.

BIBLIOGRAPHY

EMPR AR 1899-734; 1900-892; 1901-1186; 1903-181; *1905-204; 1906-255;
1915-232,446; 1916-262,429,518; 1917-233,450; 1919-189; 1923-162;
1924-136; 1925-182,365; 1926-199; 1928-223; 1956-46; 1957-28;
1959-34; 1960-41
EMPR GEM 1969-269; 1971-346; 1972-160

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 536
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR EXPL 1981-10
EMPR MAP *30
EMPR BULL 1, p. 77; *56; 62
EMPR ASS RPT 1557, 1826, *3454, 9187
GSC MEM *249, p. 123
GSC OF 980
GSC MAP 44-20A; 886A; 887A
EMR MP CORPFILE (Merritt Mines Ltd.; Aberdeen Mines 1928 Ltd.;
Bethlehem Copper Corp. Ltd.; Torwest Resources 1962 Ltd.;
Aselo Industries Ltd.; Highmont Mining Corp.)
EMPR EXPL 1989-119-134
EMPR BC METAL MM00306
EMPR PF (see 092ISE063, numerous maps and reports)

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/10

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE025**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAT-OUTRIDER**, HAT 4, HAT 5,
HAT 6

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W 092I10W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 28 N
LONGITUDE: 120 55 54 W
ELEVATION: 1350 Metres

NORTHING: 5595280
EASTING: 646710

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Chlorite Kaolinite
ALTERATION TYPE: Propylitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal 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>
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite
Porphyritic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Hat-Outrider occurrence area is located in the northeastern part of the Lower Jurassic Guichon Creek batholith. The property is generally covered by thick overburden. Scattered outcrop indicate the area is underlain by Guichon variety quartz diorite and granodiorite.

Mineralization is associated with younger porphyritic rocks which intrude the Guichon quartz diorite. Chalcopyrite occurs in small amounts. Alteration consists of chlorite and kaolinite in zones of shearing.

BIBLIOGRAPHY

EMPR AR 1956-44, 1957-26, 1958-22,68, 1964-85, 1967-156,282
EMPR ASS RPT *173, 254, 1014
EMPR MAP *30
EMPR BULL 56
GSC MEM 249
GSC MAP 886A
GSC OF 980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE026**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRUCE, PETE, RANCHER,
PEPSI, OUT, MT. HAMILTON**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I01W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 21 N
LONGITUDE: 120 22 02 W
ELEVATION: 1126 Metres

NORTHING: 5557423
EASTING: 688127

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Malachite Sphalerite Hematite
ASSOCIATED: Quartz Epidote
ALTERATION: Chlorite Epidote Limonite Hematite Malachite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Porphyritic Andesite
Tuff
Lapilli Tuff
Agglomerate

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: 1986
SAMPLE TYPE: Drill Core
COMMODITY: Copper GRADE: 1.4400 Per cent
COMMENTS: Intersection over 0.6 metres.
REFERENCE: Assessment Report 15232.

CAPSULE GEOLOGY

The property is underlain by a volcanic sequence comprising massive and porphyritic andesitic and basaltic flows and coarse pyroclastics of the Upper Triassic Nicola Group. The east half of the property is underlain by chloritized augite-plagioclase porphyritic andesite while crudely bedded tuffs, lapilli tuffs and agglomerate outcrop on the western half. Northwest trending faults are mapped on the western part of the property. Chlorite and epidote alteration is pervasive. Limonite coats fracture surfaces and occurs in patches.

Porphyry copper mineralization is hosted by lapilli tuff and fragmental andesite units striking northwest and dipping 60 degrees northeast, as exposed in a 35 by 4 metre outcrop. Mineralization consists of quartz and quartz-epidote veins 5 to 20 millimetres in width. The veinlets carry chalcopyrite, minor malachite and epidote. Many of the veins are hematite stained. Fine-grained sphalerite and specular hematite are also evident. The vein system is roughly parallel with bedding in the pyroclastics.

Recent diamond drilling encountered weak, narrow copper mineralization grading 1.44 per cent copper over 0.6 metres (Assessment Report 15232).

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 539
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 1972, 10164, 11202, *15232
EMPR GEM 1969-275
EMPR EXPL 1986-C224
EMPR BULL 69
GSC MEM 249
GSC OF *980
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1987/02/24
DATE REVISED: 1987/12/17

CODED BY: AFW
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE027**

NATIONAL MINERAL INVENTORY: 092I7 W1

NAME(S): **LUCKY MIKE**, LAST CHANCE, CAM

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

Open Pit

MINING DIVISION: Nicola

LATITUDE: 50 18 02 N
LONGITUDE: 120 41 31 W
ELEVATION: 1591 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5574597
EASTING: 664370

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Tungsten Silver Copper Zinc Lead
Gold

MINERALS

SIGNIFICANT: Scheelite Pyrite Pyrrhotite Chalcopyrite Galena
Sphalerite
ASSOCIATED: Garnet Epidote Calcite
COMMENTS: Skarn
ALTERATION: Garnet Epidote Calcite Magnetite Hornblende
Chlorite Hematite
COMMENTS: Skarn
ALTERATION TYPE: Skarn Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Skarn
TYPE: K05 W skarn I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Fractured
DIMENSION: 0110 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Main skarn unit; northeast strike.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Skarn
Lithic Tuff
Tuff
Limy Volcanic Rock
Limestone
Andesitic Breccia
Intermediate Crystal Lithic Tuff
Crystal Lithic Tuff
Felsic Crystal Lithic 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

YEAR: 1988

COMMODITY	GRADE	
Silver	38.3900	Grams per tonne
Copper	0.1800	Per cent
Tungsten	0.1520	Per cent

COMMENTS: Tungsten assay across 14.1 metres of mineralized skarn. Copper and silver assays are across 3.6 metres of mineralized skarn.

REFERENCE: Assessment Report 18583.

CAPSULE GEOLOGY

length and at a variety of elevations 40 to 80 metres below the old surface workings. Based on present and past drilling, indicated reserves of skarn available for tungsten mineralization is less than 90,710 tonnes (Assessment Report 18583).

Geologic reserves at the Lucky Mike skarn copper-tungsten deposit are estimated at 317,485 tonnes grading 0.56 per cent copper, 0.30 per cent WO₃ (0.23 per cent W) and 20.5 grams per tonne silver (Assessment Report 24600, page iii).

BIBLIOGRAPHY

GSC MEM *137, p. 143; 249, p. 60
GSC OF *980
GSC MAP 44-20A; 886A; 887A; 1386A; 5212G
EMPR BULL 10, p. 107; 69
EMPR MAP 47
EMPR PF (*Report by M.S. Hedley, 1943; Geological notes)
EMPR AR 1917-233,450; 1918-239; 1924-136; 1925-183; 1927-213;
1934-D24; 1935-D14; 1938-A33; 1958-28; *1959-36
EMPR GEM 1971-294; 1972-180
EMPR EXPL 1976-E95; 1978-E163; 1989-119-134
EMPR ASS RPT 3936, 4409, 6119, 7016, *18583, *24600
EMPR OF 1991-17
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.;
Brendon Resources Ltd.)
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE028**

NATIONAL MINERAL INVENTORY: 09218 Ag1

NAME(S): **ENTERPRISE (L.651)**, KING WILLIAM PLANET

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 092108W
 BC MAP:
 LATITUDE: 50 20 52 N
 LONGITUDE: 120 23 22 W
 ELEVATION: 846 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS:

Underground
 MINING DIVISION: Nicola
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5580558
 EASTING: 685726

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
 ASSOCIATED: Quartz Calcite
 ALTERATION: Chlorite Epidote Silica Pyrite
 ALTERATION TYPE: Propylitic Silicific'n Pyrite Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
 CLASSIFICATION: Mesothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION:
 COMMENTS: Enterprise vein STRIKE/DIP: 355/50E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
 Andesitic Flow Breccia
 Augite Porphyry
 Tuff
 Greenstone

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The historic Enterprise camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, and minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and north-east of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Enterprise mine consists of a 98 metre deep shaft, a 232 metre adit and approximately 1950 metres of underground development on six levels. The 97 metre level was extended over 400 metres to the northwest to intersect the Tubal Cain (092ISE108) and Joshua (092ISE109) veins. The Enterprise workings developed both the Enterprise and King William (092ISE110) veins. The orientation of the Enterprise vein varies from 335 to 015 degrees, with an average dip of 50 degrees eastward. Its width is generally less than 60 centimetres, but swells up to 2 metres. Mineralization consists of galena, sphalerite and pyrite, with associated gold and silver values.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 544
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1885-496; 1886-212; 1887-274; 1888-314; 1889-290; 1890-377;
*1930-205; 1931-115; *1933-178; *1934-D24; 1935-D35; 1936-D14;
1938-D35; 1939-A76; 1940-A62; 1941-A58; 1942-A57; 1943-A61;
1944-A56; 1965-157
EMPR FIELDWORK 1988, pp. 96,97
EMPR ASS RPT 5152, 5565, 13152
EMPR BULL 10, p. 107; 20, p. 25
EMPR GEM 1969-275; 1974-148
EMPR PF (Report by J. Antal, 1969)
EMPR EXPL 1984-210
GSC OF *980
GSC MEM *249, p. 45
GSC MAP 44-20A; 886A; 887A
GSC SUM RPT 1919 Part B
EMR MP CORPFILE (Planet Mines and Reduction Co. of Nicola Ltd.;
Consolidated Nicola Goldfields Ltd.; Stump Mines Ltd.)
EMR INVEST 1121 (1941)
EMR REPORT 750; 797
EMPR EXPL 1989-119-134
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/23

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE029**

NATIONAL MINERAL INVENTORY:

NAME(S): **PLANET NO. 1 (L.4102)**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 28 N
LONGITUDE: 120 23 50 W
ELEVATION: 796 Metres

NORTHING: 5579798
EASTING: 685199

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sulphide
COMMENTS: Grey sulphides are probably galena, sphalerite, arsenopyrite or tetrahedrite.

ASSOCIATED: Quartz

ALTERATION: Chlorite Epidote Silica Pyrite

ALTERATION TYPE: Propylitic Silicific'n Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
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: Greenstone
Andesitic Flow Breccia
Greenstone
Augite Porphyry
Tuff
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The historic Enterprise camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, and minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and north-east of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quichena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply east.

The Planet showing consists of the original shaft (30 metres deep) and several open cuts which expose a 20 to 45 centimetre wide quartz vein and several quartz stringers within altered greenstone. The vein strikes north and dips steeply to the east. Ore minerals include pyrite, chalcopyrite and grey sulphides (probably galena, sphalerite, arsenopyrite or tetrahedrite).

BIBLIOGRAPHY

EMPR AR 1885-496; 1886-212; 1888-314
EMPR EXPL 1984-210
EMPR ASS RPT 5152, 5565, 13152

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 546
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1988, pp. 96,97
EMPR BULL 10, p. 107; 20, p. 25
EMPR GEM 1974-148; 1975-E87
EMPR PF (Report by J. Antal, 1969)
GSC OF *980
GSC MEM *249. p. 54
GSC MAP 886A; 887A
GSC SUM RPT 1919 Part B
EMR MP CORPFILE (Planet Mines and Reduction Co. of Nicola Ltd.;
Consolidated Nicola Goldfields Ltd.; Stump Mines Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/23

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE030**

NATIONAL MINERAL INVENTORY:

NAME(S): **SCOTIA (L.5092)**, SCOTIA

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092108W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 18 20 N
 LONGITUDE: 120 22 18 W
 ELEVATION: 915 Metres

NORTHING: 5575909
 EASTING: 687156

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver Copper Lead Zinc

MINERALS

SIGNIFICANT:	Pyrite	Chalcopyrite	Galena	Sphalerite	Magnetite
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Chlorite	Epidote	Silica	Pyrite	
ALTERATION TYPE:	Propylitic		Silicific'n	Pyrite	
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein Stockwork
 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>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite
 Andesitic Flow Breccia
 Augite Porphyry
 Tuff
 Porphyritic 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: 1984
 SAMPLE TYPE: Drill Core

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	97.0100	Grams per tonne
Copper	1.0200	Per cent
Zinc	0.8000	Per cent

REFERENCE: Assessment Report 13152.

CAPSULE GEOLOGY

The historic Jenny Long camp is located within a north trending belt of Upper Triassic intermediate volcanics, volcaniclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, and minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

On the Scotia showing, a diamond-drill hole intersected two quartz-carbonate veins carrying 5 per cent pyrite and magnetite; wallrock also contains 5 per cent disseminated pyrite. In other

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 548
REPORT: RGEN0100

CAPSULE GEOLOGY

holes, pyrite, chalcopyrite, sphalerite and galena occur as fracture-fillings in highly brecciated zones. Drill core assayed up to 97.01 grams per tonne silver, 1.02 per cent copper and 0.8 per cent zinc (Assessment Report 13152).

BIBLIOGRAPHY

EMPR ASS RPT 5152, 5565, 6348, 6856, 8310, *13152
EMPR EXPL 1977-E149; 1978-E163; 1984-210
EMPR BULL 10, p. 107; 20, Part III, p. 25
GSC OF *980
GSC MEM *249, p. 45
GSC MAP 886A; 887A
GSC SUM RPT 1919 Part B
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/26

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE031**

NATIONAL MINERAL INVENTORY:

NAME(S): **JENNY LONG (L.718)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:
LATITUDE: 50 18 59 N
LONGITUDE: 120 21 53 W
ELEVATION: 827 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5577131
EASTING: 687608

COMMODITIES: Silver Lead Zinc Gold Copper
 Tungsten

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcocopyrite Scheelite
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Silica Pyrite
ALTERATION TYPE: Propylitic Silicific'n Pyritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Quartz vein
STRIKE/DIP: 350/60E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Rock

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The historic Jenny Long camp is located south of Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Jenny Long occurrence originally consisted of an 85.4 metre deep shaft with underground workings on three levels and several surface trenches and pits. A quartz vein system within altered andesitic rocks strikes 350 degrees and dips 60 degrees east and pinches and swells up to 2 metres in width, but is generally less than 75 centimetres wide. Mineralization consists of variable amounts of galena, sphalerite, pyrite and chalcocopyrite. Narrow bands of scheelite were found in quartz samples from the dump.

BIBLIOGRAPHY

EMPR FIELDWORK 1988, pp. 96,97
EMPR ASS RPT 5152, 5565, 6348, 6856, 8310, 13152
EMPR AR 1887-276; 1888-315; 1889-290; 1896-562; 1917-229; 1933-180;
1934-D24; 1935-A24; 1936-D21

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 550
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1974-148
EMPR EXPL 1975-E87; 1977-E149; 1978-E163; 1984-210
EMPR BULL 10, p. 113; 20, Part III, p. 25
GSC OF *980
GSC MEM *249, p. 55
GSC MAP 886A; 887A
GSC SUM RPT 1919 Part A
EMPR EXPL 1989-119-134
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/26

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE032**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOHANNESBURG**, AZELA (L.692)

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092108W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 18 44 N
 LONGITUDE: 120 21 02 W
 ELEVATION: 988 Metres

NORTHING: 5576703
 EASTING: 688633

LOCATION ACCURACY: Within 500M
 COMMENTS: Shaft

COMMODITIES: Copper Silver Gold Lead Zinc
 Tungsten

MINERALS

SIGNIFICANT:	Pyrite	Galena	Sphalerite	Tetrahedrite	Chalcopyrite
	Scheelite	Bornite	Arsenopyrite	Pyrrhotite	Gold
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Chlorite	Epidote	Silica	Pyrite	
ALTERATION TYPE:	Propylitic		Silicific'n	Pyrite	
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION:
 COMMENTS: Quartz vein STRIKE/DIP: 015/55E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Porphyritic Andesite

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: 1980
 SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Silver	268.0000	Grams per tonne
Gold	2.4000	Grams per tonne
Copper	1.3900	Per cent

COMMENTS: Intersection across 1.5 metres of quartz vein.
 REFERENCE: Assessment Report 8310.

CAPSULE GEOLOGY

The historic Johannesburg camp is located south of Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the Johannesburg camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

In the Azela shaft, quartz and carbonate knots and stringers

CAPSULE GEOLOGY

strike 015 degrees and dip 55 degrees east. They are up to 35 centimetres in width and occur within a 1 to 2 metre wide shear zone. Mineralization in the veins includes pyrite, galena, sphalerite, tetrahedrite, grains and narrow bands of scheelite, minor chalcopyrite, bornite, arsenopyrite, pyrrhotite and native gold. The wallrock is altered porphyritic andesite which contains 2 to 4 per cent disseminated pyrite.

A diamond-drill hole intersection across a 1.5 metre quartz vein assayed 1.39 per cent copper, 268.0 grams per tonne silver and 2.4 grams per tonne gold (Assessment Report 8310).

BIBLIOGRAPHY

EMPR FIELDWORK 1988, pp. 96,97
EMPR ASS RPT 5152, 5565, *8310, 13152
EMPR GEM 1974-148; 1975-E87; 1978-E63
EMPR EXPL 1980-230; 1984-210
EMPR BULL 10, p. 113; 20, Part III, p. 25
EMPR AR 1888-315; 1896-562; 1926-199; 1936-D14
GSC OF *980
GSC MEM *249, p. 55
GSC SUM RPT 1919 Part B
EMPR EXPL 1989-119-134
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/25

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE033**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARB, MARB 3, CJS,
TORWEST A**

STATUS: Showing
REGIONS:
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 13 19 N
LONGITUDE: 120 57 59 W
ELEVATION: 1463 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5565287
EASTING: 645065

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Diorite Breccia
Tuff
Limestone
Hornfels
Andesite

HOSTROCK COMMENTS: Host rock is the Border phase of the Guichon Creek batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Hornfels

CAPSULE GEOLOGY

The Promontory Hills-Craigmont mine area is underlain by a complex northwest trending, steeply dipping volcanic pile of Upper Triassic Nicola Group rocks, bounded to the north by the Lower Jurassic Guichon Creek batholith and unconformably overlain by the Upper Cretaceous Kingsvale Group. Much of the area is covered by thick gravel overburden. Regional faults trend northwest.

The Marb showing is primarily underlain by medium-grained potassium feldspar-rich quartz diorite designated as the Border phase of the Guichon Creek batholith (Map 30). A jointing system and faint steeply dipping gneissosity are characteristic of this unit. Rare pyroxene-rich zones are also present. Near its southern boundary, the property is underlain by Nicola Group andesite, tuffs and limestone. Alteration includes chloritization and epidotization.

At the contact of the intrusive and the Nicola Group rocks, a wide zone of diorite breccia is developed. Two types of mineralization are found in the breccia zone. The first is disseminated magnetite, pyrite and pyrrhotite in hornfelsed volcanic fragments. Secondly, near strong chloritized shears, chalcopyrite, pyrite and pyrrhotite occurs as fine disseminations and slender veins.

The main showing is 300 metres southwest of Camp Lake. Similar mineralization is found 750 metres to the northeast and several kilometres to the southwest near Reserve 9.

BIBLIOGRAPHY

EMPR ASS RPT 232, *735, 1923, 2096
EMPR AR 1958-27; *1961-39; 1962-51; 1966-247; 1968-199
EMPR GEM 1969-272
EMPR MAP *30

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 554
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 56
EMPR PF (Geology map, 1959)
GSC MEM 249
GSC OF 980
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/01/22

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE034**

NATIONAL MINERAL INVENTORY: 092I2 Cu3

NAME(S): **TITAN QUEEN**, PAYSTIN, CRAIGMONT (GREEN GROUP)

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 13 05 N
LONGITUDE: 120 56 27 W
ELEVATION: 1456 Metres

NORTHING: 5564905
EASTING: 646900

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite	Magnetite	Malachite
ASSOCIATED:	Tourmaline			
ALTERATION:	Chlorite	Silica	Malachite	
ALTERATION TYPE:	Propylitic		Silicific'n	Oxidation
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal
TYPE: L04

Disseminated
Porphyry
Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Promontory Hills-Craigmont mine area is underlain by a complex northwest trending, steeply dipping volcanic pile of Upper Triassic Nicola Group rocks, bounded to the north by the Lower Jurassic Guichon Creek batholith and unconformably overlain by the Upper Cretaceous Kingsvale Group. Most of the area is covered by thick gravel overburden. Regional faults trend north-northwest. The Titan Queen showing, as it was first known, is underlain by quartz diorite to granodiorite assigned to the Border phase of the Guichon Creek batholith (Map 30). Potassium feldspar enriched dioritic rocks in fault or shear zones are intensely chloritized and silicified and host tourmaline veins. Mineralization in the veins consists of chalcopyrite, bornite, magnetite and malachite. Chalcopyrite also occurs as weak disseminations in adjacent outcrops.

BIBLIOGRAPHY

EMPR ASS RPT 209, 226, 6811, 14102
EMPR AR 1959-31-34; *1960-26-40; 1961-31-37
EMPR EXPL 1977-E158; 1985-C190
EMPR MAP *30
EMPR BULL 56
GSC MEM 249
GSC MAP 886A
GSC OF 980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/22

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE035**

NATIONAL MINERAL INVENTORY: 092I2 Cu3

NAME(S): **CRAIGMONT**, CRAIGMONT MINE, CRAIGMONT TAILINGS

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 12 27 N
LONGITUDE: 120 55 34 W
ELEVATION: 1220 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of open pit.

Open Pit Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5563760
EASTING: 647983

COMMODITIES: Magnetite Copper Iron Silver Gold

MINERALS

SIGNIFICANT: Magnetite Chalcopyrite Specularite Pyrite Copper
 Chalcocite Bornite Calcite Hematite
ASSOCIATED: Pyrite
ALTERATION: Biotite Orthoclase Garnet Epidote Amphibole
 Chlorite Tourmaline Diopside
ALTERATION TYPE: Skarn Potassic Biotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated Vein
CLASSIFICATION: Replacement Skarn Industrial Min.
TYPE: K01 Cu skarn K03 Fe skarn
 T01 Tailings
SHAPE: Tabular
DIMENSION: 1200 x 660 x 200 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Main zone

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Nicola Undefined Formation Guichon Creek Batholith
Triassic-Jurassic

LITHOLOGY: Limestone
 Limy Tuff
 Tuff
 Greywacke
 Quartz Diorite
 Granodiorite
 Agglomerate
 Andesitic Flow
 Actinolite Skarn
 Epidote Garnet Skarn

HOSTROCK COMMENTS: Also argillite, diorite and andesite.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

INVENTORY

ORE ZONE: TAILINGS REPORT ON: Y
CATEGORY: Proven YEAR: 1991
QUANTITY: 1000000 Tonnes
COMMODITY: Magnetite GRADE: 100.0000 Per cent
COMMENTS: In excess of 1 million tonnes of magnetite in the southerly one-quarter of the tailings; grade not given.
REFERENCE: J. Harris (Yorkshire Resources), personal communication, 1992.

CAPSULE GEOLOGY

The Promontory Hills area is underlain by a complex east-northeast trending, steeply dipping volcanic pile of Upper Triassic Nicola Group rocks, bounded to the north by the multistage Early Jurassic-Late Triassic Guichon Creek batholith and unconformably overlain by the Middle and Upper Cretaceous Spences Bridge Group. Most of the area is covered by extensive gravel overburden. In the vicinity of Craigmont mine, the Border phase of the

CAPSULE GEOLOGY

Guichon Creek batholith varies in composition from quartz diorite to granodiorite. These rocks intrude the Nicola Group, a thick volcanic and sedimentary series of agglomerate, breccia, andesitic flows, limestone, argillite and greywacke. Attitudes parallel the intrusive contact zone. Sediments immediately adjacent to the batholith are hornfelsed quartzofeldspathic greywackes. Spences Bridge Group agglomerates and flows dip approximately 15 degrees to the south and outcrop in the areas south and west of the mine.

The mine lies adjacent to the southern margin of the Guichon Creek batholith. Host rocks to the mineralization are calcareous sedimentary rocks of the Nicola Group comprised of limestones, limy tuffs, greywackes and argillites.

The gross structure at the mine is a large anticline with ore-bearing drag folds on the north limb. These folds plunge 60 to 70 degrees eastward and are often occupied by diorite dykes. The anticline is cut off by a northwest trending fault on the west and an east trending fault on the south. Orebodies lie within a block bounded by these regional faults and the Guichon Creek intrusive.

Alteration mineralogy indicates thermal zoning. Within the hornfelsed zone, greywackes contain biotite and actinolite and limestone is altered to marble. Immediately to the south is a massive actinolite skarn which, in places, is further altered to epidote and garnet (grossularite, andradite).

Three types of alteration are present. First is a zone of potassic alteration with a related (second) distal hornfels. Third is skarn alteration which overprints the potassic alteration and some of the hornfels. The skarn is garnet-epidote-amphibolite in composition with some chlorite, tourmaline and sericite.

Semi-continuous ore is found over a strike length of 900 metres and a vertical depth of 600 metres. The five main orebodies are confined to the limy horizon between walls of greywacke and andesite.

Mineralization consists of magnetite, hematite and chalcopyrite and occur as massive pods, lenses and disseminations extending through the calc-silicate horizon. The body is roughly tabular, trends east and dips near vertically. Minor folding and faulting is present but do not significantly distort the mineralization. Chalcopyrite is associated with, but post-dates the magnetite and commonly encloses the magnetite.

Chalcopyrite is the principal ore mineral and occurs as veins, streaks, patches and coarse disseminations. It was first deposited with magnetite during the development of the actinolite skarn and later with specularite as fracture-fillings and veins. Bornite is present in small amounts. Pyrite is confined to areas of heavy garnet alteration. Approximately 20 per cent of the ore (by weight) is comprised of magnetite and hematite and along with actinolite, epidote, grossularite, andradite, pyrite and minor diopside, occur in the skarn. Supergene minerals, native copper and chalcocite, occur in a narrow oxidized zone immediately above the orebody. The apparent ore controls are favourable host rock, folding and brecciation of host rock, and proximity to the batholith.

The original Craigmont copper mine went into production in 1962, with underground mining ceasing in February 1982 as a result of the falling price of copper. The concentrator remained in operation processing the iron ore stockpiles until November 1982, when it was also shut down.

From the commencement of its operation in 1962 until 1970, Craigmont Mines Limited did not recover the magnetite in its milling process, and on a material-balance basis there is estimated to be in the order of 5 million tonnes of magnetite in the tailings deposit. The company reports that exploration completed in 1991 proved the presence of in excess of 1 million tonnes of magnetite in the southerly one-quarter of the tailings.

Since the cessation of production in 1982, magnetite has been shipped from the stockpiles at Craigmont to western Canadian and United States coal producers, to be used as an essential component in their heavy media separation process.

Magnetite remaining in the original stockpiles as of 1992 represents approximately three years of industry requirements, based on the current level of usage. In order to replenish the stockpiles, in 1991 the company applied for the necessary government permits to construct a facility to recover the magnetite from the old tailings deposit. Production from the plant is scheduled to commence in the fall of 1992 (J. Harris (Yorkshire Resources), personal communication, 1992).

Seven Industries Inc. continues to produce about 60,000 tonnes per year of magnetite by processing the Craigmont tailings. The quality of the product has improved and the company is supplying most coal mines in western Canada (except Manalta and Line Creek). The company has filed a conceptual design to create a new tailings

CAPSULE GEOLOGY

storage dam (on top of the old one) which would allow the operation to continue for at least another 15 years (Information Circular 1996-1, page 10).

BIBLIOGRAPHY

- EMPR AR *1957-28; 1958-25; *1959-31-34; *1960-26-40; *1961-A48,31-37; 1962-A48,53; 1963-A48,49; 1964-A54,92; 1965-153; 1966-A51,166; 1967-163; 1968-197
EMPR BULL 56
EMPR EXPL 1989-119-134; 1996-A14
EMPR FIELDWORK 1991, pp. 239,240
EMPR GEM 1969-271; 1970-373; 1971-292; 1972-146; 1973-165; 1974-127-130
EMPR INF CIRC 1996-1, p. 10; 1997-1, p. 13; 1998-1, p. 15
EMPR MAP 30; 65, 1989
EMPR MINING Vol.1 1975-1980; 1981-1985; 1986-1987
EMPR OF *1988-28, pp. 19-21; 1992-1; 1992-9; 1994-1
EMPR PF (Correspondence by J.M. Carr, G.E. Rouse and C.C. Rennie, 1961; Map of mine and concentrator; Claim and property location maps; Principal rock types recognized by Department of Mines, 1959; Magnetic anomaly plan map, 1958; Excerpt from Northern Miner Annual Review, Dec. 1961, Northern Miner Aug. 1960, Jan.25, 1962; Bristow, J.F. (1968): The Geology of Craigmont Mines; Notes and correspondence from J.M. Carr and F. Price, 1961; Article from unknown and undated newspaper, Jan.4, 1962; George Cross News Letter #237(Dec.7),1960, #53(Mar.16),1961; Interim report by E.P. Chapman, Jr., 1959; Article 'Stability of Rock Slopes' by B. Jones, 1962; Underground plans and sections, 1959, 1960, 1961; Drillhole location logs; Trench plan maps, 1959; Geology notes and sketch maps and drill sections; Report on Craigmont Mines by C.C. Rennie, 1959; Geology of the Craigmont Mine by C.C. Rennie, W.S. Pentland and C.C. Sheng, 1960; Craigmont Mines Limited Information Brochure)
EMR MP CORPFILE (Craigmont Mines Ltd.; Birkett Creek Mine Operators Ltd.; Canex Placer Ltd.; Noranda Mines Ltd.; Placer Development Ltd.)
EMR MP RESFILE (Craigmont Mine)
GSC MAP 886A
GSC MEM 249
GSC OF 980
CIM 820 (1980); Transactions 1961, Vol.64, pp. 199-203; Meeting - *J.F. Bristow, 1962)
CMH 1982-1983
GCNL Jan.10, 1967; Jan.26, 1973; Jan.31, 1974; Nov.21, 1975; June 4, Oct.18, 1976; Jan.28, Feb.22, Mar.4, May 20, Nov.21, 1977; Jan.27, Feb.27, Mar.3, May 19, 31, Aug.30, Nov.23, Dec.28, 1978; Jan.26, Aug.28, #99, #101, 1979; #101, #166, #225, #246, 1980; #26, #42, #98, #224, 1981; #20, #97, #225, #231, 1982; #44, #231, 1983; #163, #228, 1984
MIN REV Sept/Oct 1981; Jan/Feb 1982; Jul/Aug 1983
N MINER Oct.2, 1975; Jan.6, 1977; Feb.2, June 1, 22, Aug.24, Oct.12, 1978; Jan.4, 18, 25, 1979; Jan.3, 1980; Dec.3, 1981; Jan.7, Feb.11, Apr.29, June 10, Aug.26, Nov.25, Dec.30, 1982; Feb.10, Mar.10, 1983
W MINER Jan., Feb., 1962; Jan., 1977; Feb., Apr., June, 1979; Oct., 1980; Jan.1981; Jan., Mar., Apr., 1982

DATE CODED: 1985/07/24
DATE REVISED: 1988/05/25

CODED BY: GSB
REVISED BY: KDH

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE036**

NATIONAL MINERAL INVENTORY:

NAME(S): **ERIC**, QUARTZITE, CRAIGMONT (ORANGE GROUP)

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 12 36 N
LONGITUDE: 120 53 26 W
ELEVATION: 838 Metres

NORTHING: 5564109
EASTING: 650512

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Iron

MINERALS

SIGNIFICANT: Chalcopyrite Specularite Magnetite
ALTERATION: Epidote Carbonate Biotite
ALTERATION TYPE: Skarn Biotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Replacement Skarn Industrial Min.
TYPE: K01 Cu skarn L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

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

LITHOLOGY: Greywacke
Siltstone
Epidote Skarn
Quartz Diorite
Granodiorite
Dioritic Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The Promontory Hills-Craigmont mine area is a complex northwest trending, steeply dipping volcanic pile of Upper Triassic Nicola Group rocks, bounded to the north by the multistage Lower Jurassic Guichon Creek batholith and unconformably overlain by the Upper Cretaceous Kingsvale Group. Most of the area is covered by extensive gravel overburden (approximately 100 metres thick). Nicola Group andesite, dacite and greywacke, with interbedded limy horizons, are intruded by Border phase rocks of the Guichon Creek batholith which varies in composition from quartz diorite to granodiorite. The contact zone is characterized by hornfelsing and dioritization of the Nicola Group rocks.

The Eric showing originally consisted of a 2.1 metre deep shaft sunk during or prior to 1935. It is located 2500 metres east of the Craigmont pit (092ISE035). Dump rock is epidote-rich and carries chalcopyrite, specular hematite, magnetite and copper carbonates. More recent drilling (1977) on a northeast trending magnetic anomaly revealed 3 to 5 per cent disseminated magnetite and occasional thin fracture-fillings of chalcopyrite within hornfelsed biotitic siltstone to fine-grained greywacke. Dioritic and granitic dykes cut the altered Nicola Group rocks.

BIBLIOGRAPHY

EMPR ASS RPT *212, 5379, 6186, *6746, 6942
EMPR AR 1958-69; 1960-26-40; 1961-31-37
EMPR EXPL 1978-E157
EMPR BULL 56
EMPR MAP 30
EMPR FIELDWORK 1977, p. 31
GSC MEM *249, p. 124
GSC MAP 886A; 887A

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 560
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE037**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOM**, HANK, HAWK,
TY

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 50 10 48 N
LONGITUDE: 120 58 41 W

NORTHING: 5560601
EASTING: 644360

ELEVATION: 1341 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Hematite
ALTERATION: Epidote Calcite Chlorite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Ash Tuff
Volcanic Sandstone
Volcanic Breccia
Augite Plagioclase Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Rocks of the Upper Triassic Nicola Group in the Promontory Hills area are cut off by the Lower Jurassic Guichon Creek batholith to the north and the Coyle stock to the south, and are overlain unconformably by the Lower Cretaceous Spences Bridge Group to the west and the Upper Cretaceous Kingsvale Group to the east. A large, upright to slightly overturned, subisoclinal anticline has a northeast striking axial surface and apparent low easterly plunge. Inferred faults have north-northwest to northwest and northeast trends.

The Tom showing is underlain by ash tuff, volcanic sandstone and volcanic breccia with intercalated augite plagioclase andesitic lavas. These lithologies comprise the core of the major fold and are locally strongly faulted. Mineralization consists of disseminations and fracture-fillings of pyrite, chalcopyrite and specular hematite. Alteration minerals include epidote, calcite and chlorite.

BIBLIOGRAPHY

EMPR AR *1960-26-40; 1962-54; 1963-51
EMPR GEM 1969-273
EMPR FIELDWORK *1977, p. 31
EMPR MAP 30
EMPR BULL 56
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE038**

NATIONAL MINERAL INVENTORY:

NAME(S): **HANK 30**, HAWK, TYE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 10 39 N
LONGITUDE: 120 59 12 W
ELEVATION: 1371 Metres

NORTHING: 5560306
EASTING: 643752

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Iron Cobalt

MINERALS

SIGNIFICANT:	Chalcopyrite	Magnetite	Specularite	Pyrite	Cobaltite
ALTERATION:	Epidote	Garnet	Chlorite	Albite	Quartz
	Calcite				
ALTERATION TYPE:	Propylitic	Skarn		Chloritic	
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Stockwork	Disseminated	
CLASSIFICATION:	Hydrothermal	Skarn	Industrial Min.
TYPE:	K01 Cu skarn		

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Ash Tuff
Volcanic Sandstone
Volcanic Breccia
Augite Plagioclase Andesite
Limy Sediment/Sedimentary
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Rocks of the Upper Triassic Nicola Group exposed on Promontory Hills are intruded by the Lower Jurassic Guichon Creek batholith to the north and the Coyle stock to the south, and are overlain unconformably by the Lower Cretaceous Spences Bridge Group to the west and the Upper Cretaceous Kingsvale Group to the east. A large upright to slightly overturned subisoclinal anticline plunges gently northeast. Inferred faults have north-northwest and northeast trends.

The Hank 30 showing is underlain by ash tuff, volcanic sandstone, volcanic breccia and intercalated augite plagioclase andesitic lavas, which comprise the core of the major fold. Rare limy units are partially converted to skarn. Strata strikes northeast and dips steeply southeast. This belt is strongly epidotized and hosts weak copper and iron mineralization. Slender veinlets and minor disseminations of chalcopyrite, magnetite, specularite and pyrite occur within the flows and tuffs. Cobaltite is also evident. Skarn zones consisting of garnet, albite, quartz, calcite, chlorite and epidote host sulphide disseminations and veinlets.

BIBLIOGRAPHY

EMPR AR *1958-26; 1959-143; *1960-26-41; 1961-41; 1962-54
EMPR GEM 1972-145; 1973-164
EMPR ASS RPT 240, 274, 330, 450, 4106, 4767
EMPR BULL 56
EMPR MAP 30
EMPR FIELDWORK *1977, p. 31
EMPR EXPL 1989-119-134
EMPR PF (Summary Geological and Geophysical Report on the Hank Group by J.C. Foweraker, 1958)
GSC OF 980
GSC MEM 249

MINFILE NUMBER: **092ISE038**

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 563
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 886A

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE039**

NATIONAL MINERAL INVENTORY:

NAME(S): **HANK 1-4**, HAWK, TYE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 10 24 N
LONGITUDE: 120 58 50 W
ELEVATION: 1333 Metres

NORTHING: 5559855
EASTING: 644201

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Specularite			
ALTERATION:	Chlorite	Epidote	Garnet	Albite	Quartz
	Calcite				
ALTERATION TYPE:	Propylitic		Skarn		Chloritic
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Stockwork	Disseminated
CLASSIFICATION:	Hydrothermal	Skarn
TYPE:	K01 Cu skarn	

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Ash Tuff
Volcanic Sandstone
Volcanic Breccia
Augite Plagioclase Andesitic Flow
Skarn
Quartz Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Rocks of the Upper Triassic Nicola Group exposed on Promontory Hills are intruded by the Lower Jurassic Guichon Creek batholith to the north and the Coyle stock to the south, and are overlain unconformably by the Lower Cretaceous Spences Bridge Group to the west and the Upper Cretaceous Kingsvale Group to the east. A large, slightly overturned subisoclinal anticline plunges gently northeast. Inferred faults have north-northwest and northeast trends.

The Hank 1-4 showing is underlain by ash tuff, volcanic sandstone, volcanic breccia and intercalated augite plagioclase andesitic flows in the core of the major fold. Strata strikes northeast and dips steeply southeast. Occasional limy sections are partially altered to skarn zones consisting of garnet, albite, quartz, calcite, epidote and chlorite, with minor sulphides.

A mineralized zone is located at a major contact flexure and crossfault intersection showing weak chloritization and extensive cherty epidotization. Trenches (1958) expose limy and non-limy strata and quartz porphyry hosting weak chalcopyrite and specularite disseminations and narrow veinlets. Magnetite is not present.

BIBLIOGRAPHY

EMPR AR *1958-26; 1959-143; *1960-26-41; 1961-41; 1962-54
EMPR GEM 1972-145; 1973-164
EMPR ASS RPT 240, 274, 330, *450, 4106, 4767
EMPR BULL 56
EMPR FIELDWORK *1977, p. 31
EMPR MAP 30
EMPR EXPL 1989-119-134
EMPR PF (Geophysical Report on Hank No.4 Group of Claims by J.C. Foweraker, 1958)
GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 565
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 249

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE040**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARH**, SID (NORTH), CHALCO,
HAR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 10 43 N
LONGITUDE: 120 55 59 W
ELEVATION: 971 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5560535
EASTING: 647577

COMMODITIES: Copper Iron

MINERALS

SIGNIFICANT: Chalcopyrite Hematite Pyrite Magnetite
ALTERATION: Garnet Hematite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Skarn Industrial Min.
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Coyle Stock

LITHOLOGY: Limestone
Garnet Skarn
Quartzofeldspathic Rock
Greywacke
Argillite
Andesitic Flow
Diorite
Quartz Monzonite
Intermediate Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Hornfels

CAPSULE GEOLOGY

Rocks of the Upper Triassic Nicola Group are exposed on Promontory Hills and are intruded by the Lower Jurassic Guichon Creek batholith to the north and the Coyle stock to the south, and are unconformably overlain by the Lower Cretaceous Spences Bridge Group to the west and the Upper Cretaceous Kingsvale Group to the east. A large, slightly overturned subisoclinal anticline plunges gently northeast. Faults trend northwest and northeast.

The Arh showing is situated on the south limb of the major fold near the intrusive contact of Nicola Group volcanic and sedimentary rocks and the Coyle stock. The main rock types are massive to porphyritic andesitic flows and intermediate tuffs with some mixed quartzofeldspathic rocks, greywacke, argillite and limestone. The Nicola Group rocks are hornfelsed in the contact zone. The Coyle stock is diorite to quartz monzonite and is believed to be related to late stage Nicola Group volcanism.

At the contact of limestone and Nicola Group volcanic rocks, small patches of garnet skarn host chalcopyrite and hematite mineralization. Disseminated magnetite and pyrite are also present.

BIBLIOGRAPHY

EMPR ASS RPT 222, 236, 531, 2128, 3889, *5771
EMPR AR 1958-27, *1960-26-41
EMPR GEM 1969-273; 1972-144
EMPR EXPL 1975-E79
EMPR BULL 56
EMPR MAP 30

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 567
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK *1977. p. 31
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/19

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE041**

NATIONAL MINERAL INVENTORY:

NAME(S): **TEX**, WADE, LIS

STATUS: Showing

MINING DIVISION: Nicola

REGIONS:

NTS MAP: 092102W

BC MAP:

LATITUDE: 50 08 57 N

LONGITUDE: 120 59 04 W

ELEVATION: 823 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5557161

EASTING: 643996

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Pyrrhotite

ASSOCIATED: Calcite Siderite

ALTERATION: Chlorite Epidote Pyrite Silica

Hematite Limonite Sericite

ALTERATION TYPE: Propylitic Pyrite Carbonate Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic
Lower Jurassic
Lower Jurassic

Nicola

Undefined Formation

Guichon Creek Batholith
Coyle Stock

LITHOLOGY: Tuff

Greywacke
Limy Sediment/Sedimentary
Quartz Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is underlain by volcanoclastic rocks of the Upper Triassic Nicola Group intruded to the south by the Coyle quartz diorite stock and to the north by the Guichon Creek granodiorite batholith, both Lower Jurassic age. On the Tex property, massive green tuffs have been subdivided into limy, vitric, fissile or silicified units. Discontinuous beds of greywacke and limy sediments are interbedded with the tuff horizons. Strikes swing from north to northeast and dips are moderate. The Nicola Group sequence is intruded by a dyke which is classified as quartz porphyry although distinct variations in mineralogy, grain size and schistosity are evident. It is slightly chloritized and pyritic, and hosts scattered carbonate stringers which are less than 3 centimetres wide and consist mainly of calcite, with up to 20 per cent siderite locally. Intrusion of the dyke is apparently associated with folding and faulting. Chlorite and pyrite are widespread. A 15 metre wide zone of intense propylitization (chlorite, epidote, calcite) occurs along the contact of the quartz porphyry and the Nicola Group rocks. The tuff and greywacke units have been silicified in scattered patches. Minor hematite and limonite are also evident.

Low grade copper mineralization occurs in a zone 300 metres in length along a sericitized shear zone striking north-northeast and dipping steeply west. Chalcopyrite, bornite, pyrite and pyrrhotite occur as veinlets and disseminations in carbonate veins and less commonly in limy country rock.

BIBLIOGRAPHY

EMPR ASS RPT *441, 452
EMPR AR 1959-143; *1961-41; 1962-54; 1963-52; 1965-154
EMPR MAP 30

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 569
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR OF *1977-31
EMPR PF (Topographic map of Wade Group Area, 1961; Report of Summary
of Work Completed on the Wade Group by R.B. Stokes, 1962; Geologic
Report on the Wade Group)
EMPR EXPL 1989-119-134
GSC OF 980
GSC MEM 249

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE042**

NATIONAL MINERAL INVENTORY:

NAME(S): **PL, MCKIE, SID,
PRIDE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 29 N
LONGITUDE: 120 55 13 W
ELEVATION: 806 Metres

NORTHING: 5558275
EASTING: 648553

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide Magnetite
COMMENTS: Copper sulphides
ALTERATION: Limonite Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic			Guichon Creek Batholith
Lower Jurassic			Coyle Stock

LITHOLOGY: Quartz Diorite
Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies near the southeast perimeter of the Lower Jurassic Guichon Creek batholith which intrudes Upper Triassic Nicola Group volcanic and sedimentary rocks. To the east, Upper Cretaceous Kingsvale Group volcanic flow rocks unconformably overlie the Nicola Group. The PL property is underlain by quartz diorite mapped as the pre-Guichon Coyle stock (Map 30). Approximately 1000 metres to the north it intrudes mixed volcanic and sedimentary Nicola Group rocks. The stock is cut by dykes and by oxidized north and northwest trending faults.

A highly sheared zone is iron and copper stained. Copper sulphides and magnetite are evident.

BIBLIOGRAPHY

EMPR ASS RPT 206, 2128
EMPR AR *1962-55
EMPR MAP *30
EMPR FIELDWORK 1977, p. 31
EMPR GEM 1969-273
EMPR EXPL 1989-119-134
EMPR PF (Drillhole logs and location maps, 1962; Excerpt from a Magnetometer Survey Report on the PL Group)
GSC OF 980
GSC MEM 249; 252

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE043**

NATIONAL MINERAL INVENTORY:

NAME(S): **RYE**, CUPE, JESSE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 11 00 N
LONGITUDE: 120 48 59 W
ELEVATION: 1219 Metres

NORTHING: 5561297
EASTING: 655890

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches (Assessment Report 2375).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Greenstone
Andesite
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies near the intrusive contact of the Lower Jurassic Guichon Creek batholith with the Upper Triassic Nicola Group. Locally, quartz monzonite similar to Guichon Creek intrusive rocks intrudes Nicola Group greenstone and andesite.

Both the plutonic and volcanic rocks are fractured and mineralized with magnetite, pyrite, hematite, chalcopyrite, bornite, malachite and azurite.

BIBLIOGRAPHY

EMPR ASS RPT *2375
EMPR AR *1963-52
GSC OF *980
GSC MEM 249
GSC MAP 886A
EMPR MAP 30
EMPR EXPL 1989-119-134
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE044**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUSTICE, RICK, JE,
J.S.S., GO FAR, JESSE**

STATUS: Showing
REGIONS:
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 09 57 N
LONGITUDE: 120 47 41 W
ELEVATION: 976 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5559397
EASTING: 657495

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Magnetite Malachite Pyrite
ASSOCIATED: Calcite
ALTERATION: Chlorite Epidote Tourmaline Sericite Malachite
ALTERATION TYPE: Propylitic Tourmalin'z'n Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
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	Undefined Formation	
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Sediment/Sedimentary
Volcaniclastic
Andesitic Flow
Granodiorite
Quartz Monzonite Dike
Diorite Dike
Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies astride the contact zone between the Upper Triassic Nicola Group to the southeast and the Lower Jurassic Guichon Creek batholith to the northwest. The Justice showing is predominantly covered by thick overburden comprised of fine silt and clay.

The Nicola Group is locally comprised of felsic to mafic volcaniclastics, interbedded pelitic and calcareous sedimentary rocks and andesitic flows. This sequence is intruded by Guichon Creek granodiorite to the northwest and by several north trending quartz monzonite, diorite and aplite dykes. Areas are unconformably overlain by Eocene Coldwater Formation (Princeton Group) sediments.

Chlorite, epidote and tourmaline alteration is widespread. Sericitization is evident along a fault zone which hosts a wide calcite vein. Malachite is present adjacent to the vein. Chalcopyrite, pyrite and magnetite disseminations are also evident.

BIBLIOGRAPHY

EMPR ASS RPT 461, 6132, 8728, 10210
EMPR AR *1962-55,132; 1963-52
EMPR EXPL 1976-E90; 1980-221; 1981-234; 1989-119-134
EMPR MAP 30
EMPR PF (Claim location maps, geology plan; Vanmetals Exploration Limited Prospectus; Drillhole logs, 1963)
GSC OF *980
GSC MEM 249
GSC MAP 886A

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/14

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE044**

MINFILE NUMBER: **092ISE045**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHASE**, SNO, STAGECOACH,
JESSE, JE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 48 N
LONGITUDE: 120 46 12 W
ELEVATION: 1186 Metres

NORTHING: 5557319
EASTING: 659324

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Zinc Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Specularite Sphalerite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Discordant
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn

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	
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Limestone
Calcareous Sediment/Sedimentary
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is situated in the Upper Triassic Nicola Group which is comprised of felsic to mafic volcanic flows, volcaniclastics and interbedded sedimentary rocks. Pelitic and calcareous units are locally enclosed by tuffs, agglomerate and minor andesitic flow rocks. The Nicola Group is intruded to the east by north trending diorite dykes and to the north by the Lower Jurassic Guichon Creek granodiorite batholith. Sandstone and shale belonging to the Eocene Coldwater Formation (Princeton Group) unconformably overlie the Nicola and Guichon rocks.

Nicola Group limestone and calcareous sediments are locally altered to skarn. Mineralization consists of chalcopyrite, pyrite, specularite and sphalerite.

BIBLIOGRAPHY

EMPR ASS RPT *6132, 8728, 10210
EMPR EXPL 1976-E90; *1980-221; *1981-234;
1989-119-134
EMPR OF 1998-8-K, pp. 1-22
GSC MAP 886A
GSC MEM 249
GSC OF *980
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/14

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE046**

NATIONAL MINERAL INVENTORY:

NAME(S): **NICOLA LAKE**, CERVO, BONA VISTA

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I02E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 30 N
 LONGITUDE: 120 34 16 W
 ELEVATION: 633 Metres

NORTHING: 5559059
 EASTING: 673490

LOCATION ACCURACY: Within 500M
 COMMENTS:

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT:	Chalcopyrite	Malachite	Azurite	Bornite	Pyrite
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Chlorite	Epidote	Silica	Carbonate	Malachite
	Azurite	Limonite	Hematite		
ALTERATION TYPE:	Propylitic		Silicific'n	Carbonate	Oxidation
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

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

LITHOLOGY: Chlorite Schist
 Carbonate
 Argillaceous Rock

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:	1983
SAMPLE TYPE:	Rock		
COMMODITY		GRADE	
Silver		6.8500	Grams per tonne
Gold		5.7500	Grams per tonne
Copper		1.1800	Per cent

COMMENTS: Sample from Adit A.
 REFERENCE: Prospectus, Dynamo Resources Ltd. February 15, 1988.

CAPSULE GEOLOGY

The property is located near the southwestern contact of the Lower Jurassic granodioritic Nicola batholith with variably foliated diorite, amphibolite and metasediments of the Upper Triassic Nicola Group. The Nicola Lake showing is mainly underlain by chlorite schist with foliations striking northwest to north and dipping steeply to the west. Carbonate lenses and argillaceous layers are interbedded in the metavolcanic rocks. Rocks are highly sheared and fractured. Alteration consists of widespread chloritization, epidote stringers, variable silicification and carbonitization, quartz-calcite veining and oxidation (malachite, azurite, limonite and hematite). Copper mineralization occurs as blebs of chalcopyrite, malachite, azurite, bornite and pyrite.

Three adits have been driven at this occurrence, the main one being 20 metres in length with one crosscut. Rock sampling in Adit A returned a best assay of 1.18 per cent copper, 5.75 grams per tonne gold and 6.85 grams per tonne silver over a vein width of 45 centimetres (Prospectus, 1988).

BIBLIOGRAPHY

GSC MEM 249, p. 132

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 575
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 886A; 887A
GSC OF 980
EMPR ASS RPT 7217, 12137
EMPR EXPL 1979-161; 1983-267
Prospectus, Dynamo Resources Ltd. February 15, 1988
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE047**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUSE**, DING, MICK,
HOT

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 11 N
LONGITUDE: 120 36 05 W
ELEVATION: 1392 Metres

NORTHING: 5556550
EASTING: 671406

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Lead Copper

MINERALS

SIGNIFICANT: Tetrahedrite Galena Chalcopyrite Bornite Pyrite
Specularite Magnetite

ASSOCIATED: Quartz Calcite
ALTERATION: Chlorite Epidote Calcite Albite Malachite
Pyrite Silica Prehnite

COMMENTS: Also saussurite

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Basaltic Porphyry
Pyroclastic Breccia
Agglomerate
Tuff
Limestone
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The property is located in a north trending, fault-bounded belt of interbedded volcanic and sedimentary rocks of the Upper Triassic Nicola Group. Locally these consist of andesitic to basaltic plagioclase-augite porphyries, intermediate pyroclastic breccia, agglomerate and tuff, with interbedded limestone and conglomerate. Bedding appears to strike northeast, though orientations are variable. The volcanic sequence is intruded to the north by the Lower Jurassic granitic Nicola batholith. Related feldspar porphyry dykes outcrop on the property. Propylitization of the volcanics and intrusives varies in intensity and consists of chlorite, epidote, calcite, albite, prehnite and saussurite. Andesitic rocks are silicified in the vicinity of the intrusive. Malachite and mariposite are also present. Disseminated pyrite, specularite and magnetite occur in decreasing abundance.

Regional faults trend northwest to northeast and associated fracture patterns appear to control quartz and quartz-calcite veining. Veins are up to 12 centimetres wide, striking predominantly west to southwest and are spaced two per metre. Numerous randomly oriented stringers flood the 25 metre wide alteration zone. The narrow vuggy veins carry blebs of tetrahedrite, galena, chalcopyrite and bornite.

BIBLIOGRAPHY

EMPR ASS RPT 890, 1052, 1053, *1798, 8262, 9591
EMPR AR 1967-169,282; *1968-200
EMPR EXPL 1980-220; 1981-68; 1989-119-134
EMPR PF (George Cross News Letter #33(Feb.16), 1967; The Geology of

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 577
REPORT: RGEN0100

BIBLIOGRAPHY

the Mouse Mineral Claims by I.F. Morton, 1968; Induced
Polarization Test on Mouse Claim Group by D.R. Cochrane, 1968;
Exploration Report on the Mouse Mineral Claim Property by
J.M. Ashton, 1966; The Geology of the Mouse Mineral Claims by
I.F. Morton, 1968; Geological notes by S. Kelly, 1961)
GSC MEM 249
GSC OF *980
GSC MAP 886A

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE048**

NATIONAL MINERAL INVENTORY: 092I2 Cu4

NAME(S): **GUICHON**, QUILCHENA, IOTA,
INGERSOLL (L.3835), ENSIGN (L.3836), FRINDSBURY (L.3837),
LAST POST (L.3838), CAMPERDOWN (L.4789), QUILCHENA (L.4790),
TETE ROUGE (L.4792), VEIN 5

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 50 08 30 N
LONGITUDE: 120 30 41 W
ELEVATION: 784 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5557347
EASTING: 677817

LOCATION ACCURACY: Within 500M

COMMENTS: Main adit on Ingersoll claim (Lot 3835), (Minister of Mines Annual Report 1949, page 122).

COMMODITIES: Copper Gold Silver Molybdenum

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite	Copper	Chalcocite	Molybdenite
	Sphalerite				
ASSOCIATED:	Quartz	Calcite	Feldspar		
ALTERATION:	Calcite	Epidote	Malachite	Azurite	Hematite
ALTERATION TYPE:	Propylitic		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Amygdaloidal Andesite
Porphyritic Basalt Flow
Feldspar Porphyritic Dike

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:	1980
SAMPLE TYPE:	Drill Core		
COMMODITY		GRADE	
Silver		136.9800	Grams per tonne
Gold		23.9700	Grams per tonne
Copper		0.1500	Per cent

COMMENTS: Diamond-drill hole #14; vein sludge sampled over 2.53 metres.
REFERENCE: Assessment Report 8074.

CAPSULE GEOLOGY

The Guichon occurrence is hosted in Upper Triassic Nicola Group volcanics consisting mainly of either fine-grained, porphyritic or amygdaloidal green to reddish andesitic and basaltic flows. Calcite and epidote alteration is widespread and locally intense. In the southwest corner of the property the volcanics are intruded by a three metre wide feldspar porphyritic dyke which strikes northwest and is nearly vertical. Trending north-northeast across the property is the Quilchena fault, a major near-vertical shear zone with an apparent strike-slip displacement of up to three kilometres. Associated with the fault are numerous northwest, and less commonly northeast trending fractures and joint sets. Mineralization is erratically distributed in a number of quartz and quartz-carbonate vein shears. These zones strike northwest and dip 40 to 85 degrees to the northeast. Quartz and calcite stringers and lenses range in thickness from five centimetres to one metre. They are erratically mineralized with bornite and chalcopyrite with associated gold and silver values. Flakes of specular hematite and native copper have

CAPSULE GEOLOGY

both been reported (1949) as well as molybdenite and chalcocite. Malachite and azurite are exposed at the surface.

A drill core sludge sample assayed 23.97 grams per tonne gold, 0.15 per cent copper and 136.98 grams per tonne silver (Assessment Report 8074).

BIBLIOGRAPHY

EMPR ASS RPT 8074, 9245
EMPR AR 1897-615; 1945-90; 1946-122; *1949-120; 1950-112; 1961-46;
1962-56; 1963-54; 1965-155; *1967-169
EMPR MAP 47
EMPR EXPL 1980-216; 1989-119-134
EMPR PF (Quilchena Mining and Development Co. Ltd. Prospectus, 1960
and Information Bulletin; Geology sketch map)
GSC MEM *249, pp. 11,131
GSC MAP 886A; 887A
GSC OF 980
EMR MP CORPFILE (Guichon Mines Ltd.; Quilchena Mining and
Development Co. Ltd.)
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/10

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE049**

NATIONAL MINERAL INVENTORY: 092I2 Cu4

NAME(S): **SUNNY BOY, IOTA, SPITFIRE,
ROY, SONNYBOY NO. 7 (L.5198), SONNYBOY NO. 8 (L.5199),
SPITFIRE NO. 1 (L.5202), SPITFIRE NO. 2 (L.5203)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:
LATITUDE: 50 08 08 N
LONGITUDE: 120 31 01 W
ELEVATION: 825 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5556655
EASTING: 677443

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Bornite	Malachite	Tetrahedrite	Chalcocite
ASSOCIATED:	Quartz			
ALTERATION:	Epidote	Chlorite	K-Feldspar	Malachite
ALTERATION TYPE:	Propylitic		Potassic	Oxidation
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal
Disseminated
Epigenetic

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

CAPSULE GEOLOGY

The Sunny Boy property is located in a belt of red to green amygdaloidal andesite and basalt of the Upper Triassic Nicola Group which strikes north-northwest and dips steeply to the west. To the north of Nicola Lake is the Lower Jurassic Nicola batholith, a quartz diorite intrusive believed to be the source of quartz-calcite veins carrying gold, silver and copper mineralization in the region. Trending north-northeast across the property is the Quilchena fault, a major near-vertical shear zone with an apparent horizontal displacement of three kilometres.

Trenching and drilling in the 1960's exposed a discontinuous, lensy quartz vein approximately 20 centimetres wide within a shear zone. Bornite, tetrahedrite, chalcocite and malachite occur as stringers and blebs in the vein as well as sparse disseminations in the highly fractured and strongly epidote-chlorite-potassium feldspar altered andesite wallrock.

BIBLIOGRAPHY

EMPR ASS RPT 748, 2750, 5091, 5092, 7662, 11927, 12957, 15996
EMPR AR 1949-20; 1962-56; 1965-155; *1966-167; *1967-169
EMPR EXPL 1983-269; 1979-161; 1989-119-134
EMPR GEM 1970-378; 1974-127
EMPR MAP 47
EMPR P 1981-2
EMPR PF (Kamloops) (*Kelly, S.F. (1986): Report on the IOTA and G & GI Groups of Mineral claims near Merritt, B.C.; Sorbara, J.P. (1987): Report on IOTA and G & GI claims)
GSC MAP 886A; 887A; 1386A
GSC MEM *249
GSC OF *980
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/06

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE050**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANACONDA**, MINT, KEITH,
CATHY

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 06 51 N
LONGITUDE: 120 49 48 W
ELEVATION: 733 Metres

NORTHING: 5553579
EASTING: 655142

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Iron Copper

MINERALS

SIGNIFICANT: Specularite Chalcopyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Chlorite Hematite
ALTERATION TYPE: Chloritic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Anaconda showing is located in the Upper Triassic Nicola Group comprised of andesitic, locally porphyritic flows, minor basaltic flows, volcaniclastics, interbedded sediments and Jurassic(?) granitic intrusions.

Mineralization is evident in highly silicified and chloritized andesite. Workings expose specular hematite in quartz-calcite veins. Minor chalcopyrite is also evident.

BIBLIOGRAPHY

EMPR ASS RPT 357, 402, 736, 9088
EMPR AR 1900-900; *1915-231; 1961-42,115; 1962-132; 1966-167
EMPR EXPL 1980-220
GSC MEM *249, p. 125
GSC MAP 44-20A; 886A; 887A
GSC OF 980
EMR MP CORPFILE (Merritt Copper Co. Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE051**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOO, BEN, JAN,
 BARE, VERNA**

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I02E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 06 24 N
 LONGITUDE: 120 40 22 W
 ELEVATION: 991 Metres

NORTHING: 5553084
 EASTING: 666408

LOCATION ACCURACY: Within 500M
 COMMENTS:

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite	Magnetite	Malachite	Pyrite	Bornite
ALTERATION: Epidote	Calcite	Silica	Malachite	Limonite
ALTERATION TYPE: Hematite	Chlorite	Garnet		
MINERALIZATION AGE: Skarn	Epidote		Silicific'n	Oxidation
	Unknown			Propylitic

DEPOSIT

CHARACTER: Massive Disseminated Stockwork
 CLASSIFICATION: Skarn
 TYPE: K01 Cu skarn
 DIMENSION: STRIKE/DIP: 020/60E TREND/PLUNGE:
 COMMENTS: Bedding

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: Plagioclase Porphyritic Andesite
 Volcanic Breccia
 Tuff
 Volcanic Siltstone
 Cherty Limestone
 Limy Sediment/Sedimentary
 Magnetite Skarn

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1988
 SAMPLE TYPE: Chip
 COMMODITY

Silver	12.8000	Grams per tonne
Copper	1.0000	Per cent

 COMMENTS: Copper assayed greater than 1 per cent.
 REFERENCE: Assessment Report 18256.

CAPSULE GEOLOGY

The western belt of the Upper Triassic Nicola Group is comprised of volcanic flows, pyroclastics and interbedded sedimentary rocks. The Soo showing is located on the western slopes of Sugarloaf Mountain which is underlain by dark grey to green plagioclase porphyritic and locally amygdaloidal andesite, light purple silicified breccia, tuff and volcanic siltstone striking 020 degrees and dipping 60 degrees east. A north trending carbonate horizon can be traced for 350 metres. This unit consists of massive to poorly bedded grey chert, commonly fossiliferous limestone and associated limy sedimentary rocks. Moderate to strong epidotization occurs as small patches and along irregular fractures or veins within andesite or tuff over an area of 24 hectares. Smaller zones of pervasive epidote-calcite-silica alteration are often associated with skarn. Skarns consist of crystalline limestone and up to 80 per cent massive magnetite,

CAPSULE GEOLOGY

mantled by a zone of epidote and calcite with or without malachite, pyrite, chalcopyrite, bornite, limonite, hematite, chlorite or garnet. Traces of chalcopyrite and malachite also occur in the epidotized andesite unit. A rock chip sample assayed greater than 1 per cent copper and 12.8 grams per tonne silver (Assessment Report 18256).

BIBLIOGRAPHY

EMPR ASS RPT 336, 396, 7938, *9009, *18256
EMPR AR *1961-43,115; 1962-132
EMPR EXPL 1980-219; 1989-119-134
EMPR BULL 69
EMPR MAP *47
EMPR PF (Drillhole section and location map, 1963; Correspondence from R.P. Mason, 1962)
GSC MEM 249
GSC MAP 886A
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/08

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE052**

NATIONAL MINERAL INVENTORY:

NAME(S): **LEADVILLE** COMSTOCK, LUCKY TODD,
MAKELSTIN, ONE-SIXTY-ONE, GYPROC I,
FIERRO, IRON MOUNTAIN, YELLOW JACKET,
HORNET

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 02 16 N
LONGITUDE: 120 45 52 W
ELEVATION: 1633 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground
MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5545225
EASTING: 660083

COMMODITIES: Lead Zinc Silver Copper

MINERALS

SIGNIFICANT:	Galena	Sphalerite	Barite	Specularite	Chalcopyrite
	Malachite	Azurite			
ASSOCIATED:	Barite	Quartz	Specularite		
ALTERATION:	Malachite	Azurite			
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Stratiform	Stratabound	Vein
CLASSIFICATION:	Volcanogenic	Syngenetic	Exhalative
TYPE:	105	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	Undefined Formation	

LITHOLOGY: Dacitic Rhyolitic Flow
Flow Breccia
Amygdaloidal Andesite Agglomerate
Lapilli Ash Flow Tuff
Rhyolite Breccia
Rhyodacite Breccia
Dacite
Rhyolite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

Iron Mountain lies completely within the western belt of the Upper Triassic Nicola Group. This northeast trending belt represents the youngest Nicola Group rocks consisting mainly of an east facing sequence of calc-alkaline flows which grade upward into pyroclastic rocks, epiclastic sediments and limestone. In the vicinity of the Leadville deposit are brown to pink potassium feldspar-rich dacitic to rhyolitic flows and flow breccias, and white to green rhyolite. Primary flow structures strike north-northwest and dip very steeply eastward. These units are interbedded with amygdaloidal andesite agglomerate, lapilli to ash flow tuff and andesitic to dacitic breccia. The regional fault system defining the Nicola Group belts strike north to northeast. A major northeast trending fault is mapped on Iron Mountain. Nicola Group volcanic and sedimentary rocks are intruded to the north by Lower Jurassic granitic batholiths; diorite outcrops are evident. Mineralization in the volcanoclastic units consists of specularite and chalcopyrite in irregular fractures which are scattered randomly in a 600 metre diameter zone. Malachite and azurite staining is present. Average copper grade is estimated to be less than 0.1 per cent. The felsic units host galena and sphalerite mineralization in barite veins. The Leadville shaft was sunk on a zone of banded veins and bedded lead-zinc-barite in sheared, flow banded potassic rhyolite. The shear zone strikes 025 degrees and dips 80 degrees west. The mineralized zone is over 50 metres long and less than one metre wide.

BIBLIOGRAPHY

EMPR AR 1927-212; 1928-224; 1929-245; 1930-207; 1947-136;
1951-128; 1968-199
EMPR ASS RPT 1735, 2697, 2757, 2817, 3192, 3455, 3456, 3711, 3791,
5185, 5228, *6248, 7568, 9018, *10114, 10977, 12799, 12860, 13114,
*16817, *18888
EMPR BULL *69
EMPR EXPL 1977-E139; 1979-163; 1980-216; 1981-207; 1982-195;
1988-C109;
1989-119-134
EMPR FIELDWORK 1977, p. 26; *1978, p. 41
EMPR GEM 1970-376; 1971-291; 1972-142; 1974-126
EMPR MAP *18; 47
EMPR OF 1999-2
GSC MAP 44-20A; 886A; 887A
GSC MEM *249, p. 81
GSC OF *980
Shau, M.P. (1968): Geology of the Upper Triassic Nicola Group in South
Central British Columbia, Unpub. Ph.D. Thesis, University of
British Columbia
Chevron File
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/22

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE053**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHARMER, JUDY, ISLANDER, VICTORIA**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 01 57 N
LONGITUDE: 120 46 24 W
ELEVATION: 1557 Metres

NORTHING: 5544620
EASTING: 659464

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Specularite Hematite
ASSOCIATED: Quartz Specularite Pyrite
ALTERATION: Hematite Malachite Azurite Orthoclase Celsian
ALTERATION TYPE: Silicific'n Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Amygdaloidal Andesite Flow
Basaltic Andesite
Dacite
Rhyolite
Volcanic Breccia
Tuff
Lapilli Tuff
Porphyritic Andesite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY

Gold

GRADE

2.3500

Grams per tonne

Copper

1.8000

Per cent

COMMENTS: Random dump sample at shaft 2.

REFERENCE: Assessment Report 16817.

CAPSULE GEOLOGY

Iron Mountain lies completely within the western belt of the Upper Triassic Nicola Group. This northeast trending belt represents the youngest Nicola Group rocks (Norian) and consists of an east facing sequence of calc-alkaline flows, partly subaerial, which grade upward into pyroclastic rocks, epiclastic sediments and limestone. Lithologies in the vicinity of the Charmer shaft are intercalated pink to brown dacitic to rhyolitic flows, breccias and tuffs, purple and green andesitic lapilli and ash tuffs and breccias, and dark grey-green porphyritic and amygdaloidal andesite. In thin section, tuffs and lapilli tuffs show secondary quartz, orthoclase and occasionally celsian (barium feldspar). Scattered diorite outcrops are designated as Triassic in age. Regional fault systems defining the belts of the Nicola Group strike north to northeast. Several major shear zones on Iron Mountain trend northeast and northwest. Near the Charmer shaft, lithologic contacts and primary flow structures indicate the volcanic rocks dip steeply eastward. Mineralization consists of fracture controlled quartz veins with

CAPSULE GEOLOGY

chalcopyrite, specularite, hematite and grey sulphides and are hosted in andesitic flows and basaltic andesite. Scattered stringers and blebs of chalcopyrite also occur in sheared lapilli tuffs, and to a lesser extent in overlying rhyolitic tuffs. Hematite occurs as veinlets in fractures and as blebs.

A number of trenches and three shafts expose quartz-specularite veins over a discontinuous strike length of 800 metres. At shaft one, quartz-specularite veinlets with malachite assayed up to 0.64 grams per tonne gold (Assessment Report 16817). A random dump sample at shaft two assayed 2.35 grams per tonne gold and 1.8 per cent copper. At shaft three, three quartz veins varying from 5 to 25 centimetres in width occur within a two metre wide zone in basaltic andesite. The veins strike 160 degrees and dip 50 to 55 degrees west and are mineralized with chalcopyrite, malachite and grey sulphides. Specular hematite occurs in patches. One metre chip samples assayed up to 10.11 grams per tonne gold (Assessment Report 16817). A trench exposed a 10 centimetre wide quartz vein mineralized with chalcopyrite and pyrite exhibiting malachite and azurite staining. A rock chip sample assayed 341.8 grams per tonne silver (Assessment Report 16817).

BIBLIOGRAPHY

EMPR AR *1961-44; *1963-53; 1968-199
EMPR GEM 1970-376; 1971-291; 1972-142; 1974-126
EMPR EXPL 1977-E139; 1979-163; 1980-216; 1981-207; 1982-195;
1983-267; 1984-200,202; 1988-C109
EMPR ASS RPT 1735, 2697, 2757, 2817, 3192, 3455, 3456, 3711, 3791,
5185, 5228, 6248, 7568, 9018, 10114, 10977, 12799, 12860, 13114,
16058, *16817, *18888
EMPR FIELDWORK 1977, p. 26; *1978, p. 41
EMPR BULL *69
EMPR MAP *47
GSC MEM 249
GSC MAP 886A
GSC OF *980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/23

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE054**

NATIONAL MINERAL INVENTORY: 092I2 Cu5

NAME(S): **PORCUPINE**, CR

MINING DIVISION: Nicola

STATUS: Developed Prospect

REGIONS: British Columbia

NTS MAP: 092I02E

BC MAP:

LATITUDE: 50 02 02 N

LONGITUDE: 120 36 25 W

ELEVATION: 1235 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5545142

EASTING: 671374

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Copper Cuprite Bornite Chalcopyrite

Pyrite Magnetite Hematite Malachite Azurite

COMMENTS: Specularite is also present.

ALTERATION: Malachite Azurite Hematite Magnetite Laumontite

ALTERATION TYPE: Oxidation Zeolitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork

CLASSIFICATION: Volcanogenic

TYPE: D03 Volcanic redbed Cu

DIMENSION:

STRIKE/DIP: 030/35E

TREND/PLUNGE:

COMMENTS: Stratigraphic contacts.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Cretaceous

GROUP

Kingsvale

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesitic Flow

Basaltic Flow

Tuff

Andesite

Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: PORCUPINE

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1969

QUANTITY: 453550 Tonnes

COMMODITY

GRADE

Copper

1.9000

Per cent

COMMENTS: Possible.

REFERENCE: Northern Miner - December 4, 1969.

ORE ZONE: PORCUPINE

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1967

QUANTITY: 125179 Tonnes

COMMODITY

GRADE

Copper

2.0000

Per cent

COMMENTS: Drill indicated.

REFERENCE: Northern Miner - February 2, 1967.

CAPSULE GEOLOGY

The Porcupine occurrence is located in a northeast trending, fault-bound belt of Lower Cretaceous intermediate to felsic continental volcanic rocks with associated sedimentary and intrusive rocks which correlate with the Kingsvale Group. Locally, stratigraphic contacts strike 030 degrees and dip 35 degrees to the southeast and unconformably overlie Upper Triassic Nicola Group volcanics. In the vicinity are reddish brown to maroon coloured andesitic to basaltic flows which are rich in plagioclase and, to a lesser extent, augite and zeolite (laumontite).

Mineralization consists of disseminations of chalcocite, native

CAPSULE GEOLOGY

copper, cuprite, bornite, chalcopyrite, pyrite, magnetite and specular hematite in brecciated tops of subaerial flows. Minerals occur in amygdules and thin fractures. Minor malachite and azurite occur near the surface. The main showing contains a 15 metre deep inclined shaft sunk on a mineralized amygdaloidal, dark grey basaltic flow which is overlain by red tuffs.

Drill indicated reserves are reported as 125,179 tonnes grading 2.0 per cent copper and inferred (possible) reserves as 453,550 tonnes grading 1.9 per cent copper (Northern Miner - 1967, 1969).

Doublestar Resources Ltd. acquired an interest in the property in 1998.

BIBLIOGRAPHY

EMPR AR *1963-54; 1964-95; 1967-282; 1968-279
EMPR ASS RPT 962, 1595, 2881, 4076, 7043, 7876, 7946
EMPR BULL *69
EMPR EXPL 1979-162; 1980-216; 1989-119-134
EMPR MAP *47
EMR MIN BULL MR 223 B.C. 127
EMR MP CORPFILE (Aries Resources Ltd.; DOR Resources Ltd.; Pentagon Resources Ltd.; Amalgamated Resources Ltd.)
GSC MAP 886A
GSC MEM 249
GSC OF 980
GCNL #72, Jan.8, 1964; Jan.18, 1967; #105(June 2), 1998
N MINER Feb.2, 1967; Dec.,4 1969

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE055**

NATIONAL MINERAL INVENTORY: 092I2 Cu1

NAME(S): **TURLIGHT (L.4841)**, COPPERADO - TURLIGHT, TURLIGHT,
MAR, STAR 100, A,
DOUG

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:
LATITUDE: 50 11 35 N
LONGITUDE: 120 36 34 W
ELEVATION: 1214 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground
MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5562831
EASTING: 670628

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Chalcocite Malachite
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Biotite Malachite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Quartz vein
STRIKE/DIP: 330/65E
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Gneissic Hornblende Biotite Granodiorite
Quartz Monzonite
Aplite Dike
Feldspar Porphyritic Dike

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: BLOCK B REPORT ON: Y
CATEGORY: Unclassified YEAR: 1973
QUANTITY: 916 Tonnes
COMMODITY GRADE
Silver 13.7000 Grams per tonne
Gold 0.3000 Grams per tonne
Copper 2.5000 Per cent
REFERENCE: Property File - M.K. Lorimer, 1974.

ORE ZONE: BLOCK A REPORT ON: Y
CATEGORY: Unclassified YEAR: 1973
QUANTITY: 1197 Tonnes
COMMODITY GRADE
Silver 30.8000 Grams per tonne
Copper 2.3000 Per cent
REFERENCE: Property File - M.K. Lorimer, 1974.

CAPSULE GEOLOGY

The property is located near the southwestern perimeter of the Lower Jurassic Nicola batholith. This intrusive locally consists of gneissic hornblende-biotite granodiorite to quartz monzonite and exhibits widespread chlorite-epidote alteration. Foliation strikes approximately 335 degrees and dips 80 degrees to the west, though dip angles vary from nearly vertical to moderately northeastward. To the southwest, the batholith intrudes intermediate volcaniclastic rocks and interbedded sediments belonging to the Upper Triassic

CAPSULE GEOLOGY

Nicola Group.

Faults on the property strike north to northwest and dip very steeply northeast. Shear zones contain lenses of mineralized vein matter. The Nicola batholith granodiorite is intruded by numerous aplite dykes generally associated with quartz veining, and several feldspar porphyry dykes. The dykes are aligned with foliation or fault directions.

The Turlight occurrence consists of an inclined shaft 137 metres deep, underground workings on six levels and several trenches. At the shaft, copper mineralization occurs in a quartz vein up to 1.5 metres wide with well-defined walls, striking 330 degrees and dipping 65 degrees northeast. The quartz hosts irregular masses, veinlets and disseminated grains of bornite, chalcopyrite, minor chalcocite and some malachite.

Two blocks of values were identified in the collar area of the Turlight shaft above the 30 metre level: Block A contains 1197 tonnes grading 2.3 per cent copper, 30.8 grams per tonne silver and trace gold. Block B contains 916 tonnes grading 2.5 per cent copper, 13.7 grams per tonne silver and 0.3 grams per tonne gold (Lorimer, 1974).

BIBLIOGRAPHY

EMPR ASS RPT 186, *425, 503, 6179, 6180, 6218, 10518
EMPR AR 1929-246; 1947-136; 1948-120; *1949-115-120; 1950-112;
1951-128; 1952-119; 1956-A49,47; 1957-29; 1958-67; 1961-45;
1962-56; 1963-54; 1964-95; 1967-167
EMPR GEM 1976-E90; 1977-E138
EMPR BULL 69
EMPR PF (Report by M.K. Lorimer 1974; Geological notes)
EMPR EXPL 1989-119-134
GSC MEM *249, p. 130
GSC OF *980
GSC MAP 886A; 887A; 5209G
EMR MP CORPFILE (Guichon Mine Ltd.)

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE056**

NATIONAL MINERAL INVENTORY: 092I7 Cu18

NAME(S): **MANCHESTER (L.1216)**, H.C.

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 17 47 N
LONGITUDE: 120 50 18 W
ELEVATION: 909 Metres

NORTHING: 5573820
EASTING: 653959

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Specularite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Intermediate Mafic Volcanic Rock
Granodiorite
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies at the southeastern edge of the Lower Jurassic Guichon Creek batholith where it intrudes Upper Triassic Nicola Group volcanic rocks. West of Guichon Creek, there are scattered outcrops of granodiorite and quartz diorite of the Highland Valley and Border phases, the oldest rocks in the batholith. To the east lie intermediate to mafic Upper Triassic Nicola Group volcanic rocks. The Manchester showing is covered by extensive glacial overburden.

In the bottom of a shaft a 90 centimetre wide quartz band is mineralized with chalcocite and specular hematite.

BIBLIOGRAPHY

EMPR AR 1899-734; 1900-892; *1901-1185; 1902-1230; 1903-182;
1905-204; 1906-255; 1957-28; 1968-196
EMPR ASS RPT 1557
EMPR BULL 56; 62
EMPR MAP *30
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/10

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE057**

NATIONAL MINERAL INVENTORY: 092I7 Cu18

NAME(S): **HC**, KING SOLOMONS, MIDNIGHT

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 17 29 N
LONGITUDE: 120 50 06 W
ELEVATION: 917 Metres

NORTHING: 5573271
EASTING: 654213

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Specularite Chalcopyrite Malachite Copper
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

STRIKE/DIP: 300/80S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Volcanic Breccia
Granodiorite
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies near the southeastern edge of the Lower Jurassic Guichon Creek batholith where it intrudes Upper Triassic Nicola Group volcanic rocks. The HC showing is underlain by granodiorite to quartz diorite but are covered by glacial overburden up to 10 metres thick.

Mineralization is hosted by altered volcanic breccia and consists of strong hematite, minor chalcopyrite and malachite staining in a northwest striking and steeply southeast dipping zone. Native copper also occurs in small amounts.

BIBLIOGRAPHY

EMPR ASS RPT *1557
EMPR AR 1900-829; 1901-1185; 1903-182; 1906-255; 1957-28; 1968-196
EMPR GEM 1970-371
EMPR MAP *30
EMPR BULL 56; 62
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/10

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE058**

NATIONAL MINERAL INVENTORY:

NAME(S): **MERRITT COAL**, MERRITT, COAL GULLY,
MIDDLESBORO, NORMANDEALE, COLDWATER HILLS,
DIAMOND VALE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:
LATITUDE: 50 06 03 N
LONGITUDE: 120 44 38 W
ELEVATION: 663 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The approximate centre of the Merritt coalfield.

Underground

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5552279
EASTING: 661343

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel
TYPE: A04 Bituminous coal
SHAPE: Tabular
MODIFIER: Folded Faulted
COMMENTS: The basin margins are structurally complex with near vertical dips.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Coldwater	

LITHOLOGY: Conglomerate
Sandstone
Shale
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: High volatile bituminous B rank coal.

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: HVol Bituminous

INVENTORY

ORE ZONE: MERRITT COAL REPORT ON: Y
CATEGORY: Inferred YEAR: 1991
QUANTITY: 40000000 Tonnes
COMMODITY: Coal GRADE: 100.0000 Per cent
COMMENTS: Merritt coalfield; high volatile bituminous B rank coal.
REFERENCE: Geological Survey of Canada Paper 89-4.

ORE ZONE: MERRITT COAL REPORT ON: Y
CATEGORY: Indicated YEAR: 1991
QUANTITY: 20000000 Tonnes
COMMODITY: Coal GRADE: 100.0000 Per cent
COMMENTS: Merritt coalfield; high volatile bituminous B rank coal.
REFERENCE: Geological Survey of Canada Paper 89-4.

ORE ZONE: MERRITT COAL REPORT ON: Y
CATEGORY: Measured YEAR: 1991
QUANTITY: 10000000 Tonnes
COMMODITY: Coal GRADE: 100.0000 Per cent
COMMENTS: Merritt coalfield; high volatile bituminous B rank coal.
REFERENCE: Geological Survey of Canada Paper 89-4.

CAPSULE GEOLOGY

Up to ten coal seams containing high volatile bituminous B rank

CAPSULE GEOLOGY

coal occur in the Eocene Coldwater Formation (Princeton Group) interbedded with sandstone, shale and conglomerate. The seam numbers and thicknesses vary across the Merritt coalfield with seams lensing out into shale laterally, and commonly containing seam splits.

The best outcrop of the coal measures occurs in the Coal Gully area (092ISE066), where four seams are present in a 229 metre section. In the adjacent Middlesboro mines (092ISE081), up to eight seams 0.76 to 7.9 metres thick, were recognized in 235 metres of section.

In the Normandale area (092ISE061), two holes drilled by Crownstest Resources in 1982 intersected 6 and 8 coal seams ranging in thickness from 0.2 metres to 1.6 metres and 0.5 metres to 2.0 metres respectively. A small tonnage was mined from this area in the early 1900's.

Three coal seams outcrop in the Coldwater Hill area and up to six intersections were encountered in drill holes. In addition, several shaly coal units are present. The No. 2 mine (092ISE081) is located here.

East of the town of Merritt and south of Nicola River are the Diamond Vale No. 3 and 4 mines (092ISE142). Six coal seams occur in 94 metres of strata of which two were mined in the above mentioned mines.

In total, nearly 2.72 million tonnes of thermal coal was mined (underground) from the coalfield between 1906 and the late 1950's. The processed quality of the coal is 2.7 per cent moisture, 9.5 per cent ash, 37.4 per cent volatile matter, 50.4 per cent fixed carbon, 0.7 per cent sulphur and a calorific value of 7200 kilocalories per kilogram.

The structure of the basin in the southwest (Middlesboro/Coal Gully area) consists of a series of northwest trending folds and faults. The faults dip both to the southwest and northeast. In the Coldwater Hill area the structure is less complicated with some broad flexures and a northeast trending anticline disturbing the predominantly northeast dips (20 to 35 degrees) of the strata. In the Diamond Vale area the strata are monoclinial, striking 235 degrees and dipping approximately 27 degrees southwest towards Coldwater Hill. A broad syncline may separate these two areas. In the Hamilton Creek area, a northeast trending syncline is present, while to the north at the Normandale mine, strata strikes north and dips close to vertical. Both the west and east margins of the basin appear to be structurally most complex. The basin overlies a Triassic volcanic surface and is partially overlain by younger basalts.

Measured geological reserves for the Merritt coalfield are 10 million tonnes; indicated reserves are 20 million tonnes; and inferred reserves are 40 million tonnes of high volatile bituminous B rank coal respectively (Open File 1992-1; Geological Survey of Canada Paper 89-4).

Coal rights over Middlesboro collieries were acquired in 2001 by Forum Ventures from Imperial Metals. Forum plans to investigate both coalbed methane and conventional coal mining opportunities.

BIBLIOGRAPHY

- EMPR COAL ASS RPT 147, 148, 149, 150, 151, 152, 153, 154, 155, 157, 162, *163
- EMPR AR *1946-250-279
- EMPR OF 1992-1
- EMPR MAP 65 (1989)
- EMPR EXPL 1989-119-134
- EMPR FIELDWORK 1991, pp. 427-432
- EMPR PF (Evaluation Report on Coldwater Coal Mines by J. Dickson, 1948; Geology sketch maps and notes)
- GSC MEM 69, pp. 280-285
- GSC OF 980
- GSC MAP 886A
- GSC P 89-4
- STOCKWATCH Oct.2, 2001

DATE CODED: 1986/05/28
DATE REVISED: 1989/10/24

CODED BY: EVFK
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE059**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOPHIA**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 18 19 N
LONGITUDE: 120 43 32 W
ELEVATION: 1493 Metres

NORTHING: 5575048
EASTING: 661960

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER:	Stockwork	Breccia		
CLASSIFICATION:	Hydrothermal	Epigenetic		
DIMENSION:			STRIKE/DIP: 220/30S	TREND/PLUNGE:
COMMENTS:	Shear zone			

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Porphyry
Feldspar Porphyry
Limestone

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Sophia Lake area is underlain by interbedded volcanic and sedimentary rocks belonging to the Upper Triassic Nicola Group. The volcanic rocks consist of andesitic flows, porphyries, breccias and tuffs intercalated with limestone, argillite, greywacke and conglomerate. Bedding indicates a regional asymmetric anticline has its axis plunging south-southeast near Swakum Mountain. The Nicola Group rocks are bounded to the east and west by Lower Jurassic granitic intrusives.

A 175 metre wide limestone bed which a north trending ridge over 600 metres in strike length. The grey, coarse-grained limestone contains numerous fracture-controlled randomly oriented calcite stringers generally less than 2 millimetres in width. Local brecciated zones are calcite-healed and oxidized (hematite, limonite). In the central portion of the property a feldspar porphyry intrusive with euhedral pyrite up to 10 millimetres in size contains quartz eyes throughout the matrix.

At the Sophia showing, mineralization occurs in a shear zone exposed in a trench. The zone is 8 metres wide, strikes 220 degrees and dips 30 to 60 degrees south. Calcite and quartz occur as narrow stringers in andesitic porphyry and as a cement in brecciated volcanics. Pyrite, sphalerite, galena and chalcopyrite are associated with the quartz and calcite.

BIBLIOGRAPHY

EMPR ASS RPT 6441, 7031, 7488, *12386, 15318, 16625
EMPR EXPL 1977-E148; 1978-E163; 1979-170; 1983-275; 1986-C231;
1987-C192
GSC MEM *249
GSC OF *980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE059**

MINFILE NUMBER: **092ISE060**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOSS 4, DJ, NOVA**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092107W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 21 15 N

LONGITUDE: 120 56 28 W

ELEVATION: 1466 Metres

NORTHING: 5580036

EASTING: 646462

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite

ASSOCIATED: Quartz

ALTERATION: Sericite

Silica

Limonite

ALTERATION TYPE: Propylitic

Silicific'n

Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is situated in the southeastern portion of the Lower Jurassic Guichon Creek batholith and underlain by coarse-grained granodiorite assigned to the Chataway variety of the Highland Valley phase. To the west, this unit is in contact with the younger Bethlehem and Bethsaida (Skeena variety) phases of the batholith. Along the north trending intrusive contacts a broad zone of moderate to strong propylitic alteration has developed. The batholith is transected by north and west trending regional faults.

On the Moss 4 showing, Chataway granodiorite is faulted, fractured, sericitized and silicified. Limonite staining is present. Quartz veins containing disseminated blebs of chalcocite occur. Quartz float is mineralized with bornite and chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT *1790, 3709, *4050, 7560, 9953

EMPR AR 1962-50; 1963-48; 1964-90; 1967-159; 1968-194

EMPR GEM 1970-371; 1971-369; 1972-160

EMPR EXPL 1979-167; 1981-164

EMPR MAP *30

EMPR BULL 56; 62

EMPR PF (see 092ISE092, Air photo base maps and sample location map)

GSC OF 980

GSC MEM 249

GSC MAP 886A

EMR MP CORPFILE (Chataway Exploration Co. Ltd.)

EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE061**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORMANDALE**

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

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 07 10 N
LONGITUDE: 120 41 04 W
ELEVATION: 914 Metres

NORTHING: 5554479
EASTING: 665530

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located near the eastern edge of the basin approximately 5.6 kilometres northeast of the Diamond Vale mine (092ISE142).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: A04 Bituminous coal
SHAPE: Tabular
MODIFIER: Folded
DIMENSION:
COMMENTS: Coal seams.

STRIKE/DIP: 360/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Coldwater	

LITHOLOGY: Shale
Sandstone
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: High volatile bituminous B rank coal.

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Thompson Plateau

GRADE: HVol Bituminous

CAPSULE GEOLOGY

A single coal seam, 1.2 metres thick, was mined from the Normandale mine at the eastern edge of the Merritt coal basin. The seam consists of high volatile bituminous B rank coal and occurs interbedded with shale and sandstone of the Eocene Coldwater Formation (Princeton Group). The seam strikes north and is close to vertically dipping. The underlying Triassic volcanics outcrop less than 30 metres east of the coal seam.

To the south of the Normandale area is Hamilton Creek where a northeast trending open syncline occurs in the eastern portion of the outcropping of coal-bearing strata.

See Merritt Coal (092ISE058).

BIBLIOGRAPHY

EMPR COAL ASS RPT 162, 163
EMPR AR *1946-250-279
GSC MEM 69, pp. 280-285
GSC MAP 886A
GSC OF 980
EMPR EXPL 1989-119-134

DATE CODED: 1986/05/28
DATE REVISED: / /

CODED BY: EVFK
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **092ISE062**

NATIONAL MINERAL INVENTORY: 09217 Cu3

NAME(S): **SKY**, SKY 7, NOVA

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092107W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 22 46 N

NORTHING: 5582859

LONGITUDE: 120 56 06 W

EASTING: 646819

ELEVATION: 1520 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite

ALTERATION: Sericite Silica

ALTERATION TYPE: Propylitic Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

CAPSULE GEOLOGY

The Sky showing is located in the southeastern portion of the Lower Jurassic Guichon Creek batholith. The area is underlain primarily by Chataway variety coarse-grained granodiorite. This unit is intruded by Bethlehem phase granodiorite and granite porphyry dykes and plugs, and Skeena variety granodiorite to the west. Along the north trending intrusive contacts, moderate to strong propylitic alteration occurs in a broad zone. The granodiorite is fractured and faulted. A drill hole (1967) intersected a sericitic silicified breccia heavily mineralized with chalcocite at the margin of a zone of propylitic alteration.

BIBLIOGRAPHY

EMPR AR *1967-159; 1968-194
EMPR GEM 1970-371; 1971-369; 1972-160
EMPR EXPL 1979-167; 1981-164
EMPR ASS RPT *1790, 3709, 4050, 7560, 9953
EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (see 092ISE020, Report by K.C. McTaggart, 1963; see 092ISE092, Air photo base maps and sample location map; see 092ISE063, numerous maps and reports)
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMR MP CORPFILE (Chataway Exploration Co. Ltd.)
W MINER Feb. 1967
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE063**

NATIONAL MINERAL INVENTORY: 09217 Cu5

NAME(S): **WIZ, WIZ 21, WIZ 30,
CHATAWAY, COPPER KING, VIMY,
CHATAWAY I-A, ZONE 4**

STATUS: Past Producer
REGIONS:
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 20 06 N
LONGITUDE: 120 51 41 W
ELEVATION: 1377 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground
MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5578066
EASTING: 652194

COMMODITIES: Copper Molybdenum Silver Gold

MINERALS

SIGNIFICANT: Chalcocite Chalcopyrite Bornite Copper Malachite
Azurite Pyrite Molybdenite
ASSOCIATED: Quartz Carbonate
ALTERATION: Sericite Kaolinite
ALTERATION TYPE: Chloritic Sericitic Argillic Oxidation Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
SHAPE: Bladed
MODIFIER: Sheared
DIMENSION: 0545 x 0002 Metres STRIKE/DIP: 350/65W TREND/PLUNGE:
COMMENTS: Mineralized shear zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic _____ Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Monzodiorite

HOSTROCK COMMENTS: Highland Valley phase.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: TOTAL REPORT ON: Y
CATEGORY: Indicated YEAR: 1972
QUANTITY: 293900 Tonnes
COMMODITY _____ GRADE _____
Copper 1.2600 Per cent
COMMENTS: Drill indicated to 76 metres.
REFERENCE: SMF June 26, 1972 - Aselo Ind. Ltd., M.H. Sanguinetti, April 20, 1972.

CAPSULE GEOLOGY

The property is located south of Gypsum Lake near the southeastern border of the Lower Jurassic Guichon Creek batholith. The area is underlain by the Highland Valley phase granodiorite, which represents the oldest rocks in the batholith. The bedrock varies from fine-grained quartz monzodiorite (Guichon variety) to coarse-grained granodiorite (Chataway variety). Several north-northwest trending and south dipping lamprophyre and dacite porphyry dykes cut the intrusive. The Guichon Creek batholith is transected by north and northwest striking regional faults and tensional features which control mineralization.

Copper mineralization occurs in a strong shear zone which strikes 350 degrees and dips 65 degrees to the west. The strike length of the zone is greater than 1000 metres though drill results indicate significant mineralization is confined to about half this distance. The shear zone is comprised of a large number of subparallel, steeply dipping faults, quartz and carbonate pods, gouge and breccia. Wallrocks are strongly altered (chlorite, sericite and

CAPSULE GEOLOGY

kaolinite). High grade mineralization consists of massive chalcocite, blebs and stringers of chalcopyrite, bornite, native copper, malachite and azurite, and numerous secondary copper minerals in clay gouge and quartz-filled tension fractures. Lower grade disseminated chalcopyrite and pyrite occur in the footwall; the hangingwall is typically barren. Mineralization is cut off to the north by the northwest trending Gypsum Lake fault and grade decreases to the south.

Drilling has delineated a mineralized structure 545 metres long and 2.3 metres wide (average) grading 1.26 per cent copper. This represents indicated reserves of approximately 293,900 tonnes to 76 metres (Statement of Material Facts June 26, 1972 - Aselo Ind. Ltd., M.H. Sanguinetti, April 20, 1972). In 1908 it was reported that a significant percentage of molybdenite ore is associated with the copper minerals.

BIBLIOGRAPHY

EMPR AR 1908-248; 1915-233; 1962-50; 1963-48; 1964-90; *1965-149;
*1966-164; 1967-159; 1968-194
EMPR GEM 1970-371; 1971-347; 1972-159
EMPR EXPL 1979-167; 1980-227; 1981-94; 1986-C232
EMPR ASS RPT 737, 749, 764, *1790, 3552, 4043, *4056, 7494, *9699, 149
EMPR MAP *30
EMPR BULL 9; 56; 62
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMR MP RESFILE (Wiz 21,30)
EMR MP CORPFILE (Aselo Industries Ltd.; Chataway Exploration Co.
Ltd.; Lawrence Mining Corp.)
Bralorne Pioneer Mines Ltd., 1967
EMPR EXPL 1989-119-134
EMR MIN BULL MR 223 B.C. 140
EMPR BC METAL MM00316
EMPR PF (see 092ISE023, Compilation Report for Chataway Exploration
Co. Ltd., February 1971; geology plans, several other reports;
Geological maps, drill sections, sketch maps, drill plan maps,
claim location map, notes and memos; Reports by K.C. McTaggart,
1963, M. Sanguinetti, 1971, J.D. Murphy, 1972; geochemistry and
geophysical maps; Correspondence and progress report with
geological maps, sections, claims by M. Carr, 1960s)

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE064**

NATIONAL MINERAL INVENTORY:

NAME(S): **MIKE GRID**, VAL, MIKE

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 19 N
LONGITUDE: 120 48 07 W
ELEVATION: 1281 Metres

NORTHING: 5558208
EASTING: 657013

LOCATION ACCURACY: Within 500M

COMMENTS: Area of drilling about 5 kilometres north of the community of Merritt (Assessment Report 23646).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Malachite Azurite
ALTERATION: Magnetite Epidote Carbonate Chlorite Actinolite
Garnet Pyrite Pyrrhotite

COMMENTS: Also hematite, amphibole and potassium feldspar.

ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K03 Fe skarn K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

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

LITHOLOGY: Andesite
Basalt
Andesitic Basaltic Porphyritic Flow
Andesitic Basaltic Porphyritic Breccia
Calc-silicate
Andesitic Tuff
Andesitic Breccia
Quartz Feldspar Porphyry Dike

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Mike Grid area covers Upper Triassic Nicola Group volcanics predominantly comprised of andesitic to basaltic, massive to plagioclase porphyritic (locally augite) flows and breccias with fine disseminated and local fracture controlled (vein) magnetite. The volcanic assemblage includes intercalations of volcanoclastic rock and minor sediments which range from a few metres to many tens of metres in thickness. A second unit comprising green to grey andesitic tuff and breccia includes fine bedded (local cherty) to coarse lapilli tuffs and agglomerates. A third unit consists of calcsilicate altered (hornfels) tuffs and immature sediments. These are predominantly fine grained, fine bedded to massive siliceous rocks with variable epidote, carbonate, light pink to brown garnet, disseminated pyrite and/or pyrrhotite. The main calcsilicate unit is northwest trending and up to 50 metres wide with associated tuffs (unit 2). Two or more dikes of quartz feldspar porphyry intrude the Nicola sequence.

The Nicola sequence strikes northwest to northeast with steep east to west dips. Bedding attitudes suggest tight folding. A number of northwesterly trending fault zones are apparent.

A number of styles of mineralization and associated alteration occur on the Mike grid. Several discontinuous, dislocated copper-iron mineralized skarn zones are exposed in the Mike trenches over 300 metres strike length. Chalcopyrite, malachite and minor azurite are associated with medium to coarse grained magnetite rich, epidote, calcite skarn with dark chlorite and local actinolite. Pink to light brown garnet skarn with epidote has little copper. In more fractured and brecciated areas, coarse specular hematite and calcite

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 603
REPORT: RGEN0100

CAPSULE GEOLOGY

occurs with epidote, minor amphibole, chlorite and chalcopyrite (coarse blebby). Potassium feldspar veinlets, pods and coarse, semimassive pyrite may be present locally.

BIBLIOGRAPHY

EMPR ASS RPT 1799, 6132, 8728, 10210, 22595, 23024, 23025, 23258, 23259, *23646, 24021, 24255
EMPR EXPL 1972-145; 1976-E90; 1989-119-134
EMPR PF (Geological notes; Allen, A.R. (1968): Magnetometer Survey on the Val #1 and #2 Groups)
GSC OF 980
GSC MEM 249
GSC MAP 886A

DATE CODED: 1985/07/24
DATE REVISED: 1996/09/12

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE065**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUCK, LEE, DUDE,
BLUEBERRY, MLM**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 48 N
LONGITUDE: 120 49 11 W
ELEVATION: 1077 Metres

NORTHING: 5579449
EASTING: 655121

LOCATION ACCURACY: Within 500M
COMMENTS: Adit (Assessment Report 1851).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Narrow shears.

STRIKE/DIP: 090/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Buck showing is located near the eastern border of the Lower Jurassic Guichon Creek batholith. The area between Guichon Creek and Cougar Creek south of Mamit Lake is underlain by mainly intermediate to mafic volcanic rocks of the Upper Triassic Nicola Group. These rocks are in contact with granodiorites to the north (Gump Lake phase) and to the west (Highland Valley phase). Approximately 1200 metres west of the showing, the Nicola Group rocks are overlain by Eocene Kamloops Group volcanic flows.

Early development of the showing included driving an adit and extensive cat trenching. The country rock in the area is dark, medium-grained gabbro (Guichon) cut by a few vertical east trending shear zones. The shears are 5 to 15 centimetres wide, up to 60 metres in length and carry chalcopyrite, pyrite and malachite mineralization.

A similar brecciated shear zone containing chalcopyrite is exposed in trenches 1000 metres northwest of and 81 metres above the Buck adit.

BIBLIOGRAPHY

EMPR ASS RPT 203, *1851, 3526, 5538, 10944
EMPR AR 1958-67
EMPR GEM 1969-270
EMPR EXPL 1975-E82; 1982-202
EMPR MAP 30
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/01

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE066**

NATIONAL MINERAL INVENTORY:

NAME(S): **COAL GULLY**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 05 48 N
LONGITUDE: 120 47 51 W
ELEVATION: 625 Metres

NORTHING: 5551702
EASTING: 657523

LOCATION ACCURACY: Within 500M

COMMENTS: The Coal Gully area is located southwest of Merritt at the southwest margin of the basin.

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: A04 Bituminous coal
SHAPE: Tabular
MODIFIER: Folded Faulted

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Coldwater

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Shale
Sandstone
Conglomerate
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: High volatile bituminous B rank coal.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: HVol Bituminous

CAPSULE GEOLOGY

At least five and possibly eight coal seams containing high volatile bituminous B rank coal occur in a 229 metre section of interbedded shale and sandstone of the Eocene Coldwater Formation (Princeton Group). The seams generally range from 0.08 to 2.5 metres thick, however, a 4.6 metre seam was encountered in the Blair shaft north of Coal Gully Hill. Mining by the Middlesboro Collieries had been concentrated in this area (092ISE141).

The structure consists of a number of northwest trending, southeast plunging folds and normal faults. The faults dip both to the southwest and northeast. Graben structures occur on north trending tensional faults.

See also Merritt Coal (092ISE058) and Coldwater Hill (092ISE081).

BIBLIOGRAPHY

EMPR COAL ASS RPT 148, 162, 163
EMPR AR *1946-250-279
GSC MEM 69, pp. 280-285
GSC OF 980
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1986/05/28
DATE REVISED: 1989/10/24

CODED BY: EVFK
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE067**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAD ARAB**, OK, DONNY,
AL, CAM, REY 7

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 21 33 N
LONGITUDE: 120 45 31 W
ELEVATION: 1242 Metres

NORTHING: 5580968
EASTING: 659426

LOCATION ACCURACY: Within 500M
COMMENTS: Adit

COMMODITIES: Copper Lead Zinc Silver Gold

MINERALS

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

DEPOSIT

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

STRIKE/DIP: 040/50S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Siliceous Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1967
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	44.5600 Grams per tonne
Gold	1.3700 Grams per tonne
Copper	0.3800 Per cent
Zinc	1.0000 Per cent

COMMENTS: Sample of vein in adit.
REFERENCE: Minister of Mines Annual Report 1967, page 161.

CAPSULE GEOLOGY

The property lies within the Upper Triassic Nicola Group approximately 2.5 kilometres east of the Lower Jurassic Guichon Creek batholith. Bedrock consists mainly of plagioclase-augite intermediate pyroclastic and epiclastic breccia, conglomerate, tuff, sandstone with localized shale, carbonates and augite porphyry.

The Mad Arab showing is exposed in a 2.74 metre adit on the northeast side of the creek at creek level. In the adit there is a 20 centimetre wide fault striking 065 degrees and dipping 45 degrees southeast. A 5 centimetre quartz-carbonate vein striking 040 degrees and dipping 50 degrees to the southeast is exposed in the footwall of the fault. The quartz carries pyrite, galena and sphalerite; the carbonate is weakly pyritic. The wallrock throughout the adit is a grey, fine-grained siliceous tuff.

A grab sample from the vein assayed 0.38 per cent copper, 0.01 per cent molybdenum, 1.0 per cent zinc, 44.56 grams per tonne silver and 1.37 grams per tonne gold (Minister of Mines Annual Report 1967).

BIBLIOGRAPHY

EMPR EXPL 1989-119-134
EMPR ASS RPT 1213, 1911
EMPR AR *1967-161; 1968-196
EMPR GEM 1969-270

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 607
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Geological notes)
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE068**

NATIONAL MINERAL INVENTORY:

NAME(S): **WP, WHITE AND PENDLEBURY, TOP,**
WP 110, WP 130

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 13 27 N
LONGITUDE: 120 59 39 W
ELEVATION: 1430 Metres

NORTHING: 5565480
EASTING: 643077

LOCATION ACCURACY: Within 1 KM
COMMENTS: Trenches (Assessment Report 185).

COMMODITIES: Copper Mercury

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite	Specularite	Cinnabar	Malachite
ASSOCIATED:	Quartz				
ALTERATION:	Epidote	Calcite	Albite		
ALTERATION TYPE:	Silicific'n		Epidote	Carbonate	
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Disseminated	Stockwork	Vein
CLASSIFICATION:	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	
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Porphyritic Andesite
Quartz Diorite
Granodiorite
Pegmatite Dike
Aplite Dike
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The WP property is underlain by intermediate to mafic volcanic rocks of the Upper Triassic Nicola Group which are intruded to the north and east by dioritic to granodioritic phases of the Lower Jurassic Guichon Creek batholith. To the west, both Nicola and Guichon rocks are unconformably overlain by intermediate lavas of the Cretaceous Spences Bridge Group.

Nicola Group porphyritic andesite strikes nearly east and dips steeply south. It is intruded by quartz diorite, granite, pegmatite and aplite dykes and is highly altered and epidotized near its contact with Guichon quartz diorite to granodiorite of the Border phase of the batholith.

A steeply dipping fault zone strikes approximately north and cuts Nicola Group rocks which have been silicified, sheared, brecciated and mineralized with chalcopyrite, pyrite, specularite and minor cinnabar. In the fault zone fragments are cemented by calcite and albite. The maximum width of the mineralized zone is 60 centimetres and has been traced discontinuously for 61 metres.

A quartz vein 15 centimetres wide cuts porphyritic andesite and carries chalcopyrite and malachite mineralization.

BIBLIOGRAPHY

EMPR ASS RPT *185, 190, 243, *245, 407, 2222
EMPR AR 1958-27; 1961-31
EMPR MAP *30
EMPR BULL 56; 62
EMPR FIELDWORK 1977, p. 31
EMPR PF (Claim location map)
GSC OF 980
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 609
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/28

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE069**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKU, SPA, SCAT,
JEFF, ALTA, SKU 1**

STATUS: Showing
REGIONS:
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 18 57 N
LONGITUDE: 120 58 10 W
ELEVATION: 1350 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5575719
EASTING: 644563

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Malachite	Bornite	Magnetite	Specularite			
ASSOCIATED:	Quartz	Calcite					
ALTERATION:	Chlorite	Epidote	Sericite	Clay	Carbonate		
	Limonite	Malachite	K-Feldspar				
ALTERATION TYPE:	Propylitic		Sericitic		Argillic	Oxidation	Potassic
MINERALIZATION AGE:	Unknown						

DEPOSIT

CHARACTER: Disseminated Vein Stockwork
CLASSIFICATION: Hydrothermal 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>
Lower Jurassic			Guichon Creek Batholith
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Granodiorite
Tonalite
Quartz Diorite
Quartz Monzonite
Porphyritic Monzonitic Dike
Aplite Dike

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

YEAR: 1982

COMMODITY: Copper

GRADE: 0.1840 Per cent

COMMENTS: 10 metre intersection.

REFERENCE: Assessment Report 10553.

CAPSULE GEOLOGY

The Sku showing is situated along the southern margin of the central core of the multistage Lower Jurassic Guichon Creek batholith and is underlain by four distinct phases of the batholith, the contacts between which are on the property. Around Farr Lake, outcrops consist mainly of Chataway variety fine-grained granodiorite of the Highland Valley phase. To the northeast, the property is underlain by Bethlehem phase medium-grained granodiorite, tonalite and quartz diorite. These two phases are separated by a zone of rocks which are texturally and compositionally transitional between the two. Farther to the north, near Skuhun Creek, the older phases are intruded by the central Bethsaida phase of the batholith. This unit is coarse-grained quartz monzonite to granodiorite. Pink porphyritic monzonite occurs as a small dyke-like body intruding the Bethsaida rocks at Skuhun Creek. It is believed to be related to north trending, salmon-pink aplite dyke swarms, which intrude both the Bethlehem and Bethsaida phases. All of the intrusive phases are weakly to moderately propylitized, with biotite and hornblende altered to chlorite and epidote.

CAPSULE GEOLOGY

The structural features of the area are the east trending Skuhun Creek fault, several northeast and northwest trending lineaments and numerous fractures averaging four per metre. Associated with fracturing are 1 to 20 millimetre wide quartz veins containing fine-grained disseminated magnetite and specular hematite. Weak to moderate propylitization, sericitization, kaolinization and oxidation (limonite, malachite) are evident throughout the property. Intense hydrothermal alteration is limited to fault and shear zones in which clay gouges up to 2 metres in width consist of extensive sericite, clay, chlorite epidote and carbonate.

Mineralization consists of widespread disseminated magnetite, specular hematite and bornite in quartz veins and as fine-grained clusters in fractures, and malachite as coatings on fractures and in fault gouges. A diamond-drill hole intersection across 10 metres assayed 0.184 per cent copper (Assessment Report 10553).

BIBLIOGRAPHY

EMPR AR 1968-195
EMPR GEM 1969-264
EMPR EXPL 1980-226; 1981-120; 1982-335
EMPR ASS RPT 1594, 1829, 2177, 2201, 8616, *9792, *10553
EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (Geology maps, 1958; see 092ISE078, Aeromag map (1958))
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE070**

NATIONAL MINERAL INVENTORY: 092I7 Cu12

NAME(S): **GAZA**, GAP, NAT

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092I07W

BC MAP:

LATITUDE: 50 26 42 N

LONGITUDE: 120 57 05 W

ELEVATION: 1496 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5590115

EASTING: 645453

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Malachite Bornite Chalcopyrite Chalcocite Specularite

ASSOCIATED: Quartz

ALTERATION: Sericite Chlorite Malachite K-Feldspar Clay

ALTERATION TYPE: Sericitic Chloritic Oxidation Potassic Argillic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION:

STRIKE/DIP: 075/

TREND/PLUNGE:

COMMENTS: Shear zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper

0.2800

Per cent

COMMENTS: 12 metre intersection.

REFERENCE: Assessment Report 13318.

CAPSULE GEOLOGY

The property is located along the contact between Guichon and Chataway varieties of the Highland Valley phase of the Lower Jurassic Guichon Creek Batholith. The Guichon variety, on the southeast side, is medium to coarse-grained granodiorite to quartz diorite. The Chataway variety is younger granodiorite, also medium to coarse-grained with slightly less mafic minerals. The area is cut by faults and fractures of variable orientations.

At the Gaza showing, a 30 metre square cleared area and a 30 metre long trench expose altered shear zones and fractures trending east-northeast. Alteration consists of sericite, chlorite, malachite, minor potassium feldspar, clay and zeolites (stilbite, heulandite). Some chalcopyrite occurs on chlorite-coated fractures. Specularite is found in quartz vein float material. The main mineralized shear strikes 075 degrees and is 6 metres wide. It occurs in Guichon granodiorite and is subparallel to the Guichon-Chataway contact on the east side of an access road, but crosses into Chataway granodiorite west of the road. The shear zone is cut by a younger set of fractures striking 040 to 060 degrees.

Recent drilling (1984) encountered significant copper oxides and bornite with minor chalcopyrite and chalcocite at depth. A 12

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 613
REPORT: RGEN0100

CAPSULE GEOLOGY

metre section graded 0.28 per cent copper and 0.005 per cent molybdenum (Assessment Report 13318).

BIBLIOGRAPHY

EMPR AR *1968-193
EMPR GEM 1969-253; 1970-345; 1971-348; 1972-169; 1973-175; *1974-143
EMPR EXPL 1979-168; 1980-228; 1981-39; 1984-209
EMPR ASS RPT 1882, 2052, 5056, 7756, 8479, 9444, 13318
EMPR MAP 30
EMPR BULL 56
EMPR PF (Geological notes, sketch maps)
GSC MEM 249
GSC OF 980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/07

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE071**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROD, ROD 17, JB,**
MLM, CAL

STATUS: Showing

MINING DIVISION: Nicola

REGIONS:

NTS MAP: 092107W

BC MAP:

LATITUDE: 50 24 12 N

LONGITUDE: 120 51 16 W

ELEVATION: 1363 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit (Assessment Report 122).

UTM ZONE: 10 (NAD 83)

NORTHING: 5585677

EASTING: 652469

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

ALTERATION: Limonite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork

Disseminated

CLASSIFICATION: Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Rod showing is located near the eastern border of the Lower Jurassic Guichon Creek batholith. The area is underlain by coarse-grained quartz diorite to granodiorite of the Border phase, which grades westward to younger, medium-grained Guichon variety granodiorite of the Highland Valley phase of the batholith. To the east the intrusive rocks are in contact with sedimentary and intermediate volcanic rocks of the Upper Triassic Nicola Group. The contact strikes north and dips steeply and is marked by high grade metamorphism.

The granodiorite is faulted and fractured with sporadic limonite staining. Chalcopyrite mineralization occurs in small amounts in fractures and as disseminations.

BIBLIOGRAPHY

EMPR ASS RPT *122, 140, 180, 255, 1881

EMPR MAP *30

GSC OF 980

GSC MEM 249

EMPR EXPL 1989-119-134

EMPR PF (see 092ISE063, numerous maps and reports; see 092ISE072, reports by Hindson, 1973 and Ulrich, 1972)

DATE CODED: 1985/07/24

DATE REVISED: 1988/03/02

CODED BY: GSB

REVISED BY: LKW

FIELD CHECK: N

FIELD CHECK: N

CAPSULE GEOLOGY

and in veins or pockets with quartz, alone or with pyrite, potassium feldspar or epidote. Some veins parallel foliation, others dip gently. A chip sample across a 75 centimetre veined, rusty mineralized zone assayed 0.35 per cent copper with traces of gold and silver (Geology, Exploration and Mining in British Columbia 1974). Some molybdenite was reported when the showing was first discovered (1915).

Post-mineralization shears cut both the aplite and country rock. The most prominent fault zones are 2.7 metres wide, strike north and dip steeply subparallel to foliation. Lesser shears strike southeast and dip moderately to the southwest. Malachite or copper oxides are usually present.

BIBLIOGRAPHY

EMPR ASS RPT *140, 180, 255, 1881, 8641, 9211, 10139, 10944, 16481
EMPR AR 1915-234; 1958-24; 1959-143; 1965-149; 1967-161; 1968-194
EMPR GEM *1974-139
EMPR EXPL 1980-227; 1981-12,215; 1982-202; 1987-C192,C193
EMPR MAP 30
EMPR PF (Ulrich, G.D. and Carr, J.M. (1972): Report on the Geological Survey of the Mamit Lake Mining Ltd. Property; Hindson, R.E. (1973): Summary Report, Mamit Lake Mining Ltd.)
GSC OF 980
GSC MEM 249, p. 124
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/02

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE074**

NATIONAL MINERAL INVENTORY:

NAME(S): **PRICE**, ORO, NORTH ORO,
OLE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 26 06 N
LONGITUDE: 120 52 47 W
ELEVATION: 1374 Metres

NORTHING: 5589146
EASTING: 650572

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Bornite Molybdenite Malachite Chalcopyrite Magnetite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: STRIKE/DIP: 010/ TREND/PLUNGE:
COMMENTS: Fault zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Aplite Dike

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The property lies on the eastern flank of the Lower Jurassic Guichon Creek batholith and covers the contact between the Guichon and Chataway variety granodiorites which are part of the Highland Valley phase of the batholith. The area around Tupper Lake is underlain by medium to coarse-grained, hornblende-biotite granodiorite. To the west of Tupper Lake these rocks are cut by late-stage aplite dykes. Small grains of chalcopyrite and magnetite are disseminated in the intrusive rocks.

Fault zones host sericitic alteration, malachite staining and copper and molybdenum mineralization. One such zone trends north through Tupper and Gump Lakes.

The Price showing, immediately west of Tupper Lake, consists of bornite and molybdenite occurring as thin coatings on fractures in sheared granodiorite. Malachite is also present.

BIBLIOGRAPHY

EMPR ASS RPT *160, 163, 974, 1601, 2181, 6098
EMPR AR 1966-163; 1967-282; 1968-274
EMPR GEM 1969-242
EMPR EXPL 1976-E93
EMPR MAP *30
GSC OF 980
GSC MEM 249
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/03

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE075**

NATIONAL MINERAL INVENTORY:

NAME(S): **SAHARA, LEE, SCAT,
LULU, FARR LAKE**

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5573504
EASTING: 643812

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 17 46 N
LONGITUDE: 120 58 51 W
ELEVATION: 1349 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Malachite Azurite
ASSOCIATED: Quartz Calcite
ALTERATION: Epidote Chlorite Carbonate Limonite Malachite
Azurite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Aplite Dike

HOSTROCK COMMENTS: Chataway variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is located in the southern part of the multistage Lower Jurassic Guichon Creek batholith. The area surrounding Farr Lake is underlain by Chataway variety rocks of the older Highland Valley phase of the batholith. This unit is typically fine-grained granodiorite to hornblende-rich quartz diorite. In several places the granodiorite is cut by irregular to tabular bodies of fine to medium-grained pink aplite. These dykes vary in width from 5 to 60 centimetres. Occasional small barren quartz veinlets are also present. Joints and faults of variable orientations are accompanied by epidote, chlorite and carbonate alteration mineralogy.

The original trenches on the Sahara showing expose a zone of bleaching and alteration at least 61 metres wide. Mineralization and alteration are structurally controlled. Patches of limonite, chlorite, epidote, minute particles of malachite and azurite, and minor disseminated chalcocite occur in a shear zone trending north-northwest and dipping very steeply.

A similar zone of alteration and mineralization is exposed approximately 200 metres to the west where chalcocite occurs in a small quartz-calcite vein.

BIBLIOGRAPHY

EMPR AR 1958-27,67; 1967-160
EMPR ASS RPT 223, *1227, 1594, 1829, 2177, 2201
EMPR MAP 30
EMPR PF (see 092ISE078, Aeromag map (1958))
GSC OF 980
GSC MEM 249
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/28

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE075**

MINFILE NUMBER: **092ISE076**

NATIONAL MINERAL INVENTORY: 092I7 Cu14

NAME(S): **LYNN, SHEBA**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 36 N
LONGITUDE: 120 59 59 W
ELEVATION: 1378 Metres

NORTHING: 5591689
EASTING: 641976

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Quartz Feldspar Porphyry Dike
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is located in the central part of the Lower Jurassic Guichon Creek batholith and is underlain primarily by Bethlehem phase quartz diorite to granodiorite. On the east, west and south sides of this tongue-like body, these rocks are in contact with Skeena variety quartz diorite. Skeena rocks are texturally and compositionally transitional between the Bethlehem phase and the Bethsaida phase, the latter of which forms the central core of the batholith. The Bethlehem-Skeena contact is 500 metres west of the showing. Swarms of north and east-northeast trending porphyritic dykes are closely related to the Bethsaida phase.

At the Lynn showing, bornite veinlets occur near the western contact of a quartz-feldspar porphyry dyke with the adjacent Bethlehem quartz diorite. The dyke is at least 45.7 metres wide and trends north. See Sheba (092ISE010).

BIBLIOGRAPHY

EMPR AR 1957-26; 1958-68; 1962-49; 1963-47; 1964-89; 1965-148;
1967-158; 1968-193
EMPR GEM 1969-264; 1970-350; *1971-348-357; *1972-163-167;
*1973-175-177
EMPR EXPL 1976-E94; 1977-E146
EMPR ASS RPT *242, 1087, 6241
EMPR MAP 30
EMPR BULL 56
GSC OF 980
GSC MEM 249
EMR MP CORPFILE (Sheba Copper Mines Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/08

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE077**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLARKE, CU 13, CU,
GNAWED MTN**

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5587352
EASTING: 643890

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 25 14 N
LONGITUDE: 120 58 28 W
ELEVATION: 1696 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT:	Bornite	Azurite	Malachite	Molybdenite	Chalcopyrite
	Hematite				
ASSOCIATED:	Quartz				
ALTERATION:	Chlorite	Epidote	Sericite	Kaolinite	Malachite
	Albite				
ALTERATION TYPE:	Propylitic		Sericitic	Argillic	Oxidation
MINERALIZATION AGE:	Unknown				Albitic

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal 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>
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Aplite Dike

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The property is located in the central core of the Lower Jurassic Guichon Creek batholith. The area is underlain primarily by Skeena variety granodiorite and quartz diorite which has textures and compositions intermediate between those of the older Bethlehem phase rock to the north and east and those of the younger Bethsaida phase rocks to the southwest. The Skeena rocks are intruded by north trending Bethsaida porphyritic granodiorite dykes. Fine-grained aplite dykes are common.

Propylitic (chlorite, epidote), sericitic and argillic (kaolinite) alteration is weak and widespread. The Waterhole fault trends north-northeast across the property toward Gnawed Lake. Fracture zones host mineralized quartz vein stockworks.

Old workings on the Clarke showing expose narrow quartz veins striking east and carrying bornite, azurite, malachite, molybdenite, covellite, chalcopyrite and hematite mineralization. Molybdenite also occurs as stringers. This zone is more intensely chloritized and epidotized and contains some secondary albite.

BIBLIOGRAPHY

EMPR AR 1963-47; 1964-89; 1965-148; 1966-151; 1967-158; 1968-193
EMPR EXPL 1976-E93; 1986-C231
EMPR ASS RPT *247, 1087, 6054, 6564, 15203
EMPR MAP 30
EMPR BULL 56
GSC MEM *249, p. 123
GSC MAP 886A; 887A
GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 622
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE078**

NATIONAL MINERAL INVENTORY:

NAME(S): **TYNER LAKE**, PAT

MINING DIVISION: Nicola

STATUS: Showing

REGIONS:

NTS MAP: 092107W

BC MAP:

LATITUDE: 50 17 12 N

LONGITUDE: 120 55 29 W

ELEVATION: 1310 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5572564

EASTING: 647837

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal Porphyry

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Chataway variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Pat showing is situated in the southeastern portion of the multiphase Lower Jurassic Guichon Creek batholith. The area is underlain by Chataway variety granodiorite and quartz diorite, part of the older Highland Valley phase of the batholith.

Quartz diorite hosts sparse disseminations of chalcopyrite.

BIBLIOGRAPHY

EMPR ASS RPT 257, 258, 755
EMPR AR 1958-27; 1959-144; 1966-247
EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (Geology maps, 1958; Aeromag map, 1958)
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/23

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE079**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAP**, BE, TYNER

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 15 06 N
LONGITUDE: 120 52 11 W
ELEVATION: 1003 Metres

NORTHING: 5568784
EASTING: 651866

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper Sulphide
COMMENTS: Copper sulphides
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal 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>
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

HOSTROCK COMMENTS: Border phase.

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
Copper

YEAR: 1972

GRADE
0.8500 Per cent

COMMENTS: Sample across 12 metres.
REFERENCE: Assessment Report 4931.

CAPSULE GEOLOGY

The area surrounding the confluence of Tyner and Guichon creeks is covered almost completely by drift. Situated near the southeastern perimeter of the Lower Jurassic Guichon Creek batholith, the area is underlain by quartz diorite designated as the Border phase, which comprise the oldest rocks in the batholith. Tyner Creek valley at its southern end exposes occasional outcrops of highly fractured, limonitic, altered and weathered grey gabbroic Guichon rocks.

Low grade native copper mineralization was encountered in drill holes (1972) as well as erratic sections containing copper sulphides. South of Tyner Creek, two drill holes tested an extensive induced polarization anomaly and intersected short mineralized sections grading 0.85 per cent copper (Assessment Report 4931).

BIBLIOGRAPHY

EMPR ASS RPT 331, 460, *4931
EMPR AR 1960-118; 1968-196
EMPR GEM 1974-130
EMPR MAP *30
EMPR BULL 56; 62
GSC OF 980
GSC MEM 249
GSC MAP 886A

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 625
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/22

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 626
REPORT: RGEN0100

MINFILE NUMBER: **092ISE080**

NATIONAL MINERAL INVENTORY:

NAME(S): **VIKING**, SYL, TOP

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092107W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 16 56 N

NORTHING: 5571921

LONGITUDE: 121 00 04 W

EASTING: 642409

ELEVATION: 1447 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Malachite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granite

Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Viking showing is located southeast of Abbott Lake, in the southern portion of the multistage Lower Jurassic Guichon Creek batholith. In this area the Chataway variety granodiorite is intruded by Bethlehem phase rocks which vary in composition from granodiorite to granite. The area is underlain primarily by intrusive rocks which are transitional in texture and composition between those of the older Highland Valley phase and the younger Bethlehem phase.

Chalcopyrite stringers and associated malachite occur in granitic rock.

BIBLIOGRAPHY

EMPR AR 1959-144; 1961-31; 1962-133
EMPR ASS RPT 260, *407
EMPR MAP *30
EMPR PF (see 092ISE078, Aeromag map (1958))
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/23

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE080**

MINFILE NUMBER: **092ISE081**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLDWATER HILL**, MIDDLESBORO, COLDWATER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 05 41 N
LONGITUDE: 120 46 39 W
ELEVATION: 620 Metres

NORTHING: 5551528
EASTING: 658960

LOCATION ACCURACY: Within 500M

COMMENTS: The Coldwater Hill area is located south-southeast of Merritt and east of the Coal Gully area. The Coldwater River bounds the area to the north and east.

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: A04 Bituminous coal
SHAPE: Tabular
MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Coldwater	

LITHOLOGY: Shale
Sandstone
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: High volatile bituminous B rank coal.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: HVol Bituminous

CAPSULE GEOLOGY

Six coal seams occur in 137 metres of section in the Middle Eocene Coldwater Formation (Princeton Group) interbedded with shale and sandstone. At the Middlesboro No. 2 mine and to the north of Coldwater Hill, the seams range from 0.25 to 2 metres thick and generally contain interbeds and partings of shale, bone coal and sandstone. The uppermost seam (No. 2) which was mined at the No. 2 mine contains 1.5 metres of coal in a 2 metre seam. The No. 3 seam, mined at the No. 3 mine, is from 0.7 to 1.85 metres thick. The No. 5 seam from which less than 1360 tonnes per year has been mined between 1951 and closing (Middlesboro No. 5 mine was reworked and called the Coldwater No. 5 mine (092ISE141)) is approximately 1.5 metres thick and dips approximately 12 degrees east.

The structure consists predominantly of northeast dipping (20 to 35 degrees) strata which are flexed and folded into a northeast trending anticline towards the southeast of the area.

Measured geological reserves in the Coal Gully Hill (092ISE066) to Coldwater Hill area is estimated to be 5,112,450 tonnes coal. See also Merritt Coal (092ISE058).

BIBLIOGRAPHY

EMPR AR *1946-250-279
EMPR COAL ASS RPT 147, 148, 149, 150, 157, 162, 163, 833, 834, 854
EMPR EXPL 1989-119-134
GSC MAP 886A
GSC MEM 69, pp. 280-285
GSC OF 980

DATE CODED: 1986/05/28
DATE REVISED: 1989/10/24

CODED BY: EVFK
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE081**

MINFILE NUMBER: **092ISE082**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELL, BELL, TT**

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I02E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 02 54 N
 LONGITUDE: 120 41 10 W
 ELEVATION: 1266 Metres

NORTHING: 5546570
 EASTING: 665655

LOCATION ACCURACY: Within 1 KM
 COMMENTS:

COMMODITIES: Copper Zinc Silver Gold

MINERALS

SIGNIFICANT:	Pyrite	Chalcopyrite	Bornite	Sphalerite	
ASSOCIATED:	Quartz				
ALTERATION:	Epidote	Silica	Malachite	Azurite	Limonite
ALTERATION TYPE:	Hematite				
MINERALIZATION AGE:	Propylitic	Silicific'n		Oxidation	Epidote
	Unknown				

DEPOSIT

CHARACTER: Disseminated Massive
 CLASSIFICATION: Hydrothermal Replacement

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: Andesite
 Dacite
 Tuff
 Volcanic Breccia
 Cherty Limestone
 Argillite
 Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1976
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	133.7000 Grams per tonne
Gold	0.3400 Grams per tonne
Copper	6.8500 Per cent
Zinc	6.4000 Per cent
COMMENTS: Dump samples.	
REFERENCE: Assessment Report 12194.	

CAPSULE GEOLOGY

The property is near the eastern margin of the western belt of the Upper Triassic Nicola Group and is comprised of volcanic rocks consisting of plagioclase andesitic to dacitic flows, tuffs and breccias which are variably epidotized and silicified. These are intercalated with north-northeast trending, discontinuous layers of limestone and argillite. Carbonate lenses up to 30 metres in width consist of blue-grey, massive to cherty limestone which appears to control mineralization. A medium-grained microdiorite outcrops in the west central portion of the property. A strong shear zone strikes 070 degrees with numerous associated faults, fractures and joints. Quartz veins parallel the shear and dip 70 degrees south.

The Ell showing consists of a shallow (early 1900's) shaft and a 36.6 metre crosscut which intersected a zone of sulphides in brecciated and silicified limestone. Mineralization is comprised of disseminated pyrite, chalcopyrite, bornite and sphalerite. Malachite and azurite staining, hematite, and several gossanous areas are also

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 629
REPORT: RGEN0100

CAPSULE GEOLOGY

present. Mineralization also replaces limestone where it is cut by quartz veins. Grab samples from the dump returned up to 0.34 grams per tonne gold, 133.7 grams per tonne silver, 6.85 per cent copper and 6.40 per cent zinc (Assessment Report 12194).

BIBLIOGRAPHY

EMPR ASS RPT 6041, *12194
EMPR EXPL 1976-E89; 1989-119-134
EMPR BULL *69
EMPR MAP 47
EMPR PF (Geological description and notes)
GSC MEM 249
GSC MAP 886A
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE083**

NATIONAL MINERAL INVENTORY:

NAME(S): **MIKE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 36 N
LONGITUDE: 120 47 46 W
ELEVATION: 1266 Metres

NORTHING: 5558746
EASTING: 657415

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Copper sulphides
ALTERATION: Limonite Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
Andesitic Agglomerate
Aplite Dike
Rhyolite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is located within Upper Triassic Nicola Group volcanics, volcaniclastics and interbedded sedimentary rocks. The Mike showing is covered by extensive overburden comprised of fine silt and clay underlain by massive to porphyritic andesite and andesitic agglomerate. There are narrow but persistent rhyolitic to aplitic dykes within the andesitic rocks. The Nicola Group rocks are intruded immediately to the north by Lower Jurassic Guichon Creek batholith granodiorite.

Fracture zones and weakly brecciated sections contain limonite, malachite, azurite and copper sulphides.

BIBLIOGRAPHY

EMPR ASS RPT *2466, 6132
EMPR GEM 1970-376
EMPR EXPL 1976-E90; 1989-119-134
EMPR PF (Geological notes)
GSC OF *980
GSC MEM 249
GSC MAP 886A

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/14

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE084**

NATIONAL MINERAL INVENTORY:

NAME(S): **MINT**, TOAD, JOE,
 QUIL

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I02E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 02 16 N
 LONGITUDE: 120 31 38 W
 ELEVATION: 877 Metres

NORTHING: 5545761
 EASTING: 677068

LOCATION ACCURACY: Within 1 KM
 COMMENTS:

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Pyrite Malachite Azurite
 ALTERATION: K-Feldspar Quartz Kaolinite Sericite Pyrite
 Epidote Limonite Malachite

COMMENTS: Azurite

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

DEPOSIT

CHARACTER: Disseminated Stockwork
 CLASSIFICATION: Hydrothermal 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>
Lower Jurassic			Pennask Batholith

LITHOLOGY: Porphyritic Quartz Monzonite
 Biotite Quartz Monzonite
 Sandstone
 Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Chip	
COMMODITY	GRADE
Copper	0.6700 Per cent
Molybdenum	0.1600 Per cent

REFERENCE: Assessment Report 17277.

CAPSULE GEOLOGY

The property lies in the central belt of the Upper Triassic Nicola Group. Porphyritic quartz monzonite is the major rock type exposed on the east side of Quilchena Creek. A biotite-rich unit outcrops to the north. The intrusive is called the Quilchena pluton and is a subsidiary stock of the Lower Jurassic Pennask batholith which intrudes the Nicola Group volcanics. The Quilchena Creek fault is a major north-northeast trending fault system which approximately parallels Quilchena Creek. To the west, the monzonitic pluton is overlain by Eocene sandstone and conglomerate which are believed to be the basal member of the Coldwater Formation (Princeton Group). Farther to the west, these sediments are overlain by Pleistocene valley basalts.

The Quilchena pluton exhibits alteration and mineralization characteristics of porphyry copper environments. Three overlapping hydrothermal alteration zones comprise an area with a 1500 metre radius. A central 800 metre wide zone of intense potassic and kaolinitic alteration is characterized by close-spaced microveinlet-fillings of quartz and potassium feldspar. Chalcopyrite and molybdenite occur as disseminations and are associated with fractures. The potassic zone grades into sericitized and kaolinized zones which

CAPSULE GEOLOGY

also host chalcopyrite but have less abundant veins. Occasional epidote-filled veins are suggestive of an outer zone of propylitic alteration. Pyrite occurs throughout the intrusive unit as disseminations and fracture-fillings and it is usually weathered to limonite. Malachite and azurite are on fracture planes surrounding the veins.

Rock chip samples assayed up to 0.67 per cent copper and 0.16 per cent molybdenum (Assessment Report 17277).

BIBLIOGRAPHY

EMPR ASS RPT 1034, 5675, *5984, 12243, 17277
EMPR AR 1967-171
EMPR GEM 1969-274; 1970-378
EMPR EXPL 1975-E79; 1976-E89; 1983-269; 1988-C109
EMPR BULL *69
EMPR MAP *47
GSC MEM 249
GSC MAP 886A
GSC OF *980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE085**

NATIONAL MINERAL INVENTORY:

NAME(S): **LEM**, CVS

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 24 40 N
LONGITUDE: 120 56 53 W
ELEVATION: 1578 Metres

NORTHING: 5586354
EASTING: 645793

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches (Assessment Report 2579).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Azurite
ALTERATION: Limonite Chlorite Biotite Sericite K-Feldspar
ALTERATION TYPE: Oxidation Propylitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is located on the eastern flank of the multistage Lower Jurassic Guichon Creek batholith. The Lem showing lies astride the northwest trending contact between Bethlehem phase granodiorite to the northeast and Skeena variety (Bethsaida phase) to the southwest. The Skeena granodiorite is transitional in composition and texture between the two phases of the batholith. South of the small lake near the centre of the property, the Skeena rocks have been intruded by an aplitic quartz porphyry dyke which has been exposed several kilometres to the south along its strike.

Trenching (1970) has exposed mineralization in a north trending zone approximately 400 metres long and 4.5 metres wide immediately east of the lake. Chalcopyrite with lesser bornite and minor azurite occur as disseminations and fracture-fillings in the granodiorite. Alteration mineralogy in this zone comprise limonite, chlorite, biotite, sericite and potassium feldspar.

BIBLIOGRAPHY

EMPR ASS RPT 2579, 2628, *3786, 7560, 9953, 23100, 23260
EMPR GEM 1970-342; 1972-163; 1981-164
EMPR MAP *30
EMPR BULL 56; 62
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE086**

NATIONAL MINERAL INVENTORY:

NAME(S): **RWS, ISY, EXEL**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 26 N
LONGITUDE: 120 47 11 W
ELEVATION: 1203 Metres

NORTHING: 5582545
EASTING: 657402

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Calcite Hematite
ALTERATION: Chlorite Sericite Pyrite
ALTERATION TYPE: Propylitic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
 Andesitic Agglomerate
 Tuff
 Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The RWS showing is located in the Upper Triassic Nicola Group immediately east of the Lower Jurassic Guichon Creek batholith and is underlain by green andesite, andesite agglomerate, tuffs and basalts. Well-developed shear zones contain pyrite, minor chalcopyrite, quartz, calcite, hematite, chlorite and sericite.

BIBLIOGRAPHY

EMPR ASS RPT 2496, *2497
EMPR GEM 1970-371
GSC MEM 249
GSC OF 980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE087**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAG**, MM, NIC

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I01W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 10 42 N
LONGITUDE: 120 28 28 W
ELEVATION: 727 Metres

NORTHING: 5561512
EASTING: 680318

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite
ASSOCIATED: Quartz
ALTERATION: Pyrite Epidote
ALTERATION TYPE: Pyrite Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
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	Undefined Formation	Nicola Batholith
Lower Jurassic			

LITHOLOGY: Andesitic Flow
Andesitic Tuff
Pyroxene Porphyritic Basalt
Biotite Volcanic Rock
Quartz Monzonite
Granodiorite
Hornblende Meta Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

The western portion of the Mag showing is underlain by fine-grained green and grey andesite flows and tuffs, minor pyroxene porphyritic basalts and black fine-grained biotitic volcanic rocks or sediments of the Upper Triassic Nicola Group. To the west, near the border of the property, Nicola Group rocks are intruded by quartz monzonite to granodiorite of the Lower Jurassic Nicola batholith. To the east, hornblende metadiorite outcrops.

Minor amounts of chalcopyrite and bornite occur as disseminations in the volcanic country rock, in epidote veinlets and in occasional narrow quartz veins.

BIBLIOGRAPHY

EMPR GEM 1970-377; 1973-163
EMPR ASS RPT 2563, 2564
EMPR EXPL 1989-119-134
EMPR PF (Geological description, 1970)
GSC MEM 249
GSC OF 980
GSC MAP 886A

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

surfaces and with a late system of quartz stringers. Bornite, chalcocopyrite, malachite and azurite are widely distributed. Fine-grained molybdenite also occurs. Quartz veins are up to 10 centimetres wide and are typically coated with sericite.

Drill indicated reserves for the Am 32 Fr. zone are 11,480,257 tonnes grading 0.27 per cent copper and 0.005 per cent molybdenum. Grade given was 0.01 per cent MoS₂; conversion to Mo using the factor 1.6681. The deposit became part of Highmont (092ISE 013) in 1976 and may be included with reserves for that property (Statement of Material Facts Minex Development Ltd. February 2, 1972 - Bacon & Crowhurst Ltd. March 11, 1970).

BIBLIOGRAPHY

EMPR AR 1957-27; 1959-30; 1962-50; 1963-47; 1964-89; 1965-148;
1966-159; 1968-191
EMPR GEM 1969-244
EMPR EXPL 1984-205; 1985-C193
EMPR ASS RPT 286, *1757, 13257, 13802
EMPR MAP 30
EMPR BULL 56
EMPR PF (Grid location map, geology map)
GSC MEM 249
EMPR FIELDWORK 1983, p. 67
GSC OF 980
N MINER Jan.15, 1976
GCNL Oct.10, 1975; Jun.9, Jul.16, Aug.20, Nov.12, 1976; Jul.5, 1977
Statement of Material Facts, Minex Development Ltd., 1972
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE089**

NATIONAL MINERAL INVENTORY:

NAME(S): **JERICO 18**, JERICO 20

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 12 N
LONGITUDE: 120 53 34 W
ELEVATION: 1224 Metres

NORTHING: 5591158
EASTING: 649587

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
ALTERATION: Quartz K-Feldspar
ALTERATION TYPE: Silicific'n Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Fractures.

STRIKE/DIP: 025/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Guichon Creek Batholith

LITHOLOGY: Granodiorite
Pegmatite Dike
Aplite Dike

HOSTROCK COMMENTS: Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Bulk Sample
COMMODITY

YEAR: 1966

COMMODITY	GRADE	
Copper	0.4800	Per cent
Molybdenum	0.0090	Per cent

REFERENCE: Assessment Report 922.

CAPSULE GEOLOGY

The Jericho showing lies on the eastern flank of the Lower Jurassic Guichon Creek batholith. The area is underlain by Chataway and Guichon variety coarse to medium-grained hornblende-biotite granodiorite which is intruded by Bethlehem phase dyke swarms. These rocks have wide compositional and textural ranges and are cut by regional faults, fractures and joints and are locally strongly altered.

Between Pete's Creek and Moly Creek, the granodiorite is intruded by quartz veins and pegmatite and aplite dykes varying in width from 2.5 centimetres to 30.5 metres or greater. Potassium feldspar enrichment is evidently associated with the smaller intrusions. Chalcopyrite with minor molybdenite occur in very widely spaced joints and fractures trending approximately 025 degrees. Mineralization occurs as thin coatings on the planes of the fractures. The fractures are very tight, vertical and accompanied by a barren conjugate set trending 060 degrees.

The showing is located along Pete's Creek and consists of a concentration of mineralized fractures. A 45.36 kilogram sample of this exposure assayed 0.48 per cent copper and 0.009 per cent molybdenum (Assessment Report 922).

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 639
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 483, *922, 2052, 7277, 7756, 8479, 9444, 13318
EMPR AR 1956-46; 1957-27; 1958-24; 1960-26; 1961-30; 1962-50;
*1966-159; *1967-159
EMPR GEM 1969-253; 1971-348; 1972-169
EMPR EXPL 1979-168; 1980-228; 1981-39; 1984-209
EMPR MAP *30
EMPR BULL 56
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMR MP CORPFILE (Jericho Mines Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/04

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE090**

NATIONAL MINERAL INVENTORY:

NAME(S): **GNAT 2 FR.**, JERICO

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 26 39 N
LONGITUDE: 120 53 53 W
ELEVATION: 1341 Metres

NORTHING: 5590128
EASTING: 649242

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite
ALTERATION: Quartz K-Feldspar
ALTERATION TYPE: Silicific'n Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granite
Aplite Dike
Granodiorite
Pegmatite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Gnat 2 Fr. showing is situated on the eastern flank of the Lower Jurassic Guichon Creek batholith. The area is underlain primarily by Highland Valley phase medium-grained hornblende-biotite granodiorite intruded by Bethlehem phase dyke swarms. These rocks are highly fractured and altered.

Between Pete's Creek and Moly Creek, the granodiorite is intruded by quartz veins and pegmatite and aplite dykes varying in width from 2.5 centimetres to 30.5 metres. Potassium feldspar enrichment is evidently associated with the smaller intrusions. Widely spaced joints and tight fractures trend 020 degrees to 030 degrees. Mineralization occurs as thin coatings on fracture planes. The fractures are vertical and accompanied by barren conjugate sets trending 060 degrees.

The showing is located in the canyon of the eastern branch of Moly Creek where outcrop consists of aplite and microgranite. Small amounts of chalcopyrite and molybdenite are present.

BIBLIOGRAPHY

EMPR ASS RPT 483, *922, 2052, 7277, 7756, 8479, 9444, 13318
EMPR AR 1958-24; 1960-26; 1961-30; 1962-50; 1966-159; 1967-159
EMPR GEM 1969-253; 1971-348; 1972-169
EMPR EXPL 1979-168; 1980-228; 1981-39; 1984-209
EMPR MAP 30
EMPR BULL 56; 62
EMR MP CORPFILE (Jericho Mines Ltd.)
GSC MEM 249
GSC MAP 886A
GSC OF 980
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/04

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE091**

NATIONAL MINERAL INVENTORY:

NAME(S): **MALACHITE HILL, JERICO**

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5589315
EASTING: 647804

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 26 14 N
LONGITUDE: 120 55 07 W
ELEVATION: 1450 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies on the eastern flank of the Lower Jurassic Guichon Creek batholith. The area is underlain primarily by Highland Valley phase (Chataway) medium-grained hornblende-biotite granodiorite intruded by Bethlehem phase porphyritic dyke swarms. The rocks are highly fractured and altered.

The Malachite Hill showing consists of granodiorite boulders and outcrop over a small area. Malachite occurs as thin fracture coatings in the granodiorite and as staining in the overburden.

BIBLIOGRAPHY

EMPR ASS RPT *922, 2052, 7277, 7756, 8479, 9444, 13318
EMPR AR 1966-159; 1967-159
EMPR MAP 30
EMPR GEM 1969-253
GSC OF 980
GSC MEM 249
GSC MAP 886
EMPR BULL 56
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/04

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE092**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAY 11**, CHATAWAY, NOVA

MINING DIVISION: Kamloops

STATUS: Showing

REGIONS:

NTS MAP: 092107W

BC MAP:

LATITUDE: 50 22 24 N

LONGITUDE: 120 57 17 W

ELEVATION: 1554 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5582141

EASTING: 645435

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Malachite

Chalcocite

Chalcopyrite

Magnetite

Sericite

ALTERATION: Chlorite

Carbonate

Hematite

Limonite

Kaolinite

Heulandite

Oxidation

Argillic

Carbonate

Sericitic

ALTERATION TYPE: Propylitic

Zeolitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia

Stockwork

Disseminated

CLASSIFICATION: Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite

Quartz Monzonite

Quartz Porphyry Dike

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1968

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper

0.1400

Per cent

REFERENCE: Assessment Report 1790.

CAPSULE GEOLOGY

The Jay 11 showing is located on the southeastern flank of the Lower Jurassic Guichon Creek batholith in an area underlain by Skeena variety medium-grained granodiorite. Less than 200 metres west of the showing, the Skeena rocks are in contact with the younger Bethsaida phase of the batholith. The Bethsaida rocks are quartz monzonite to granodiorite in composition and include slightly younger quartz porphyry dykes and plugs. The Skeena rocks have been intensely altered and fractured for distances up to 15 metres from the Skeena-Bethsaida contact.

Diamond drilling indicates that the Skeena granodiorite contains spotty to pervasive chloritization with seams of white carbonate cementing brecciated rock. Irregular patches of hematite, limonite and some heulandite on fracture planes and sections of intense sericite-kaolinite alteration is also evident. Surface mineralization consists of sparse amounts of malachite with chalcocite. Grab samples assayed 0.06 to 0.14 per cent copper (Assessment Report 1790). Minor chalcopyrite is associated with very fine-grained magnetite.

BIBLIOGRAPHY

EMPR AR 1968-194

EMPR GEM 1970-371; 1971-369; 1972-160

EMPR EXPL 1979-167; 1981-164

EMPR ASS RPT *1790, 3552, 3709, *4050, 7560, 9953

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 643
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR MAP *30
EMPR BULL 56; 62
EMPR PF (Air photo base maps, sample location map; see 092ISE063,
numerous maps and reports)
GSC OF 980
GSC MEM 249
GSC MAP 886A
EMR MP CORPFILE (Chataway Exploration Co. Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE093**

NATIONAL MINERAL INVENTORY:

NAME(S): **WIZ 47**

STATUS: Showing

MINING DIVISION: Nicola

REGIONS:

NTS MAP: 092107W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 19 44 N

NORTHING: 5577393

LONGITUDE: 120 51 29 W

EASTING: 652451

ELEVATION: 1280 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of 4 adits (Assessment Report 1790).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Chalcocite

ASSOCIATED: Sericite

ALTERATION: Sericite

ALTERATION TYPE: Sericitic

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

Guichon Creek Batholith

LITHOLOGY: Granodiorite

Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Disseminated chalcopyrite, bornite and chalcocite mineralization occurs in sericitic alteration zones in Lower Jurassic Guichon Creek batholith granodiorite near the contact with a quartz monzonite phase.

BIBLIOGRAPHY

GSC OF 980

GSC MAP 886A; 887A

GSC MEM 249

EMPR MAP 30

EMPR AR 1968-194,195

EMPR ASS RPT *1790

EMPR EXPL 1989-119-134

EMPR PF (see 092ISE023, Reports, plans, maps; see 092ISE063, numerous maps and reports)

DATE CODED: 1985/07/24

DATE REVISED: 1989/10/04

CODED BY: GSB

REVISED BY: GO

FIELD CHECK: N

FIELD CHECK: N

MINFILE NUMBER: **092ISE094**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **OLD ALAMEADA (L.4507)**, OLD ALAMEDA, SWAKUM MTN,
 OLD ALAMEADA NO. 8 (L.4895)

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092I07E
 BC MAP:
 LATITUDE: 50 17 36 N
 LONGITUDE: 120 41 20 W
 ELEVATION: 1625 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS:

MINING DIVISION: Nicola
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5573800
 EASTING: 664612

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Felsic Porphyritic Volcanic Rock
 Intermediate Porphyritic Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Drill Core	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	167.9700 Grams per tonne
Gold	0.3400 Grams per tonne
Copper	1.0900 Per cent
Lead	5.2500 Per cent
Zinc	20.9000 Per cent

COMMENTS: Sample across 0.68 metres (true width) quartz vein.
 REFERENCE: Assessment Report 18583.

CAPSULE GEOLOGY

The area around Swakum Mountain consists of folded Upper Triassic Nicola Group volcanic rocks with interbedded sedimentary units. These rocks are intruded by large north trending felsic to intermediate intrusions (batholiths) east and west of the mountain. Nicola Group rocks on the mountain strike north to northeast with generally steep dips. For a large part they consist of andesitic flows and tuffs, agglomerates, and occasional basalts and rhyolites. A break occurs in the volcanic stratigraphy and is comprised of a mixed volcanic-sedimentary unit consisting of a thick sequence of felsic volcanic flows, lithic and crystal tuffs, limy sediments and a prominent limestone. This unit has a northeast strike and crosses the mountain for a 2.5 kilometre strike length. The unit has been historically used as a marker horizon in interpreting a large, asymmetrical, south plunging anticline with its north trending axis near Swakum Mountain summit. Narrow quartz porphyry dykes locally intrude the Nicola Group sequence. To the east of this marker unit are a thick, unconformable wedge of immature sediments, predominantly coarse polymictic conglomerates (fan-type) and grits with minor cherty units. Most of the old workings on the mountain occur in close proximity to or within this volcanic-sedimentary unit and consist of polymetallic skarn-type mineralization, lead-zinc-silver bearing quartz veins and replacements, and polymetallic quartz veins.

CAPSULE GEOLOGY

On the Old Alameada claim (L.4507), a north trending structure with shallow west dips (30-40 degrees) hosts narrow quartz veins with significant sulphides. The volcanic stratigraphy in the vicinity strikes north and appears to dip east and is comprised of felsic to intermediate porphyritic volcanics. Minor historic underground workings have exploited a main vein 0.6 metres wide, striking north and dipping west. The vein is mineralized with pyrite, sphalerite, galena and chalcopyrite. Vein material in the dump showed quartz with well-developed comb structure.

Recent diamond drilling intersected the main quartz vein within a clayey fracture zone. Drill intersections across 0.68 metres (true width) assayed 167.97 grams per tonne silver, 1.09 per cent copper, 5.25 per cent lead, 20.9 per cent zinc and 0.34 grams per tonne gold (Assessment Report 18583).

BIBLIOGRAPHY

EMPR AR 1924-136; 1925-183; 1927-213; 1934-D23; 1935-D14; 1958-28;
*1959-36
EMPR ASS RPT 1795, 3936, 4409, 9612, 12321, 12897; *18583
EMPR BULL 10, p. 107; 69
EMPR EXPL 1984-208; 1989-119-134
EMPR GEM 1969-270; 1972-180
EMPR MAP 47
EMPR PF (Drill location map, 1966; George Cross News Letter Mar.20,
1968)
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.; Thelma
Mines Ltd.; Brendon Resources Ltd.)
GSC MAP 44-20; 886A; 887A; 1386A; *5212G
GSC MEM *249, p. 62
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1989/11/02

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE095**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **OLD ALAMEADA NO. 1 (L.4506)**, OLD ALAMEDA 1, OLD ALAMEADA 1,
OLD ALAMEADA NO. 9 (L.4896)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:
LATITUDE: 50 17 48 N
LONGITUDE: 120 41 29 W
ELEVATION: 1616 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5574165
EASTING: 664423

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Sphalerite
ALTERATION: Epidote Calcite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Limestone
Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A vertical shaft is sunk near the northwest corner of the Old Alameada No. 1 claim (L.4506). The showing lies at the contact between Upper Triassic Nicola Group limestone and volcanic rock and forms a zone 7 to 22 centimetres wide. The skarn zone consists of altered limestone with epidote, calcite, pyrrhotite, chalcopyrite and minor sphalerite.
See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1924-136; 1925-183; 1927-213; 1934-D23; 1935-D14; 1958-28;
*1959-36
EMPR ASS RPT 1795, 3936, 4409, 9612, 12321, 12897, *18583
EMPR BULL 10, p. 107; 69
EMPR EXPL 1984-208; 1989-119-134
EMPR GEM 1969-270; 1972-180
EMPR MAP 47
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.;
Thelma Mines Ltd.; Brendon Resources Ltd.)
GSC MAP 44-20; 886A; 887A; 1386A; *5212G
GSC MEM *249, p. 62
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE096**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **OLD ALAMEADA NO. 2 (L.4508)**, OLD ALAMEDA 2, OLD ALAMEADA 2

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:
LATITUDE: 50 17 13 N
LONGITUDE: 120 41 11 W
ELEVATION: 1647 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5573096
EASTING: 664813

COMMODITIES: 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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A shallow shaft was sunk in the west-central portion of the Old Alameada No. 2 claim (L.4508). The shaft follows a mineralized zone consisting of a quartz vein ranging in width from 15 to 60 centimetres and a number of quartz stringers 5 centimetres wide within crushed and sheared Upper Triassic Nicola Group andesitic country rock. The veins are sparsely mineralized with pyrite and lesser amounts of chalcopyrite and galena. The quartz vein has local comb structure and open cavities.

See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1924-136; 1925-183; 1927-213; 1934-D23; 1935-D14; 1958-28;
*1959-36
EMPR ASS RPT 1795, 3936, 4409, 9612, 12321, 12897
EMPR GEM 1969-270; 1972-180
EMPR EXPL 1984-208
GSC MEM *249, p. 62
GSC OF 980
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.;
Thelma Mines Ltd.; Brendon Resources Ltd.)
EMPR BULL 10, p. 107; 69
EMPR MAP 47
GSC MAP 44-20; 886A; 887A; 1386A; *5212G
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE097**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **OLD ALAMEADA NO. 3 (L.4505)**, OLD ALAMEDA 3, OLD ALAMEADA 3

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:
LATITUDE: 50 17 40 N
LONGITUDE: 120 41 40 W
ELEVATION: 1654 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5573912
EASTING: 664213

COMMODITIES: Copper Lead Zinc

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Copper sulphides
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Quartz vein; steep northwest dips.

STRIKE/DIP: 030/ 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

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A shallow shaft was sunk in the northeast corner of the Old Alameada No. 3 claim (L.4505). The shaft intersects an unmineralized 2 metre wide quartz vein striking 030 degrees and dipping steeply northwest within Upper Triassic Nicola Group andesite. On the hangingwall side of the vein there is a narrow sulphide streak; masses of copper sulphides also occur across 60 centimetres near the footwall.

See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1924-136; 1925-183; 1927-213; 1934-D23; 1935-D14; 1958-28;
*1959-36
EMPR ASS RPT 1795, 3936, 4409, 9612, 12321, 12897
EMPR GEM 1969-270; 1972-180
EMPR EXPL 1984-208
GSC MEM *249, p. 62
GSC OF 980
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.;
Thelma Mines Ltd.; Brendon Resources Ltd.)
EMPR BULL 10, p. 107; 69
EMPR MAP 47
GSC MAP 44-20; 886A; 887A; 1386A; *5212G
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE098**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **OLD ALAMEADA NO. 4 (L.4504)**, OLD ALAMEDA 4, OLD ALAMEADA 4

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:
LATITUDE: 50 17 29 N
LONGITUDE: 120 41 45 W
ELEVATION: 1700 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5573569
EASTING: 664125

COMMODITIES: Copper Lead Zinc Limestone

MINERALS

SIGNIFICANT: Chalcopyrite Galena Sphalerite Pyrite Carbonate
ASSOCIATED: Quartz Calcite Dolomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: R09 Limestone
DIMENSION:
COMMENTS: Vein zone
STRIKE/DIP: 050/80S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Limestone
Shale

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

Open cuts on the Alameada No. 4 claim (L.4504) expose numerous stringers and bunches of quartz and calcite hosted in Upper Triassic Nicola Group limestone. The vein zone is 1.8 to 2.4 metres wide and carries sparse chalcopyrite, galena, sphalerite and pyrite. The footwall of the zone strikes approximately 050 and dips 80 degrees southeast.

A lens of limestone at the 1706 metre elevation averages 45 metres wide and is exposed for 402 metres along a line trending 020 degrees. The rock is light buff to grey with brown grains of dolomite, white calcite stringers and some thin shaly interbeds. A shallow pit exposes sulphide mineralization near the centre of the lens. A sample taken across the width of the limestone 30 metres south of the pit analyzed 0.67 per cent Fe2O3, 0.047 per cent MnO, 0.63 per cent MgO, 48.0 per cent CaO, 0.056 per cent P2O5, 0.02 per cent S, 38.99 per cent Ig. Loss, 0.03 per cent H2O, 11.16 per cent Insol. and 1.08 per cent R2O3 (Minister of Mines Annual Report 1958).

See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1924-136; 1925-183; 1927-213; 1934-D23; 1935-D14; 1958-28,94-96; *1959-36
EMPR ASS RPT 1795, 3936, 4409, 9612, 12321, 12897
EMPR GEM 1969-270; 1972-180
EMPR EXPL 1984-208
GSC MEM *249, p. 62; 243
GSC OF 980
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.; Thelma Mines Ltd.; Brendon Resources Ltd.)
EMPR BULL 10, p. 107; 69
EMPR MAP 47
GSC MAP 44-20; 886A; 887A; 1386A; *5212G
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE098**

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 651
REPORT: RGEN0100

MINFILE NUMBER: **092ISE099**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **OLD ALAMEADA NO. 5 (L.4503)**, OLD ALAMEDA 5, OLD ALAMEADA 5

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:
LATITUDE: 50 17 07 N
LONGITUDE: 120 41 42 W
ELEVATION: 1675 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5572891
EASTING: 664205

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite Galena
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Hydrothermal

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: Tuff
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A 2.4 metre deep pit in the northeast portion of the Old Alameada No. 5 claim (L.4503) exposes a breccia consisting largely of limestone fragments in a tuffaceous matrix. The rocks are part of the Upper Triassic Nicola Group. Sparse pyrite occurs in the breccia; tetrahedrite and galena are also evident.

See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1924-136; 1925-183; 1927-213; 1934-D23; 1935-D14; 1958-28;
*1959-36
EMPR ASS RPT 1795, 3936, 4409, 9612, 12321, 12897
EMPR GEM 1969-270; 1972-180
EMPR EXPL 1984-208
GSC MEM *249, p. 62
GSC OF 980
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.;
Thelma Mines Ltd.; Brendon Resources Ltd.)
EMPR BULL 10, p. 107; 69
EMPR MAP 47
GSC MAP 44-20; 886A; 887A; 1386A; *5212G
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE099**

MINFILE NUMBER: **092ISE100**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **ALAMEADA NO. 6 (L.4501)**, OLD ALAMEDA 6, OLD ALAMEADA 6

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:
LATITUDE: 50 17 16 N
LONGITUDE: 120 42 10 W
ELEVATION: 1620 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5573152
EASTING: 663642

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Telluride
ASSOCIATED: Quartz
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
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A shaft was sunk near the northern boundary of the Alameada No. 6 claim (L.4501) approximately 46 metres south of the Gloria 1 shaft (092ISE105). The shaft intersects a vein zone 20 to 35 centimetres wide consisting of narrow quartz stringers 2.5 to 15 centimetres wide within highly sheared andesite of the Upper Triassic Nicola Group. The quartz carries pyrite, chalcopyrite and gold telluride.
See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1924-136; 1925-183; 1927-213; 1934-D23; 1935-D14; 1958-28;
*1959-36
EMPR ASS RPT 1795, 3936, 4409, 9612, 12321, 12897
EMPR GEM 1969-270; 1972-180
EMPR EXPL 1984-208
GSC MEM *249, p. 62
GSC OF 980
EMR MP CORPFILE (Torwest Resources Ltd.; Adar Resources Ltd.;
Thelma Mines Ltd.; Brendon Resources Ltd.)
EMPR BULL 10, p. 107; 69
EMPR MAP 47
GSC MAP 44-20; 886A; 887A; 1386A; *5212G
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE101**

NATIONAL MINERAL INVENTORY: 09217 Ag1

NAME(S): **THELMA (L.4510)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:
LATITUDE: 50 16 06 N
LONGITUDE: 120 41 59 W
ELEVATION: 1554 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5570997
EASTING: 663927

COMMODITIES: Silver Lead Zinc Gold Copper
Limestone

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Carbonate
ASSOCIATED: Quartz
ALTERATION: Garnet Epidote
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated Vein
CLASSIFICATION: Skarn Replacement Hydrothermal Industrial Min.
TYPE: K02 Pb-Zn skarn 105 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Limestone
Andesite
Conglomerate
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The area around Swakum Mountain consists of folded Upper Triassic Nicola Group volcanic rocks with interbedded sedimentary units. These rocks are intruded by large north trending felsic to intermediate intrusions (batholiths) east and west of the mountain. Nicola Group rocks on the mountain strike north to northeast with generally steep dips. For a large part they consist of andesitic flows and tuffs, agglomerates, and occasional basalts and rhyolites. A break occurs in the volcanic stratigraphy and is comprised of a mixed volcanic-sedimentary unit consisting of a thick sequence of felsic volcanic flows, lithic and crystal tuffs, limy sediments and a prominent limestone. This unit has a northeast strike and crosses the mountain for a 2.5 kilometre strike length. The unit has been historically used as a marker horizon in interpreting a large, asymmetrical, south plunging anticline with its north trending axis near Swakum Mountain summit. Narrow quartz porphyry dykes locally intrude the Nicola Group sequence. To the east of this marker unit are a thick, unconformable wedge of immature sediments, predominantly coarse polymictic conglomerates (fan-type) and grits with minor cherty units. Most of the old workings on the mountain occur in close proximity to or within this volcanic-sedimentary unit and consist of polymetallic skarn-type mineralization, lead-zinc-silver bearing quartz veins and replacements, and polymetallic quartz veins.

The property covers the contact zone between the volcanic and sedimentary sequences of the Upper Triassic Nicola Group. Limestone and conglomerate beds strike north and dip steeply to the east. At the 1615 metre elevation, a 30 metre wide band of dark grey limestone is exposed for 106 metres in a northerly direction. The limestone is massive and contains scattered thin stringers of white calcite, some chert nodules and vague shapes that may be fossils. A sample was taken across 30 metres at the centre of the exposure and analyzed 0.28 per cent Fe2O3, 0.07 per cent MnO, 0.44 per cent MgO, 51.22 per cent CaO, 0.026 per cent P2O5, 0.03 per cent S, 40.8 per cent Ig. Loss,

CAPSULE GEOLOGY

0.04 per cent H₂O, 7.08 per cent Insol. and 0.46 per cent R₂O₃
(Minister of Mines Annual Report 1958).

The Thelma occurrence consists of one shaft, underground workings and a number of surface trenches, all of which have collapsed and filled in since work ceased in 1940. Silver-lead-zinc mineralization is exposed in tabular and lenticular garnet-epidote skarn zones up to 5 metres wide within the limestone. Pyrite, galena and sphalerite, with gold and silver values, occur as metasomatic replacements along bedding planes and as disseminations throughout the limestone. Minor copper values are also associated with the skarn. Quartz veins 10 to 15 centimetres wide are hosted by Nicola Group andesitic rocks near the volcanic-sedimentary contact. These veins carry galena and sphalerite with minor gold and silver values.

BIBLIOGRAPHY

EMPR AR 1926-199; 1927-213; *1928-224; 1929-246; 1930-207; 1934-D23;
1935-D14; *1958-94-96
EMPR EXPL 1983-275; 1989-119-134
EMPR ASS RPT 8053, 12964, 15312
EMPR PF (Sketch map of Thelma shaft after H.G. Nichols)
GSC MEM *249, p. 60; 243
GSC MAP 44-20; 886A; 887A; 1386A; 5212G
GSC OF *980
EMR MP CORPFILE (Thelma Mines Limited; Sheffield Gold and Silver
Mines Ltd.; Torwest Resources Ltd.)

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE102**

NATIONAL MINERAL INVENTORY: 09217 Ag1

NAME(S): **BERNICE (L.4502)**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 16 21 N
LONGITUDE: 120 42 08 W
ELEVATION: 1585 Metres

NORTHING: 5571455
EASTING: 663734

LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Tetrahedrite Chalcopyrite
 Hydrozincite
ASSOCIATED: Quartz
ALTERATION: Garnet Epidote Ankerite
ALTERATION TYPE: Skarn Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn Hydrothermal
TYPE: K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bernice occurrence lies in the contact zone between volcanic and sedimentary sequences of the Upper Triassic Nicola Group. Precious metal mineralization occurs in garnet-epidote skarn zones. Pyrite, sphalerite and galena are the most common minerals, with minor amounts of tetrahedrite and chalcopyrite. As shown by ore in the dump, the deposit consists in part of narrow quartz veins within andesite. The wallrock is partially altered to ankerite along the veins. Pyrite, galena, sphalerite and hydrozincite are present.
See 092ISE101 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1926-199; 1927-213; *1928-224; 1929-246; 1930-207;
1934-D23; 1935-D14
EMPR EXPL 1983-275
EMPR ASS RPT 8053, 12964, 15312
GSC MEM *249, p. 60
GSC MAP 44-20; 886A; 887A; 1386A
GSC OF *980
EMR MP CORPFILE (Thelma Mines Limited; Sheffield Gold and Silver
Mines Ltd.; Torwest Resources Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE103**

NATIONAL MINERAL INVENTORY: 09217 Ag1

NAME(S): **OLD EVELYNN (L.4511)**, EVELYN, EVELYN C.

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 16 38 N
LONGITUDE: 120 42 05 W
ELEVATION: 1578 Metres

NORTHING: 5571982
EASTING: 663778

LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite
ASSOCIATED: Quartz
ALTERATION: Garnet Epidote
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn Hydrothermal
TYPE: K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Limestone
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Old Evelynn occurrence lies on the contact zone between volcanic and sedimentary sequences of the Upper Triassic Nicola Group. An adit was driven on a garnet-epidote skarn zone approximately 2.5 metres in width near the portal. Low grade mineralization occurs as narrow streaks of galena in andesite adjacent to a limestone band. Pyrite and sphalerite are also present. Near the end of the adit is a 2 to 5 centimetre wide quartz vein in highly sheared andesitic country rock. The vein strikes north and dips at a very low angle to the west; very minor sulphide mineralization is evident.

See 092ISE101 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR AR 1926-199; 1927-213; *1928-224; 1929-246; 1930-207;
1934-D23; 1935-D14
EMPR EXPL 1983-275
EMPR ASS RPT 8053, 12964, 15312
GSC MEM *249, p. 60
GSC OF *980
EMR MP CORPFILE (Thelma Mines Ltd.; Sheffield Gold and Silver
Mines Ltd.; Torwest Resources Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE104**

NATIONAL MINERAL INVENTORY: 09217 Ag1

NAME(S): **OLD CORONA NO. 1 (L.4512)**, OLD CORONA NO. 2 (L.4513), CORONA,
OLD CORONA, CORONA - BOB

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:
LATITUDE: 50 15 55 N
LONGITUDE: 120 42 52 W
ELEVATION: 1554 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5570625
EASTING: 662888

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Limonite Ankerite
ALTERATION TYPE: Oxidation Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Quartz-carbonate veins. STRIKE/DIP: 320/85W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Basalt
Basalt Tuff
Agglomerate

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 2442.1000 Grams per tonne
Gold 0.1000 Grams per tonne
COMMENTS: High grade vein material.
REFERENCE: Assessment Report 15312.

CAPSULE GEOLOGY

The Old Corona No. 1 occurrence is located within folded, fine to medium-grained interbedded basalt flows, tuffs and agglomerates of the Upper Triassic Nicola Group. A 25 to 70 metre wide zone of limonitic, ankeritic volcanics occurs in a distinct depression between prominent north-northwest trending ridges of unaltered volcanics. Vein-type mineralization is hosted by altered mafic volcanic rock.

In the collapsed Corona shaft and in several trenches, quartz-carbonate veins are 5 to 10 centimetres wide with a northwest strike and steep westward dip. Mineralization includes galena, sphalerite, pyrite and tetrahedrite. Samples from the Corona shaft assayed up to 2442.1 grams per tonne silver and 0.1 grams per tonne gold (Assessment Report 15312).

See 092ISE101 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

EMPR ASS RPT 8053, 9430, 11483, *15312
EMPR AR 1959-36
EMPR EXPL 1983-275
GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 658
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM *249, p. 64
GSC MAP 44-20; 886A; 887A; 1386A; 1512G
EMR MP CORPFILE (Sheffield Gold and Silver Mines Ltd.; Thelma
Mines Ltd.; Torwest Resources Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE105**

NATIONAL MINERAL INVENTORY: 09217 Ag2

NAME(S): **GLORIA 1, MAC, GLORIA,
ALAMEADA 6**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 50 17 19 N
LONGITUDE: 120 42 10 W
ELEVATION: 1616 Metres

UTM ZONE: 10 (NAD 83)
NORTHING: 5573245
EASTING: 663640

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Telluride
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

STRIKE/DIP: 010/75S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

On the Gloria 1 showing near the Alameada No. 6 (092ISE110), a shallow shaft exposes narrow quartz stringers ranging from 12 to 30 centimetres in width in Upper Triassic Nicola Group andesite. The stringer veins strike 010 degrees and dip 75 degrees west and contain widely scattered pyrite and chalcopyrite grains. Bismuth telluride(?) with high gold and silver content is reported. Dump material shows limonite staining.

See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

GSC MEM *249, p. 63
GSC OF 980
EMPR ASS RPT 136, 1795, 3936, 4409, 9612, 12321, 12897
GSC MAP 44-20; 886A; 887A; 1386A; 5212G
EMPR BULL 69
EMPR MAP 47
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE106**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD GOSSAN 2**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 17 30 N
LONGITUDE: 120 41 58 W
ELEVATION: 1620 Metres

NORTHING: 5573592
EASTING: 663866

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Lead Tungsten

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Scheelite
ASSOCIATED: Quartz
ALTERATION: Silica Epidote
ALTERATION TYPE: Silicific'n Propylitic
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
Upper Triassic Nicola Undefined Formation

LITHOLOGY: Andesite
Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

At the northern end of the Gold Gossan 2 occurrence, a 15 to 35 centimetre wide zone of narrow quartz stringers is exposed on a small bluff of silicified and epidotized andesite of the Upper Triassic Nicola Group. The vein strikes west, dips 17 degrees to the north and carries masses of pyrite, chalcopyrite, galena and minor amounts of scheelite. Approximately 100 metres to the south, underground workings intersect narrow stringers within sheared, pyritic andesitic country rock in a zone up to 60 centimetres wide. An aplite dyke occurs in these workings.

See 092ISE094 for regional geology of Swakum Mountain area.

BIBLIOGRAPHY

GSC MEM *249, p. 65
GSC OF 980
EMPR ASS RPT 136, 1795, 3936, 4409, 9612, 12321, 12897
GSC MAP 44-20; 886A; 887A; 1386A; 5212G
EMPR BULL 69
EMPR MAP 47
EMPR AR 1958-28; 1959-36
GCNL #177, 1976
EMPR EXPL 1989-119-134
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE107**

NATIONAL MINERAL INVENTORY:

NAME(S): **BAG**, ANDERSON - BAG

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 02 N
LONGITUDE: 120 23 42 W
ELEVATION: 915 Metres

NORTHING: 5582706
EASTING: 685255

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz Chalcedony Calcite
ALTERATION: Kaolinite Silica Pyrite
ALTERATION TYPE: Argillic Silicific'n Pyrite Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Amygdaloidal Andesite
Feldspar Porphyry
Rhyolite
Lapilli Tuff
Andesite
Polymictic Breccia
Agglomerate
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
SAMPLE TYPE: Grab

YEAR: 1983

COMMODITY

Silver

GRADE

3.7000

Grams per tonne

Gold

0.8800

Grams per tonne

COMMENTS: Quartz-chalcedony vein.
REFERENCE: Assessment Report 11719.

CAPSULE GEOLOGY

The area is underlain by interbedded volcanics, volcanoclastics and sediments of the Upper Triassic Nicola Group. The north trending belt is bounded by the Quilchena fault to the west and the Stump Lake fault to the east. The Nicola Group rocks on the Bag occurrence are dark green amygdaloidal andesite-basalt, feldspar porphyry, fine-grained light grey rhyolite, lapilli tuff, coarse-grained massive andesite with gabbroic zones, polymictic volcanic breccia-agglomerate and aphanitic black, well-bedded argillite with pervasive iron oxide staining. This sequence forms the western limb of a northeast trending syncline. In the southwest corner of the property, rhyolites and tuffs have undergone argillic alteration. Kaolinite group clay minerals occur on either side of a quartz-chalcedony sheeted vein system up to 5 metres wide which has been exposed intermittently over a strike length of 325 metres. This vein structure has been proposed to be the strike extension of the Enterprise mine (092ISE028), 2 kilometres to the southeast. In the central portion of the property coincident with the fine-grained andesite and feldspar porphyry units,

CAPSULE GEOLOGY

discontinuous quartz-carbonate veining occurs in a zone of brecciation, fracturing, silicification, pyritization (1 to 2 per cent) and weak iron oxide staining. This zone is up to 200 metres in width along the full lengths of these units (2200 metres). At the northern end of the system, numerous narrow steeply dipping quartz-chalcedony veins, with variable orientations, can be traced for distances up to 1200 metres. Grab samples of quartz and quartz-chalcedony veins associated with andesites returned values up to 0.88 grams per tonne gold, 3.7 grams per tonne silver, 0.011 per cent molybdenum and 0.016 per cent copper (Assessment Report 11719).

BIBLIOGRAPHY

EMPR ASS RPT *11719, 13788
EMPR EXPL 1983-277; 1985-C197
EMPR BULL 69
GSC OF *980
GSC MEM 249
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE108**

NATIONAL MINERAL INVENTORY: 09218 Ag1

NAME(S): **TUBAL CAIN (L.586)**, ENTERPRISE

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092108W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 50 N
LONGITUDE: 120 23 12 W
ELEVATION: 863 Metres

NORTHING: 5580503
EASTING: 685926

LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

COMMODITIES: Lead Zinc Copper

MINERALS

SIGNIFICANT:	Pyrite	Galena	Sphalerite	Tetrahedrite	Chalcopyrite
ASSOCIATED:	Quartz				
ALTERATION:	Silica	Chlorite	Epidote	Pyrite	
ALTERATION TYPE:	Silicific'n		Propylitic		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Tubal Cain vein.

STRIKE/DIP: 340/60E

TREND/PLUNGE:

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 Flow Breccia
Augite Porphyry
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The historic Enterprise camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and north-east of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Tubal Cain mine was developed by a 52 metre deep shaft and two adits. The vein is also intersected by the 97 metre level of the Enterprise mine (092ISE028) and considerable drifting was reportedly done at that level. In these workings the Tubal Cain vein varies markedly in width, orientation and amount of sulphide mineralization. The Tubal Cain shear is a zone of intensely fractured quartz veins and lenses within sheared, carbonatized and pyritic country rock. Mineralization in the vein consists of pyrite, galena, sphalerite, tetrahedrite and chalcopyrite. Fifty metres north of the shaft, trenching exposed a quartz vein 33 centimetres wide striking 340 degrees and dipping 60 degrees east.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 664
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1988, pp. 96,97
EMPR ASS RPT 5152, 5565, 13152
EMPR AR 1885-496; 1886-212; 1887-274; 1888-314; 1890-377; 1916-429;
*1917-228; 1918-244; 1930-205; 1931-115; *1933-178; 1934-D24;
1935-D13; 1936-D17
EMPR GEM 1974-148; 1975-E87
EMPR EXPL 1984-210
EMPR BULL 10, p. 110; 20, Part III, p. 25
GSC OF *980
GSC MEM *249, p. 53
GSC MAP 886A; 887A; 1386A
GSC SUM RPT 1919 Part B
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/23

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE109**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOSHUA (L.588)**, ENTERPRISE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

Underground

MINING DIVISION: Nicola

LATITUDE: 50 20 57 N
LONGITUDE: 120 22 56 W
ELEVATION: 866 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5580731
EASTING: 686234

LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

COMMODITIES: Silver Gold Lead Zinc Copper
 Tungsten

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Tetrahedrite

 Scheelite

ASSOCIATED: Quartz

ALTERATION: Silica Chlorite Epidote Pyrite

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION:

STRIKE/DIP: 356/60E

TREND/PLUNGE:

COMMENTS: Joshua vein.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesite
 Andesitic Flow Breccia
 Augite Porphyry
 Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The historic Enterprise camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and north-east of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Joshua mine originally consisted of a 230 metre deep shaft with workings on six levels. The Joshua vein follows a shear zone striking 356 degrees and dipping 60 to 65 degrees to the east, though intense fracturing causes changes in orientation. The vein varies in width from 5 to 75 centimetres with numerous smaller veins and stringers feathering out. Mineralization consists of pyrite, galena, sphalerite, chalcopyrite and tetrahedrite in variable amounts. Trenching has exposed similar mineralization within the altered andesitic unit northwest and southeast of the Joshua shaft. Scheelite masses up to 10 centimetres in diameter is found in dump material.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 666
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1988, pp. 96,97
EMPR ASS RPT 5152, 13152
EMPR GEM 1974-148
EMPR EXPL 1984-210
EMPR AR 1885-496; 1886-212; 1887-274; 1888-314; 1890-377;
1916-429; *1917-228; 1918-244; 1919-184; 1920-168; 1922-144;
1930-205; 1931-115; *1933-178; 1934-D24; *1936-D14
EMPR BULL 10, p. 107; 20, Part III, p. 25
GSC OF *980
GSC MEM *249, p. 53
GSC MAP 886A, 887A
GSC SUM RPT 1919 Part B
EMPR EXPL 1989-119-134
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/24

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE110**

NATIONAL MINERAL INVENTORY: 09218 Ag1

NAME(S): **KING WILLIAM (L.592)**, PLANET

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092108W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 27 N
LONGITUDE: 120 22 57 W
ELEVATION: 875 Metres

NORTHING: 5579803
EASTING: 686247

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Copper Silver Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein Stockwork
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: Andesite
Andesitic Flow Breccia
Augite Porphyry
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: 1975
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 55.8200 Grams per tonne
Gold 1.6400 Grams per tonne
REFERENCE: Assessment Report 5565.

CAPSULE GEOLOGY

The historic King William camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcaniclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and north-east of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The King William vein has been developed by various workings and is exposed in the Enterprise mine (092ISE028) one kilometre to the northwest and in several stripped areas along strike between the two areas. The King William vein generally strikes north-northwest, dips 65 to 85 degrees to the east and is regarded as a

CAPSULE GEOLOGY

branch of the Enterprise vein. The King William vein pinches and swells considerably and carries variable amounts of pyrite, chalcopyrite, galena and sphalerite. Diamond drilling revealed that the altered andesite hosts numerous quartz stringers on either side of the vein. Drill core samples assayed up to 1.64 grams per tonne gold and 55.82 grams per tonne silver with trace lead and zinc values (Assessment Report 5565).

BIBLIOGRAPHY

EMPR FIELDWORK 1988, pp. 96,97
EMPR ASS RPT 5152, *5565, *13152
EMPR AR 1885-496; 1886-212; 1887-274; 1888-314; 1890-377;
1916-429; 1917-228; 1930-205; 1931-215; 1933-178; 1934-D24;
1935-D13; *1936-D14; 1939-A76; 1940-A62; 1941-A58; 1965-157
EMPR GEM 1974-148; 1975-E87
EMPR PF (Report by J. Antal, 1969)
EMPR EXPL 1984-210
EMPR BULL 10, p. 111; 20, Part III, p. 52
GSC MEM *249, p. 52
GSC OF *980
GSC MAP 886A; 887A
GSC SUM RPT 1919 Part B
EMR MP CORPFILE (Consolidated Nicola Goldfields Ltd.; Stump
Mines Ltd.)
EMPR EXPL 1989-119-134

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/23

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE111**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER KING NO. 2 (L.4103)**

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092108W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 16 N
 LONGITUDE: 120 23 17 W
 ELEVATION: 798 Metres

NORTHING: 5579450
 EASTING: 685864

LOCATION ACCURACY: Within 500M
 COMMENTS: Shaft

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT:	Pyrite	Galena	Sphalerite	Arsenopyrite	Chalcopyrite
ASSOCIATED:	Quartz				
ALTERATION:	Chlorite	Epidote	Silica	Pyrite	
ALTERATION TYPE:	Propylitic		Silicific'n		
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
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: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1974
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	248.8700 Grams per tonne
Gold	4.4500 Grams per tonne
Copper	0.0100 Per cent
Lead	14.0000 Per cent
Zinc	0.2300 Per cent

REFERENCE: Assessment Report 5152.

CAPSULE GEOLOGY

The historic King William camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcaniclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and north-east of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Silver King showing consists of a collapsed shaft, trenches and pits which expose a quartz vein system hosted by massive altered andesite. The shaft intersects narrow quartz stringers (5 centimetres wide) carrying galena, sphalerite and pyrite. Arsenopyrite was encountered in more recent trenches. The orientation of the vein

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 670
REPORT: RGEN0100

CAPSULE GEOLOGY

zone strikes from 360 to 020 degrees and the dips vary from 70 degrees east to 65 degrees west. Grab samples assay up to 4.45 grams per tonne gold, 248.87 grams per tonne silver, 14 per cent lead, 0.23 per cent zinc and 0.01 per cent copper (Assessment Report 5152).

BIBLIOGRAPHY

EMPR AR 1933-178; 1936-D18
EMPR ASS RPT *5152, 5565, 13152
EMPR BULL 10, p. 107; 20, Part III, p. 25
EMPR EXPL 1984-210; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1974-148; 1975-E87
GSC MAP 886A; 887A
GSC MEM *249, p. 54
GSC OF *980
GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/24

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 092ISE111

MINFILE NUMBER: **092ISE112**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMULATOR**, SHEELAH (L.5129), JOSHUA

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I08W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 27 N
 LONGITUDE: 120 22 46 W
 ELEVATION: 843 Metres

NORTHING: 5579811
 EASTING: 686464

LOCATION ACCURACY: Within 500M
 COMMENTS: Adit

COMMODITIES: Silver Gold Lead Zinc Copper
 Tungsten

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Scheelite
 ASSOCIATED: Quartz
 ALTERATION: Chlorite Epidote Silica Pyrite
 ALTERATION TYPE: Propylitic Silicific'n
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION:
 COMMENTS: Emulator vein STRIKE/DIP: 335/75E 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 PHYSIOGRAPHIC AREA: Thompson Plateau
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1983
 SAMPLE TYPE: Drill Core
 COMMODITY GRADE
 Silver 219.3900 Grams per tonne
 Gold 10.2100 Grams per tonne
 Lead 0.6200 Per cent
 Zinc 0.3500 Per cent

COMMENTS: Quartz vein; sample over 80 centimetres.
 REFERENCE: Assessment Report 13152.

CAPSULE GEOLOGY

The historic King William camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcaniclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and north-east of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward. The Emulator showing consists of an adit and several open cuts which expose a sparsely mineralized quartz vein (2 metres wide)

CAPSULE GEOLOGY

striking 335 degrees and dipping 75 degrees east. Diamond-drill holes intersected veins 10 to 80 centimetres in width carrying pyrite and galena and minor blebs of sphalerite and chalcopyrite. One of these assayed 10.21 grams per tonne gold, 219.39 grams per tonne silver, 0.62 per cent lead and 0.35 per cent zinc over 80 centimetres (Assessment Report 13152). The wallrock is grey altered andesitic rock with up to 5 per cent finely disseminated pyrite and occasional blebs of grey sulphides. This material returned values of 1.1 grams per tonne gold and 7.8 grams per tonne silver. Trenching exposed similar mineralization within the altered andesitic unit.

BIBLIOGRAPHY

EMPR AR 1933-180; 1936-D14
EMPR ASS RPT 5152, *13152
EMPR BULL 10, p. 114; 20, Part III, p. 25
EMPR EXPL 1984-210; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1974-148
EMPR OF 1991-17
GSC MAP 886A; 887A; 1386A
GSC MEM *249, p. 54
GSC OF *980
GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/24

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE113**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOON (L.5084)**, JENNY LONG

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 19 14 N
LONGITUDE: 120 22 13 W
ELEVATION: 750 Metres

NORTHING: 5577580
EASTING: 687196

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Tungsten Lead Zinc Copper

MINERALS

SIGNIFICANT:	Scheelite	Galena	Sphalerite	Chalcopyrite	Pyrite
ASSOCIATED:	Quartz	Calcite			
ALTERATION:	Chlorite	Epidote	Silica	Pyrite	
ALTERATION TYPE:	Propylitic		Silicific'n		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Vein STRIKE/DIP: 335/55W TREND/PLUNGE:

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

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The historic Jenny Long camp is located south of Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Moon showing consists of several old trenches in andesite which expose quartz-carbonate stringers up to 7.5 centimetres wide in a zone striking 355 degrees and dipping 55 degrees southwest. The vein contains considerable scheelite, sparse galena, sphalerite, chalcopyrite and pyrite.

BIBLIOGRAPHY

EMPR ASS RPT 5152, 5565, 13152
EMPR BULL *10, p. 114; 20, Part III, p. 25
EMPR EXPL 1984-210; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1974-148; 1975-E87
EMPR OF 1991-17
GSC MAP 886A; 887A
GSC MEM *249, p. 56
GSC OF *980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 674
REPORT: RGEN0100

BIBLIOGRAPHY

GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/25

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE114**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAVEN NO. 2 (L.5079)**, RAVEN

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 19 54 N
LONGITUDE: 120 22 14 W
ELEVATION: 762 Metres

NORTHING: 5578814
EASTING: 687133

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Tetrahedrite Chalcocopyrite
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Silica Pyrite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Quartz vein STRIKE/DIP: 020/55E 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 PHYSIOGRAPHIC AREA: Thompson Plateau
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1974
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 69.9300 Grams per tonne
Gold 0.6800 Grams per tonne
Copper 0.0400 Per cent
Lead 0.0900 Per cent
Zinc 0.3100 Per cent

COMMENTS: 46 centimetre vein.
REFERENCE: Assessment Report 5152.

CAPSULE GEOLOGY

The historic Jenny Long camp is located south of Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Raven showing consists of an old shaft and trenches in

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 676
REPORT: RGEN0100

CAPSULE GEOLOGY

andesite which expose a quartz vein 10 to 45 centimetres wide. The vein dips 63 degrees east near the surface and flattens with depth. Mineralization consists of pyrite, galena, tetrahedrite and chalcopryrite. Grab samples from a 46 centimetre vein assayed up to 0.68 grams per tonne gold, 69.93 grams per tonne silver, 0.09 per cent lead, 0.31 per cent zinc and 0.04 per cent copper (Assessment Report 5152).

BIBLIOGRAPHY

EMPR ASS RPT *5152, 5565, *13152
EMPR BULL 10, p. 107; 20, Part III, p. 25
EMPR EXPL 1984-210; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1974-148; 1975-E87
GSC MAP 886A; 887A
GSC MEM *249, p. 56
GSC OF *980
GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/25

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

the zone immediately below the main area of old workings. The hole cut a large number of narrow mineralized zones of which two are 7 to 10 metres wide. The best intersection returned 1.5 grams per tonne gold and 290 grams per tonne silver across 0.78 metres (Assessment

Zone C is 1500 metres northeast of the main zone A and 750 metres east of and roughly parallel to zone D (North showing). It comprises discontinuous north-northeast trending shears that dip 55 to 65 degrees to the east-southeast, are 1 to 2 metres in width, and are within clay-altered lithic fragmental rocks cut by quartz veins. Minor very fine-grained pyrite occurs. A rock sample assayed 10.2 grams per tonne silver and up to 3.85 grams per tonne gold (Assessment Report 17163). Diamond drilling returned a best intersection of 0.245 grams per tonne gold and 1.2 grams per tonne silver across 0.6 metres (Assessment 18714).

Zone D (North showing) is approximately 900 metres north of the main zone A. It is at the intersection of a north-northeast trending and a north-northwest trending shear structure 1.2 to 1.5 metres wide. The rocks are clay-altered, limonitic, with no silicification. Gold values of 10.1 grams per tonne and 3.4 grams per tonne silver over 1.5 metres have been previously reported (Assessment Report 17163). Diamond drilling returned a best assay of 2.19 grams per tonne gold and 4.6 grams per tonne silver across 0.9 metres (Assessment Report 18714).

Zone E is 250 metres south of the main zone A and comprises a one metre wide northwest trending shear zone that dips 75 degrees northeast. Mineralization is hosted by quartz-carbonate veins in limonite altered andesite and is comprised of pyrite with lesser galena. A rock sample assayed 4.59 grams per tonne gold and 350.6 grams per tonne silver, 19.1 per cent lead and 10.84 per cent zinc (Assessment Report 17163).

BIBLIOGRAPHY

EMPR AR 1887-276; 1888-314; 1889-290; 1896-562; 1917-229; 1918-239;
1919-184; 1922-144; 1927-213; *1928-222; 1929-245; 1930-206;
*1934-D25; 1958-67
EMPR ASS RPT 4412, 6165, 6608, *8778, *17163, *18714
EMPR BULL 20, Part III, p. 25
EMPR EXPL 1975-E87; 1976-E96; 1977-E149; 1978-E164; 1979-171;
1980-231; 1988-C112; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1973-190
EMR MP CORPFILE (Pine Valley Explorers Ltd.)
GSC MAP 886A; 887A
GSC MEM *249, p. 57
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1989/11/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE116**

NATIONAL MINERAL INVENTORY:

NAME(S): **COUTLEE**, GUICHON BENTONITE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 11 47 N
LONGITUDE: 120 51 21 W
ELEVATION: 732 Metres

NORTHING: 5562667
EASTING: 653033

LOCATION ACCURACY: Within 500M

COMMENTS: Slumped bulldozer cuts below the road along Guichon Creek.

COMMODITIES: Bentonite

MINERALS

SIGNIFICANT: Montmorillonite
COMMENTS: Sodium-calcium montmorillonite
ASSOCIATED: Feldspar
COMMENTS: Also includes cristobalite
ALTERATION: Montmorillonite
ALTERATION TYPE: Zeolitic
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E06 Bentonite
SHAPE: Tabular

DIMENSION: STRIKE/DIP: 319/17E

TREND/PLUNGE:

COMMENTS: Part of a gentle northeast dipping panel which terminates to the east against the Guichon Creek fault.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Coldwater	

LITHOLOGY: Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Okanagan Highland

RELATIONSHIP: Syn-mineralization

GRADE: Zeolite

CAPSULE GEOLOGY

Old bulldozer cuts and trenches expose a 3 to 5 metre thick bentonitic clay and siltstone bed lying between sequences of interbedded sandstone, siltstone and shale of the Middle Eocene Coldwater Formation (Princeton Group).

Sample C86-410A from this location yielded the following exchangeable cation analyses and cation exchange capacity (CEC) in milliequivalents per 100 grams: magnesium 9.4; calcium 19.4; potassium 2.1 and sodium 15.0 with CEC 47.6. Sample C86-410E comes from a roadcut above the highway and yielded magnesium 9.2; calcium 12.5; potassium 1.8 and sodium 9.7 with CEC 32.1 (Fieldwork 1986).

BIBLIOGRAPHY

EMPR EXPL 1989-119-134
EMPR FIELDWORK *1986, pp. 247-254
EMPR MAP 88-15; 30
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/18

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE117**

NATIONAL MINERAL INVENTORY: 092I2 Cu4

NAME(S): **CLIFF, SUNNY BOY, IOTA,
SPITFIRE, MASTER**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:
LATITUDE: 50 08 13 N
LONGITUDE: 120 31 45 W
ELEVATION: 1175 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5556780
EASTING: 676564

COMMODITIES: Gold Copper Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Gold
ASSOCIATED: Quartz Calcite
ALTERATION: Epidote Chlorite Limonite Malachite Jarosite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Master vein. STRIKE/DIP: 300/80N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Amygdaloidal Andesite
Basaltic Breccia
Andesitic Breccia
Porphyritic Quartz Diorite

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: 1986
SAMPLE TYPE: Channel
COMMODITY GRADE
Gold 1458.9000 Grams per tonne
COMMENTS: Rusty vein material with quartz boxwork structure.
REFERENCE: Assessment Report 15966.

CAPSULE GEOLOGY

The occurrence area is located immediately south of Nicola Lake in a belt of green to red porphyritic andesites and basalts of the Upper Triassic Nicola Group which strike north-northwest and dip steeply to the west. To the north of Nicola Lake is the Lower Jurassic Nicola batholith, a quartz-diorite intrusive believed to be the source of quartz-carbonate veins carrying gold, silver and copper mineralization in a number of nearby deposits (Guichon, 092ISE048). Trending north-northwest across the property is the Quilchena fault, a regional near-vertical shear zone with an apparent strike-slip displacement of three kilometres.

The Cliff showing is located where northwest striking porphyritic microdiorite dykes cut through altered (chlorite, epidote) andesitic and basaltic lavas and breccias. Subparallel to the intrusive are several 5 to 35 centimetre wide quartz veins containing variable sulphides, mainly pyrite, minor chalcopyrite and galena. Visible gold occurs as plates and blebs up to 3 millimetres across and as delicate filigree of scales in quartz froth from the Master vein. Other associated minerals are malachite, limonite and jarosite. The Master vein system strikes approximately 300 degrees

CAPSULE GEOLOGY

and dips 80 degrees north and has been exposed intermittently over a strike length of 300 metres. A channel sample of rusty material from the Master vein assayed 1458.9 grams per tonne gold (Assessment Report 15966).

BIBLIOGRAPHY

EMPR AR 1949-120; 1962-56; 1965-155; 1966-167; *1967-171
EMPR ASS RPT 748, 2750, 5091, 5092, 7662, 11927, 12957, 15996
EMPR EXPL 1979-161; 1983-269; 1989-119-134
EMPR GEM 1970-378; 1974-127
EMPR MAP 47
EMPR P 1981-2
EMPR PF (Kamloops) (*Kelly, S.F. (1986): Report on the IOTA and
G & GI Groups of Mineral Claims near Merritt, B.C.; Sorbara, J.P.
(1987): Report on the IOTA and G & GI claims)
GSC MAP 886A; 887A
GSC MEM *249, p. 132
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE118**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAT 1**, IOTA, QUILCHENA

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 20 N
LONGITUDE: 120 31 14 W
ELEVATION: 975 Metres

NORTHING: 5557017
EASTING: 677172

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Epidote Chlorite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Cat 1 property is located in a belt of volcanic and minor sedimentary rocks belonging to the Upper Triassic Nicola Group. These consist mainly of red to green fine-grained andesite with locally very strong epidote-chlorite alteration. Trending north-northwest across the property is the Quilchena fault, a regional near vertical shear zone with an apparent horizontal displacement of three kilometres. Associated with this fault are numerous northeast and some northwest trending fractures.

Several trenches expose bornite and chalcopyrite mineralization in sparse, discontinuous, narrow quartz-calcite stringers.

BIBLIOGRAPHY

EMPR AR 1949-120; 1962-56; 1965-155; 1966-167; *1967-169
EMPR ASS RPT 748, 2750, 5091, 5092, 7662, 11927, 12957, 15996
EMPR EXPL 1983-269; 1979-161; 1989-119-134
EMPR GEM 1970-378; 1974-127
EMPR MAP 47
EMPR P 1981-2
EMPR PF (Kamloops) (*Kelly, S.F. (1986): Report on the IOTA and G & GI Groups of Mineral Claims near Merritt, B.C.)
GSC MAP 886A; 887A; 1386A
GSC MEM *249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE119**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGH GRADE**, JOE-CAT, IOTA,
QUILCHENA

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 30 N
LONGITUDE: 120 31 12 W
ELEVATION: 1006 Metres

NORTHING: 5557327
EASTING: 677202

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Tetrahedrite
ASSOCIATED: Quartz Calcite
ALTERATION: Epidote
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesitic Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1967

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

0.0200

Per cent

COMMENTS: Sample width is 16.76 metres; trace gold and silver.
REFERENCE: Minister of Mines Annual Report 1967, page 171.

CAPSULE GEOLOGY

The property is located in a belt of volcanic and minor sedimentary rocks of the Upper Triassic Nicola Group. They are mainly red to green fine-grained andesitic and basaltic flows with locally intense epidote alteration. The Quilchena fault trends north-northwest and dips steeply to the east. A horizontal displacement of 3 kilometres is apparently associated with this shear zone. Numerous northwest trending fractures give the rock a sheeted appearance.

Copper mineralization is exposed in the High Grade trenches where a 2 metre wide zone of strongly epidotized and extensively sheared volcanic rocks host bornite, chalcopyrite and tetrahedrite in irregular discontinuous quartz-calcite stringers and as coarse disseminations in the andesite. Chip samples assayed trace gold and silver and 0.03 per cent copper (Minister of Mines Annual Report 1967).

BIBLIOGRAPHY

EMPR AR 1949-120; 1962-56; 1965-155; 1966-167; *1967-170,171
EMPR ASS RPT 748, 2750, 5091, 5092, 7662, 11927, 12957, 15996
EMPR EXPL 1983-269; 1979-161; 1989-119-134
EMPR GEM 1970-378; 1974-127
EMPR MAP 47
EMPR P 1981-2
EMPR PF (Kamloops) (*Kelly, S.F. (1986): Report on the IOTA and G & GI Groups of Mineral Claims near Merritt, B.C.)
GSC MAP 886A; 887A; 1386A

MINFILE NUMBER: **092ISE119**

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 685
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM *249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE120**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL**, G & GI, IOTA

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 07 32 N
LONGITUDE: 120 33 01 W
ELEVATION: 1327 Metres

NORTHING: 5555464
EASTING: 675097

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Epidote
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Strata and quartz veins.

STRIKE/DIP: 005/65E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Unknown

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Porphyritic Diorite
Andesite
Augite Porphyritic Andesite
Amygdaloidal 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: 1987

SAMPLE TYPE: Drill Core

COMMODITY

Gold

GRADE

0.4600

Grams per tonne

REFERENCE: Assessment Report 15852.

CAPSULE GEOLOGY

The AL property is located in a belt of volcanic and minor sedimentary rocks of the Upper Triassic Nicola Group. These consist of red to green-grey andesitic and basaltic flows which are either fine-grained and massive or porphyritic with augite phenocrysts. Epidote alteration is locally intense. Volcanic rocks strike north dip 60 to 80 degrees to the east, and carry sparse pyrite and chalcopyrite. The regional Quilchena fault strikes northeast and appears to have been the locus of up to three kilometres of horizontal displacement.

Copper mineralization appears to be related to microdiorite intrusions. Diamond drilling (1987) led to the recognition of three types of microdiorite. The first is siliceous, very fine-grained and finely porphyritic and carries 2 to 8 per cent disseminated fine pyrite. The second and third types contain subhedral feldspar phenocrysts in a grey-green matrix with sparse pyrite and chalcopyrite. Gold values (10 to 35 parts per billion) are associated with the microdiorite units and higher values (60 to 460 parts per billion) are associated with quartz-calcite veins. A diamond-drill hole intersection assayed 0.46 grams per tonne gold (Assessment Report 15852). In the adits, vein shears are offset by

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 687
REPORT: RGEN0100

CAPSULE GEOLOGY

post-mineral faults which are subordinate to the Quilchena fault.

BIBLIOGRAPHY

EMPR AR 1962-57
EMPR ASS RPT 8494, 12256, 15572, 15852
EMPR EXPL 1989-119-134
EMPR MAP 47
EMPR PF (Kamloops) (*Kelly, S.F. (1986): Report on the IOTA and
G & GI Groups of Mineral Claims; Sorbara, J.P. (1987): Report
on IOTA and G & GI claims for IOTA Explorations Ltd.)
GSC MEM 249, p. 131
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/10

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE121**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER BELLE** BILL, MINT,
CATHY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 07 18 N
LONGITUDE: 120 50 11 W
ELEVATION: 671 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5554400
EASTING: 654662

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Specularite Rutile
COMMENTS: Copper carbonates
ASSOCIATED: Quartz Calcite
ALTERATION: Hematite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Basalt
Sediment/Sedimentary
Intrusive Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Copper Belle mine lies in Upper Triassic Nicola Group rocks which locally consist of massive and porphyritic andesitic and basaltic flows, minor volcaniclastics, sediments and granitic to gabbroic intrusive rocks.

The orebody strikes nearly east and dips 20 degrees south. It consists of quartz and calcite with specular hematite, chalcopyrite and copper carbonates. Mineralized outcrops occur as discontinuous lenses 7 to 60 centimetres wide and 1 to 9 metres long. The deposit has been developed by 4 adits, shallow inclined shafts and open cuts which expose 0.3 to 1.5 metre wide fracture zones striking from 330 degrees to 080 degrees with shallow to moderate dips. One fracture which strikes 055 degrees and dips 25 degrees north contains rutile-bearing quartz with chalcopyrite, hematite and calcite, is 45 centimetres wide and is exposed for a length of 3 metres.

BIBLIOGRAPHY

EMPR AR 1900-900; *1915-230; 1961-42,115; 1962-132; 1966-167
EMPR ASS RPT 357, 402, 736, 9088
EMPR EXPL 1980-220; 1989-119-134
EMR MP CORPFILE (Merritt Copper Co. Ltd.)
GSC MAP 44-20A; 886A; 887A
GSC MEM *249, p. 125
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE122**

NATIONAL MINERAL INVENTORY:

NAME(S): **RALPH, JAN, COPPER,
BEN**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 05 49 N
LONGITUDE: 120 39 52 W
ELEVATION: 1067 Metres

NORTHING: 5552022
EASTING: 667037

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Iron

MINERALS

SIGNIFICANT: Chalcopyrite	Bornite	Malachite	Pyrite	Magnetite
ALTERATION: Epidote	Silica	Calcite	Malachite	
ALTERATION TYPE: Skarn		Propylitic	Silicific'n	Oxidation
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Disseminated Massive
CLASSIFICATION: Skarn Industrial Min.
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Sandstone
Epidote Skarn
Plagioclase Porphyritic Andesite
Rhyolitic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Chip

COMMODITY

GRADE

Copper

0.5300

Per cent

COMMENTS: Sample across 3 metres of exposed mineralization.

REFERENCE: Assessment Report 7861.

CAPSULE GEOLOGY

The Ralph showing is located near the eastern faulted boundary of the western belt of the Upper Triassic Nicola Group. It is underlain by grey to green volcanic flows (generally plagioclase porphyritic andesite), breccia and tuff with minor interbedded limestone and sandstone. Bedding strikes north to northeast and dips moderately to the east. The Nicola Group rocks are locally sheared, brecciated, folded, silicified and epidote altered. Bands of epidote skarn are developed in tightly folded, altered sedimentary rocks which host chalcopyrite, bornite, malachite, pyrite and magnetite. Mineralization also occurs in altered andesitic to rhyolitic volcanic rocks.

A chip sample across 3 metres of exposed mineralization in a trench assayed 0.53 per cent copper (Assessment Report 7861).

BIBLIOGRAPHY

EMPR ASS RPT 356, *7861, 7938, *9009
EMPR BULL *69
EMPR EXPL 1976-E90; 1980-218,219; 1989-119-134
EMPR MAP *47
GSC MAP 886A
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 690
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE123**

NATIONAL MINERAL INVENTORY: 092I2 Cu1

NAME(S): **COPPERADO - P66, P. SUE,**
COPPERADO (NORTHWEST), B, MAR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:
LATITUDE: 50 12 18 N
LONGITUDE: 120 37 16 W
ELEVATION: 1175 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5564132
EASTING: 669753

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Malachite
ASSOCIATED: Quartz
ALTERATION: Chlorite Malachite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Quartz vein

STRIKE/DIP: 325/30E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic			Nicola Batholith

LITHOLOGY: Gneissic Granodiorite
Quartz Monzonite
Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Copperado-P66 occurrence is situated at the southwestern margin of the Lower Jurassic Nicola batholith. Locally, the intrusive rocks consist of gneissic hornblende-biotite granodiorite to quartz monzonite and exhibits widespread chloritization. A thin section of the sheared gneissic rock showed a lack of plagioclase and development of clinozoisite. Foliation strikes northwest with moderate to steep west dips. The granodiorite intrudes intermediate volcanoclastic rocks and sediments of the Upper Triassic Nicola Group. The contact strikes east. Aplite dykes occupy north-northwest trending fracture sets which dip moderately to the east and west. A major fault striking 325 degrees and dipping 65 degrees west displaces the Nicola Group contact about 18.3 metres in a right-lateral sense.

Narrow quartz veins and scattered stringers in the shear zone carry sparse copper mineralization. Chalcopyrite, bornite and minor pyrite occur as disseminations; malachite staining is also evident. The veins strike 325 degrees and dip 30 degrees east.

BIBLIOGRAPHY

EMPR AR 1957-29; 1958-67; *1961-45; 1962-56; 1963-54; 1964-95;
*1967-167
EMPR ASS RPT 186, 425, 503, 6180, 6218, *9214, 10518
EMPR BULL 69
EMPR EXPL 1989-119-134
EMPR GEM 1977-138
GSC MAP 886A; 887A; 5209G
GSC MEM 249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE123**

MINFILE NUMBER: **092ISE124**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPERADO - A6, NICOLA**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 11 50 N
LONGITUDE: 120 36 04 W
ELEVATION: 1325 Metres

NORTHING: 5563313
EASTING: 671208

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Allanite
ASSOCIATED: Quartz Feldspar
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Pegmatite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nicola Batholith

LITHOLOGY: Granodiorite
Quartz Feldspar Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock

YEAR: 1949

COMMODITY

Uranium

GRADE

0.0017

Per cent

COMMENTS: Radioactive equivalent of a representative sample of rock.
REFERENCE: Minister of Mines Annual Report 1949, page 120.

CAPSULE GEOLOGY

Upper Triassic Nicola Group volcanic rocks are cut by granodiorite and granite of the Lower Jurassic Nicola batholith. A slightly copper-stained quartz-feldspar pegmatite zone in foliated granodiorite contains scattered radioactive allanite. A sample of the pegmatite assayed 0.0017 per cent equivalent uranium. See description of the nearby Turlight mine (092ISE055).

BIBLIOGRAPHY

EMPR AR *1949-120
EMPR ASS RPT 425
EMPR EXPL 1989-119-134
EMPR MAP 22-38
GSC EC GEOL 16, p. 45; 16 (Rev.), p. 235
GSC MAP 886A; 42-1989
GSC MEM 249
GSC OF 551
CIM Transactions Vol.LIII 1950, p. 285

DATE CODED: 1985/07/24
DATE REVISED: 1987/09/02

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

bornite, chalcopyrite and malachite staining occur in the veins and vein walls at depth and are also exposed on the surface.

Mineralization is known over a length of 60 metres and widths up to 60 metres at intervals. The lower limit was not encountered. Average grades are 0.2 per cent copper, 0.07 per cent molybdenite, and 17.1 grams per tonne silver (Assessment Report 10518).

Drilling in 1982 defined two planes of mineralization averaging 0.53 per cent copper over 0.31 metres and 1.23 per cent copper over 1.15 metres.

BIBLIOGRAPHY

EMPR AR 1961-45; 1962-56; 1963-54; 1964-95; *1967-167
EMPR ASS RPT 425, 503, 6179, 6180, 6218, 9354, 10518
EMPR EXPL 1989-119-134
EMPR GEM 1976-E90; 1977-E138
GSC MAP 886A; 887A; 5209G
GSC MEM *249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 695
REPORT: RGEN0100

MINFILE NUMBER: **092ISE126**

NATIONAL MINERAL INVENTORY:

NAME(S): **OLE-PAT, AL**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 25 06 N
LONGITUDE: 120 53 41 W
ELEVATION: 1450 Metres

NORTHING: 5587263
EASTING: 649560

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Molybdenum

MINERALS

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

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: 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>
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The area is underlain by Chataway variety intrusive rocks of the Highland Valley phase of the Lower Jurassic Guichon Creek batholith. This unit is medium-grained granodiorite, rich in hornblende, biotite and plagioclase. Northeast of Billy Lake is a large dyke swarm area where Bethlehem phase porphyritic dykes intrude Highland Valley phase granodiorites.

The Ole-Pat showing is located in a north trending fault zone which has been traced for 1 kilometre along strike. The fault zone hosts malachite staining and small amounts of chalcopyrite and molybdenite on fracture planes.

BIBLIOGRAPHY

EMPR ASS RPT *160, 6098
EMPR BULL 56
EMPR EXPL 1976-E93; 1989-119-134
EMPR MAP 30
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/07

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE126**

MINFILE NUMBER: **092ISE127**

NATIONAL MINERAL INVENTORY: 09217 Zn1

NAME(S): **ZONE 1**, SUNSHINE 8, SUNSHINE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 18 33 N
LONGITUDE: 120 46 32 W
ELEVATION: 1523 Metres

NORTHING: 5575373
EASTING: 658387

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

STRIKE/DIP: 085/65N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesitic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tolman Lake area is underlain by intermediate volcanoclastic and flow rocks of the Upper Triassic Nicola Group which are intruded by Lower Jurassic granitic batholiths several kilometres to the east and west. A strongly brecciated shear zone strikes 045 degrees and dips steeply to the northwest and is apparently continuous over a strike length of 2000 metres. This structure hosts 3 zones of mineralization.

Zone 1 is located approximately 650 metres southwest of Zone 3 (092ISE129) on the west side of Tolman Lake. Open cuts expose a shear striking 085 degrees and dipping 65 degrees to the north within andesitic tuffs. The shear varies in width from 3 to 8 metres and contains steeply dipping quartz stringers which coalesce downward into a 30 to 60 centimetre wide vein. The vein is fractured and in places brecciated. The fractures are mineralized with sphalerite and minor galena.

BIBLIOGRAPHY

EMPR AR 1965-150; 1966-165
EMPR ASS RPT 2970, *6742, 8036
EMPR EXPL 1977-E144; 1989-119-134
EMPR GEM 1969-269; 1971-344
EMR MP CORPFILE (San Doh Mines Ltd.; Vastlode Mining Co. Ltd.;
CDR Resources Inc.; Ruskin Developments Ltd.)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE128**

NATIONAL MINERAL INVENTORY: 09217 Zn1

NAME(S): **ZONE 2, SUNSHINE 11, SUNSHINE 13, SUNSHINE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 18 58 N
LONGITUDE: 120 45 47 W
ELEVATION: 1579 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5576171
EASTING: 659254

COMMODITIES: Zinc Lead Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Sheared
DIMENSION: 0050 x 0030 x 0008 Metres STRIKE/DIP: 045/60N TREND/PLUNGE:
COMMENTS: Shear zone

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Andesitic Tuff
Andesitic Breccia

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 2.4000 Grams per tonne
Copper 0.1700 Per cent
Lead 0.1570 Per cent
Zinc 4.1000 Per cent
COMMENTS: Combined average over 3.25 metres.
REFERENCE: Assessment Report 8036.

CAPSULE GEOLOGY

The Tolman Lake area is underlain by intermediate volcaniclastic and flow rocks of the Upper Triassic Nicola Group. These are intruded by Lower Jurassic granitic batholiths several kilometres to the east and west. A strongly brecciated shear zone strikes 045 degrees and dips steeply to the northwest within Nicola Group andesite and is apparently continuous over a strike length of 2000 metres. This structure hosts three mineralized zones.

Zone 2 is located approximately 650 metres northeast of Zone 3 (092ISE129). For 46 metres along the strike of the zone, four trenches expose brecciated andesitic tuffs mineralized with quartz, sphalerite, pyrite, chalcopyrite and galena. The quartz stringers and sulphides lie in two principal directions; one strikes east and dips 75 degrees north and the second strikes 045 degrees and dips 80 degrees southeast. The mineralized brecciated andesitic tuffs are cut by several unmineralized steep faults trending east and northwest.

Combined average assay results from diamond drilling were 0.157 per cent lead, 4.10 per cent zinc, 2.4 grams per tonne silver and

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 698
REPORT: RGEN0100

CAPSULE GEOLOGY

0.17 per cent copper over 3.25 metres; gold averaged less than 0.1 grams per tonne (Assessment Report 8036). Inferred reserves are 45,359 to 54,431 tonnes based on a width of 8 metres, length of 50 metres and depth of 30 metres (Assessment Report 6742).

BIBLIOGRAPHY

EMPR AR *1965-150; 1966-165
EMPR ASS RPT 2970, *6742, *8036
EMPR EXPL 1977-E144; 1980-226; 1989-119-134
EMPR GEM 1969-269; 1971-344
EMR MP CORPFILE (San Doh Mines Ltd.; Vastlode Mining Co. Ltd.;
CDR Resources Inc.; Ruskin Developments Ltd.)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE129**

NATIONAL MINERAL INVENTORY: 09217 Zn1

NAME(S): **ZONE 3, SUNSHINE 1, SUNSHINE, ADIT**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 18 40 N
LONGITUDE: 120 46 01 W
ELEVATION: 1558 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5575607
EASTING: 658994

COMMODITIES: Zinc Lead Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Sheared
DIMENSION: 0165 x 0050 x 0006 Metres STRIKE/DIP: 045/60N TREND/PLUNGE:
COMMENTS: Shear zone

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: NO. 3 REPORT ON: Y
CATEGORY: Unclassified YEAR: 1971
QUANTITY: 258523 Tonnes
COMMODITY GRADE
Silver 12.3400 Grams per tonne
Copper 0.1800 Per cent
Lead 1.6900 Per cent
Zinc 4.8000 Per cent
COMMENTS: Grade difficult to determine due to very poor drill core recovery.
The grade is based on drill core and adit sampling.
REFERENCE: Property File - J.P. Elwell, 1971.

CAPSULE GEOLOGY

The Tolman Lake area is underlain by intermediate volcanoclastic and flow rocks of the Upper Triassic Nicola Group. These are intruded by the Guichon Creek batholith 5 kilometres to the west and the Nicola batholith 9 kilometres to the east, both of which are granitic in composition and Lower Jurassic in age. A strongly brecciated shear zone within Nicola Group andesite strikes 045 degrees, dips steeply to the northwest and is apparently continuous over a strike length of 2000 metres. This structure hosts three zones of mineralization. In Zone 3, galena, sphalerite, chalcopyrite, pyrite and pyrrhotite occur in a brecciated zone with a quartz-calcite matrix. The hangingwall consists of bleached and pyritic andesite which grades into numerous quartz and calcite veins carrying sphalerite and galena. The footwall consists of highly silicified andesite containing unmineralized quartz and calcite veins. The mineralized brecciated zone varies in width up to 6.5 metres and is cut and slightly offset by several near-vertical, north trending faults. Zone 3 has been tested by diamond drilling and underground

CAPSULE GEOLOGY

development to a depth of 50 metres over a length of 165 metres. In 1971, unclassified reserves are 258,5233 tonnes averaging 1.69 per cent lead, 4.8 per cent zinc, 0.18 per cent copper and 12.34 grams per tonne silver. The grade is difficult to determine due to very poor drill core recovery. The grade is based on drill core and adit sampling (Elwell, 1971).

BIBLIOGRAPHY

EMPR AR *1967-162; 1968-196
EMPR ASS RPT 2970, *6742, *8036
EMPR EXPL 1977-E144; 1978-E161; 1980-226; 1989-119-134
EMPR GEM 1969-269; 1971-344; 1972-158
EMPR PF (Report by J.P. Elwell, 1971)
EMR MIN BULL MR 223 B.C. 138
EMR MP CORPFILE (San Doh Mines Ltd.; Vastlode Mining Co. Ltd.;
CDR Resources Inc.; Ruskin Developments Ltd.)
GSC MEM 249
GSC MAP 886A
GSC OF 980
GCNL Jan.23, Feb.27, 1980

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE130**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHATKO, BOY, LK,**
JJ, S.S.

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 04 36 N
LONGITUDE: 120 44 23 W
ELEVATION: 914 Metres

NORTHING: 5549602
EASTING: 661722

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Iron

MINERALS

SIGNIFICANT: Chalcopyrite Magnetite Hematite Pyrite Specularite
ALTERATION: Epidote Hematite Pyrite Quartz Calcite
ALTERATION TYPE: Skarn Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Massive Stockwork
CLASSIFICATION: Skarn Industrial Min.
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Calc-silicate
Rhyolitic Pyroclastic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The western belt of the Upper Triassic Nicola Group is comprised of a northeast trending sequence of calc-alkaline flows grading upward into pyroclastics, epiclastic sediments and limestone. The property is underlain primarily by andesitic, dacitic and to a lesser extent, rhyolitic flows and breccia. Flow rocks vary from massive to porphyritic and/or amygdaloidal. They are cut by intermediate to felsic intrusions and intercalated with limestone, volcanic sandstone and tuff. The carbonate unit is comprised of light grey massive limestone lenses and bands parallel to primary bedding. Its contacts with wall rocks are sharp. Bedding strikes north to northeast and dips gently southeast. A major fault zone trends northwest along Godey Creek, 400 metres west of the Chatko showing. On the property, faulting, fracturing and silicification are evident.

The principal mineral showing consists of a semi-concordant, northeast trending skarn zone 65 by 35 metres. It is hosted by limestone and calc-silicate units and is underlain directly by rhyolitic pyroclastic rocks. Mineralization consists of massive and disseminated magnetite, with veins and seams of chalcopyrite and hematite. Chalcopyrite occurs as blebs along contacts, in irregular magnetite masses, or disseminated in host rock adjacent to the veins. Other skarn minerals are epidote, specular hematite, pyrite, quartz and calcite.

Early trenches and an adit developed this showing.

BIBLIOGRAPHY

EMPR AR 1969-273
EMPR ASS RPT 279, *2112, 6356, 6919, 12257, 15100
EMPR EXPL 1977-E138; 1984-200; 1989-119-134
EMPR MAP *47
EMPR PF (Geology sketch maps, 1980)
GSC MAP 886A
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 702
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE131**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRON KING-IRON QUEEN**, MOUSE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 30 N
LONGITUDE: 120 38 04 W
ELEVATION: 930 Metres

NORTHING: 5557061
EASTING: 669025

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Limonite
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Residual Industrial Min.
TYPE: B01 Laterite Fe

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: Volcaniclastic Rock
Argillite
Pyroclastic Breccia
Epiclastic Breccia
Conglomerate
Tuff
Sandstone
Shale

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1915
SAMPLE TYPE: Grab
COMMODITY GRADE
Iron 52.0000 Per cent

COMMENTS: High grade sample. A low grade representative sample assayed 22.0 per cent iron, 0.27 per cent sulphur and 51.5 per cent silica.

REFERENCE: Minister of Mines Annual Report 1915, page 231.

CAPSULE GEOLOGY

The property lies in a north trending, fault-bounded belt of interbedded volcanic and sedimentary rocks of the Upper Triassic Nicola Group. The Iron King-Iron Queen showing is situated in the contact zone between volcaniclastic rocks and intercalated argillite to the southwest, and plagioclase-augite porphyritic pyroclastic and epiclastic breccia, conglomerate, tuff, sandstone and shale to the east.

A limonite deposit is exposed in a deep, 100 metre wide gulch. Trenching (1915 or earlier) indicated an approximate length of 610 metres and width of 15 to 60 metres. A grab sample assayed 52 per cent iron, 0.6 per cent sulphur and 3.7 per cent silica. A low grade representative sample assayed 22.0 per cent iron, 0.27 per cent sulphur and 51.5 per cent silica (Minister of Mines Annual Report 1915).

BIBLIOGRAPHY

EMPR AR *1915-231
EMPR EXPL 1989-119-134

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 704
REPORT: RGEN0100

BIBLIOGRAPHY

GSC EC GEOL 3, p. 129
GSC MAP 44-20A; 886A; 887A
GSC MEM 249, p. 137
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE132**

NATIONAL MINERAL INVENTORY: 092I2 Cu2

NAME(S): **PEACOCK, CA, HUNTER,
BOULDER CAP, COPPERONDA, COPPERADO,
COPPERANDA, BANNER, OLD MINE,
NICOLA 1, PAYROLL, SMITH**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:
LATITUDE: 50 12 59 N
LONGITUDE: 120 38 11 W
ELEVATION: 853 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5565364
EASTING: 668623

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Bornite	Chalcopyrite	Azurite	Malachite	Pyrite
ASSOCIATED:	Quartz				
ALTERATION:	Chlorite	Epidote	Malachite	Azurite	
ALTERATION TYPE:	Propylitic		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Vein	Stockwork	Disseminated
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>
Lower Jurassic			Nicola Batholith

LITHOLOGY: Hornblende Biotite Granodiorite
Quartz Monzonite
Aplite Dike

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The property is underlain by granitic rocks of the Lower Jurassic Nicola batholith. Locally the intrusive rock is hornblende-biotite granodiorite which has undergone widespread chlorite-epidote alteration and exhibits strong foliation striking northeast and dipping steeply to the west. To the southwest is the intrusive contact of the granodiorite with Upper Triassic green to purple andesite, volcanoclastic rocks and intercalated sediments belonging to the Nicola Group. The Nicola batholith is intruded(?) by a northwest trending tongue of quartz monzonite which is fine-grained and foliated near its margins, and coarse-grained and massive elsewhere. Numerous faults strike approximately 030 degrees with dip angles 50 degrees northwest to vertical, and appear to have been the locus of some horizontal displacement.

The Peacock showing contains several shallow shafts in the narrow gorge of Clapperton Creek which expose several large, sparsely mineralized quartz bodies up to 12 metres across connected by veins and stringers. Copper mineralization occurs in the quartz veins and occasionally disseminated in the granodiorite. The veins are up to 60 centimetres in width and strike north in general alignment with foliation and fractures. Many veins occur in areas of aplite dykes. Mineralization consists of bornite, chalcopyrite, malachite and azurite, usually associated with minor pyrite.

BIBLIOGRAPHY

EMPR AR 1897-615; 1898-1106; 1900-892; 1903-182; 1904-298; 1906-179;
*1907-138; 1915-231; 1928-520; 1967-163; 1968-197
EMPR BULL 69
EMPR EXPL 1989-119-134
EMPR GEM 1972-144; 1977-E139
EMPR MAP 47

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 706
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Summary of Exploration and Development Work Form 1967;
Geological notes)
GSC MAP 886A
GSC MEM *249, p. 130
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/15

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE133**

NATIONAL MINERAL INVENTORY:

NAME(S): **AC, A, KAY,
KIRBY, LYN, REAKEL**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 16 18 N
LONGITUDE: 120 39 40 W
ELEVATION: 1525 Metres

NORTHING: 5571453
EASTING: 666666

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Copper sulphides
ALTERATION: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesitic Flow
Basaltic Flow
Augite Porphyry
Agglomerate
Conglomerate
Breccia
Tuff
Argillite
Limestone
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The AC property is underlain by volcanic and sedimentary rocks of the Upper Triassic Nicola Group. The volcanic rocks consist of andesitic and basaltic flows, augite porphyry, agglomerate, breccia and tuff. These are interbedded with minor argillite, conglomerate and limestone units which define an asymmetric south plunging anticline with its axis passing through Swakum Mountain. The Nicola belt is bounded by the Lower Jurassic Nicola and Guichon granodiorite batholiths to the east and west, respectively.

Drilling intersected copper sulphides occurring as disseminations in quartz-carbonate altered zones.

BIBLIOGRAPHY

EMPR AR 1967-163; 1968-197
EMPR ASS RPT 4503, 15506
EMPR EXPL 1989-119-134
EMPR GEM 1972-180
EMPR PF (Summary of Exploration and Development Work Form 1967;
Geological notes)
GSC MAP 886A; 887A; 5212G
GSC MEM *249, pp. 59,65
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/14

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE134**

NATIONAL MINERAL INVENTORY:

NAME(S): **MICROGOLD, CINDY, REDBIRD,**
KULLAGH LAKE, WEST

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:
LATITUDE: 50 23 10 N
LONGITUDE: 120 22 02 W
ELEVATION: 972 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Nicola
Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5584875
EASTING: 687156

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Arsenopyrite
ASSOCIATED: Quartz Calcite Chalcedony Fluorite Magnetite
ALTERATION: Chlorite Hematite Epidote Kaolinite Silica
ALTERATION TYPE: Propylitic Oxidation Argillic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Epithermal
TYPE: H03 Hot spring Au-Ag H05 Epithermal Au-Ag: low sulphidation

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	
Eocene	Undefined Group	Undefined Formation	

LITHOLOGY: Andesitic Flow Breccia
Siltstone
Conglomerate
Andesite

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: 1986
SAMPLE TYPE: Drill Core
COMMODITY Gold GRADE 0.7000 Grams per tonne
COMMENTS: Sample across 2.9 metres of an altered zone with chalcedonic
silica veining.
REFERENCE: Assessment Report 16075.

CAPSULE GEOLOGY

The Cindy occurrence is underlain for the most part by variably chloritized, epidotized and hematized andesitic flow breccias belonging to the Upper Triassic Nicola Group. Near the eastern boundary of the property the north trending Stump Lake fault forms the contact between the Nicola Group to the west and Eocene Kamloops Group volcanics to the east. Clastic sedimentary rocks ranging from siltstone to conglomerate outcrop near the south end of Kullagh Lake. Original compositional layering defines a northeast trending synform. The dominant structural feature is a conjugate fracture pattern. Fractures are oriented northwest to northeast and have no apparent offset. Alteration and mineralization are structurally controlled. The andesites are moderately fractured, with chlorite, kaolinite, carbonate or hematite lining the thin slips. Both magnetite and pyrite are present as disseminations (up to 5 per cent) within andesitic rocks.

Diamond-drill holes intersected chalcedonic quartz veins enveloped by variable pervasive silica and clay alteration. The veins are 1 centimetre to 1 metre in width, cryptocrystalline, massive to laminated, vuggy or brecciated, and form complex networks. Purple or

CAPSULE GEOLOGY

green fluorite, and occasionally calcite are intimately associated with many of the veins. Pyrite occurs as fine disseminations and thin lenticular veinlets within the quartz veins and altered zones. Chalcopyrite is also evident. Coarse-grained milky white to grey quartz-carbonate veins are also present and tend to be more abundant at depth. A diamond-drill hole intersection across a 2.9-metre wide altered zone containing chalcedonic silica veining returned a best assay of 0.7 gram per tonne gold (Assessment Report 16075).

Canquest Resource Corporation conducted geological, geochemical and geophysical surveys and drilling from 1991 to 1997.

BIBLIOGRAPHY

EMPR ASS RPT 8062, 11372, 11397, 14650, 16075, 22012, 22424,
23405, 23967, 24205, 24455, 24817, 24913

EMPR BULL 69

EMPR EXPL 1983-278; 1986-C233; 1989-119-134

EMPR PF (Canquest Resource Corporation Website (Nov.1999):

Microgold Property, 11 p.; see OK, 092K 008 - Canquest Resource Corporation Corporate Profile Report (circa 2000), 9 p.)

GSC MEM *249

GSC OF *980

WWW <http://www.canquest.bc.ca/microgol.htm>; <http://www.infomine.com/Chevron> File

DATE CODED: 1985/07/24
DATE REVISED: 1996/11/13

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE135**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLAPPER, CLASSIC, REAKEL,
MAB LAKE, COKE, KAY-LIN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

MINING DIVISION: Nicola

LATITUDE: 50 17 32 N
LONGITUDE: 120 38 13 W
ELEVATION: 1310 Metres

UTM ZONE: 10 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5573793
EASTING: 668316

COMMENTS: Trench-like excavation, 3 kilometres south of Helmer Lake, west of Clapperton Creek, 150 metres west of the Coquihalla Highway (Assessment Report 18042).

COMMODITIES: Copper Gold Silver Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Malachite Chalcocite Chalcopyrite Sphalerite

Galena

ASSOCIATED: Quartz Carbonate

ALTERATION: Pyrite Quartz Clay Carbonate Epidote

ALTERATION TYPE: Pyrite Silicific'n Argillic Carbonate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION:

STRIKE/DIP: 125/

TREND/PLUNGE:

COMMENTS: Classic zone

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nicola Batholith

LITHOLOGY: Andesite
Hornblende Porphyritic Andesite
Andesite Tuff
Andesite Lapilli Tuff
Agglomerate
Volcanic Breccia
Granodiorite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: CLASSIC

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Grab

COMMODITY

GRADE

Copper 0.3700 Per cent

COMMENTS: Two hundred metres northwest of this zone, grab samples of altered andesite assayed up to 3.68 grams per tonne gold.

REFERENCE: Assessment Report 18042.

CAPSULE GEOLOGY

The area is underlain by Upper Triassic Nicola Group volcanic and sedimentary rocks proximal to a largely fault-bounded contact with the Lower Jurassic granodiorite to quartz monzonite Nicola batholith.

The Clapper occurrence is underlain by Upper Triassic Nicola Group andesitic rocks in fault contact with granodiorite of the Lower Jurassic Nicola batholith. A coarse-grained diorite to quartz diorite is also evident and may represent a marginal phase of the batholith. The Nicola Group rocks consist of hornblende porphyritic andesite, andesite tuff and lapilli tuff, agglomerate, volcanic breccias, massive andesite and fine-grained diorite which is

CAPSULE GEOLOGY

apparently a subvolcanic equivalent of the andesite. Metamorphosed equivalents of the andesites are locally exposed and include greenstone, phyllite and quartz sericite schists. The latter two units appear to be related to localized shear zones. The andesitic volcanic rocks also contain local interbeds of limestone, siltstone and volcanoclastics. Minor calc-silicate development and rare diopside-epidote skarn is evident at the limestone-andesite contact but is restricted to a 20 to 40 centimetre alteration zone.

A major north trending fault zone, Fanta fault, separates the batholith from the Nicola Group rocks. The fault is characterized by brecciation, pyritization, carbonate and epidote alteration, local clay alteration and variable silicification. A pyritic, silicified zone with local clay alteration (Classic zone) trends 125 degrees and cuts across the Fanta fault and may represent a subsidiary structure.

Mineralization consists of locally abundant pyrite along the Fanta fault and is concentrated in the Classic zone. Malachite and rare chalcopyrite are also observed along the Fanta fault. In the malachite-bearing areas, the rocks are generally well fractured, carbonate altered, commonly pyritic and contain abundant quartz-carbonate veinlets. These veinlets carry malachite, pyrite and/or chalcocite. The veinlets are apparently related to minor west and northwest trending shears.

The Classic zone is defined by a pronounced gossan. Pyrite is ubiquitous but is most abundant within a central 60 metre wide silicified zone that trends approximately 125 degrees. The north half of this zone encompasses a 20 to 30 metre wide, more highly pyritic and silicified zone within which is an intense clay altered section. The pattern of alteration suggests a southwest dip for this zone. Rock grab samples from the Classic zone assayed up to 0.37 per cent copper. Two hundred metres northwest of the Classic zone, rock grab samples of malachite stained, weakly silicified, pyritic andesite assayed up to 3.68 grams per tonne gold (Assessment Report 18042).

Elsewhere on the property a copper-gold correlation is evident, particularly within crosscutting fracture zones along the north trending Fanta fault. At the south end, narrow quartz-carbonate veins with weak to trace malachite +/- chalcocite, chalcopyrite and pyrite contain up to 0.89 grams per tonne gold and 0.41 per cent copper. On a centimetre scale, silicified and pyritic pods just south of the Classic zone assayed up to 0.5 grams per tonne gold. At the north end of the property, a 5 centimetre wide zone in hematitic andesite is mineralized with pyrite, sphalerite, galena and malachite. A rock sample from this zone assayed 4.75 grams per tonne gold and 144 grams per tonne silver (Assessment Report 18042).

BIBLIOGRAPHY

EMPR ASS RPT 2105, 4503, 14661, *18042
EMPR EXPL 1986-C230; 1988-C110,C111; 1989-119-134
EMPR GEM 1969-271; 1973-180
GSC MAP 886A; 5212G
GSC MEM 249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1989/11/07

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE136**

NATIONAL MINERAL INVENTORY:

NAME(S): **DON, SCOTTIE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092108W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 30 N
LONGITUDE: 120 21 19 W
ELEVATION: 1025 Metres

NORTHING: 5579965
EASTING: 688181

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Gold Silver Copper Lead Zinc
Tungsten

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Scheelite
ASSOCIATED: Quartz Calcite
ALTERATION: Chlorite Epidote Sericite Kaolinite Limonite
ALTERATION TYPE: Propylitic Sericitic Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Quartz vein
STRIKE/DIP: 340/35E
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Andesitic Flow Breccia
Augite Porphyry

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
SAMPLE TYPE: Rock
COMMODITY: Silver 75.4000 Grams per tonne
Gold 1.4700 Grams per tonne

COMMENTS: Sample across 1.5 metre (true width) quartz vein.
REFERENCE: Assessment Report 18495.

CAPSULE GEOLOGY

The historic Stump Lake mining camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. The Nicola Group greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate, and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that the north plunging axis of a syncline passes through the occurrence area. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have also been mapped. Secondary to the regional north-northeast trending Quilchena and Stump Lake faults, are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. The volcanics are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in veins and shear zones. Numerous north trending quartz, and less commonly calcite veins, generally less than 50 centimetres wide, are vertical to steeply eastward dipping and can be traced along strike for hundreds of

CAPSULE GEOLOGY

metres.

The workings on the Don showing include three(?) shallow shafts and several open cuts. An inclined shaft 15 metres deep in the northern area follows a vein zone which strikes 350 degrees and dips 35 degrees east. This zone shows carbonate, limonitic, sericite and kaolinite alteration and contains quartz (and calcite) veins 45 centimetres to 1.5 metres wide. Sulphide mineralization is sparse and includes pyrite, chalcopyrite, galena and sphalerite. Small amounts of scheelite are disseminated in the quartz. Recent rock sampling of the quartz vein returned 1.47 grams per tonne gold and 75.4 grams per tonne silver over a true width of 1.5 metres (Assessment Report 18495).

BIBLIOGRAPHY

EMPR AR 1958-67
EMPR ASS RPT 4410, 18494, *18495
EMPR BULL *10, p. 115
EMPR EXPL 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1972-186
EMPR OF 1991-17
GSC MAP 886A; 887A
GSC MEM *249, p. 58
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/26

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE137**

NATIONAL MINERAL INVENTORY:

NAME(S): **SID, SID (SOUTH), CHALCO,**
P.C.M. 21

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 57 N
LONGITUDE: 120 56 37 W
ELEVATION: 887 Metres

NORTHING: 5559093
EASTING: 646862

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Specularite	Chalcopyrite	Pyrite	Bornite	Malachite
ALTERATION:	Chlorite	Epidote	Malachite	Tourmaline	
ALTERATION TYPE:	Propylitic	Oxidation			
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Igneous-contact

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Coyle Stock

LITHOLOGY: Tuffaceous Andesite
Quartzofeldspathic Hornfels
Granite
Gneiss
Chlorite Schist
Feldspar Porphyry
Diorite
Quartz Diorite
Rhyolite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist
Hornfels

CAPSULE GEOLOGY

Upper Triassic Nicola Group rocks exposed on Promontory Hills are intruded by the Lower Jurassic Guichon Creek batholith to the north and the Coyle stock to the south, and are unconformably overlain by Cretaceous Spences Bridge and Kingsvale groups to the west and east respectively. The Nicola Group rocks comprise a large, slightly overturned subisoclinal anticline which plunges gently northeast. Several faults strike northwest. Copper mineralization occurs at the contact of the Nicola Group volcanics and the granitic Coyle stock. The Nicola Group rocks are northeast trending, dark green to black tuffaceous and fragmental andesites which are moderately chloritized and epidotized. The Coyle stock is a pink leucocratic granite with less than five per cent (by volume) chloritized hornblende, biotite and disseminated magnetite. Feldspar porphyry, diorite and quartz diorite are marginal intrusive phases. Quartz and carbonate veining with associated specularite is characteristic of the Coyle stock and are believed to be related to late-stage Nicola Group volcanism.

The contact of the Nicola Group and the Coyle stock is chilled with fine-grained rhyolite dykes present. Tuffs and fragmental rocks are hornfelsed and silicified to quartzofeldspathic hornfels, gneisses and chlorite or sericite schists. This unit is mineralized with specularite, chalcopyrite and minor amounts of pyrite, bornite and malachite. Specks of tourmaline are also evident.

BIBLIOGRAPHY

EMPR AR 1958-26; 1959-143; *1960-26-41; 1962-54

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 715
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 237, 330, 450, *2128, 3889, 5771
EMPR BULL 56
EMPR EXPL 1975-E79; 1989-119-134
EMPR FIELDWORK *1977, pp. 31-36
EMPR GEM 1969-273; 1972-144
EMPR MAP *30
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/19

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE138**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUILCHENA**

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I01W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 24 N
LONGITUDE: 120 29 46 W
ELEVATION: 670 Metres

NORTHING: 5557198
EASTING: 678915

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Bentonite Coal

MINERALS

SIGNIFICANT: Bentonite Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: E06 Bentonite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Coldwater	

LITHOLOGY: Arkosic Sandstone
Conglomerate
Shale
Coal
Bentonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property is underlain by the Middle Eocene Coldwater Formation (Princeton Group) beds which consist of arkosic sandstone, conglomerate, shale and local coal seams. A one to three metre thick layer of bentonite is associated with a coal measure striking 010 degrees and dipping 30 degrees southeast. The deposit consists of light buff coloured, fine-grained dense rock which has a conchoidal fracture, greasy feel and high absorbency.

BIBLIOGRAPHY

EMPR AR *1920-169
EMPR BULL 30, p. 34
EMPR EXPL 1989-119-134
EMPR SUM RPT 1918-160; 1921-73-77
GSC MAP 886A; 887A
GSC MEM 25, p. 73; 249, p. 149
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE139**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUILCHENA COAL**, QUILCHENA CREEK

STATUS: Developed Prospect

MINING DIVISION: Nicola

REGIONS: British Columbia

NTS MAP: 092I02E

BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 04 48 N

LONGITUDE: 120 30 13 W

ELEVATION: 899 Metres

NORTHING: 5550510

EASTING: 678602

LOCATION ACCURACY: Within 500M

COMMENTS: The Quilchena coal occurrence is located in the Merritt coalfield, east-southeast from the town of Merritt.

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal

MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Fossil Fuel

TYPE: A04 Bituminous coal

COMMENTS: Strata strikes between north and northwest and dips 20 to 40 degrees east to northeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Coldwater

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Sandstone
Conglomerate
Shale
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

METAMORPHIC TYPE: Regional

COMMENTS: High volatile bituminous B rank coal.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: HVol Bituminous

INVENTORY

ORE ZONE: QUILCHENA COAL

REPORT ON: Y

CATEGORY: Inferred
QUANTITY: 10000000 Tonnes

YEAR: 1991

COMMODITY

Coal

GRADE

100.0000 Per cent

COMMENTS: Sub-high volatile bituminous B rank coal.

REFERENCE: Geological Survey of Canada Paper 89-4.

CAPSULE GEOLOGY

Six to seven small coal seams, probably containing sub-high volatile bituminous B rank coal occur in the Middle Eocene Coldwater Formation (Princeton Group) interbedded with sandstone, conglomerate and shale. The sequence is approximately 120 metres thick and less than 10 per cent of this is made up of shale and coal.

The Quilchena coal basin is 11 by 3 kilometres in a north-south direction. The coal bearing strata appear to strike approximately north to northwest and dip 20 to 40 degrees east to northeast. The Coldwater Formation lies unconformably above Upper Triassic Nicola Group volcanic rocks.

Inferred reserves of the Quilchena coal basin is estimated at 10 million tonnes of sub-high volatile bituminous B rank coal (Geological Survey of Canada Paper 89-4; Open File 1992-1).

BIBLIOGRAPHY

EMPR AR 1946-250-279
EMPR COAL ASS RPT 165, 166, 167
EMPR EXPL 1989-119-134
EMPR FIELDWORK 1991, pp. 427-432
EMPR MAP 65 (1989)
EMPR OF 1992-1

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 718
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Rotary hole log and gamma log, 1980; Drillhole location maps,
regional and property geology maps, 1981)
GSC MAP 886A
GSC MEM 69, pp. 280-285
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1986/05/27

CODED BY: GSB
REVISED BY: EVFK

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE140**

NATIONAL MINERAL INVENTORY:

NAME(S): **MERRITT GYPSUM**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 07 06 N
LONGITUDE: 120 48 10 W
ELEVATION: 670 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Open Pit

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5554099
EASTING: 657075

COMMODITIES: Gypsum Coal

MINERALS

SIGNIFICANT: Gypsum Coal
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Sedimentary Evaporite Industrial Min.
TYPE: F02 Bedded gypsum

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Princeton	Coldwater	

LITHOLOGY: Arkosic Sandstone
Conglomerate
Shale
Gypsum
Coal

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

Immediately to the north of Merritt, Middle Eocene Coldwater Formation beds (Princeton Group) overlie Upper Triassic Nicola Group volcanic, volcanoclastic and sedimentary rocks. The sediments consist of arkosic sandstone, conglomerate, shale and local coal seams. On the benches of the hills, gypsum occurs as irregular patches exposed by erosion. Pockets vary in thickness up to 3 metres. Calcite, sand and vegetable matter control the purity of the gypsum. Shipments of 454 tonnes were reported in 1911 after which trenches and pits become filled with debris.

BIBLIOGRAPHY

EMPR AR 1911-185; 1913-225; 1915-232; 1922-153; 1953-189
EMPR BULL 30, pp. 17,51
EMPR EXPL 1989-119-134
GSC MAP 886A; 887A
GSC MEM 25, p. 75; 74, p. 112; *249, p. 144
GSC OF *980
CANMET RPT 245-97; 687-28; 714-69

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/08

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE141**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLDWATER NO. 5**, MIDDLESBORO NO. 5, MERRITT,
BLAIR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 05 52 N
LONGITUDE: 120 47 14 W
ELEVATION: 606 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Abandoned mine, 1.5 kilometres south of the town of Merritt (NTS Map 92I/2).

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5551847
EASTING: 658255

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: A04 Bituminous coal

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Coldwater	

LITHOLOGY: Shale
Sandstone
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: High volatile bituminous B rank coal.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: HVol Bituminous

CAPSULE GEOLOGY

Coal seams occur in a section of interbedded shale and sandstone of the Middle Eocene Coldwater Formation (Princeton Group). Structure consists predominantly of northeast dipping strata which are flexed and folded into a northeast trending anticline (see 092ISE081).

A good quality coal seam approximately 1.5 metres thick dips south at 12 degrees and has been exploited between the abandoned Middlesboro No. 5 mine (reworked and called the Coldwater No. 5 mine) and the surface in the area 76 metres west of the portal of the Middlesboro No. 4 mine. Between 1951 and closing, the mine produced less than 1360 tonnes of coal per year.

Coal rights over Middlesboro collieries were acquired in 2001 by Forum Ventures from Imperial Metals. Forum plans to investigate both coalbed methane and conventional coal mining opportunities.

BIBLIOGRAPHY

EMPR AR *1953-A246,A247
EMPR EXPL 1989-119-134
GSC MAP 886A
GSC MEM 69, pp. 280-285; 249, pp. 150,151
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1989/11/08

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE142**

NATIONAL MINERAL INVENTORY:

NAME(S): **DIAMOND VALE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

Underground

MINING DIVISION: Nicola

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 06 36 N
LONGITUDE: 120 45 40 W
ELEVATION: Metres

NORTHING: 5553261
EASTING: 660081

LOCATION ACCURACY: Within 500M

COMMENTS: The Diamond Vale area is located east of Merritt and south of and adjacent to the Nicola River.

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: A04 Bituminous coal
SHAPE: Tabular
DIMENSION:
COMMENTS: Monocline

STRIKE/DIP: 235/27S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Eocene

GROUP

Princeton

FORMATION

Coldwater

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Sandstone
Shale
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage
METAMORPHIC TYPE: Regional
COMMENTS: High volatile bituminous B rank coal.

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: HVol Bituminous

CAPSULE GEOLOGY

Six coal seams of high volatile bituminous B rank occur in the Middle Eocene Coldwater Formation (Princeton Group) interbedded with predominantly shale and sandstone. Five of these seams are known from mine workings and outcrops and two have been mined in the Diamond Vale No. 3 and 4 mines. The seams at the mines range in thickness from 0.4 to 1.7 metres and include several shale and bone coal partings. A sample of Diamond Vale coal contained 1.82 per cent moisture, 3.27 per cent ash, 36.99 per cent volatile matter, 57.92 per cent fixed carbon, 0.80 per cent sulphur and yielded 14,184 BTU per pound.

The structure consists of a southwest dipping monocline striking approximately 235 degrees and dipping approximately 27 degrees southwest (steepening downdip). The area may be separated from the Coldwater area to the southwest by a broad northwest trending syncline.

The mines produced 42,087 tonnes of coal before closing in 1945.

BIBLIOGRAPHY

EMPR AR *1946-250-279
EMPR COAL ASS RPT 148, 151, 152, 153, 154, 155, 157, 162, 163
EMPR EXPL 1989-119-134
GSC MAP 886A
GSC MEM 69, pp. 280-285
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1986/05/28

CODED BY: GSB
REVISED BY: EVFK

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE143**

NATIONAL MINERAL INVENTORY:

NAME(S): **NIK GC, NIC,
GC1, HENNESSEY, KELLY**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:
LATITUDE: 50 10 27 N
LONGITUDE: 120 36 10 W
ELEVATION: 1073 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5560746
EASTING: 671172

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Malachite	Bornite	Pyrite
ASSOCIATED:	Quartz	Calcite		
ALTERATION:	Chlorite	Epidote	Sericite	Pyrite Malachite
ALTERATION TYPE:	Propylitic		Chloritic	Oxidation
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Igneous-contact
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Granodiorite
Aplite Dike
Porphyritic Quartz Diorite
Quartz Mica Schist
Chlorite Schist
Andesitic Flow
Andesitic Tuff

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Nik showing lies astride a northwest striking contact between Upper Triassic Nicola Group intermediate volcanics and minor sedimentary rocks to the southwest and Lower Jurassic Nicola batholith granite to the northeast. In the contact zone lithologies consist of massive to weakly foliated andesitic tuffs and flows, gneissic granodiorite, variably porphyritic quartz diorite, chlorite schist and quartz-mica schist. Foliation strikes approximately 030 degrees and dips 50 to 80 degrees to the west. Faults, fractures and shear zones strike northwest to northeast and have variable dips. Alteration includes strong chloritization with moderate amounts of epidote and sericite.

Pyrite occurs as disseminated grains, clots and bands parallel to foliation, locally up to 5 to 10 per cent in the metavolcanic and plutonic rocks. The granodiorite is intruded by aplite dykes and pods which are generally concordant with faults and joint patterns. The leucocratic rocks are mineralized with disseminations and fracture-fillings of malachite, chalcopyrite and lesser bornite. Veining in the contact zone consists of sulphide-bearing quartz-calcite stringers about 5 centimetres in width.

BIBLIOGRAPHY

EMPR ASS RPT 1839, 3143, *7121, 10147, *12137
EMPR BULL 69
EMPR EXPL 1978-E156; 1981-217; 1983-267; 1989-119-134
EMPR GEM 1969-360; 1971-291
EMPR MAP 47
EMPR PF (Geologic notes by S. Kelly; Report on a Geophysical Survey

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 723
REPORT: RGEN0100

BIBLIOGRAPHY

of Nik Mineral Claims by S.F. Kelly, 1971; Claim location maps;
Assay results for drillholes, 1977)
GSC MEM 249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE144**

NATIONAL MINERAL INVENTORY:

NAME(S): **PROMONTORY HILLS**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 15 N
LONGITUDE: 120 59 45 W
ELEVATION: 975 Metres

NORTHING: 5557695
EASTING: 643168

LOCATION ACCURACY: Within 500M

COMMENTS: Steep bluff, 1.5 kilometres north of the village of Canford on the south slope of Promontory Hills, 15.5 kilometres west from the town of Merritt (Minister of Mines Annual Report 1960, Figure 3).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Carbonate
ASSOCIATED: Calcite
MINERALIZATION AGE: Upper Triassic

DEPOSIT

CHARACTER: Massive Stratiform
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: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Several limestone lenses of the Upper Triassic Nicola Group are exposed on the south slope of Promontory Hills. The lowest lens forms the top of a steep bluff 335 metres above Highway 8. Siliceous dark grey limestone veined with white calcite is exposed across 21 metres for 61 metres along a strike of 040 degrees. A sample taken across the width of the exposure analyzed 0.92 per cent Fe2O3, 0.107 per cent MnO, 1.06 per cent MgO, 45.92 per cent CaO, 0.042 per cent P2O5, 0.04 per cent S, 36.85 per cent Ig. Loss, 0.08 per cent H2O, 2.84 per cent R2O3 and 13.32 per cent Insol. (Minister of Mines Annual Report 1958). A second lens is found 91 metres higher up the hill, a third lens 152 metres higher and a fourth lens 91 metres above the third. All lenses form bare northeast trending mounds on flat terraces that break the general slope of the hill.

BIBLIOGRAPHY

EMPR AR *1958-94-96; 1960-26-30
EMPR BULL 56
EMPR EXPL 1989-119-134
GSC MAP 886A
GSC MEM 243; 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1989/10/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE145**

NATIONAL MINERAL INVENTORY:

NAME(S): **NICOLA LAKE LIMESTONE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 07 38 N
LONGITUDE: 120 34 32 W
ELEVATION: 1341 Metres

NORTHING: 5555590
EASTING: 673285

LOCATION ACCURACY: Within 1 KM

COMMENTS: Limestone exposure forms a rounded ridge 2.5 kilometres south of Nicola Lake, 15.5 kilometres east from the town of Merritt (Minister of Mines Annual Report 1958, page 94).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Carbonate
MINERALIZATION AGE: Upper Triassic

DEPOSIT

CHARACTER: Massive Stratiform
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: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

A large limestone lens of the Upper Triassic Nicola Group is exposed for 152 metres in a northerly direction and is 61 metres wide. The rock is dark grey, rough weathering and siliceous. A sample of random chips across the surface analyzed 0.2 per cent Fe2O3, 0.015 per cent MnO, 0.46 per cent MgO, 53.67 per cent CaO, 0.038 per cent P2O5, 0.01 per cent S, 42.8 per cent Ig. Loss, 0.04 per cent H2O, 2.62 per cent Insol. and 0.28 per cent R2O3 (Minister of Mines Annual Report 1958). A second lens is evident but is very small.

BIBLIOGRAPHY

EMPR AR *1958-94-96
EMPR EXPL 1989-119-134
GSC MAP 886A
GSC MEM 249; 243
GSC OF 980

DATE CODED: 1989/10/24
DATE REVISED: 1989/10/24

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE146**

NATIONAL MINERAL INVENTORY:

NAME(S): **MM, ROB, ORO,**
SOUTH ORO, JANE, TYNER

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 21 06 N
LONGITUDE: 120 58 52 W
ELEVATION: 1394 Metres

NORTHING: 5579681
EASTING: 643624

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Malachite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Sericite Malachite Heulandite
ALTERATION TYPE: Sericitic Oxidation Zeolitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Monzonite
Porphyritic Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

The MM showing is located in the southern part of the central core of the Lower Jurassic Guichon Creek batholith which is comprised of Bethsaida phase quartz monzonite to granodiorite intruded by swarms of slightly younger porphyritic dykes. Less than 2 kilometres to the south, a major fault trends east along Shukun Creek. Approximately 4 kilometres to the west is the north trending Lornex fault which bisects the batholith. Sericitic, carbonate and potassic alteration and disseminated copper mineralization are associated with these faults.

Bulldozer trenches (1966) expose a major fault zone striking 015 degrees. Associated with the shear is abundant sericite and minor malachite. The granodiorite contains strongly fractured quartz veins up to 50 centimetres in width. These veins strike east, dip steeply and carry bornite, malachite and chalcopyrite. Red zeolites (heulandite?) also occur.

BIBLIOGRAPHY

EMPR AR 1958-27; *1966-163; 1967-282; 1968-274
EMPR ASS RPT 973, *975, 1601, 3633, 5052, 5996
EMPR EXPL 1976-E93; 1989-119-134
EMPR GEM 1969-264; 1971-357; 1972-161; 1974-137
EMPR MAP *30
GSC MAP 886A
GSC MEM 249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/28

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE147**

NATIONAL MINERAL INVENTORY:

NAME(S): **JHC**, HOMFRAY, R

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 26 54 N
LONGITUDE: 120 41 47 W
ELEVATION: 1300 Metres

NORTHING: 5591016
EASTING: 663544

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcocite Chalcopyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Epidote Chlorite Carbonate Hematite Malachite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Volcanogenic
TYPE: D03 Volcanic redbed Cu

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic Flow
Porphyritic Flow
Amygdaloidal Basalt
Amygdaloidal Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHEAR

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1987

COMMODITY

GRADE

Silver

14.2000

Grams per tonne

Copper

4.2700

Per cent

COMMENTS: Sample of shear.

REFERENCE: Assessment Report 17337.

CAPSULE GEOLOGY

The property lies west of Homfray Lake and is underlain by volcanic rocks of the Upper Triassic Nicola Group. The area straddles a northwest trending contact between two volcanic sequences. East of the contact zone are very fine-grained red flows with occasional feldspar (plagioclase?) phenocrysts. The matrix contains moderate amounts of hematite disseminations. To the west are grey volcanics with an aphanitic to fine-grained matrix and associated feldspar and/or augite phenocrysts. Alteration consists of epidote, chlorite and carbonate. The contact zone parallels the main northwest structural trend. Northeast and north trends are also evident. Drilling (1971) intersected disseminated chalcocite in porphyritic and amygdaloidal basalt.

Fracturing and narrow shears in amygdaloidal andesite contain epidote, carbonate, quartz, malachite and chalcopyrite. A chip sample assayed 4.27 per cent copper and 14.2 grams per tonne silver (Assessment Report 17337).

BIBLIOGRAPHY

EMPR AR 1958-29; 1959-38,143
EMPR ASS RPT 266, 7268, *8397, 14959, 15060, 17337, 18048
EMPR EXPL 1979-170; 1980-230; 1986-C228; 1988-C111; 1989-119-134
EMPR GEM 1971-294; 1972-183

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 728
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Summary of Exploration on Homefray Lake Property, 1971)
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE148**

NATIONAL MINERAL INVENTORY: 092I2 Cu7

NAME(S): **LAW**, LEN, LOT,
LOR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:
LATITUDE: 50 06 54 N
LONGITUDE: 120 55 35 W
ELEVATION: 1250 Metres
LOCATION ACCURACY: Within 5 KM
COMMENTS:

Open Pit

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5553476
EASTING: 648249

COMMODITIES: Copper Lead Zinc Gold Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Bornite Specularite Sphalerite
Magnetite
ALTERATION: Magnetite Chlorite
ALTERATION TYPE: Skarn Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Skarn Hydrothermal
DIMENSION:
COMMENTS: Diabase dyke STRIKE/DIP: 040/80W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Flow
Basaltic Flow
Limestone
Diabase Dike
Diorite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The northeastern slopes of Mount McInnes are underlain primarily by the Upper Cretaceous Kingsvale Group, a succession of andesitic and basaltic flows with interbedded volcanic breccia, tuff and sandstone. Upper Triassic Nicola Group volcanic, volcanoclastic and sedimentary rocks and Lower Jurassic dioritic intrusions are exposed north of Nicola River and in the valley of an unnamed creek west of Logan Creek. The area east of Logan Creek is underlain by Eocene volcanics and minor intercalated sedimentary rocks of the Kamloops Group.

The Nicola Group rocks are intensely altered and chloritized. Lenses of crystalline limestone host skarn development. A dark grey 3 metre wide diabase dyke strikes 040 degrees and dips 80 degrees to the west. It contains minor magnetite, chalcopyrite and specular hematite along widely spaced fine fractures. Small sphalerite veinlets and weak disseminations of pyrite, chalcopyrite and bornite are exposed at widely separated locations in Nicola Group rocks and their skarn equivalents.

BIBLIOGRAPHY

EMPR AR 1966-166; 1967-166
EMPR EXPL 1989-119-134
EMR MP CORPFILE (Sunex International Resources Ltd.)
GSC MAP 886A; 5209G
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE149**

NATIONAL MINERAL INVENTORY: 092I7 Cu10

NAME(S): **JA, J.A., BETHLEHEM COPPER,
HIGHLAND VALLEY COPPER**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 28 30 N
LONGITUDE: 120 58 41 W
ELEVATION: 1195 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5593399
EASTING: 643469

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite Pyrite
ASSOCIATED: Quartz
ALTERATION: Sericite Kaolinite Calcite Biotite Quartz
Chlorite Zeolite Gypsum
COMMENTS: Gypsum
ALTERATION TYPE: Argillic Sericitic Potassic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
SHAPE: Cylindrical
MODIFIER: Faulted Fractured
DIMENSION: 1300 x 300 x 300 Metres STRIKE/DIP: TREND/PLUNGE: 110/29
COMMENTS: Axis of orebody.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Porphyritic Quartz Monzonite
Aplite Dike
Porphyritic Aplite
Quartz Plagioclase Porphyritic Dike

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: JA REPORT ON: Y
CATEGORY: Indicated YEAR: 1972
QUANTITY: 260000000 Tonnes
COMMODITY GRADE
Copper 0.4300 Per cent
Molybdenum 0.0170 Per cent

COMMENTS: Prelim. open pit design to extract 113 to 136 mt of ore. Approx.
117.923 mt at 0.51% Cu and 0.027% Mo are mineable by block caving.
REFERENCE: Bethlehem Copper Corporation Annual Report 1973.

CAPSULE GEOLOGY

The JA deposit, discovered in 1971, is located at the bottom of Highland Valley where glacial overburden averages 170 metres thick. The property is underlain by the Early Jurassic-Late Triassic Guichon Creek batholith and straddles the north striking contact between older Guichon variety granodiorite to quartz diorite to the east, and younger Bethlehem phase granodiorite to the west. In the area of the deposit, the Bethlehem rocks carry several per cent rounded quartz phenocrysts in addition to the typical mafic phenocrysts. Aplite and mafic quartz-plagioclase porphyry dykes occurring in and adjacent to the orebody predate at least some of the mineralization. Aplite typically forms thin, discontinuous, sometimes porphyritic dykes and stringers. The porphyry dykes are generally more continuous and may

CAPSULE GEOLOGY

be up to 10 metres wide. Thin, dark coloured, fine-grained post-ore dykes are less common. Along the southern margin of the deposit, a porphyry stock cuts the Guichon/Bethlehem contact and is elongated subparallel to the ore zone. Rocks in the stock vary from porphyritic quartz monzonite in the centre to porphyritic aplite toward the outer edges, with quartz, potassium feldspar, plagioclase and biotite being the main constituents. It is inferred to be an offshoot of the Bethsaida phase.

The JA deposit is in a downdropped fault block bounded by west-northwest and north striking pre-mineralization regional faults. Faults with similar orientations exist in the JA zone. Mineralization is controlled by fractures and veins. In the mineralized zone, fracture and vein dips are bimodal at 60 degrees and 80 to 90 degrees and they appear to be subparallel. Areas with an average fracture spacing of 0.05 to 0.1 metres coincide with areas of highest copper grade.

Alteration is largely vein and fracture-related, and is complicated by the interaction of the porphyry stock and a hydrothermal system. Typical alteration products are chlorite and sericite, with less common epidote, secondary biotite, and copper or iron sulphides. The type and intensity of mafic alteration is partly controlled by rock type (ie. propylitization of hornblende and biotite). Phyllic alteration consists of quartz and flaky sericite assemblages as zones or selvages on scattered quartz veins. Potassium feldspar is common in the outer shell of the porphyry stock and in adjacent country rocks. Hydrothermal biotite is distributed widely but sparsely. Pervasive argillic alteration of feldspar to sericite, kaolinite, montmorillonite and calcite forms an elliptical zone around the orebody. Intensity decreases outward and slightly with depth. Quartz, calcite and zeolite veining is widespread. Gypsum occurs in late-stage fractures and veinlets.

The most prominent sulphide minerals are chalcopyrite, bornite, molybdenite and pyrite. The mineralized JA zone is elliptical in plan, measures 1300 by 300 by 300 metres and plunges 29 degrees at a 110 degree trend. The area of highest grade mineralization lies immediately north of the porphyry stock along the Guichon/Bethlehem contact in a zone of high density mineralized fractures and above average numbers of quartz veins and zones of phyllic alteration. There is a bornite-dominated zone in and adjacent to the porphyry stock succeeded upward and outward by chalcopyrite, then pyrite-dominated zones.

Indicated reserves are 260 million tonnes grading 0.43 per cent copper and 0.017 per cent molybdenum. Preliminary open pit design to extract 113 to 136 million tonnes of ore. Approximately 117,923,000 tonnes at 0.51 per cent copper and 0.027 per cent molybdenum are mineable by block caving (Bethlehem Copper Corporation Annual Report 1973).

BIBLIOGRAPHY

- EMPR BULL 56
- EMPR EXPL 1989-119-134
- EMPR GEM 1971-357; *1972-171-179
- EMPR INF CIRC 1996-1, p. 6; 1997-1, p. 8
- EMPR MAP 30; 65 (1989)
- EMPR OF 1992-1
- EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
- EMR MIN BULL MR 223 B.C. 131
- GSC MEM 249
- GSC OF 980; 2167, pp. 99-114
- GSC P 77-12
- CIM Spec. Vol. 46, pp. 161-191
- GAC Fieldguide *1, 1985
- N MINER Apr.28, 1997
- Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983),
Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
- Placer Dome File
- Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/16

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE150**

NATIONAL MINERAL INVENTORY: 092I7 Cu16

NAME(S): **YUBET, NORTH, SOUTH,
PEN 8, ROSCOE, STELLAKO,
PAT, PEN**

STATUS: Developed Prospect
REGIONS:
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 22 48 N
LONGITUDE: 120 57 29 W
ELEVATION: 1585 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5582875
EASTING: 645178

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Malachite Chalcocite
ASSOCIATED: Quartz
ALTERATION: Sericite Clay Chlorite Carbonate Malachite
 Azurite Limonite Pyrolusite
ALTERATION TYPE: Sericitic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Mineralized quartz veins. STRIKE/DIP: 025/80 TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Guichon Creek Batholith

LITHOLOGY: Aplite Dike
 Quartz Monzonite
 Granodiorite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SOUTH REPORT ON: Y
CATEGORY: Inferred YEAR: 1971
QUANTITY: 11006 Tonnes
COMMODITY GRADE
Copper 1.0000 Per cent
REFERENCE: Assessment Report 2901.

ORE ZONE: NORTH REPORT ON: Y
CATEGORY: Inferred YEAR: 1971
QUANTITY: 30617 Tonnes
COMMODITY GRADE
Copper 2.5000 Per cent
REFERENCE: Assessment Report 2901.

CAPSULE GEOLOGY

The Yubet occurrence is located on the eastern flank of the multistage Lower Jurassic Guichon Creek batholith and lies astride the north-northwest trending contact between the Skeena variety (Bethlehem phase) and Bethsaida phase granitic rocks. The eastern portion of the property is underlain by coarse-grained, grey Skeena granodiorite. To the west, the younger Bethsaida rocks are cream to pink, medium-grained quartz monzonite to granodiorite. These Bethsaida rocks have been intruded by a pink aplite dyke trending 010 degrees and is exposed for 426 metres along strike. The dyke appears to bifurcate at its southern end and has a width of up to 152 metres. At the contact between the Bethsaida rocks and the western side of

CAPSULE GEOLOGY

the aplite dyke, an aplitic matrix encloses coarse quartz, feldspar and biotite phenocrysts characteristic of the Bethsaida phase. Both rock types have been fractured and intensely altered to sericite.

Mineralization occurs in a north trending zone approximately 245 metres long and 18 metres wide. The North (Discovery) and South zones are located 800 and 1100 metres, respectively, south of Rosco Lake, within the altered aplite dyke near its western margin. Quartz stringers and small veins generally strike 025 degrees and dip 80 degrees southeast and carry chalcopyrite, bornite, malachite and chalcocite. Alteration consists chiefly of sericite and clay with patches of chlorite and carbonates. Oxidation minerals include widespread malachite, azurite, limonite and dendritic pyrolusite.

In 1971 inferred reserves were 30,617 tonnes grading 2.5 per cent copper in the North zone and 11,006 tonnes grading 1.0 per cent copper in the South zone (Assessment Report 2901). More recent drilling in 1985 failed to verify the lateral and/or vertical extent of mineralization.

BIBLIOGRAPHY

EMPR AR *1965-151; *1966-162
EMPR ASS RPT *2901, 4959, 11369, 13824
EMPR BULL 56; 62
EMPR EXPL 1983-276; 1985-C196; 1989-119-134
EMPR GEM 1970-330; 1974-138
EMPR MAP 30
EMPR PF (see 092ISE063, numerous maps and reports)
EMR MIN BULL MR 223 B.C. 135
EMR MP CORPFILE (Stellako Mining Co. Ltd.; Highmont Mining Corp.)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE151**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAGNA COPPER**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 11 16 N
LONGITUDE: 120 45 45 W
ELEVATION: 1249 Metres

NORTHING: 5561905
EASTING: 659722

LOCATION ACCURACY: Within 1 KM
COMMENTS: Centre of Magna Copper claims (Claim map-1967)

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Copper sulphides
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE: GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The area appears to be underlain by altered tuffs of the Upper Triassic Nicola Group. Copper sulphides were reportedly intersected in six diamond-drill holes in the Magna Copper group of claims (Minister of Mines Annual Report 1963).

BIBLIOGRAPHY

EMPR AR *1963-53
EMPR EXPL 1989-119-134
EMPR PF (Correspondence from J.A. Hext and J.M. Carr, 1963; Drillhole logs and sample descriptions by J.M. Carr, 1965)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1989/11/14

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE152**

NATIONAL MINERAL INVENTORY: 092I7 Cu4

NAME(S): **ANN, GNAWED MTN, BX,
GNAWED OREBODY**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092I07W
BC MAP:
LATITUDE: 50 25 23 N
LONGITUDE: 120 59 14 W
ELEVATION: 1780 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5587606
EASTING: 642975

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite Chalcocite Pyrite
ASSOCIATED: Quartz
ALTERATION: Sericite Kaolinite K-Feldspar Tourmaline Chlorite
ALTERATION TYPE: Sericitic Argillic Potassic Tourmalin'z'n Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 0510 x 0250 x 0120 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Ann zone

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Guichon Creek Batholith

LITHOLOGY: Granodiorite
Porphyritic Granodiorite
Breccia
Aplite Dike
Mafic Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: ANN REPORT ON: Y
CATEGORY: Unclassified YEAR: 1972
QUANTITY: 43381157 Tonnes
COMMODITY: Copper GRADE: 0.2700 Per cent
COMMENTS: Reserves for an orebody 200 to 300 metres wide, 360 to 660 metres long
with a proposed depth of 120 metres.
REFERENCE: Northern Miner - June 20, 1974.

CAPSULE GEOLOGY

The Ann occurrence is situated in the central core of the Lower Jurassic Guichon Creek batholith. The area is underlain primarily by Skeena variety granodiorite between the Bethlehem and Bethsaida phases of the batholith. A large southeast trending tongue and several north trending dykes of Bethsaida porphyritic granodiorite cut the Skeena rocks. A series of associated breccia occur around the summit of Gnawed Mountain. Fine-grained aplite dykes and dark mafic dykes are also present. Weak propylitic, sericitic and argillic alteration is widespread. Regional faults (post-mineral?) strike north-northeast. Mineralization occurs in fracture zones.

The Ann zone consists of a strong quartz stockwork hosted by Bethsaida breccia and forms distinctive bluffs for several hundred metres along the western flank of Gnawed Mountain. Chalcopyrite, bornite, molybdenite, chalcocite(?) and trace pyrite occur in quartz-filled fractures and hairline seams. Veins range in width from 2

CAPSULE GEOLOGY

millimetres to 10 centimetres, and occasionally up to 1 metre. Variably developed alteration envelopes include sericite, clay minerals (kaolinite), potassium feldspar and tourmaline.

An orebody 200 to 300 metres wide, 360 to 660 metres long with a proposed pit depth of 120 metres contains unclassified reserves of 43,381,157 tonnes grading 0.27 per cent copper (Northern Miner - June 20, 1974).

BIBLIOGRAPHY

EMPR AR 1957-27; 1963-47; 1964-89; 1965-148; 1966-151
EMPR ASS RPT 6054, 6564, 15203
EMPR BULL 56
EMPR EXPL 1976-E93; 1977-E145; 1986-C231; 1989-119-134
EMPR GEM 1969-244; 1970-330
EMPR MAP 30
EMR MIN BULL MR 223 B.C. 130
EMR MP CORPFILE (B.X. Development Ltd.; B.X. Mining Co. Ltd.;
The Anaconda Company (Canada) Ltd.; New Minex Resources Ltd.)
EMR MP RESFILE (Ann)
GSC MAP 886A
GSC MEM 249, p. 123
GSC OF 980
GCNL #73, 1970; #98, 1972
N MINER June 20, 1974

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE153**

NATIONAL MINERAL INVENTORY:

NAME(S): **TDM**, CHATAWAY, ANTLER

STATUS: Showing

MINING DIVISION: Nicola

REGIONS:

NTS MAP: 092107W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 21 44 N

NORTHING: 5581103

LONGITUDE: 120 51 21 W

EASTING: 652502

ELEVATION: 1280 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal 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>
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Guichon variety-Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

CAPSULE GEOLOGY

The TDM showing is situated on the eastern flank of the multistage Lower Jurassic Guichon Creek batholith. The area is underlain primarily by medium to fine-grained Guichon variety granodiorite of the Highland Valley phase of the batholith. These rocks grade westward to Chataway variety granodiorite. Two major structural patterns trending northeast and northwest occur on the property.

Fine disseminated native copper occurs in Guichon (Witches Brook B) granodiorite.

BIBLIOGRAPHY

EMPR AR 1968-194
EMPR ASS RPT 1790, 3552, *3591, 8641, 9211, 10139, 10944
EMPR BULL 56
EMPR EXPL 1980-227; 1981-12,215; 1982-202; 1989-119-134
EMPR GEM 1972-160
EMPR MAP *30
EMPR PF (see 092ISE063, numerous maps and reports)
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/02

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE154**

NATIONAL MINERAL INVENTORY:

NAME(S): **WENDY, GC**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092107W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 28 09 N

LONGITUDE: 120 50 33 W

ELEVATION: 1108 Metres

NORTHING: 5593021

EASTING: 653105

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite

Malachite

ALTERATION: Sericite

K-Feldspar

Malachite

ALTERATION TYPE: Sericitic

Potassic

Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork

Disseminated

CLASSIFICATION: Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY:

Hornfels

Schist

Granitic Gneiss

Diorite

Granodiorite

Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE: Hornfels

CAPSULE GEOLOGY

The Wendy showing is situated along the eastern edge of the Guichon Creek batholith where Lower Jurassic quartz diorites and granodiorites have intruded Upper Triassic Nicola Group intermediate volcanics and sediments. These rocks were subsequently intruded by Gump Lake phase granodiorite to quartz monzonite.

The eastern portion of the property is underlain by hornfels, hornfelsed schists and granitic gneisses which have a rough north trending foliation of variable dip. The metamorphosed rocks are intruded by leucocratic, fine to medium-grained granitic dykes which increase in abundance to the west until the hornfelsic units grade into granitic units. The southwestern part of the property is underlain by fine to medium-grained diorite or granodiorite and coarse grey granite.

Alteration consists of weak sericitization along with disseminations and bands of pink potassium feldspar. Minor chalcopyrite and malachite occur as narrow veins or along joint planes and as fine disseminations in the intrusive rocks.

BIBLIOGRAPHY

EMPR ASS RPT 3185, *3699, 3727, 6830

EMPR BULL 56

EMPR EXPL 1978-E162; 1989-119-134

EMPR GEM 1971-346; 1972-169

EMPR MAP 30

EMPR PF (see 092ISE072, reports by Hindson, 1973 and Ulrich, 1972;

Rotary Drilling Report on the G.C. 7 Mineral Claim by

R.J. Nethery, 1979)

GSC MEM 249

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE154**

MINFILE NUMBER: **092ISE155**

NATIONAL MINERAL INVENTORY:

NAME(S): **PLUG**, MEADOW CREEK

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 26 29 N
LONGITUDE: 120 36 05 W
ELEVATION: 1253 Metres

NORTHING: 5590457
EASTING: 670313

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Galena Sphalerite
ALTERATION: Carbonate Mariposite Chlorite Epidote Hematite

ALTERATION TYPE: Quartz-Carb. Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Volcanogenic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Lapilli Tuff
Limy Sediment/Sedimentary
Quartz Feldspar Porphyry
Chlorite Mica Schist
Quartz Mariposite Carbonate Rock
Dioritic Sill
Andesitic Sill
Amygdaloidal Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 67.5000 Grams per tonne
Gold 7.5000 Grams per tonne
COMMENTS: Sample of carbonate altered rock.
REFERENCE: Assessment Report 18048.

CAPSULE GEOLOGY

The Plug occurrence is underlain by volcanic rocks of the Upper Triassic Nicola Group which are cut by small granitic plugs and sills. Sparse outcroppings of Nicola Group rocks along Meadow Creek consist of altered andesite, lapilli tuff, amygdaloidal basalt and minor lenses of limy sediments which strike east to southeast and dip steeply to the north. Alteration minerals include chlorite, epidote, carbonate and hematite. A quartz-mariposite-carbonate rock outcrops along Meadow Creek and is in contact with a chlorite-mica-feldspar(?) schist that strikes 020 degrees and dips 65 to 90 degrees to the east. The schist and mafic dioritic to hornblende andesite sills form a southeastward plunging asymmetrical syncline. The quartz-mariposite-carbonate rock contains minor amounts of silver-bearing galena, sphalerite and chalcopyrite. An outcrop of highly pyritic quartz-feldspar porphyry contains minor amounts of chalcopyrite. A grab sample of carbonate altered rock from the west central zone along Meadow Creek assayed 7.5 grams per tonne gold and 67.5 grams per tonne silver (Assessment Report 18048).

Commerce Resource Corporation reports (Press Release June 14,

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 740
REPORT: RGEN0100

CAPSULE GEOLOGY

2002) a best mineralized drill intersection of 3.5 metres containing 2.83 grams per tonne gold and 37.7 grams per tonne silver.

BIBLIOGRAPHY

EMPR ASS RPT *4041, 4042, 17337, *18048
EMPR EXPL 1986-C228; 1988-C111; 1989-119-134
EMPR GEM 1972-183
GSC MEM 249
GSC OF 980
GCNL #239(Dec.14),#244(Dec.21), 2000
PR REL Commerce Resource Corporation, June 14, 2002
WWW <http://www.goldcliff.com/home.html>

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE156**

NATIONAL MINERAL INVENTORY:

NAME(S): **LD**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 03 26 N
LONGITUDE: 120 43 35 W
ELEVATION: 1361 Metres

NORTHING: 5547469
EASTING: 662742

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Lead Zinc Silver Gold

MINERALS

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

DEPOSIT

CHARACTER: Stratiform Vein
CLASSIFICATION: Volcanogenic Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic Sandstone
Volcanic Siltstone
Tuff
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

59.4000

Grams per tonne

Copper

0.3240

Per cent

COMMENTS: Samples of baritic massive sulphide float and outcrop.

REFERENCE: Assessment Report 16817.

CAPSULE GEOLOGY

The western belt of the Upper Triassic Nicola Group consists mainly of an east to southeast facing sequence of calc-alkaline flows grading upward into pyroclastics, epiclastic sediments and abundant limestone.

The LD showing is underlain by volcanic sandstone to siltstone and tuff. Bedding strikes northwest to northeast and dips steeply to the south. Old workings expose silver-lead-copper-zinc mineralization. Rock chip samples of baritic massive sulphide float and outcrop assayed copper ranging from 10 to 3240 parts per million, silver 0.4 to 59.4 parts per million and gold 1 to 2960 parts per billion (Assessment Report 16817).

BIBLIOGRAPHY

EMPR AR 1967-167; 1968-199
EMPR ASS RPT *16817, 18888
EMPR BULL 69
EMPR EXPL 1988-C109; 1989-119-134
EMPR MAP *47
EMPR OF 1999-2
EMPR PF (Summary of Exploration and Development Work Form 1967)
GSC MAP 886A
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 742
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1989/10/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE157**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAPER**, CAP, STRIKE,
RICH

STATUS: Showing
REGIONS:
NTS MAP: 092107W
BC MAP:
LATITUDE: 50 19 15 N
LONGITUDE: 120 52 59 W
ELEVATION: 1301 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Shaft

MINING DIVISION: Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5576446
EASTING: 650697

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcocite	Bornite	Chalcopyrite				
ALTERATION:	Malachite	Chlorite	K-Feldspar	Sericite	Kaolinite		
ALTERATION TYPE:	Epidote	Silica					
MINERALIZATION AGE:	Propylitic		Potassic	Argillic	Silific'n		Oxidation
	Unknown						

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Shear zone STRIKE/DIP: 130/65S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Monzodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Caper showing lies near the southeastern border of the multiphase Lower Jurassic Guichon Creek batholith which intrudes Upper Triassic Nicola Group volcanic rocks. The property is underlain by both Guichon and Chataway varieties of the Highland Valley phase of the batholith. The Guichon variety are fine to medium-grained quartz monzodiorites to granodiorites; the younger Chataway variety are medium to coarse-grained granodiorite.

The granodiorite has been highly fractured, brecciated and sheared. Alteration mineralogy consists of chlorite, potassium feldspar, sericite, kaolinite, epidote and silica.

The main showing is part of a major fault system which strikes 130 degrees and dips 60 to 70 degrees to the southwest. Malachite, chalcocite, bornite and chalcopyrite occur in highly sheared granodiorite at surface. Drilling in 1980 indicated that the fault zone is barren at depth.

BIBLIOGRAPHY

EMPR AR 1962-50; 1963-49
EMPR ASS RPT 451, 3742, 7450, *8595, 9943, 11610
EMPR BULL 56; 62
EMPR EXPL 1975-E82; 1976-E93; 1979-167; 1980-226; 1981-161; 1983-277;
1989-119-134
EMPR GEM 1972-161; 1973-173
EMPR MAP *30
EMPR PF (see 092ISE063, numerous maps and reports; Geology map, 1964)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE158**

NATIONAL MINERAL INVENTORY:

NAME(S): **CIG 100, ACE, PV,
S, CIG 200, GLORY HILL,
DISCOVERY PIT**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:
LATITUDE: 50 18 59 N
LONGITUDE: 120 20 09 W
ELEVATION: 1061 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5577204
EASTING: 689665

COMMODITIES: Copper Gold Silver Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Argentite Sphalerite
ASSOCIATED: Quartz Carbonate Calcite
ALTERATION: Carbonate Chlorite Malachite
ALTERATION TYPE: Carbonate Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Biotite Hornblende Porphyritic Flow
Biotite Hornblende Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1988
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	12.5000 Grams per tonne
Gold	1.6500 Grams per tonne
REFERENCE: Assessment Report 17489.	

CAPSULE GEOLOGY

The Cig 100 occurrence is underlain by the Upper Triassic Nicola Group. Volcanic rocks vary from dark green biotite-hornblende porphyritic flows to pale green porphyritic flows with biotite and hornblende phenocrysts altered to chlorite. Two main directions of jointing in the volcanics strike north-northeast to north-northwest and dip very steeply. Various old workings are located in the northwest corner of the property.

Trenches and outcrops reveal two types of mineralization within biotite-hornblende porphyritic andesite. The first comprises occasional blebs of chalcopyrite in irregular-shaped quartz-calcite veins with vugs lined with quartz crystals. Alteration of wallrock along vein contacts is negligible. The second type comprises planar, narrow quartz-calcite veins with carbonate alteration of wallrock up to twenty times the width of the vein. In this alteration zone hornblende is replaced by feldspar and pyrite is evident. The veins exhibit local malachite staining and are pyritic. High gold values are associated with blebs of pyrite, chalcopyrite and argentite. A rock chip sample from a trench assayed 1.65 grams per tonne gold and 12.5 grams per tonne silver (Assessment Report 17489). Sphalerite has been reported to occur.

Capella Resources Ltd. conducted trenching and sampling on the S claim group in 1997 and 1998.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 745
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 4412, 6608, *14785, 17489, 23282, 23756, 24313, 24499
EMPR EXPL 1977-E149; 1986-C232; 1988-C111,C112; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1969-275; 1973-190
GSC MEM 249
GSC OF 980
GCNL #80(Apr.25), #192(Oct.6), #207(Oct.28), 1997; #24(Feb.4),
#83(Apr.30), #96(May 20), 1998

DATE CODED: 1985/07/24
DATE REVISED: 1989/11/14

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE159**

NATIONAL MINERAL INVENTORY:

NAME(S): **DOT**, EVA

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 03 16 N
LONGITUDE: 120 42 13 W
ELEVATION: 1269 Metres

NORTHING: 5547210
EASTING: 664382

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

Zinc

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite	Sphalerite	Pyrite	Pyrrhotite
ALTERATION:	Chlorite	Epidote	Magnetite	Hematite	
ALTERATION TYPE:	Propylitic		Skarn	Oxidation	
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Andesitic Breccia
Tuff
Plagioclase Porphyritic Andesite
Limestone
Limy Sediment/Sedimentary
Magnetite Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The western belt of the Upper Triassic Nicola Group consists of a sequence of calc-alkaline flows, pyroclastics, epiclastic sediments and abundant limestone. The western and central Nicola Group belts are separated by a northeast trending regional fault. Rocks on the property exhibit extensive fracturing. The most prominent orientations of fractures are 035 degrees and 345 degrees with highly variable dips. Locally the showing is underlain by red to purple andesitic breccia and tuff, plagioclase porphyritic andesite, massive to poorly bedded grey fossiliferous limestone and associated limy sediments. Alteration minerals are chlorite and/or epidote.

Copper mineralization occurs in skarns and in the Nicola Group rocks. The skarn zones are 0.6 to 3 metres wide, consist primarily of magnetite and carry chalcopyrite and very minor bornite. In the volcanic flows and limestone, these sulphides occur as fine fracture linings and sparse disseminations. Sphalerite, pyrite, pyrrhotite and specular hematite also occur.

BIBLIOGRAPHY

EMPR AR 1967-166
EMPR ASS RPT *4107, 4108
EMPR BULL 69
EMPR EXPL 1989-119-134
EMPR MAP *47
EMPR PF (Summary of Exploration and Development Form 1967)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE159**

MINFILE NUMBER: **092ISE160**

NATIONAL MINERAL INVENTORY: 092I7 Cu15

NAME(S): **REY LAKE**, REY, RL

STATUS: Developed Prospect

MINING DIVISION: Nicola

REGIONS: British Columbia

NTS MAP: 092I07E

BC MAP:

LATITUDE: 50 20 18 N

LONGITUDE: 120 42 39 W

ELEVATION: 1400 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5578755

EASTING: 662896

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite
ASSOCIATED: Quartz Calcite K-Feldspar Zeolite
ALTERATION: Silica Pyrite Biotite Albite Epidote
Calcite Garnet

ALTERATION TYPE: Silicific'n Skarn Albite Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated Breccia
CLASSIFICATION: Porphyry Igneous-contact Skarn
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Augite Porphyritic Andesitic Flow
Plagioclase Porphyritic Andesitic Flow
Andesitic Dacitic Pyroclastic
Augite Porphyritic Andesite
Plagioclase Porphyritic Andesite
Volcanic Conglomerate
Limestone
Biotite Quartz Monzonite
Skarn
Hornfels

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE: Hornfels

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Indicated
QUANTITY: 46862600 Tonnes
COMMODITY GRADE
Copper 0.1700 Per cent
Molybdenum 0.0180 Per cent

YEAR: 1979

COMMENTS: Total postulated geologic reserves of the Rey Lake porphyry copper zone and related skarn zone.

REFERENCE: Assessment Report 24600, page ii.

CAPSULE GEOLOGY

The Rey Lake area is underlain by volcanic, volcanoclastic and minor sedimentary rocks belonging to the Upper Triassic Nicola Group. This belt is intruded by the Lower Jurassic Nicola and Guichon Creek granodiorite batholiths to the east and west respectively. Locally the Nicola Group rocks consist of augite and plagioclase porphyritic andesite flows, andesitic and dacitic pyroclastics, volcanic conglomerates and a few skarn zones derived from siliceous limestone layers. Bedding strikes north and dips steeply. Major structural elements are two asymmetric folds and a dominant northwest trending system of fractures. A small biotite quartz monzonite stock (Upper Cretaceous) is emplaced subparallel to bedding. Adjacent to the stock is a breccia zone consisting of volcanic and some granitic fragments. Drill core (1973) indicates contact

CAPSULE GEOLOGY

metamorphism of the albite-epidote-hornfels facies.

Mineralization consists mainly of pyrite, with lesser chalcopyrite and molybdenite. In the quartz monzonite stock, disseminated pyrite is ubiquitous, while chalcopyrite and molybdenite are comparatively rare. The sulphides also occur in veinlets in the stock and country rocks, as disseminations in the breccia fragments and on fracture surfaces. Quartz, calcite, potassium feldspar and zeolite are the dominant nonmetallic minerals.

Total postulated geologic reserves of the Rey Lake porphyry copper zone and related skarn zone are 46,862,600 tonnes grading 0.17 per cent copper and 0.018 per cent molybdenum (Assessment Report 24600, page ii).

BIBLIOGRAPHY

- EMPR ASS RPT 4846, 5320, 5658, *24600
EMPR EXPL 1975-E84; 1986-C230; 1989-119-134
EMPR GEM 1972-181; *1973-181-184; 1974-147
EMPR PF (Geologic notes and drillhole descriptions; Claim location map with drillholes, 1972, 1973; Sketch maps of drillhole locations; Correspondence from G. White, 1974, District Geologist, Kamloops; Geology map; Property description in Memorandum from W.R. Smyth, 1985)
EMR MP CORPFILE (Tracer Resources Corporation)
GSC MEM 249
GSC OF *980
CMH 1985-86; 1986-87
GCNL #25,#70, 1980
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/10

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE161**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRUMP, S.P.C., SNAKE,
BORNITE, FIR, WIND,
SHER, FRISKEN CREEK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:
LATITUDE: 50 22 48 N
LONGITUDE: 120 19 04 W
ELEVATION: 867 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5584322
EASTING: 690695

COMMODITIES: Copper Silver Zinc

MINERALS

SIGNIFICANT: Bornite Tetrahedrite Chalcopyrite Pyrite Pyrrhotite
Sphalerite
ASSOCIATED: Quartz Calcite
ALTERATION: Malachite Azurite Hematite Magnetite Chlorite
Epidote Silica
ALTERATION TYPE: Oxidation Carbonate Propylitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Augite Porphyritic Andesite
Basalt
Volcanic Breccia
Tuff
Argillite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: VEINS REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1972
SAMPLE TYPE: Grab
COMMODITY: Silver GRADE: 137.1200 Grams per tonne
Copper 1.0000 Per cent
COMMENTS: Sample from quartz and quartz-calcite veins.
REFERENCE: Assessment Report 4165.

CAPSULE GEOLOGY

The property is underlain for the most part by Upper Triassic volcanic and sedimentary rocks belonging to the Nicola Group. These include augite porphyritic andesite, basalt, volcanic breccia and minor tuff and argillite. To the south, the Nicola Group rocks are in contact with a narrow zone of Mississippian-Triassic Cache Creek Group volcanics. The northern portion of the property is covered by Eocene flows of the Kamloops Group.

Faults and shear zones have a general north trend. An alteration zone approximately 100 metres wide strikes 020 degrees, north of Frisken Creek. Within and closely associated with this oxidized and fractured zone are quartz-calcite veins containing tetrahedrite, chalcopyrite, pyrite, malachite and azurite. Bornite and specular hematite occur as thin veinlets and magnetite, hematite, pyrrhotite and sphalerite occur in the quartz-calcite veins.

Grab samples from quartz and quartz-calcite veins assayed up to 1.0 per cent copper and 137.12 grams per tonne silver (Assessment

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 750
REPORT: RGEN0100

CAPSULE GEOLOGY

Report 4165).

BIBLIOGRAPHY

EMPR ASS RPT 4165, 11389, 12727, *13940, 15112
EMPR EXPL 1983-280; 1984-212; *1985-C197; 1986-C234; 1989-119-134
EMPR GEM 1972-187
GSC MEM *249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE162**

NATIONAL MINERAL INVENTORY:

NAME(S): **ETTA, RETAN, PAQUET,
HAR, RAH**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 11 18 N
LONGITUDE: 120 55 17 W
ELEVATION: 975 Metres

NORTHING: 5561639
EASTING: 648379

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Pyrrhotite
ALTERATION: Chlorite Malachite
ALTERATION TYPE: Propylitic Oxidation
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	
Upper Cretaceous	Kingsvale	Undefined Formation	

LITHOLOGY: Volcanic Breccia
Andesitic Flow
Tuff
Agglomerate
Limestone
Argillite
Sandstone
Conglomerate
Basalt
Hornblende Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

Volcanic and sedimentary rocks of the Upper Triassic Nicola Group are exposed on Promontory Hills with comagmatic intrusions to the north and south. The Upper Cretaceous Kingsvale Group unconformably overlies this sequence in the east. Nicola Group rocks form a large, slightly overturned anticline which plunges gently northeast.

The Etta showing is underlain in the west by Nicola Group volcanic breccia, tuff, agglomerate and flows with interbedded limestone and argillite. Kingsvale Group basalt, andesite, hornblende-needle porphyry, volcanic breccia, basal sandstone and conglomerate outcrops in the east. The contact of the two sequences trends northwest.

Alteration consists of strong chloritization of the volcanic rocks with occasional small patches of malachite. Mineralization consists of fine disseminations of chalcopyrite and pyrite and occasional flecks of pyrrhotite in Nicola and Kingsvale group rocks.

BIBLIOGRAPHY

EMPR AR 1958-27; 1959-143; *1960-26-40; 1963-52; 1968-195
EMPR BULL 56
EMPR EXPL 1989-119-134
EMPR FIELDWORK *1977, pp. 31-35
EMPR GEM 1969-272
EMPR MAP *30
GSC MAP 886A
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 752
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1989/10/24
DATE REVISED: 1989/10/24

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE163**

NATIONAL MINERAL INVENTORY:

NAME(S): **SAR**, COPPER HILL

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 24 35 N
LONGITUDE: 120 25 54 W
ELEVATION: 1163 Metres

NORTHING: 5587340
EASTING: 682484

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gabbro
Dioritic Dike
Andesite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The west half of the property is underlain by Upper Triassic Nicola Group andesite and basalt with thin interbedded sedimentary and pyroclastic rocks. Diorite to gabbro dykes and plugs occur within the Nicola Group rocks. To the east the area is underlain by pink-grey quartz diorite. The contact between this unit and the Nicola Group trends north, as do fractures and topographic lineaments. Several old hand-trenched pits on the Sar showing probably represents the old Copper Hill workings, where chalcopyrite occurs in quartz vein material. The vein is emplaced along a shear zone in gabbroic country rock.

BIBLIOGRAPHY

EMPR ASS RPT 4326
EMPR EXPL 1989-119-134
EMPR GEM 1973-192
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE164**

NATIONAL MINERAL INVENTORY:

NAME(S): **DOR**, COPPER STAR

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 00 58 N
LONGITUDE: 120 34 52 W
ELEVATION: 1000 Metres

NORTHING: 5543226
EASTING: 673288

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Silver

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Volcanic Breccia
Augite Porphyritic Andesite Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1989

SAMPLE TYPE: Rock

COMMODITY

GRADE

Copper

0.1200

Per cent

COMMENTS: Sample from adits and workings.

REFERENCE: Property File - Prospectus, Redding Gold Corporation.

CAPSULE GEOLOGY

The Courtney Lake area is underlain by Upper Triassic pyroxene and plagioclase-rich andesitic and basaltic flows, breccia, conglomerate and lahar deposits, and comagmatic dioritic intrusions. These are part of the central belt of the Nicola Group which are locally overlain by Pleistocene vesicular olivine valley basalts. The property lies along the Summers Creek-Quilchena fault system which trends north-northeast and has been mapped for over 160 kilometres.

Copper mineralization on the Dor showing is hosted by red volcanic breccia, lahar deposits and brecciated augite porphyritic andesitic flows. Three shallow shafts less than 3 metres deep expose north trending shear or fracture zones carrying calcite and quartz stringers with chalcopyrite, chalcocite and malachite. The sulphides also occur on fracture surfaces and as fine disseminations in the brecciated andesite. Relatively heavy hematite and/or epidote alteration is associated with the mineralization. Rock samples from old adits and workings assayed up to 0.12 per cent copper (Prospectus, Redding Gold Corporation).

BIBLIOGRAPHY

EMPR AR 1915-226
EMPR ASS RPT 2481, 3061, 3688, 4336, *4779
EMPR BULL *69
EMPR EXPL 1989-119-134

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 755
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1970-378; 1971-286; 1972-139; 1973-159
EMPR MAP *47
EMPR PF (Prospectus-Redding Gold Corporation, April 18, 1989)
GSC MAP 888A; 889A
GSC MEM 243, p. 93
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/19

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE165**

NATIONAL MINERAL INVENTORY:

NAME(S): **ME, ME., TYE,
YT, THEL, SUN**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 04 14 N
LONGITUDE: 120 33 27 W
ELEVATION: 1070 Metres

NORTHING: 5549333
EASTING: 674781

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Silver Molybdenum

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite	Pyrite	Molybdenite
ASSOCIATED:	Quartz	Calcite		
ALTERATION:	Epidote	Chlorite	Biotite	
ALTERATION TYPE:	Propylitic	Epidote		
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: 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: Augite Plagioclase Porphyritic Andesite
Crystal Tuff
Lithic Tuff
Argillite
Diorite
Hornfels

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: TRENCH	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1983
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	22.2800 Grams per tonne
Copper	4.6000 Per cent
Molybdenum	0.0030 Per cent
COMMENTS: Sample from trench.	
REFERENCE: Assessment Report 12957.	

CAPSULE GEOLOGY

The property is situated in north trending Upper Triassic Nicola Group volcanic and sedimentary rocks and Lower Jurassic granitic intrusions. The Me showing is underlain by augite-plagioclase porphyritic andesitic and basaltic flows with intercalated crystal and lithic tuffs and minor argillite. These are variably epidotized and generally green in colour. Intrusives vary from monzonitic to dioritic composition with diorite being the most predominant. Extensive dyke swarms are mapped in the north-central part of the property. The Quilchena fault system trends northeast through the region.

Mineralization occurs in sheared flows and tuffs along branches of the regional fault and numerous conjugate fractures and consists of chalcopyrite, bornite, pyrite and minor amounts of molybdenite with associated silver values. In the zone of mineralization, the volcanics have been altered to hornfels and exhibit a strong north-northeast trending fabric. Quartz and calcite stringers characterize

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 757
REPORT: RGEN0100

CAPSULE GEOLOGY

this zone though they are not necessarily intimately associated with the mineralization.

A grab sample from a trench south of an adit which is south of a small lake, assayed 4.6 per cent copper, 22.28 grams per tonne silver and 0.003 per cent molybdenum (Assessment Report 12957).

BIBLIOGRAPHY

EMPR AR 1967-167
EMPR ASS RPT *4325, 4805, 12957
EMPR BULL *69
EMPR EXPL 1983-268; 1989-119-134
EMPR GEM 1973-164
EMPR MAP *47
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/19

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE166**

NATIONAL MINERAL INVENTORY:

NAME(S): **SACK, ANDERSON**

MINING DIVISION: Nicola
Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5586104
EASTING: 682507

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:
LATITUDE: 50 23 55 N
LONGITUDE: 120 25 55 W
ELEVATION: 1158 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Gold Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Molybdenite Chalcocopyrite Pyrrhotite Ferrimolybdite
ASSOCIATED: Quartz Calcite Chalcocedony
ALTERATION: Hornblende Epidote Chlorite Feldspar
ALTERATION TYPE: Argillic Skarn Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Epithermal
TYPE: H03 Hot spring Au-Ag
DIMENSION:
COMMENTS: Quartz veins STRIKE/DIP: 010/85W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite
Basalt
Agglomerate
Argillite
Biotite Chlorite Schist
Quartz Hornblende Feldspar Gneiss
Granodiorite
Quartz Chalcocedony Breccia

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Rock
COMMODITY GRADE
Gold 3.9700 Grams per tonne
COMMENTS: Sample from quartz-chalcocedony-calcite vein.
REFERENCE: George Cross Newsletter #29, 1988.

CAPSULE GEOLOGY

The Sack occurrence lies astride the faulted boundary between north trending belts of the Upper Triassic Nicola Group. The Quilchena fault is a high angle fault striking 010 to 030 degrees across the central portion of the property, generally parallel to Moore Creek. Lithologies within this 500 metre wide zone consist mainly of quartz-hornblende-feldspar gneiss and biotite-chlorite schist. Foliations follow the regional north trend and dip moderately to the east. West of this fault zone is the Lower Jurassic Nicola batholith, which is granitic to dioritic in composition. East of the Quilchena fault, the property is underlain by Upper Triassic Nicola Group andesite and basalt, minor interbedded pyroclastics and sediments. Alteration and mineralization appear to be structurally controlled. The north striking regional fault and numerous secondary northwest trending fractures are associated with high level quartz-

CAPSULE GEOLOGY

chalcedony veins, argillite alteration, enhanced arsenic-mercury geochemical values and quartz-carbonate veins in brecciated volcanics. The veins strike approximately 010 degrees and dip 85 degrees west and carry minor amounts of molybdenite, pyrrhotite, pyrite, chalcopryrite and ferrimolybdenite. Molybdenite occurs as 1 to 3 millimetre rosettes and blebs. Skarn pockets also occur.

A recent discovery of quartz-chalcedony breccia zones is restricted to a lahar or agglomerate zone at least 4 metres thick, dipping gently to the west. The zone contains numerous quartz-chalcedony-calcite veins and veinlets. A rock sample from one of these veinlets with a true width of 30 centimetres assayed 3.97 grams per tonne gold (George Cross Newsletter #29, 1988).

BIBLIOGRAPHY

EMPR ASS RPT 4323, 8900, 8989, 9883, 11083, 11719, *13788, 14430
EMPR BULL 69
EMPR EXPL 1973-191; 1980-233; 1981-144; 1982-204; 1983-277; 1985-C197;
1986-C233; 1989-119-134
GSC MEM *249
GSC OF *980
GCNL #29, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE167**

NATIONAL MINERAL INVENTORY:

NAME(S): **SA**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 51 N
LONGITUDE: 120 46 15 W
ELEVATION: 1310 Metres

NORTHING: 5592615
EASTING: 658207

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcocite	Bornite	Chalcopyrite	Malachite
ALTERATION:	Limonite	Malachite		
ALTERATION TYPE:	Oxidation			
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER:	Stockwork	Disseminated
CLASSIFICATION:	Hydrothermal	Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Fossiliferous Limestone
Volcanic Conglomerate
Volcanic Breccia
Greywacke
Amygdaloidal Basalt
Amygdaloidal Andesite
Gossan

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The property lies within the Upper Triassic Nicola Group approximately 3 kilometres east of the Lower Jurassic Guichon Creek batholith. Locally Tertiary volcanic flows and minor intrusives overlie the Triassic rocks. The area is underlain by a conformable succession of epiclastic rocks with subordinate interlayered lavas. The sedimentary sequence is best exposed at the main showing where the succession is about 90 metres thick. This unit is comprised of 50 to 100 metres of volcanic conglomerate composed of subangular to rounded red to green clasts of flow rocks cemented by a friable sandy matrix. Weakly bedded, coarse-grained fossiliferous limestone overlies the conglomerate and is again overlain by at least 60 metres of conglomerate grading upward into massive volcanic breccia. An upper unit of poorly bedded, well sorted greywacke caps the succession. Amygdaloidal basalt and andesite outcrop to the east and south where they are interlayered with the epiclastic rocks. Vesicles are filled with carbonate, zeolite and chalcocite.

On the Sa showing, highly fractured, malachite stained, rusty weathering limestone(?) is exposed for 45.7 metres along the east side of an old logging access road. Stringers and disseminated grains of chalcocite, bornite and rarely chalcopyrite are visible on freshly broken surfaces. Much of the rock is strongly oxidized to a soft, rusty gossan locally rich in malachite.

BIBLIOGRAPHY

EMPR ASS RPT 4413
EMPR BULL 56
EMPR EXPL 1989-119-134
EMPR GEM 1973-180
EMPR MAP 30
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 761
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE168**

NATIONAL MINERAL INVENTORY:

NAME(S): **CINDERELLA, JE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 07 54 N
LONGITUDE: 120 46 10 W
ELEVATION: 793 Metres

NORTHING: 5555652
EASTING: 659413

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper Limestone

MINERALS

SIGNIFICANT:	Chalcopyrite	Specularite	Pyrite	Magnetite	Malachite
	Carbonate				
ASSOCIATED:	Quartz	Dolomite	Epidote	Carbonate	Silica
ALTERATION:	Epidote	Pyrite	Albite	Limonite	Hematite
	Malachite				
ALTERATION TYPE:	Albitic		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Tuff
Greywacke
Limestone
Dioritic Dike

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The property is located in the Upper Triassic Nicola Group which is comprised of felsic to mafic volcanics and volcanoclastics with interbedded sedimentary rocks. The area is covered by extensive (9 metres thick) overburden of fine silt and clay underlain by pyritic and albitized andesitic tuff. Vertical greywacke beds strike slightly west of north. A 15 metre thick band of limestone extends 183 metres upslope and strikes 010 degrees and dips 70 degrees east. The limestone is light grey and contains considerable silica and dolomite as small irregular grains. The ruins of an old pot kiln lie near the base of the exposure. Near the top of this exposure are old pits and trenches.

The Nicola Group rocks are intruded approximately 4 kilometres to the north by granodiorite of the Lower Jurassic Guichon Creek batholith. Several north trending pyritic dioritic dykes occur.

The volcanic rocks are locally highly fractured, with iron oxide and manganese oxide staining and fine disseminations of pyrite. Quartz-calcite and epidote veins carry specularite and chalcopyrite.

Within the fault zones, magnetite, specularite, pyrite, epidote, chalcopyrite and malachite occur on fractures which strike mainly east, southeast and south and dip southwest. The largest patches of specularite are 15 by 10 centimetres and occur at fault intersections.

BIBLIOGRAPHY

EMPR AR *1964-94; 1965-154
EMPR ASS RPT 6132, *7218, 8728, 10210
EMPR EXPL 1976-E90; 1979-162; 1989-119-134
EMPR PF (*Report by G.P.E. White, 1973; Geology Report on the Cinderella Group of Claims by E.P. Chapman, 1964; George Cross News Letter #243(Dec.16), 1964; Property location map, 1964; Peel Resources Limited Annual Report 1964; Geological notes)

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 763
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 886A
GSC MEM 249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/14

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE169**

NATIONAL MINERAL INVENTORY:

NAME(S): **NAP**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 24 59 N
LONGITUDE: 120 16 55 W
ELEVATION: 915 Metres

NORTHING: 5588459
EASTING: 693094

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite
ASSOCIATED: Silica
ALTERATION: Silica Pyrite
ALTERATION TYPE: 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

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Wild Horse Intrusion

LITHOLOGY: Pyroclastic Rock
Siliceous Rock
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Hornfels

CAPSULE GEOLOGY

The Nap occurrence is underlain by hornfelsed pyroclastic rocks of the Upper Triassic Nicola Group. To the northeast these are intruded by the Lower Jurassic granodiorite Wild Horse Intrusion. Locally this intrusion consists of coarse-grained gneissic granite with late-stage east striking lamprophyre dykes. Rhyolitic to basaltic flows of the Eocene Kamloops Group unconformably overlie the Mesozoic rocks.

Nicola Group volcanic rocks have been extensively sheared and silicified and are pyritic. A well-developed fracture system strikes east across the Nap showing and is occupied by dense siliceous rock. Mineralization consisting of chalcopyrite and minor sphalerite is associated with 1 to 10 per cent finely disseminated pyrite within the siliceous zone. Gossans are exposed in several areas.

BIBLIOGRAPHY

EMPR ASS RPT *4500, 6308, 16345
EMPR EXPL 1987-C193; 1989-119-134
EMPR GEM 1973-191; 1977-E149
GSC MEM 249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/10

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE170**

NATIONAL MINERAL INVENTORY:

NAME(S): **POM POM**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 25 18 N
LONGITUDE: 120 43 41 W
ELEVATION: 1325 Metres

NORTHING: 5587982
EASTING: 661387

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ALTERATION: Epidote Calcite Hematite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
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>
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Diorite Dike
Andesitic Tuff
Andesitic Flow
Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY

YEAR: 1973

GRADE
0.1700 Per cent

COMMENTS: Copper mineralization.
REFERENCE: Assessment Report 18048.

CAPSULE GEOLOGY

The Pom Pom occurrence is underlain by grey-green and purple andesitic tuffs, flows and breccias of the Upper Triassic Nicola Group intruded by a microdiorite dyke. Chalcopyrite and bornite occur in the dyke as fracture controlled mineralization accompanied by epidote, calcite and hematite alteration mineralogy. Copper mineralization grades 0.17 per cent copper (Assessment Report 18048).

BIBLIOGRAPHY

EMPR ASS RPT 14959, 15060, 18048
EMPR EXPL 1986-C228; 1988-C111; 1989-119-134
EMPR GEM *1973-184
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/21

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE171**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUA**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 14 06 N
LONGITUDE: 120 53 05 W
ELEVATION: 1035 Metres

NORTHING: 5566900
EASTING: 650849

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Porphyry

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Guichon Creek Batholith

ISOTOPIC AGE: 206 +/-9 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Quartz Diorite

HOSTROCK COMMENTS: Bulletin 56

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Jua showing is situated near the southeastern perimeter of the Lower Jurassic Guichon Creek batholith. The area is underlain by the Border phase which represents the oldest rocks in the batholith. Glacial debris covers most of the property but quartz diorite is exposed in a few outcrops. Two drill holes (1973) intersected sparse native copper mineralization.

BIBLIOGRAPHY

EMPR ASS RPT 3708, 4512
EMPR BULL 56; 62
EMPR EXPL 1989-119-134
EMPR GEM 1972-147; 1973-166
EMPR MAP *30
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE172**

NATIONAL MINERAL INVENTORY:

NAME(S): **IND**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092107W

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 27 47 N

NORTHING: 5592182

LONGITUDE: 120 55 16 W

EASTING: 647546

ELEVATION: 1150 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite

ALTERATION: Chlorite

Epidote

Sericite

Carbonate

ALTERATION TYPE: Propylitic

Sericitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Feldspar Porphyritic Dike
Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Guichon variety-Highland Valley phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

CAPSULE GEOLOGY

The Ind showing lies along Witches Brook on the eastern flank of the Lower Jurassic Guichon Creek batholith. The area is covered by thick overburden.

Drilling indicates the property is underlain by medium to coarse-grained, grey Guichon variety quartz diorite to granodiorite, with 15 to 20 per cent biotite and hornblende. This rock is intruded by a quartz-feldspar porphyritic dyke which is weakly mineralized with bornite. Alteration mineralogy consisting of chlorite, epidote, sericite and carbonates is strongest in fault zones.

BIBLIOGRAPHY

EMPR BULL 56
EMPR EXPL 1989-119-134
EMPR GEM *1973-177
EMPR MAP 30
EMPR PF (see 092ISE186, Report by Coveney, 1972)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/17

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE173**

NATIONAL MINERAL INVENTORY:

NAME(S): **BETTY LOU**, BETTY

MINING DIVISION: Nicola

STATUS: Showing

REGIONS:

NTS MAP: 092102W

BC MAP:

LATITUDE: 50 12 00 N

LONGITUDE: 120 59 03 W

ELEVATION: 1494 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5562813

EASTING: 643863

COMMODITIES: Copper

Lead

Zinc

MINERALS

SIGNIFICANT: Pyrite

Galena

Sphalerite

Chalcopyrite

Biotite

ALTERATION: Garnet

Epidote

Actinolite

Magnetite

Pyrite

Hematite

Malachite

ALTERATION TYPE: Skarn

Biotite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Igneous-contact

TYPE: K01 Cu skarn

Skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Lower Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY:

Limestone

Greywacke

Argillite

Andesite

Quartz Feldspar Porphyry

Hornblende Diorite

Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Hornfels

CAPSULE GEOLOGY

Rocks of the Upper Triassic Nicola Group exposed on Promontory Hills are intruded by the Lower Jurassic Guichon Creek batholith to the north and the Coyle stock to the south, and are unconformably overlain by the Lower Cretaceous Spences Bridge Group to the west and the Upper Cretaceous Kingsvale Group to the east. A large, slightly overturned subsoclinal anticline plunges gently northeast. Inferred faults have north-northwest and northeast trends. The Betty Lou showing is situated on the northern limb of the major fold and is underlain primarily by pyritic altered greywacke, siliceous limestone, argillite and volcaniclastic rocks. The sedimentary unit is overlain by andesitic fragmental rocks. A quartz feldspar porphyry unit is believed to be Upper Triassic in age. Near the northwest boundary of the property the Nicola Group rocks are intruded by Guichon Creek hornblende diorite with considerable accessory magnetite.

Several types of alteration are present. The greywacke exhibits hornfelsing and biotite alteration and carries minor disseminated pyrite. Limestone grades to complete recrystallization within 1000 metres of the Guichon Creek batholith contact. Patches of garnet-epidote skarn occur in the volcanics. Hematite and malachite also occur. Development of actinolite-magnetite skarn similar to that at the Craigmont mine (092ISE035) is also evident.

Ore controls are the limestone host rock, fold structures and proximity to the batholith. Minor copper mineralization (chalcopyrite) occurs in the skarn zones and disseminated in the country rock. A small occurrence of galena and sphalerite also occurs at the top of Promontory Hills.

BIBLIOGRAPHY

EMPR AR 1959-34; *1960-26-41; 1961-41,115; 1963-127; 1965-154;
1967-164
EMPR ASS RPT 235, 280, 359, 516, *5630, 6486, 6934, 16492, 17677
EMPR BULL 56
EMPR EXPL 1975-E80; 1977-E140; 1978-E157; 1987-C190; 1989-119-134
EMPR FIELDWORK *1977, p. 31
EMPR MAP 30
EMPR PF (Bristow, J.F. (1970): Report on Bulldozer trenching on the
Gayle No.1 and Bridget No.1 Mineral Claims; Claim location map,
1958; Geology sketch map, 1959)
WWW <http://www.infomine.com/>
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/18

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE174**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLAP, SMOKIE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092107E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 19 07 N
LONGITUDE: 120 37 17 W
ELEVATION: 1336 Metres

NORTHING: 5576762
EASTING: 669330

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT:	Chalcocite	Chalcopyrite	Bornite	Malachite	Molybdenite
ASSOCIATED:	Quartz	Calcite	Epidote	Chlorite	Hornblende
ALTERATION:	Chlorite	Biotite	Kaolinite		
ALTERATION TYPE:	Chloritic	Argillic			
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
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 Lower Jurassic	Nicola	Undefined Formation	Nicola Batholith

LITHOLOGY: Andesitic Flow
Volcaniclastic Rock
Hornblende Diorite
Biotite Diorite
Quartz Biotite Diorite
Aplite Dike
Pegmatite Dike
Plagioclase Porphyry Dike
Basaltic Flow
Andesite

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
SAMPLE TYPE: Grab
YEAR: 1975
COMMODITY
Copper 0.4000 Per cent
Molybdenum 0.2000 Per cent
COMMENTS: Maximum values from vein material.
REFERENCE: Assessment Report 5678.

CAPSULE GEOLOGY

The Helmer Lake area is underlain by a dioritic phase of the Lower Jurassic Nicola batholith intruding Upper Triassic Nicola Group andesitic to basaltic flow rocks and volcaniclastics to the west. On the Clap occurrence the diorite has been subdivided into hornblende diorite, biotite diorite and quartz-biotite diorite whose contacts are gradational. The diorites have a variably strong foliation striking southeast and dipping 50 to 75 degrees to the south. A distinct shearing and jointing is oriented at 020 degrees and steep westerly dip. Biotite is a retrograde metamorphic product of hornblende in parts of the area. The diorite is weakly chloritized along shear zones and one major zone of chloritization and kaolinization occurs along the southwestern contact of the diorites with the country rock. The diorites are intruded by plagioclase porphyry, aplite and pegmatite dykes paralleling the

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 771
REPORT: RGEN0100

CAPSULE GEOLOGY

fracture and/or foliation directions.
Mineralization occurs at the property's western edge. Scattered veins up to 15 centimetres in width consist mainly of quartz with some calcite, epidote, chlorite and hornblende. These contain small amounts of chalcocite, chalcopyrite, bornite and malachite as disseminated blebs. Grab samples of the vein material returned values over 0.4 per cent copper and 0.2 per cent molybdenum (Assessment Report 5678).

BIBLIOGRAPHY

EMPR ASS RPT 2715, 5678, *6040
EMPR EXPL 1989-119-134
EMPR GEM 1970-374; 1975-E84; 1976-E95
EMPR PF (Geological notes)
GSC MAP 886A; 887A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/14

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE175**

NATIONAL MINERAL INVENTORY: 09218 Ag1

NAME(S): **NO SURRENDER**, KING WILLIAM

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092108W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 34 N
LONGITUDE: 120 23 02 W
ELEVATION: 854 Metres

NORTHING: 5580016
EASTING: 686141

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Altered Greenstone

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N	
CATEGORY: Assay/analysis	YEAR: 1975	
SAMPLE TYPE: Chip		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	198.1400	Grams per tonne
Gold	3.5100	Grams per tonne

REFERENCE: Assessment Report 5565.

CAPSULE GEOLOGY

The historic King William camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

Workings on the No Surrender showing are situated along strike of the King William vein, between the King William (092ISE110) and Enterprise (092ISE028) mines. Several trenches and bulldozer cuts expose mineralized quartz veins within altered greenstone. The veins pinch and swell up to 50 centimetres in width, swing from north-northeast to northwest orientations and carry variable amounts of pyrite, chalcopyrite, galena and sphalerite. Chip samples assayed up to 3.51 grams per tonne gold and 198.14 grams per tonne silver

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 773
REPORT: RGEN0100

CAPSULE GEOLOGY

(Assessment Report 5565).

BIBLIOGRAPHY

EMPR AR 1917-228; 1933-178; 1936-D14; *1965-158
EMPR ASS RPT 5152, *5565, *13152
EMPR BULL 10, p. 107; 20, Part III, p. 25
EMPR EXPL 1984-210; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1974-148; 1975-E87
GSC MAP 886A; 887A
GSC MEM *249, p. 52
GSC OF *980
GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/24

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE176**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAYBELLE FRACTION (L.5114)**, SCOTT FR.

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092108W
 BC MAP:
 LATITUDE: 50 20 42 N
 LONGITUDE: 120 22 57 W
 ELEVATION: 839 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Lot 5114.

MINING DIVISION: Nicola
 UTM ZONE: 10 (NAD 83)
 NORTHING: 5580267
 EASTING: 686231

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite
 ASSOCIATED: Quartz
 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
Upper Triassic	Nicola	Undefined Formation	

LITHOLOGY: Altered 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: 1983
SAMPLE TYPE: Drill Core	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	71.9900 Grams per tonne
Gold	0.7500 Grams per tonne
Copper	0.0600 Per cent
Lead	1.7500 Per cent
Zinc	0.6600 Per cent

COMMENTS: Sample is over 1.2 metres (wallrock).
 REFERENCE: Assessment Report 13152.

CAPSULE GEOLOGY

The historic King William camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcaniclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward. The Maybelle Fraction showing is thought to be the extensions of the Joshua (092ISE109) and Tubal Cain (092ISE108) veins. Drill holes (1983) intersected mineralized quartz veins and veinlets within highly altered and brecciated greenstone. The wallrock contains up to 5 per cent pyrite, minor galena and chalcopyrite and assayed up to 71.99 grams per tonne silver, 1.75 per cent lead, 0.66 per cent zinc,

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 775
REPORT: RGEN0100

CAPSULE GEOLOGY

0.06 per cent copper and 0.75 grams per tonne gold over 1.2 metres (Assessment Report 13152). The sulphides also occur as blebs in the quartz veins but have returned poor assay values.

BIBLIOGRAPHY

EMPR AR 1933-178; 1936-D14
EMPR ASS RPT *13152
EMPR BULL 10, p. 107; 20, Part III, p. 25
EMPR EXPL 1984-210; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
GSC MAP 886A; 887A
GSC MEM *249, p. 56
GSC OF *980
GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/25

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE177**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARION C FRACTION (L.5077)**

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092108W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 08 N
 LONGITUDE: 120 22 59 W
 ELEVATION: 860 Metres

NORTHING: 5579215
 EASTING: 686228

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION:
 COMMENTS: Chert beds.

STRIKE/DIP: 010/50W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP
 Upper Triassic Nicola

FORMATION
 Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Altered Andesite

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
 SAMPLE TYPE: Grab

YEAR: 1974

COMMODITY	GRADE	
Silver	17.8200	Grams per tonne
Copper	0.0100	Per cent
Lead	0.0900	Per cent
Zinc	0.0300	Per cent

COMMENTS: Vein material
 REFERENCE: Assessment Report 5152.

CAPSULE GEOLOGY

The historic King William camp is located on Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less commonly calcite veins which strike generally to the north and dip steeply eastward.

The Marion C showing appears to be the southernmost extension of the King William vein system (092ISE110). The quartz vein, as exposed in old open cuts, is 10 centimetres wide, carries minor pyrite, galena, sphalerite and chalcopyrite and is hosted in altered andesite. A chert unit occurs with beds striking approximately 010

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 777
REPORT: RGEN0100

CAPSULE GEOLOGY

degrees and dipping 50 degrees west. Grab samples from vein material assayed 17.82 grams per tonne silver, 0.09 per cent lead, 0.03 per cent zinc, 0.01 per cent copper and 0.1 grams per tonne gold (Assessment Report 5152).

BIBLIOGRAPHY

EMPR ASS RPT *5152, 5565, *13152
EMPR BULL 10, p. 107; 20, Part III, p. 25
EMPR EXPL 1984-210; 1989-119-134
EMPR FIELDWORK 1988, pp. 96,97
EMPR GEM 1975-E87
GSC MAP 886A; 887A; 1386A
GSC MEM *249, p. 56
GSC OF *980
GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/25

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE178**

NATIONAL MINERAL INVENTORY:

NAME(S): **WIN, ZONE**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 02 39 N
LONGITUDE: 120 40 58 W
ELEVATION: 1234 Metres

NORTHING: 5546114
EASTING: 665908

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Win claims, 1.75 kilometres south of Garcia Lake, 10.5 kilometres south-southeast from the town of Merritt (Property File-Sookochoff, L.)

COMMODITIES: Copper Silver Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite Tetrahedrite Bornite
ASSOCIATED: Pyrite
ALTERATION: Silica Malachite Azurite Hematite Epidote
ALTERATION TYPE: Silicific'n Oxidation Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Andesite
Porphyritic Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1975

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

19.8800

Grams per tonne

Copper

1.0400

Per cent

COMMENTS: Trench sample

REFERENCE: Property File - Sookochoff, L..

CAPSULE GEOLOGY

Regionally the area is underlain by Upper Triassic Nicola Group andesite, porphyritic andesite, basalt, breccias and limestone. Granitic rocks of the Juro-Cretaceous Coast Plutonic Complex are found to the east of the occurrence area.

A pit on the Win showing exposes fractured and faulted silicified limestone with considerable epidote alteration and malachite and azurite staining. Generally the mineralization within the pit consists of fracture-controlled chalcopyrite, pyrite, hematite, sphalerite, tetrahedrite and minor bornite. A grab sample from a trench assayed 1.04 per cent copper and 19.88 grams per tonne silver (Sookochoff, L.).

BIBLIOGRAPHY

EMPR EXPL 1989-119-134
EMPR PF (*Sookochoff, L. (1975,1974): Geological Reports)
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1989/11/16

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE179**

NATIONAL MINERAL INVENTORY:

NAME(S): **REDBIRD**, MICROGOLD

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:
LATITUDE: 50 23 32 N
LONGITUDE: 120 22 13 W
ELEVATION: 981 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Kamloops
Nicola
UTM ZONE: 10 (NAD 83)
NORTHING: 5585547
EASTING: 686915

COMMODITIES: Gold Silver Molybdenum

MINERALS

SIGNIFICANT: Pyrite Molybdenite
ASSOCIATED: Quartz Chalcedony Fluorite Gypsum
ALTERATION: Silica Chlorite Gypsum Epidote Fluorite
Hematite Kaolinite Pyrite
ALTERATION TYPE: Silicific'n Argillic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epithermal
TYPE: H05 Epithermal Au-Ag: low sulphidation H03 Hot spring Au-Ag

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesitic Flow Breccia
Conglomerate
Andesite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: VEINS REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 3.0000 Grams per tonne
Gold 0.7000 Grams per tonne
COMMENTS: Sample from zoned quartz-fluorite veins.
REFERENCE: Property File - District Geologist, Kamloops (1985).

CAPSULE GEOLOGY

The Redbird showing is underlain by andesitic flow breccia and minor intercalated conglomerate of the Upper Triassic Nicola Group which have been pervasively altered to lower greenschist facies. Approximately one kilometre east of the property, country rocks are cut by the north-northeast trending Stump Lake fault. Within the occurrence area, the dominant structural trend is northeast with numerous subordinate fractures trending northwest. Alteration and mineralization is structurally controlled. Zones of bleaching, oxidation and silicification reflect the regional trend, while more local alteration and quartz veining follow the subordinate direction.

One main zone of alteration comprises intense fracturing and pervasive silica and clay alteration. This zone is exposed over an area measuring 360 by 220 metres. The alteration mineralogy consists of chlorite, gypsum, epidote, fluorite, hematite, kaolinite, quartz and pyrite. Within this zone are quartz veins containing variable amounts of chalcedony, gypsum, fluorite and finely disseminated pyrite. The veins and some of their alteration envelopes host gold values up to 3.0 grams per tonne (Blanchflower, 1986).

Zoned quartz-fluorite veins (pyrite is present with an illitic mixed-layer clay) assayed 0.7 grams per tonne gold, 3.0 grams per tonne silver, 0.0074 per cent copper and 0.064 per cent molybdenite

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 780
REPORT: RGEN0100

CAPSULE GEOLOGY

(District Geologist, 1985).
Canquest Resource Corporation conducted geological, geochemical,
and geophysical surveys and drilling from 1991 to 1997.

BIBLIOGRAPHY

EMPR ASS RPT 8062, 11372, 11397, 14650, 16075, 22012, 22424,
23405, 23967, 24205, 24455, 24817, 24913
EMPR BULL 69
EMPR EXPL 1976-E202; 1978-E287; 1980-535; 1986-C233; 1989-119-134
EMPR PF (Kamloops) (*Blanchflower, J.D. (1986): Report on the Redbird
Property for Redbird Gold Corp.; District Geologist, 1985;
Canquest Resource Corporation Website (Mar.1999): Microgold
Property, 8 p.)
GSC MEM *249
GSC OF *980
WWW <http://www.canquest.bc.ca/microgol.htm>
Chevron File

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/20

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE180**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOUTH NICOLA**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 07 18 N
LONGITUDE: 120 41 10 W
ELEVATION: 851 Metres

NORTHING: 5554722
EASTING: 665403

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: A04 Bituminous coal

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene	Princeton	Coldwater	

LITHOLOGY: Sandstone
Shale
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

An abandoned coal mine is situated in Middle Eocene Coldwater Formation beds (Princeton Group) which are in fault contact with Upper Triassic Nicola Group volcanic flow rocks to the east. Coldwater Formation lithologies consist mainly of locally crossbedded, poorly indurated limonite-cemented sandstone, grey shale and coal-bearing beds. Bedding strikes north and dips 20 degrees to the west. The coal seam is approximately one metre thick.

BIBLIOGRAPHY

EMPR ASS RPT 7938, *9009, 9010, 12273
EMPR BULL *69
EMPR EXPL 1980-219; 1989-119-134
EMPR MAP *47
GSC MAP 44-20; 886A; 887A
GSC MEM *249, p. 151
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 783
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/08

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE182**

NATIONAL MINERAL INVENTORY:

NAME(S): **JPG 2**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092102E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 05 19 N
LONGITUDE: 120 40 50 W
ELEVATION: 1073 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

NORTHING: 5551060
EASTING: 665914

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Epidote Silica Azurite Malachite
ALTERATION TYPE: Skarn Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Plagioclase Porphyritic Andesite Flow
Andesite Flow
Limestone
Skarn
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1976
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	21.9000 Grams per tonne
Copper	1.0400 Per cent
REFERENCE: Property File - Timmins, W.G.	

CAPSULE GEOLOGY

The JPG 2 showing occurs in the western belt of the Upper Triassic Nicola Group which is comprised of grey to green volcanic flow rocks, plagioclase porphyritic andesitic flows, volcanic breccia and tuff, minor interbedded argillite, limestone and sandstone. Bedding and flow structures strike north to northeast. Copper mineralization is exposed in a shallow shaft developed in a calc-silicate skarn zone consisting mainly of epidote. The skarn is generally flat-lying with a shallow dip to the east and is mineralized with finely disseminated chalcopyrite, azurite and malachite. A composite of material from the dump assayed 0.06 grams per tonne gold, 21.9 grams per tonne silver and 1.04 per cent copper (Timmins, 1976).

BIBLIOGRAPHY

EMPR BULL *69
EMPR EXPL 1989-119-134
EMPR MAP *47
EMPR PF (*Report by W.G. Timmins, 1976)
GSC MAP 886A
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 785
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE183**

NATIONAL MINERAL INVENTORY:

NAME(S): **JPG 1**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 04 24 N
LONGITUDE: 120 41 10 W
ELEVATION: 1173 Metres

NORTHING: 5549349
EASTING: 665569

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT:	Copper	Chalcopyrite	Bornite	Sphalerite	Magnetite
ASSOCIATED:	Quartz	Calcite	Plagioclase	Hematite	
ALTERATION:	Epidote	Chlorite	Malachite	Hematite	Azurite
ALTERATION TYPE:	Propylitic	Epidote		Chloritic	Oxidation
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Faulted Fractured
DIMENSION:
COMMENTS: Bedding and schistosity.

STRIKE/DIP: 045/70S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Plagioclase Porphyritic Andesite
Andesitic Breccia
Tuff
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The western belt of the Upper Triassic Nicola Group consists mainly of an east facing sequence of calc-alkaline flows grading upward into pyroclastics, epiclastic sediments and abundant limestone, separated from the central belt by a northeast trending regional fault. Local lithologies are dark green to grey, massive to plagioclase porphyritic andesite, andesitic breccia, tuff and interbedded grey, massive to cherty fossiliferous limestone. Bedding strikes northeast and dips steeply to the southeast. Some folding is indicated. A northwest trending fault and north-northeast trending shear and fracture zones dominate the central portion of the JPG 1 showing. Alteration is mainly epidotization and chloritization. Mineralization is controlled by structural features. Showings consist of an old inclined shaft, trenches and open cuts which expose three parallel north trending zones varying in width from 1.5 to 6.1 metres and are traceable for up to 600 metres. Mineralization consists of native copper, chalcopyrite, magnetite, bornite, malachite, azurite, hematite and sphalerite in a gangue of plagioclase, hematite, quartz and calcite.

BIBLIOGRAPHY

EMPR ASS RPT *9318, 10483
EMPR BULL *69
EMPR EXPL 1989-119-134
EMPR MAP *47
GSC MAP 886A
GSC MEM 249

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 787
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/11

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE184**

NATIONAL MINERAL INVENTORY:

NAME(S): **IXL NO. 6 (L.5111)**

MINING DIVISION: Nicola

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 092I08W
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 19 43 N
 LONGITUDE: 120 22 11 W
 ELEVATION: 760 Metres

NORTHING: 5578477
 EASTING: 687204

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT:	Pyrite	Galena	Sphalerite	Tetrahedrite
ASSOCIATED:	Quartz			
ALTERATION:	Chlorite	Epidote	Malachite	Azurite
ALTERATION TYPE:	Propylitic		Oxidation	
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION:
 COMMENTS: Quartz vein. STRIKE/DIP: 350/55E TREND/PLUNGE:

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 Flow Breccia
 Tuff
 Augite Porphyry

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: 1974
 SAMPLE TYPE: Rock

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	126.1500	Grams per tonne
Gold	0.6800	Grams per tonne
Copper	0.0100	Per cent
Lead	0.8400	Per cent
Zinc	0.0300	Per cent

 COMMENTS: Dump sample
 REFERENCE: Assessment Report 5152.

CAPSULE GEOLOGY

The historic Jenny Long camp is located south of Mineral Hill within a north trending belt of Upper Triassic intermediate volcanics, volcanoclastics and sediments belonging to the Nicola Group. These greenstones consist of massive, chlorite-epidote altered andesite and basalt, augite porphyry, andesitic flow breccia and tuff, minor interbedded argillite, conglomerate and limestone. Attitudes of tuff horizons and sedimentary bedding suggest that a north plunging axis of a syncline passes through Mineral Hill. Both west and northeast of Stump Lake, the Nicola Group volcanics are intruded by Lower Jurassic granitic batholiths; scattered granodiorite outcrops have been mapped in the vicinity of the camp. Secondary to the north-northeast trending Quilchena and Stump Lake regional faults are numerous smaller faults which form a complex fracture pattern and appear to control alteration and mineralization. Andesitic rocks are bleached, pervasively silicified, pyritic and brecciated. Mineralization occurs in numerous quartz, and less

CAPSULE GEOLOGY

commonly calcite veins which strike generally to the north and dip steeply eastward.

The IXL 6 showing consists of a caved-in shaft and several open cuts which expose a quartz vein striking 350 degrees and dipping 55 degrees east. Mineralization consists of galena, sphalerite, pyrite, tetrahedrite, malachite and azurite. A dump sample assayed 0.68 grams per tonne gold, 126.15 grams per tonne silver, 0.84 per cent lead, 0.01 per cent copper and 0.03 per cent zinc (Assessment Report 5152).

BIBLIOGRAPHY

EMPR ASS RPT *5152, 13152
EMPR BULL 10, p. 107; 20, Part III, p. 25
EMPR EXPL 1984-20; 1989-119-134
EMPR GEM 1974-148; 1975-E87
GSC MAP 886A; 887A
GSC MEM *249, p. 56
GSC OF *980
GSC SUM RPT 1919 Part B

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/25

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE185**

NATIONAL MINERAL INVENTORY:

NAME(S): **BR 3**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 05 42 N
LONGITUDE: 120 36 28 W
ELEVATION: 1165 Metres

NORTHING: 5551934
EASTING: 671097

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Cuprite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Augite Plagioclase Porphyritic Andesite
Basalt
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The area is underlain by volcanic assemblages of the central belt of the Upper Triassic Nicola Group. Locally these consist of red to green augite-plagioclase porphyritic andesite and basalt flows striking northeast and dipping 35 degrees to the east. The volcanics are intruded by comagmatic diorite stocks and plugs. Mineralization consists of chalcopyrite, cuprite and magnetite.

BIBLIOGRAPHY

EMPR BULL *69
EMPR EXPL 1989-119-134
EMPR MAP *47
GSC MAP 886A
GSC MEM 249
GSC OF 980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/08

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE186**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOE** BET, JOE 7

MINING DIVISION: Kamloops

STATUS: Showing

REGIONS:

NTS MAP: 092107W

BC MAP:

LATITUDE: 50 28 00 N

LONGITUDE: 120 56 11 W

ELEVATION: 1125 Metres

LOCATION ACCURACY: Within 500M

COMMENTS:

UTM ZONE: 10 (NAD 83)

NORTHING: 5592553

EASTING: 646450

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide

COMMENTS: Copper sulphides

ALTERATION: Chlorite

Sericite

Epidote

ALTERATION TYPE: Propylitic

Sericitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown

CLASSIFICATION: Unknown

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

Granodiorite

Quartz Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The area is covered by thick overburden and underlain by rocks of the Lower Jurassic Guichon Creek batholith. Guichon variety quartz diorite and granodiorite occupy central and eastern portions of the property, while younger Chataway variety granodiorite outcrops to the west. These rocks are generally fresh in appearance, light creamy-grey colour mottled by pink and fine to medium-grained with euhedral to subhedral hornblende and biotite. A pink quartz-feldspar porphyry dyke intrudes the Chataway rocks.

Chlorite alteration is commonly developed along fractures and sericite alteration is common in or near fault zones. Epidote alteration is generally weak and occurs as a replacement of mafic minerals. Low grade copper sulphide mineralization is exposed by early trenching.

BIBLIOGRAPHY

EMPR ASS RPT 2012

EMPR BULL 56

EMPR EXPL 1989-119-134

EMPR GEM 1969-256; 1970-341; *1973-178

EMPR MAP *30

EMPR PF (Coveney, C.J. (1972): A Report on the Joe - Bet Claims)

GSC MEM 249

GSC OF 980

DATE CODED: 1985/07/24

DATE REVISED: 1989/11/25

CODED BY: GSB

REVISED BY: GO

FIELD CHECK: N

FIELD CHECK: N

MINFILE NUMBER: **092ISE187**

NATIONAL MINERAL INVENTORY:

NAME(S): **TIC-TAC-TOE**, GERT, NO. 1,
BOO

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I08W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 26 N
LONGITUDE: 120 26 01 W
ELEVATION: 1010 Metres

NORTHING: 5579646
EASTING: 682612

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Tetrahedrite Chalcopyrite Bornite
ASSOCIATED: Quartz Carbonate Chalcedony Pyrite Magnetite
ALTERATION: Carbonate Siderite Fuchsite Quartz Hematite
Kaolinite Azurite
ALTERATION TYPE: Quartz-Carb. Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: 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	
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Siderite Quartz Fuchsite Rock
Serpentinite
Diabase Dike
Volcanic Breccia
Amygdaloidal Andesite Flow
Tuff
Sandstone
Shale

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
SAMPLE TYPE: Drill Core
COMMODITY

YEAR: 1983

COMMODITY	GRADE	
Silver	4.8000	Grams per tonne
Copper	0.1300	Per cent

COMMENTS: Sample across a 3 metre interval.
REFERENCE: Assessment Report 11434.

CAPSULE GEOLOGY

The property is situated within the folded, fault-bounded eastern belt of the Upper Triassic Nicola Group and underlain by volcanics and sediments which have undergone low grade greenschist facies metamorphism. To the west is the Lower Jurassic Nicola batholith granodiorite. The property lies on the west limb of a regional north trending syncline, the axis of which passes through Stump Lake.

The Tic-Tac-Toe occurrence is underlain by massive, pyritic volcanic breccia, amygdaloidal andesite flows, tuff, interbedded sandstone and shale, and a highly sheared serpentine-rich ultramafic with one per cent disseminated magnetite throughout. Narrow, post-mineral(?) diabase dykes intrude this sequence.

An east trending alteration envelope, 1000 metres long and up to 200 metres wide, occurs along the northern edge of the main ultramafic mass. This highly carbonatized zone consists of rusty

CAPSULE GEOLOGY

siderite-quartz-fuchsite rock cut by abundant quartz-carbonate stringers. Hematitic and kaolinitized sections are irregularly distributed. Network stringers contain disseminated tetrahedrite, chalcopyrite and pyrite and locally give the rock a crackle breccia appearance. Azurite occurs on fracture surfaces. Diamond drilling intersected intervals up to 3 metres in length assaying 0.13 per cent copper, 4.8 grams per tonne silver and 0.21 grams per tonne gold (Assessment Report 11434). Planar stringers are commonly barren, strike east-northeast and dip steeply. Banded veins up to 6 centimetres wide consist of alternating yellow carbonate and white chalcedonic quartz bands, and contain fine disseminated pyrite, chalcopyrite and tetrahedrite(?). Bornite was also reported in a shear 500 metres to the northeast (Gert showing).

BIBLIOGRAPHY

EMPR AR 1967-172
EMPR ASS RPT 7893, 11050, *11434
EMPR BULL *69
EMPR EXPL 1979-171; 1982-203; 1983-278; 1989-119-134
GSC MEM *249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1987/12/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE188**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE JAY**, BEE

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 02 00 N
LONGITUDE: 120 41 34 W
ELEVATION: 1314 Metres

NORTHING: 5544887
EASTING: 665230

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Copper Chalcocite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Volcanogenic

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: Andesitic Flow
Volcanic Breccia
Limestone
Argillite
Basaltic Flow
Andesite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The western belt of the Upper Triassic Nicola Group is comprised of calc-alkaline flows grading upward into pyroclastics, epiclastic sediments and limestone. The property is underlain by dark grey to green andesitic to basaltic flows which vary from massive to plagioclase-porphyritic and/or amygdaloidal, and volcanic breccia. The volcanics are intercalated with limestone and argillite. Approximately 500 metres east of the Blue Jay showing is a northeast trending regional fault which marks the eastern boundary of the western belt.

Nicola Group rocks are locally intensely altered and contain disseminated native copper, chalcocite and chalcopyrite.

BIBLIOGRAPHY

EMPR AR *1967-175; 1968-202
EMPR EXPL 1989-119-134
EMPR MAP *47
EMPR PF (Summary of Exploration and Development Work Performed in 1968 Form)
GSC MAP 886A
GSC MEM 249
GSC OF *980

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/12

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE189**

NATIONAL MINERAL INVENTORY:

NAME(S): **LARON**, TORMONT

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 13 42 N
LONGITUDE: 120 53 59 W
ELEVATION: 1100 Metres

NORTHING: 5566129
EASTING: 649801

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Copper
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic			Guichon Creek Batholith

ISOTOPIC AGE: 206 +/-9 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Bulletin 56

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Laron showing is situated near the southeast perimeter of the multistage Lower Jurassic Guichon Creek batholith. The area is underlain by quartz diorite to granodiorite varieties of the Border phase which represents the oldest rocks in the batholith.

Small amounts of disseminated bornite, chalcopyrite and native copper were intersected in a drill hole.

BIBLIOGRAPHY

EMPR AR 1961-39; 1962-51,132; 1963-49
EMPR ASS RPT 390
EMPR BULL 56; 62
EMPR EXPL 1989-119-134
EMPR MAP 30
GSC MEM 249
GSC OF 980
GAC Fieldguide & Reference Manual Series, No. 1 (Geology and Ore Deposits of the Highland Valley Camp)

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/09

CODED BY: GSB
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE190**

NATIONAL MINERAL INVENTORY:

NAME(S): **QUEN**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I07E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 24 50 N
LONGITUDE: 120 42 50 W
ELEVATION: 1356 Metres

NORTHING: 5587148
EASTING: 662420

LOCATION ACCURACY: Within 500M

COMMENTS: Showing located along the shore of a small, unnamed lake along Quenville Creek, about 11 kilometres south-southeast of the community of Logan Lake (Property File - Geology map).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Copper Molybdenite Chalcocite
ASSOCIATED: Pyrite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Andesite
Augite Porphyritic Andesitic Flow
Volcanic Conglomerate
Plagioclase Porphyritic Andesitic Flow

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Quen occurrence is underlain by augite and plagioclase porphyritic andesitic flows and red volcanic conglomerate of the Upper Triassic Nicola Group. Chalcopyrite, bornite, pyrite, native copper, molybdenite, chalcocite, malachite and aurite occur in the andesitic flows.

BIBLIOGRAPHY

EMPR PF (*Geology map; claim location map)
GSC MEM 249
GSC OF 980

DATE CODED: 1999/05/27
DATE REVISED: 1999/05/27

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISE191**

NATIONAL MINERAL INVENTORY:

NAME(S): **FOX, BLACKTOP**

MINING DIVISION: Nicola

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 092I07E
 BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 23 00 N
 LONGITUDE: 120 37 00 W
 ELEVATION: 1400 Metres

NORTHING: 5583968
 EASTING: 669435

LOCATION ACCURACY: Within 500M

COMMENTS: The Fox property, located about 30 kilometres north of Merritt.

COMMODITIES: Zinc Copper Silver Gold Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Chalcopyrite Galena Tetrahedrite

ASSOCIATED: Barite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Massive Breccia
 CLASSIFICATION: Volcanogenic
 TYPE: G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Guichon Creek Batholith
Triassic-Jurassic			Nicola Batholith

LITHOLOGY: Felsic Volcanic Rock
 Quartz Sericite Schist
 Felsic Breccia
 Chert
 Intermediate Plagioclase Phyric Flow
 Felsic Plagioclase Phyric Flow
 Mafic Intermediate Felsic Pyroclastic
 Pyroclastic Breccia
 Epiclastic Breccia
 Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
 TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	2000
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	144.0000		Grams per tonne
Gold	1.0600		Grams per tonne
Copper	3.2200		Per cent
Lead	0.8600		Per cent
Zinc	31.2600		Per cent

COMMENTS: From a loose boulder with a nearby source.
 REFERENCE: Press Release, Gitennes Exploration Inc., October 17, 2000.

CAPSULE GEOLOGY

The area of the Fox property has been mapped as Late Triassic Nicola Group (western facies) rock consisting of mafic to felsic plagioclase-phyric flows, pyroclastic and epiclastic breccias, tuffs, argillite, sandstone and local carbonate. This belt is intruded by the Late Triassic and/or Lower Jurassic Nicola and Guichon Creek granodiorite batholiths to the east and west respectively. The showing was discovered in 2000 and soon thereafter optioned to Gitennes Exploration Inc. According to a Gitennes press release (October 17, 2000), the showing consists of polymetallic massive sulphide mineralization hosted by intermediate to felsic volcanic rocks. Mineralization has been traced in outcrop, bedrock rubble and float over a cross-sectional area 100 meters long that is from 2 to 4 metres thick. Both ends of the zone are covered by overburden, and

CAPSULE GEOLOGY

the base is not exposed. The mineralized zone is characterized by quartz-sericite schist, pyrite-sphalerite-chert rock, and barite-sphalerite-cemented felsic breccia. Associated minerals include chalcopyrite, galena and tetrahedrite. Scattered higher-grade boulders of dense massive sulphide rock occur, but have yet to be found in outcrop.

Four grab samples taken from outcrop yielded values ranging from 5.62 to 19.75 per cent zinc, 0.38 to 1.58 per cent copper, 0.01 to 0.71 per cent lead, 31.8 to 91.8 grams per tonne silver and 0.4 to 0.7 gram per tonne gold (Press Release, Gitenne Exploration Inc., October 17, 2000). A high grade boulder assayed 31.26 per cent zinc, 3.22 per cent copper, 0.86 per cent lead, 144 grams per tonne silver and 1.06 grams per tonne gold (Press Release, Gitenne Exploration Inc., October 17, 2000).

In addition to staking, Gitenne plans to do geological mapping, prospecting and rock sampling followed by geophysical surveying.

BIBLIOGRAPHY

EM EXPL 2001-33-43
EMPR OF 1996-20
GSC MEM 249
GSC OF 980
GSC P 1999-A, pp. 205-213
GCNL #201(Oct.20), #226(Nov.27),#228(Nov.29), 2000
N MINER Dec.4, 2000
PR REL Gitenne Exploration Inc., *Oct. 17, 2000
WWW <http://www.gitennes.com>;
http://www.infomine.com/index/properties/FOX_-_GITENNES.html

DATE CODED: 2000/10/24
DATE REVISED: 2000/10/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW001**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAR, TN**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

BC MAP:

LATITUDE: 50 17 18 N

LONGITUDE: 121 04 14 W

ELEVATION: 1215 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop on a logging road south of Skuhun Creek, approximately 6.4 kilometres from its confluence with the Nicola River (Assessment Report 2011).

UTM ZONE: 10 (NAD 83)

NORTHING: 5572470

EASTING: 637444

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite

COMMENTS: Trace bornite.

ALTERATION: Epidote Orthoclase Malachite

ALTERATION TYPE: Propylitic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stockwork

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Undefined Formation	
Upper Triassic	Nicola	Undefined Formation	
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Syenite
Monzonite
Feldspar Andesite Dike
Porphyritic Andesite
Granodiorite

HOSTROCK COMMENTS: Border and Chataway phases of the Guichon Creek batholith (Map 30).

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tar showing is located south of Skuhun Creek approximately 6.4 kilometres from its confluence with the Nicola River.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase monzonites, and to the east by Chataway phase granodiorites. The batholith intrudes Upper Triassic Nicola Group volcanics and sediments to the southwest. Nicola Group outcrops are sparse and tend to be chloritized or schistose. Flat-lying Middle and Upper Cretaceous Spences Bridge Group porphyritic andesites form cliffs to the south.

Faulting and fracturing is common within the batholith and on its borders with Nicola volcanics. Its composition changes from biotite, plagioclase and orthoclase at the border to hornblende, plagioclase, orthoclase and minor biotite over approximately 120 metres from the border. Approximately 150 metres from the edge of the batholith a parallel zone of propylitic alteration comprises epidote-orthoclase veining and minor replacement of the host rock by orthoclase.

Sporadically disseminated chalcopyrite is associated with the alteration. To the southwest plagioclase is completely replaced by orthoclase in the host rock. Here chalcopyrite is more abundant, occurring in large irregular patches along joint faces and fractures within syenite. Minor chalcopyrite occurs in adjacent wallrock. In one location a 45 centimetre wide mineralized zone occurs along the northeast face of a feldspar andesite dyke. One bornite crystal was reported but the location is not mentioned (Assessment Report 2011). Malachite staining is seen in various outcrops.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 800
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT *2011, 2058, 2629, 3116
EMPR BULL 56; 62
EMPR GEM 1969-265,266; 1970-352; 1971-341
EMPR MAP *30
EMPR PF (Geology map, 1969)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104; Trans. Vol. 60 (1957), pp. 273-289
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/25

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW002**

NATIONAL MINERAL INVENTORY:

NAME(S): **NANCY, BL, BUTTLE LAKE,
TERRY, STEWART, NANCY 14**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:
LATITUDE: 50 26 57 N
LONGITUDE: 121 06 50 W
ELEVATION: 1670 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Trench 2 on Nancy 14 claim, approximately 1.1 kilometres south-southwest of Calling Lake (Assessment Report 170).

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5590273
EASTING: 633904

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Bornite Molybdenite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Quartz Sericite Malachite Epidote
ALTERATION TYPE: Silicific'n Sericitic Oxidation Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 6 Metres STRIKE/DIP: 015/90 TREND/PLUNGE:
COMMENTS: Mineralized shear zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Guichon Creek Batholith

LITHOLOGY: Sericite Porphyry
Quartz Monzonite
Granodiorite
Aplite Dike
Quartz Feldspar Porphyritic Dike
Aplite Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1956
SAMPLE TYPE: Bulk Sample
COMMODITY GRADE
Copper 1.0500 Per cent
COMMENTS: 90.78 kilogram sample across a 5.8 metre wide shear.
REFERENCE: Assessment Report 170.

CAPSULE GEOLOGY

The Nancy showing is located in trench 2, 1100 metres south-southwest of Calling Lake just east of the gravel road. The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorite to quartz monzonite. Bethsaida rocks are typically leucocratic with biotite "books" and minor hornblende. They are intruded by quartz-feldspar porphyry dykes up to 30 metres wide and numerous aplite dykes up to 5 centimetres wide. Guichon variety quartz diorite outcrops to the west. Intrusive contacts to the west and regional faulting define a prominent structural trend striking 010 degrees. A distinct second set of shearing strikes 045 to 065 degrees. Mineralization is localized along faulting and is of better grade and in larger bodies in the latter set. Jointing is well-developed and varies in density, being more numerous close to faulting. Country rocks are intensely altered by sericite and quartz with

CAPSULE GEOLOGY

malachite staining on joint faces in areas of faulting and shearing. Trenching (1956) exposed the main shear zone on the Nancy claims. It strikes 015 degrees and dips almost vertically. The fault zone comprises grey sericitic porphyry with a network of irregular quartz pods and stringers. Bornite veinlets (up to 5 centimetres wide), with minor molybdenite, is associated with the quartz. A 90.78 kilogram bulk sample taken across the full width of the shear (5.8 metres) assayed 1.05 per cent copper, with trace molybdenum (Assessment Report 170). Trenching 213 metres to the south revealed no mineralization.

Thin, discontinuous films of bornite occur throughout the occurrence area along joint surfaces. Minor, disseminated bornite and chalcopyrite occur in sporadic quartz and epidote veinlets in Guichon variety quartz diorites to the west.

BIBLIOGRAPHY

EMPR AR 1956-45; 1961-29; 1963-127; 1964-85; 1965-147
EMPR ASS RPT *170, 490, 632, *750
EMPR BULL 56; 62
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/18

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW003**

NATIONAL MINERAL INVENTORY:

NAME(S): **PIM, FRANK, LAKE,
SNO, IL, NORD**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:
NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 23 36 N
LONGITUDE: 121 04 49 W

NORTHING: 5584126
EASTING: 636450

ELEVATION: 1730 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop on the northern slopes of Spaist Mountain, approximately 1 kilometre south of Pimainus Lakes (Assessment Report 2793).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Bornite	Chalcocite			
ASSOCIATED:	Quartz				
ALTERATION:	Chlorite	Epidote	Sericite	Hematite	Calcite
	Clay				
ALTERATION TYPE:	Propylitic		Sericitic		Oxidation
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Biotite Granodiorite
Quartz Monzonite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Pim showing is located approximately 1 kilometre south of Pimainus Lakes on the north slopes of Spaist Mountain.

The area is underlain by several phases of the Early Jurassic-Late Triassic Guichon Creek batholith. The showing occurs in Bethsaida phase medium to coarse-grained biotite granodiorite varying to quartz monzonite. Mafic minerals constitute 5 to 12 per cent of the rock with biotite occurring as coarse, euhedral "books". Quartz (20 to 30 per cent) occurs as anhedral, round quartz "eyes". Bethsaida phase rocks are in a northwest trending contact to the west with Skeena variety granodiorites and Bethlehem phase coarse-grained biotite-hornblende granodiorite. Very large poikilitic hornblende crystals are characteristic of the Bethlehem phase. A narrow band of poorly defined Highland Valley phase rocks outcrops as Chataway variety medium to coarse-grained hornblende granodiorite in gradational contact with Guichon variety fine to medium-grained biotite-hornblende quartz diorite. The oldest and most westward exposed rocks are Border (Hybrid) phase coarse-grained, foliated, hornblende quartz diorite with areas of diorite and amphibolite. The Bethsaida/Bethlehem and Bethlehem/Chataway contacts are fairly abrupt but the Chataway/Guichon and Guichon/Border contacts are very indistinct (Assessment report 2793). All contacts are northwest trending.

A possible fault strikes 085 degrees on the north slope of Spaist Mountain. Joints spaced about 10 per metre are vertical and occur in two well-formed sets striking 110 degrees and 020 degrees respectively.

Irregular hydrothermal alteration is widespread and locally intense. Chlorite, epidote, sericite and hematite with minor calcite and clay are the most common secondary minerals. Bornite and hematite occur in a 15 centimetre wide quartz vein near the Bethsaida/Skeena contact within Bethsaida phase rocks (Assessment Report 2793). A narrow, flat-lying vein of chalcocite and bornite

CAPSULE GEOLOGY

striking northwest for approximately 30 metres is reported in Assessment Report 853, however, the location is uncertain.

BIBLIOGRAPHY

EMPR AR 1966-159; 1968-192
EMPR ASS RPT 158, 159, 160, 163, 191, *853, *2793, 3053
EMPR BULL 56; 62
EMPR GEM 1970-342; 1971-343; 1973-169
EMPR MAP *30
EMPR PF (see 092ISW004, Geology maps)
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/10

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW004**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAKEN**, LAKE, SPOT,
PLES FR.

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:
NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 24 50 N

LONGITUDE: 121 06 02 W

ELEVATION: 1590 Metres

NORTHING: 5586375

EASTING: 634951

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop on the west side of a logging road 1.5 kilometres north of
the west end of Pimainus Lakes (Assessment Report 2793).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite

ASSOCIATED: Quartz

ALTERATION: Sericite

Epidote

Chlorite

Hematite

Clay

Calcite

Limonite

Malachite

Oxidation

ALTERATION TYPE: Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Shear

CLASSIFICATION: Epigenetic

Hydrothermal

Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

COMMENTS: Shallow dipping shears.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Biotite Granodiorite
Quartz Monzonite
Aplite Dike
Pegmatitic Dike
Andesite Dacite Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Laken occurrence lies west of the logging road 1.5 kilometres north of the west end of Pimainus Lakes.

The area is underlain by several phases of the Early Jurassic-Late Triassic Guichon Creek batholith. The showing occurs in Bethsaida phase medium to coarse-grained biotite granodiorite varying to quartz monzonite. Mafic minerals constitute 5 to 12 per cent of the rock with biotite occurring as coarse, euhedral "books". Quartz (20 to 30 per cent) occurs as anhedral, round quartz "eyes". Bethsaida phase rocks are in a northwest trending contact to the west with Skeena variety granodiorites and Bethlehem phase coarse-grained biotite-hornblende granodiorite. Very large poikilitic hornblende crystals are characteristic of the Bethlehem phase. A narrow band of poorly defined Highland Valley phase rocks outcrops as Chataway variety medium to coarse-grained hornblende granodiorite in gradational contact with Guichon variety fine to medium-grained biotite-hornblende quartz diorite. The oldest and most westward exposed rocks are Border (Hybrid) phase coarse-grained, foliated, hornblende quartz diorite with areas of diorite and amphibolite. Bethsaida rocks on the property are intruded by numerous aplite and pegmatite dykes, and Tertiary fine-grained andesite and dacite dykes.

The Bethsaida/Bethlehem and Bethlehem/Chataway contacts are fairly abrupt but the Chataway/Guichon and Guichon/Border contacts are very indistinct (Assessment report 2793). Contacts are generally northwest trending.

A north-northwest trending topographic low may represent a major fault in the Bethlehem rocks. Joints spaced about 10 per metre are vertical and occur in two well-formed sets striking 110 degrees and 020 degrees respectively.

CAPSULE GEOLOGY

Irregular hydrothermal alteration is widespread and locally intense. Sericite, epidote, chlorite and hematite with minor calcite, clay and limonite are the most common secondary minerals. The alteration zone trends parallel to the Bethsaida/Bethlehem contact, its width indefinite. Bornite and malachite are associated with hematite, sericite and quartz veins in shallow dipping shear zones trending perpendicular to the alteration zone. Drilling is reported to have intersected copper and molybdenite mineralization to the north (Minister of Mines Annual Report 1966).

BIBLIOGRAPHY

EMPR AR *1966-159; 1968-192
EMPR ASS RPT 855, *2793, 3053
EMPR BULL 56; 62
EMPR GEM 1970-342; 1971-343; 1973-169
EMPR MAP *30
EMPR PF (Geology maps, 1970)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/12

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW005**

NATIONAL MINERAL INVENTORY: 09216 Cu1

NAME(S): **VICTOR, SKEENA, SKEENA COPPER,
DIVIDE COPPER**

STATUS: Past Producer Open Pit

MINING DIVISION: Kamloops

REGIONS: 092106E

UTM ZONE: 10 (NAD 83)

NTS MAP: 092106E

BC MAP:

LATITUDE: 50 27 42 N

LONGITUDE: 121 01 11 W

ELEVATION: 1465 Metres

NORTHING: 5591836

EASTING: 640552

LOCATION ACCURACY: Within 500M

COMMENTS: Open pit, 1.2 kilometres northeast of the Lornex open pit (092ISW045)
(Geology, Exploration and Mining in British Columbia 1974).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sulphide

ASSOCIATED: Quartz Carbonate

ALTERATION: Chlorite Sericite Carbonate Quartz Epidote

Malachite Azurite Limonite

COMMENTS: Neotocite in fractures.

ALTERATION TYPE: Propylitic Argillic Sericitic Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated Podiform

CLASSIFICATION: Epigenetic Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

SHAPE: Tabular

MODIFIER: Fractured Sheared

DIMENSION: 150 x 100 x 2 Metres

STRIKE/DIP: 022/40E TREND/PLUNGE:

COMMENTS: Oxidized, mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite
Hornblende Plagioclase Porphyry Dike

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

INVENTORY

ORE ZONE: VICTOR

REPORT ON: Y

CATEGORY: Inferred YEAR: 1974

QUANTITY: 100000 Tonnes

COMMODITY: Copper GRADE: 1.5000 Per cent

COMMENTS: Expected geological reserves.

REFERENCE: Geology, Exploration and Mining in British Columbia 1974.

CAPSULE GEOLOGY

The Victor occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith intrusives, primarily Skeena variety coarse-grained quartz diorite and granodiorite. An Eocene hornblende plagioclase porphyry dyke is found in both fault and volcanic flow contacts to the north of the showings. In the Skeena rocks, mafic minerals are weakly chloritized and plagioclase has mild argillic alteration. The north trending, west dipping Lornex fault is approximately one kilometre to the west.

In the Victor open pit, two fault sets predominate; one striking 020 to 030 degrees and dipping moderately, the other set is younger, strikes 150 to 175 degrees and dips generally northeast. Joints have three dominant trends; two subparallel to the faults, the other striking 050 degrees and dipping 88 degrees northwest. Joint faces are coated with epidote, quartz-epidote, epidote-chlorite and chlorite.

CAPSULE GEOLOGY

Along the western side of the pit, quartz diorite is cut by a 30 metre wide north-northeast trending, sheared, veined and pervasively oxidized zone. Early development indicated this zone was 90 metres wide with a 022 degree strike and a moderate east dip. A quartz vein within the fault zone ranges in width from several centimetres to almost 2.5 metres and hosts disseminations of pyrite and chalcopyrite and, locally, pods of massive sulphide. The quartz vein strikes 348 degrees with a low to moderate east dip. Sericite, chlorite and carbonate alteration occurs within the fault zone as well as seams and grains of pyrite and chalcopyrite and silicified remnants of country rock.

In the present pit an oxidized gossan contains nearly barren quartz lenses, quartz-chalcopyrite veins of which some are brecciated, and quartz-carbonate veins carrying veinlets and blebs of chalcopyrite. Fractures carry malachite or azurite, and sometimes neotocite, along with iron oxides.

Two other northeast trending oxidized shear zones occur at the eastern end of the pit and are 2 and 7 metres wide respectively. The country rock is well-jointed and locally cut by a network of faults.

The mineralized zone is 150 metres long, 0.45 to 1.8 metres wide and extends downdip 100 metres. Vein reserves are estimated at 40,000 tonnes. Expected geological reserves are 100,000 tonnes grading probably 1.5 per cent copper (Geology, Exploration and Mining in British Columbia 1974).

BIBLIOGRAPHY

- EMPR AR 1915-281; 1955-37; 1956-46; *1957-27; 1958-71; 1962-49;
1966-158; 1968-188
EMPR ASS RPT 183, 1574
EMPR BULL 56; 62
EMPR GEM *1974-132-135
EMPR MAP *30
EMPR PF (*Property description, memos; Geology and drill location
plan maps, drill section)
EMR MP CORPFILE (Consolidated Skeena Mines Ltd.)
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 77-12
CIM Trans. Vol. LX, pp. 273-289; Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/30

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW006**

NATIONAL MINERAL INVENTORY:

NAME(S): **FIR, CURMO, GEM**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 19 12 N
LONGITUDE: 121 05 18 W
ELEVATION: 1410 Metres

NORTHING: 5575958
EASTING: 636087

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop 2.4 kilometres south of Skwilkwakwil Mountain summit. Access is via the Skuhun Creek logging road. About 6.4 kilometres upstream a road leads northward about 3.2 kilometres to the showing (Minister of Mines Annual Report 1966).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 12 x 6 Metres
COMMENTS: Main showing; joints strike 020 degrees.

STRIKE/DIP: 020/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Dacite Porphyry Dike

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Fir occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase granodiorite. Disseminated chalcopyrite with quartz occurs over an area 12 by 6 metres, in part along joints striking 020 degrees and bounded by unmineralized dacite porphyry dykes striking 330 degrees. One small dyke cuts the mineralized area. Malachite is reported on fracture surfaces in quartz diorite about 60 metres to the south.

BIBLIOGRAPHY

EMPR AR *1966-161,247
EMPR ASS RPT *786
EMPR BULL 56; 62
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/28

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW007**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAY 2**, FLEX

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5575967
EASTING: 637631

LATITUDE: 50 19 11 N
LONGITUDE: 121 04 00 W
ELEVATION: 1370 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Old inclined shaft on the southeast flank of Skwilkwakwil Mountain, 9.6 kilometres south of the eastern end of Pimainus Lakes and 2 kilometres west of the confluence of Skuhun and Skuhost creeks (Assessment Report 6327).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite

COMMENTS: Pyrite in dump samples.

ASSOCIATED: Quartz Calcite

ALTERATION: Chlorite Epidote Biotite Silica Malachite

Azurite

ALTERATION TYPE: Chloritic Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated

CLASSIFICATION: Hydrothermal

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION: 200 Metres

COMMENTS: Shear zone traced for 200 metres.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Feldspar Porphyry Dike
Pegmatite Dike
Aplite Dike

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1981

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper

1.8700

Per cent

COMMENTS: Drill hole 4; sample over 0.9 metres.

REFERENCE: Assessment Report 9813.

CAPSULE GEOLOGY

The Jay 2 inclined shaft is located on the southwest flank of Skwilkwakwil Mountain.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase quartz diorites (Map 30). Guichon variety rocks occur to the southwest. Rocks are cut by coarse-grained feldspar porphyry dykes up to 30 metres wide. Narrow pegmatite and occasional aplite dykes are also visible.

Minor disseminated bornite and chalcopyrite occur in narrow quartz-calcite veins close to feldspar porphyry dykes within a northwest trending intensely sheared zone. Biotite, epidote and chlorite are common alteration minerals. Rock samples from the dump near the shaft are reported to be highly altered with blebs of chalcopyrite, bornite, pyrite, azurite and malachite (Assessment Report 6327).

Trenching (8 trenches) exposed the shear zone along a 200 metre

CAPSULE GEOLOGY

strike length. In a 1981 diamond drill program, drill hole number 3 encountered 0.9 metres of vein chalcopyrite and malachite in a siliceous section. Drill hole number 4 intersected 0.9 metres of 1.87 per cent copper and 0.9 metres of 1.29 per cent copper (Assessment Report 9813).

BIBLIOGRAPHY

EMPR AR 1900-991; 1964-92; 1965-243
EMPR ASS RPT *624, 625, *6327, 6851, *9813
EMPR BULL 56; 62
EMPR EXPL 1977-E142; 1978-E160; 1981-125
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/28

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW008**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIO, DEB, SV 1,
RIO 77-80**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 50 N
LONGITUDE: 121 01 50 W
ELEVATION: 1515 Metres

NORTHING: 5582798
EASTING: 640022

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop on the Rio 78 claim on Skuhost Creek (Assessment Report 997).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Bornite	Chalcopyrite	Pyrite
ASSOCIATED:	Quartz	Calcite	
ALTERATION:	Epidote	Pyrite	Feldspar
ALTERATION TYPE:	Propylitic		Oxidation
MINERALIZATION AGE:	Unknown		Malachite

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Orthoclase Dike
Aplite Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Rio claims cover a large area east and south of Spaist Mountain where outcrop is scarce. Mineralization is located mainly on the Rio 77-80 claims straddling Skuhost Creek (Assessment Report 997).

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorites. Occasional quartz-orthoclase dykes and one aplite dyke have been mapped. Small, isolated diorite, gabbro and pyroxenite outcrops occur to the southwest in Chataway variety granodiorites (see Bin 1-28 (Noranda), 092ISW023).

Minor chalcopyrite, bornite and pyrite occur sporadically in epidote-quartz-calcite stringers in fractures. Percussion drilling to the south (holes P3-P5, P7) showed weak propylitic alteration with mostly no mineralization. Minor malachite and pyrite were reported in the first few metres of bedrock in drill hole P5. High feldspar content was noted in drill hole P7, furthest south from mineralized outcrop (Assessment Report 6611).

BIBLIOGRAPHY

EMPR AR 1966-161,248; 1967-283
EMPR ASS RPT *780, *997, 1898, *6611, 7836, 10146, 12159, 14231
EMPR BULL 56; 62
EMPR EXPL 1977-E143; 1979-165; 1981-217; 1984-206; 1985-C193
EMPR GEM 1969-254
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 813
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/08

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW009**

NATIONAL MINERAL INVENTORY:

NAME(S): **CANA**, ROYAL, CANA 9

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 12 N
LONGITUDE: 121 05 59 W
ELEVATION: 1660 Metres

NORTHING: 5590762
EASTING: 634898

LOCATION ACCURACY: Within 500M

COMMENTS: Long trench on the Cana 9 claim, 650 metres south of Calling Lake (Assessment Report 848).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ALTERATION: Sericite Quartz Malachite
ALTERATION TYPE: Sericitic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
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			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Quartz Porphyry
Aplite Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Cana showing is located 650 metres south of Calling Lake within Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorites to quartz diorites. Anhedral quartz "eyes" and "books" of biotite distinguish this phase of the batholith. It is intruded by pinkish quartz porphyry and pink, fine-grained, sugary aplite dykes. The aplite dykes are commonly less than 15 centimetres wide, strike north and dip steeply west.

A pronounced topographic lineation strikes 140 degrees. A long trench on Cana 9 exposes a series of steeply dipping, weak shear zones parallel to this regional trend. Alteration associated with the shear zones consists of strong silicification and sericitization, plus oxidation to a depth of at least 3 metres. Minor chalcopyrite, bornite and trace malachite is present. In an old pit to the north, abundant malachite is exposed with minor chalcopyrite and bornite.

BIBLIOGRAPHY

EMPR AR 1961-29; 1966-155; 1968-192
EMPR ASS RPT 380, 381, *848, 854, 2157, 2800, 5715, 5975, 9071
EMPR BULL 56; 62
EMPR EXPL 1980-223
EMPR GEM 1969-263; 1970-349; 1973-170; 1975-E81; 1976-E92
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/24

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW009**

MINFILE NUMBER: **092ISW010**

NATIONAL MINERAL INVENTORY: 09216 Cu8

NAME(S): **ALWIN**, ALWIN MINE, O.K. (L.3644),
CHATAWAY, IOU (L.3643), APEX (L.3645),
EZZ, DEKALB, NO. 4 - NORTH

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:
LATITUDE: 50 28 42 N
LONGITUDE: 121 05 59 W
ELEVATION: 1610 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Open pit just east of Little O.K. Lake (Preliminary Map - Highland Valley, May 1966).

Underground
MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5593541
EASTING: 634827

COMMODITIES: Copper Silver Gold Molybdenum Lead

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Chalcocite Molybdenite Galena
Tetrahedrite Tennantite
COMMENTS: Trace chalcocite.
ASSOCIATED: Quartz Sericite Chlorite Specularite Calcite
Pyrite Epidote Carbonate
ALTERATION: Sericite K-Feldspar Kaolinite Chlorite
ALTERATION TYPE: Sericitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Porphyry Hydrothermal
TYPE: I06 Cu±Ag quartz veins L04 Porphyry Cu ± Mo ± Au
SHAPE: Tabular
MODIFIER: Faulted Fractured
DIMENSION: 457 x 244 x 152 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Orebody.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Plagioclase Porphyry Dike
Aplite Dike

HOSTROCK COMMENTS: Bethsaida phase

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: ALWIN REPORT ON: Y
CATEGORY: Inferred YEAR: 1995
QUANTITY: 390090 Tonnes
COMMODITY GRADE
Copper 2.5000 Per cent
Silver 11.7000 Grams per tonne
Gold 0.6900 Grams per tonne
REFERENCE: J-Pacific Gold Inc. website www.jpgold.com, March 2002.

CAPSULE GEOLOGY

The Alwin deposit is situated within the central core of the Early Jurassic-Late Triassic Guichon Creek batholith. It is hosted entirely by Bethsaida phase granodiorite which is locally fractured and altered by potassium feldspar and sericite to give red and green discolourations respectively. Steep dipping aplite dykes and lenses visible in the first 210 metres of the adit strike east and northeast. Elsewhere and locally they form a network of veins in brecciated granodiorite. Quartz-plagioclase porphyry dykes up to 6 metres wide strike north and dip steeply east. These dykes are sericite and calcite-altered, weakly mineralized and offset by east striking "ore faults".

Regional faults near the Alwin mine strike north and east. In

CAPSULE GEOLOGY

the mine, faults range from narrow shears to "strong gougy faults" up to 60 centimetres wide. The largest fault is north and northeast striking, moderately dipping, 60 centimetres wide, and offsets ore zones as well as "ore faults". "Ore faults" contain a sericitic or clay gouge, strike east and dip steeply within high-grade bodies.

Fractures occur in two main sets; one strikes north-northeast and dips moderately east, the other strikes east and is nearly vertical. They may or may not be mineralized. East dipping fractures locally contain mineralized quartz veins up to 10 centimetres wide.

The deposit is defined as a lens approximately 457 by 244 by 152 metres, being open at depth. The ore zones have two dominant trends; 075 to 090 degrees, and 290 to 305 degrees. In plan and section, these zones pinch, swell and digitate. Chalcopyrite and bornite occur as disseminations, clots and discontinuous massive veins and veinlets with minor pyrite and trace chalcocite. Small amounts of gold and silver are reported (Exploration in British Columbia 1980). Gangue minerals are mainly flaky sericite and quartz with lesser amounts of chlorite, specularite, calcite and tetrahedrite-tennantite. Occasional massive epidote pods are found adjacent to ore. Post-ore iron carbonate veins are common in ore zones.

Lower grade mineralization is related to fracturing. Mineralized fractures contain minor chalcopyrite, bornite, molybdenite, pyrite, specularite, and in one place galena in vuggy quartz and calcite veins. Potassium feldspar, chlorite, sericite and possibly kaolinite occur as gangue minerals.

The presence of high grade copper mineralization was first noted on the Alwin property in the late 1800s. In 1980 and 1981, DeKalb Mining Corporation produced at a rate of 700 to 800 tons per day. The property was subsequently purchased by F.D. Miller and stripped of buildings and machinery. The land was reclaimed and mine openings sealed.

In 1993, J-Pacific Gold Inc. (then, Claimstaker Resources) optioned the Alwin property and subsequently earned a 100 per cent interest, subject to a 2.5 per cent net smelter return royalty payable to F.D. Miller. J-Pacific mined the projected surface exposure of the No. 4 North Zone.

In January 1995 the underground workings were re-opened to help prepare the No. 4 - North orebody for future production. During 1995, Claimstaker Resources Ltd. shipped a few thousand tonnes of oversize high grade copper boulders to Afton (Information Circular 1996-1, page 17). Existing ore reserves are 390,053 tonnes grading 2.5 per cent copper (T. Schroeter, personal communication, 1995).

The Alwin property is 100 per cent owned by J-Pacific Gold Inc., subject to a 2.5 per cent Net Smelter Return. Using a 25 per cent dilution factor, the Alwin property has an inferred resource of 390,090 tonnes of ore grading 2.5 per cent copper, 11.7 grams per tonne silver, and 0.69 grams per tonne gold (J-Pacific Gold website, March 2002). This resource requires confirmation.

BIBLIOGRAPHY

- EMPR AR *1915-278-280; 1916-265,430; 1918-474; 1919-183; 1922-140; 1930-203; 1966-154; 1967-155; *1968-183-186
- EMPR ASS RPT 380, 381, 1028, 23151, 23827
- EMPR BC METAL MM00382
- EMPR BULL 56; 62
- EMPR EXPL 1979-166; *1980-224
- EMPR GEM 1969-262; 1970-346; 1971-342; *1972-153-157; 1973-172; 1974-136
- EMPR INF CIRC 1995-9, p. 17; 1996-1, p. 17
- EMPR IR 1984-2, pp. 99, 100; 1984-3, pp. 105, 106; 1984-4, p. 120
- EMPR MAP *30; 65 (1989)
- EMPR MINING Vol.1 1975-1980; 1981-1985
- EMPR OF 1992-1
- EMPR PF (Grid location maps, geology maps, claim location maps, drill location map)
- EMR MIN BULL MR 223 B.C. 128
- EMR MP CORPFILE (Valley Mining and Development Co.; Highland Valley Mining Corp. Ltd.; Ashcroft Copper Co. Ltd.; Alwin Mining Co. Ltd.; D.K. Mining Inc.; De Kalb Mining Corp.)
- EMR MP RESFILE (Alwin Mine)
- GSC MAP 1010A; 42-1989
- GSC MEM 262, p. 99
- GSC OF 980
- GSC P 46-8; 47-1A
- GSC SUM RPT 1915, p. 88
- CIM Jan. 1980
- GCNL #135, 1971; #6, 1981; Aug.18, 1983
- N MINER Jan.15, 1981

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 817
REPORT: RGEN0100

BIBLIOGRAPHY

W MINER Dec. 1980
WWW <http://www.jpgold.com>; <http://www.infomine.com/index/>
Mining Magazine July 1971
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/30

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW011**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAWN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 28 06 N
LONGITUDE: 121 00 18 W
ELEVATION: 1270 Metres

NORTHING: 5592606
EASTING: 641577

LOCATION ACCURACY: Within 500M

COMMENTS: Percussion drill hole 80-2, 1 kilometre south of Witches Brook
(Assessment Report 8829).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Molybdenite
ALTERATION: Sericite Kaolinite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Altered Quartz Diorite

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.0500 Per cent
Molybdenum 0.0090 Per cent

COMMENTS: Sludge samples taken every 3 metres in percussion drill hole 80-2.
REFERENCE: Assessment Report 8829.

CAPSULE GEOLOGY

The Dawn occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorite. Skeena variety quartz diorite was encountered in percussion drill holes. It is coarse grained with varying intensities of argillic alteration. Alteration minerals are sericite and kaolinite. Only trace amounts of chalcopyrite, molybdenite and pyrite were reported. In drill hole 80-2, sludge samples taken every 3 metres over 110 metres were analyzed. Average copper and molybdenum assayed 0.05 and 0.009 per cent respectively (Assessment Report 8829). No surface mineralization is described.

BIBLIOGRAPHY

EMPR ASS RPT 7491, *8829, 9685
EMPR BULL 56; 62
EMPR EXPL 1979-166; 1980-224
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 819
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1991/04/30
DATE REVISED: 1991/06/10

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW012**

NATIONAL MINERAL INVENTORY: 09216 Cu7

NAME(S): **HIGHLAND VALLEY COPPER**, VALLEY, VALLEY COPPER,
VALLEY MINE, BETHSAIDA, LAKE,
HIGHLAND VALLEY, HVC

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:
LATITUDE: 50 29 08 N
LONGITUDE: 121 02 54 W
ELEVATION: 1275 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Open pit. See also Lomex (092ISW045).

Open Pit

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5594439
EASTING: 638451

COMMODITIES: Copper Zinc Molybdenum Silver Gold Lead

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Molybdenite Digenite Covellite
Pyrite Pyrrhotite Sphalerite Galena Copper
ASSOCIATED: Quartz Calcite
ALTERATION: Quartz Sericite K-Feldspar Kaolinite Chlorite
Epidote Limonite Malachite
COMMENTS: Also gypsum, anhydrite, hematite, biotite and pyrolusite.
ALTERATION TYPE: Silicific'n Potassic Sericitic Argillic Propylitic
MINERALIZATION AGE: Unknown Oxidation

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE: Triassic-Jurassic
GROUP: _____
FORMATION: _____
IGNEOUS/METAMORPHIC/OTHER: Guichon Creek Batholith

LITHOLOGY: Porphyritic Quartz Monzonite
Porphyritic Granodiorite
Feldspar Porphyry Dike
Quartz Feldspar Porphyry Dike
Aplite Dike
Felsite Dike
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: HIGHLAND VALLEY REPORT ON: Y
CATEGORY: Probable YEAR: 2001
QUANTITY: 52600000 Tonnes
COMMODITY: Copper
GRADE: 0.4400 Per cent
REFERENCE: Teck Cominco Ltd. Annual Report 2001.

ORE ZONE: HIGHLAND VALLEY REPORT ON: Y
CATEGORY: Proven YEAR: 2001
QUANTITY: 292500000 Tonnes
COMMODITY: Copper
GRADE: 0.4100 Per cent
Molybdenum 0.0080 Per cent
REFERENCE: Teck Cominco Ltd. Annual Report 2001.

CAPSULE GEOLOGY

The Valley deposit lies within the Late Triassic to Early Jurassic Guichon Creek batholith and is hosted by Bethsaida phase porphyritic quartz monzonite and granodiorite. Feldspar porphyry and quartz feldspar porphyry dykes 0.6 to 35 metres wide dip steeply eastward in the western and central areas, and northward in the

CAPSULE GEOLOGY

southern area of the deposit. These dykes are cut by mineralized fractures and quartz veinlets, and have been dated at 204 Ma +/- 4 Ma. The Bethsaida granodiorite is also intruded by aplite dykes up to 30 centimetres wide, tan-coloured felsite dykes up to 4.5 metres wide, and three types of lamprophyre dykes (spessartite, hornblende vogesite, vogesite).

The most prominent structural features are the north trending, west dipping Lornex fault and the east trending Highland Valley fault. Faults and fractures in the deposit comprise four main sets. Quartz veinlets are subparallel to two of the earlier formed fault and fracture sets.

Silicic, potassic, phyllic, argillic and propylitic alteration are intimately associated. Stockworks of quartz veinlets 1 to 2 centimetres in width are common. Vuggy veinlets have envelopes of medium-grained sericite and/or potassic feldspar, and contain minor amounts of sericite, plagioclase, potassium feldspar, calcite, hematite, bornite, chalcopyrite, molybdenite, digenite and covellite. These veinlets are moderately abundant within the 0.3 per cent copper isopleth. An area of well-developed barren quartz veinlets, generally 0.5 to 1.3 millimetres wide, without alteration envelopes, occurs in the southeastern part of the deposit.

In the west-central part of the deposit, potassium feldspar is associated with vein sericite in some replacement zones, as veinlet envelopes along fractures, and disseminated in quartz veinlets. Hydrothermal biotite occurs in small amounts. Flaky sericite and quartz, both as replacement zones and as envelopes around quartz veinlets, constitute the most common type of alteration associated with copper mineralization. Strong phyllic alteration coincides with the 0.5 per cent copper isopleth. Phyllic alteration is closely associated with pervasive argillization, which is strongest where fractures are most closely-spaced. Feldspars are altered to sericite, kaolinite, quartz and calcite. The phyllic-argillic zone grades outward to a peripheral zone of weak to moderate propylitization, characterized by clay, sericite, epidote, clinozoisite and calcite replacing plagioclase, and chlorite and epidote replacing biotite. The age of hydrothermal alteration is approximately 191 Ma.

At the Valley deposit, gypsum is interpreted to be secondary and post-ore. It is commonly fibrous and white to orange but locally it forms large platy crystals or may be massive. Anhydrite, which is also present, provide indirect evidence for the secondary nature of the gypsum. It is apparently the same age as and associated with sericitic and potassic alteration. Quartz-gypsum veins and quartz-potash feldspar veins in which gypsum fills interstices provide more direct evidence for its secondary nature. Gypsum is believed to have formed at the expense of anhydrite which was deposited from the ore-forming fluids. Gypsum veins are common in the lower portion of the orebody (Open File 1991-15).

Sulphides occur chiefly as disseminations in quartz veinlets, and in phyllic (bornite) and potassic (chalcopyrite) alteration zones. Mineralization includes bornite and chalcopyrite, with minor digenite, covellite, pyrite, pyrrhotite, molybdenite, sphalerite and galena. The oxide zone averages 4.5 metres in thickness, and contains limonite, malachite, pyrolusite, digenite, native copper, and tenorite(?).

Production from the Lornex mine (092ISW045) was combined with the Valley operations in 1987.

Highland Valley Copper was created in mid-1986 by bringing together the Highland Valley mining operations of Lornex Mining Corporation Ltd. and Cominco Ltd. into a new single entity, structured as a partnership.

On the south side of the valley was the Lornex mine which started mining in 1972. In 1981, the Lornex concentrator had been expanded to become one of the largest in the industry.

On the north side was Bethlehem Copper (092ISE001) which started mining in 1963. In 1981, this operation was absorbed by Cominco who already owned the Valley orebody (092ISW012) located west of the Lornex pit on the south side of the valley. Mining of the original Bethlehem Copper pits ceased in 1982.

The Highmont mill on the south side of the valley was acquired in 1988 when Highmont Mining Company joined the partnership. This mill had been closed down in 1984 when the Highmont deposit (092ISE013) became uneconomical.

Lornex Mining Corporation Ltd. was wound up at the end of 1988 with the result that Rio Algom Limited, Teck Corporation and Highmont Mining Company obtained direct participation in the cash flow from the partnership. Today's participation in the cash flow is:

50. per cent-Cominco Ltd.

CAPSULE GEOLOGY

33.6 per cent-Rio Algom Limited
13.9 per cent-Teck Corporation (including 2.5 per cent from Highmont)
2.5 per cent-Highmont Mining Company (excluding Teck's 2.5 per cent)

Highland Valley Copper operates two distinct mines, the Valley mine and the Lornex mine, and between the two has measured and indicated ore reserves of 761 million tonnes of 0.408 per cent copper and 0.0072 molybdenum. The ore reserves of each mine are: Valley mine - 627 million tonnes at 0.418 per cent copper and 0.0056 per cent molybdenum; Lornex mine - 135 million tonnes at 0.364 per cent copper and 0.0144 per cent molybdenum. The individual mine reserves are calculated at an equivalent cutoff grade of 0.25 per cent copper using a molybdenum multiplying factor of 3.5 (CIM Bulletin July/August 1992, pages 73,74).

Mining is carried out in the two mines simultaneously at a proportion of 80 per cent in the Valley mine and 20 per cent in the Lornex mine, and the ratio is projected to remain much the same over mine life. Based on current plans, the property has a life of approximately 18 years at conservative metal prices and an average stripping ratio of 0.8 (CIM Bulletin July/August 1992, pages 71-73).

Published reserves at January 1, 1995 were 539.7 million tonnes grading 0.42 per cent copper and 0.0073 per cent molybdenum. The mine life is estimated to be about fourteen more years (Information Circular 1995-9, page 6).

In 1995, with Explore B.C. Program support, Highland Valley Copper carried out 197 line kilometres of high-powered induced polarization surveys for very deep penetration, and drilled 1701 metres in 4 holes. This work was done on the Lornex SW Extension, Roscoe Lake and JA zones. No anomalies of merit were detected in Lornex SW Extension, and Roscoe Lake gave only limited encouragement. IP work on the JA zone detected an anomaly extending to the south, well beyond the limits of known mineralization, and another anomaly 2000 by 1500 metres in size at the east end of the grid. Both anomalies warrant drill testing (Explore B.C. Program 95/96 - M80).

Reserves estimated by the partnership as of January 1, 1996, were 504 million tonnes grading 0.42 per cent copper, 4.8 grams per tonne silver, 0.032 gram per tonne gold and 0.0076 per cent molybdenum (Information Circular 1997-1, page 8). In order to reach the credit limit for gold production, small amounts of gold from the Snip mine were added to the concentrate.

Reserves were estimated, as of January 1, 1997, at 495 million tonnes grading 0.42 per cent copper and 0.006 per cent molybdenum. Mining takes place in the Valley (95 per cent) and Lornex (5 per cent) pits (Information Circular 1998-1, page 8; Northern Miner, April 28, 1997).

A possible resource of 200 million tonnes grading 0.4 per cent copper at depth (beneath the current Valley pit design) was identified as a result of exploration in 1995. This resource was further examined in 1996 and resulted in the identification of 350 million tonnes grading 0.384 per cent copper (Information Circular 1997-1; Northern Miner, April 28, 1997).

At the end of 1996, mine plans called for another 200 metres in depth in the Valley pit to the 2008. In addition, the partnership may consider mining the remaining 120 million tonnes grading 0.33 per cent copper estimated to exist in the Lornex pit (Information Circular 1997-1, page 8).

Ore reserves remaining at the beginning of 1998 are 457.1 million tonnes grading 0.419 per cent copper and 0.0085 per cent molybdenum (Exploration in BC 1997, page 34).

Ore reserves at the beginning of 1999 are 416.8 million tonnes grading 0.418 per cent copper and 0.0087 per cent molybdenum (Lorne Bond, pers. comm.; Exploration and Mining in BC 1998, page 60).

Highland Valley Copper suspended mining on May 15, 1999; they resumed August 30, 1999.

Ore reserves at the beginning of 2000 are 387 million tonnes grading 0.42 per cent copper and 0.008 per cent molybdenum (Information Circular 2001-1, page 6).

Ore reserves at the beginning of 2002 were 292.5 million tonnes proven and 52.6 million tonnes probable, totalling 345.1 million tonnes, grading 0.41 per cent copper (Teck Cominco Annual Report 2001).

BIBLIOGRAPHY

EMPR AR 1968-180,181
EMPR ASS RPT *10690, 13850
EMPR BC METAL MM00006, MM00039
EMPR BULL 56; 62
EMPR ENG INSP Annual Report 1989, 1990
EMPR Explore B.C. Program 95/96 - M80

BIBLIOGRAPHY

EMPR EXPL 1980-225; 1982-201; 1984-206; 1985-C194; 1986-A37;
1987-A37; 1988-A4; 1989-3; 1996-A8,D6; 1997-34; 1998-60
EMPR GEM 1969-245,259,266; *1970-354-369; 1971-341
EMPR INF CIRC 1994-1, p. 4; 1994-19, p. 4; 1995-1, p. 4; 1995-9,
p. 6; 1996-1, p. 6; 1997-1, p. 8; 1998-1, p. 8; 2000-1, p. 6
EMPR MAP *30; 65 (1989)
EMPR MIN STATS 1985, pp. 47,48; 1987, pp. 35,37,65,66; 1990, pp. 26,
30,33,68,69,70; 1992, pp. 7,10; 1993, pp. 16,20; 1994, pp. 20,24
EMPR MINING 1981-1985; 1986-1987; 1988
EMPR OF 1991-15, p. 37; 1992-1; 1994-1; 1998-8-F, pp. 1-60
EMPR PF (Drillhole location map; Mining Technology Website
(Apr.1999): Highland Valley Copper, 4 p.; Highland Valley Copper,
1994 The Year in Summary)
EMR MIN BULL MR 166
EMR MP CORPFILE (Valley Copper Mines Ltd.; Cominco Ltd.; Bethlehem
Copper Corp.)
EMR MP RESFILE (Valley Copper)
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980; *2167, pp. 99-114
GSC P 46-8; 47-10; 77-12
CANMET RPT 93; 592
CIM '97 Vancouver Program, April 27-30, 1997, pp. 103-104
CIM Bulletin *July/August 1992, pp. 71-88; Vol. 92, No. 1032, July/
August 1999, pp. 71-75
CIM Special Volume *15 (1976), *46, pp. 161-191
CMH *1990, p. 120
CMJ Nov. 1981
GCNL Apr.23, May 13, Aug.27, 1976; May 23, Jun.16, 1978; #110, Jun.6,
1979; #123, 1980; #122, 1981; #78(Apr.24), 1989; #23(Feb.3), #80
(Apr.26), #145(Jul.28), #207(Oct.30), 2000
N MINER Apr.6, Dec.7, 1978; Jun.28, 1979; Nov.27, 1980; Jan.15, 1981;
May 6,27, Jun.3, 1982; Apr.28, May 12,19, Jul.28, 1983; Apr.19,26,
1984; Apr.11, 1985; May 1, 1989; Mar.(Anniversary Issue),19, 1990;
Apr.27, 1992; Apr.28, 1997; Nov.2, 1998; Jan.25, May 3,24, Aug.9,
Sept.6, Nov.1, 1999; May 8, 2000; Sept.2, 2002
N MINER MAG July 1989
PR REL Cominco Ltd., July 23, Oct.25, 1999; Highland Valley Copper,
Jan.18, 1999
W MINER Dec. 1979; Dec. 1980; Jul. 1982; May,June, 1983
WWW <http://www.teckcominco.com>; <http://www.infomine.com>;
<http://www.mining-technology.com/projects/highland/index.html>
<http://www.infomine.com>
Cominco Ltd., 1991 Annual Report
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia
Teck Cominco Limited Annual Reports
Times Colonist, Jan.20,C4; Jan.27,p.D6, 1999
Placer Dome File
Falconbridge File
EMPR OF 1998-10

DATE CODED: 1985/07/24
DATE REVISED: 1996/11/08

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW013**

NATIONAL MINERAL INVENTORY:

NAME(S): **NW 48**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 24 N
LONGITUDE: 121 10 22 W
ELEVATION: 1565 Metres

NORTHING: 5591002
EASTING: 629703

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop, 1.7 kilometres southwest of Inkikuh Creek (Assessment Report 151). Associated with the Cowbird, 092ISW032 and Toketic, 092ISW046 occurrences.

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Diorite

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The NW 48 showing is located in outcrop 1.7 kilometres southwest of Inkikuh Creek. It is east of the Toketic occurrence (092ISW046) and is associated with the Cowbird occurrence (092ISW032).

Minor showings of weakly disseminated chalcopyrite with faint malachite staining occurs in epidote altered diorite of the Early Jurassic-Late Triassic Guichon Creek batholith (Border phase).

BIBLIOGRAPHY

EMPR AR 1961-115
EMPR ASS RPT *151, 335, 9217, 11017
EMPR BULL 56; 62
EMPR EXPL 1982-200
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/25

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW014**

NATIONAL MINERAL INVENTORY: 092I6 Cu4

NAME(S): **EMPIRE**, BUTTLE LAKE, BL

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 19 N
LONGITUDE: 121 06 44 W
ELEVATION: 1655 Metres

NORTHING: 5590955
EASTING: 634005

LOCATION ACCURACY: Within 500M

COMMENTS: Shafts, 700 metres south of the west end of Calling Lake (Assessment Report 490).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Quartz Sericite Malachite
ALTERATION TYPE: Sericitic Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Epigenetic Hydrothermal Porphyry
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 185 x 60 Metres STRIKE/DIP: 050/80S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Guichon Creek Batholith

LITHOLOGY: Quartz Monzonite
Granodiorite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorite to quartz monzonite. Ovoid quartz eyes and euhedral biotite "books" with minor hornblende are characteristic. Bethsaida rocks are intruded by quartz-feldspar porphyry dykes up to 30 metres wide and numerous aplite dykes up to 5 centimetres wide. Guichon variety quartz diorite outcrops to the southwest.

Intrusive contacts to the west and regional faulting define a prominent structural trend striking 010 degrees. A distinct second set of shearing strikes 045 to 065 degrees. Mineralization is localized along faulting and is of better grade and in larger bodies in the latter set. Jointing is well-developed and varies in density being more numerous close to faulting.

At the Empire showing an inclined and a vertical shaft are spaced 24 metres apart in the widest part (60 metres) of an altered shear zone. The altered shear zone pinches and swells along strike for about 185 metres. The shear strikes 050 degrees and dips very steeply to the southeast. Alteration associated with fracturing consists of intense sericitization with silicification and widespread malachite staining. Mineralization, primarily bornite with minor chalcopyrite, is structurally controlled and occurs in thin quartz veins and as blebs, fracture-fillings and disseminations in silicified, sericitized rock. The grade of mineralization was considered uneconomic in the 1960's. Representative samples from the dumps assayed up to 1.13 per cent copper (Assessment Report 170).

BIBLIOGRAPHY

EMPR AR 1924-139; 1930-203; 1956-45; 1963-127; 1964-85; 1965-147
EMPR ASS RPT *170, 380, 381, *490, 632, *750
EMPR BULL 56; 62
EMPR MAP *30

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 826
REPORT: RGEN0100

BIBLIOGRAPHY

EMR MP CORPFILE (Laco Mines Ltd.)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 249; 262
GSC OF 980
GSC P 46-8; 47-10; 77-12
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/23

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW015**

NATIONAL MINERAL INVENTORY: 092I6 Cu7

NAME(S): **LORNA**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 25 20 N
LONGITUDE: 121 08 36 W
ELEVATION: 1640 Metres

NORTHING: 5587224
EASTING: 631889

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches and drill holes on the Lorna 26 claim, 3.8 kilometres northwest of Pimainus Lakes (Assessment Report 2700).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite

COMMENTS: Trace.

ASSOCIATED: Pyrite

ALTERATION: Epidote Sericite Malachite Limonite

ALTERATION TYPE: Epidote 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>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Hornblende Biotite Quartz Diorite
Diorite
Amphibolite
Granodiorite

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Lorna occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase granitic rocks comprising mainly hornblende-biotite quartz diorite with small isolated areas of diorite, amphibolite and granodiorite. To the east, northwest trending contacts with Highland Valley phase (Guichon and Chataway varieties), Bethlehem and Bethsaida phases (including Skeena variety) of the batholith occur.

Well-formed, subvertical to vertical regional joint set directions are 000 to 010 degrees and 090 to 110 degrees. The density of joints averages 10 per metre.

Copper mineralization is present as trace malachite, chalcopyrite or bornite associated with epidote veining and alteration along fractures in shear zones. Several of these occurrences are also exposed within 1500 metres to the east and south within Border phase rocks. Minor pyrite, sericite and limonite have also been mapped (Assessment Report 2700). Chalcopyrite and pyrite often occur as accessory minerals within Border phase rocks.

BIBLIOGRAPHY

EMPR AR 1967-156,283; 1968-192
EMPR ASS RPT 1137, 1772, 2233, 2235, *2700, 9217
EMPR BULL 56; 62
EMPR EXPL 1980-224
EMPR GEM 1969-260; 1970-343
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 828
REPORT: RGEN0100

BIBLIOGRAPHY

Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/15

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW016**

NATIONAL MINERAL INVENTORY:

NAME(S): **BAR**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 46 N
LONGITUDE: 121 09 05 W
ELEVATION: 1550 Metres

NORTHING: 5591719
EASTING: 631204

LOCATION ACCURACY: Within 500M

COMMENTS: Trench 30-W, 2.8 kilometres west of Calling Lake (Assessment Report 4069).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite			
ALTERATION:	Chlorite	Biotite	Epidote	K-Feldspar	Quartz
	Malachite	Hematite			
ALTERATION TYPE:	Potassic		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Hornblende Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Border phase/Guichon variety contact zone.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bar occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith quartz diorites to granodiorites. Border phase rocks to the west are in contact with Guichon variety rocks to the east. The contact strikes 330 degrees (Assessment Report 4782). Fault gouge strikes northwest through Guichon granodiorite close to the contact. Mineralized fractures appear most frequently in 3 directions: 075, 100 and 150 degrees with near vertical to vertical dips.

Alteration is confined close to fractures and comprises chlorite, biotite, epidote, potassium feldspar and minor quartz. Minor chalcopyrite and/or bornite with malachite occurs locally as disseminations or fracture-fillings and coatings within alteration envelopes. Trench 30-W exposes chlorite-altered hornblende granodiorite fractured at 095 degrees across 2 metres. Chalcopyrite occurs as sparse fracture-fillings. Other trenching northwest and west exposes bornite as fracture-fillings with malachite. A trench to the northwest (Bar 39 claim) exposes a 6 metre wide shear zone carrying chlorite, hematite, minor chalcopyrite and malachite. Pyrite is conspicuous by its absence.

BIBLIOGRAPHY

EMPR AR 1968-279
EMPR ASS RPT 1199, *4069, *4782, 9217, 11017
EMPR BULL 56; 62
EMPR EXPL 1982-200
EMPR GEM 1972-152; *1973-172
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 830
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/25

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW017**

NATIONAL MINERAL INVENTORY: 09216 Cu7

NAME(S): **KEY**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:

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

LATITUDE: 50 29 22 N
LONGITUDE: 121 10 00 W
ELEVATION: 1425 Metres

NORTHING: 5594657
EASTING: 630047

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on the Key 9 claim, 1.6 kilometres north of Inkikuh Creek
(Assessment Report 892).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Border phase/Guichon variety contact.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Key occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith quartz diorites to granodiorites. Border phase rocks to the west are in contact with Guichon variety rocks to the east. Mineralization is described only as chalcopyrite, bornite and molybdenum; the exact location of the mineralization ambiguous. An assay returned 0.2 per cent copper (Assessment Report 6488).

BIBLIOGRAPHY

EMPR AR 1967-283; 1968-175
EMPR ASS RPT *892, 1727, 2220, 2221, *6488, 9217, 10327, 10622
EMPR BULL 56; 62
EMPR EXPL 1977-E143, E144; 1982-200
EMPR GEM 1969-258; 1972-152
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/25

CODED BY: GSB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW018**

NATIONAL MINERAL INVENTORY:

NAME(S): **BJ**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 18 N
LONGITUDE: 121 08 39 W
ELEVATION: 1610 Metres

NORTHING: 5581602
EASTING: 631970

LOCATION ACCURACY: Within 1 KM

COMMENTS: Outcrop on Klaklowuck Creek (Assessment Report 231). Location is uncertain.

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Limestone
Quartz Diorite

HOSTROCK COMMENTS: Probable xenolith in the Border phase of the batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The location of the BJ showing on Klaklowuck Creek is uncertain from descriptions given. It comprises a small, isolated limestone outcrop (probable xenolith) partially altered to wollastonite within Early Jurassic-Late Triassic Guichon Creek batholith Border phase quartz diorite. Possible bedding in the limestone dips 69 degrees. A small veinlet of chalcopyrite occurs within the xenolith. Possible bedding dips 069 degrees. Trace malachite occurs to the south.

BIBLIOGRAPHY

EMPR AR 1958-24,70; 1967-158
EMPR ASS RPT *231
GSC MAP 1010A; 1386A; 42-1989

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/10

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW019**

NATIONAL MINERAL INVENTORY:

NAME(S): **EYE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 04 N
LONGITUDE: 121 08 06 W
ELEVATION: 1200 Metres

NORTHING: 5577480
EASTING: 632725

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop, 8 kilometres south of the west end of Pimainus Lakes
(Assessment Report 230).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 30 x 4 Metres
COMMENTS: Mineralized area.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cretaceous
Upper Triassic
Triassic-Jurassic

GROUP

Spences Bridge
Nicola

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Andesite Porphyry Dike
Volcanic Rock
Sediment/Sedimentary Rock

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Eye showing is located in outcrop 8 kilometres south of the west end of Pimainus Lakes. Mineralization is close to final claim posts 27 and 28 (Assessment Report 230).

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase quartz diorite in contact with Upper Triassic Nicola Group metamorphosed volcanics. Middle and Upper Cretaceous Spences Bridge Group volcanics and sediments unconformably overlie the batholith and Nicola rocks to the west. Outcrop covers only 2 per cent of the area.

A 30 by 4 metre zone comprising narrow chalcopyrite and malachite veinlets and disseminated chalcopyrite occurs in an east trending, steep dipping structure in quartz diorite. Numerous andesite porphyry dykes cut the intrusives.

BIBLIOGRAPHY

EMPR AR 1958-24,70; 1966-160
EMPR ASS RPT *230, 2385
EMPR BULL 56; 62
EMPR EXPL 1979-164
EMPR GEM *1973-168
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 834
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/28

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW020**

NATIONAL MINERAL INVENTORY:

NAME(S): **SAN JOSE** SV

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 42 N
LONGITUDE: 121 00 53 W
ELEVATION: 1500 Metres

NORTHING: 5578875
EASTING: 641253

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on the San Jose 17 claim, east of Skuhost Creek (Assessment Report 1081).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Chalcopyrite
ALTERATION: Zeolite Malachite
ALTERATION TYPE: Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Monzonite
Dacite Porphyry Dike
Aplite Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The San Jose claims covered a large area east of Skuhost Creek and was often amalgamated with the Alamo showing (092ISW033) immediately north. Very little outcrop is exposed. Geological information is very limited. Most of the work involved geophysical surveys.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase quartz monzonites. Dacite porphyry and aplite dykes are reported. Trace malachite, chalcocite and chalcopyrite are reported in shattered rocks. Varying degrees of argillic alteration and zeolite are present (Assessment Report 7836).

BIBLIOGRAPHY

EMPR AR 1967-283
EMPR ASS RPT *1081, 1828, 1898, 2085, 2327, 3187, 3193, 3728, 4328, 6611, *7836, 10146, 14231
EMPR BULL 56; 62
EMPR EXPL 1977-E143; *1979-165; 1980-223; 1981-217; 1985-C193
EMPR GEM 1969-242; 1971-344; 1972-157; 1973-168
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/28

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW021**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL, IC, EZZ 13**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

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

LATITUDE: 50 29 20 N
LONGITUDE: 121 05 59 W
ELEVATION: 1490 Metres

NORTHING: 5594715
EASTING: 634797

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches between the AL 10 and AL 20 claims, south of the O.K. mine road, 1.5 kilometres northeast of Big O.K. Lake (occasionally referred to as Island Lake) (Assessment Report 1155).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite			
ALTERATION:	Chlorite	Sericite	Quartz	Malachite	
ALTERATION TYPE:	Chloritic		Sericitic	Silicific'n	Oxidation
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Eocene
Triassic-Jurassic

GROUP

Kamloops

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Altered Quartz Diorite
Volcanic Rock

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Al occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorites and Skeena variety quartz diorites to the south and southwest. These occur in fault contact with Eocene Kamloops Group volcanic and intrusive rocks to the northwest.

Trenching exposes chlorite and sericite altered, northeast trending fractured and brecciated quartz diorite with local, minor chalcopyrite, bornite and malachite staining. Two dominant joint sets strike 285 to 308 degrees and 052 to 075 degrees respectively. Bornite, chalcopyrite and malachite appear locally on silicified and sericite altered joints as well as disseminated through the adjacent rock.

BIBLIOGRAPHY

EMPR AR *1961-30; *1964-88; 1966-154; 1967-155; 1968-182
EMPR ASS RPT *380, 381, 1028, *1155
EMPR BULL 56; 62
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/30

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW022**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIN**, DDH, NES

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 18 08 N

NORTHING: 5573978

LONGITUDE: 121 05 25 W

EASTING: 636000

ELEVATION: 910 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop, 500 metres north of the Skuhun Creek logging road, 24 kilometres southeast of Spences Bridge and about 4.2 kilometres west of the Skuhun/Skuhost creeks confluence (Assessment Report 2087).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite

ALTERATION: Chlorite Malachite Azurite

COMMENTS: Malachite staining in talus.

ALTERATION TYPE: Chloritic

Potassic

Argillic

Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

Shear

Vein

CLASSIFICATION: Hydrothermal

Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Leucocratic Dike
Porphyritic Mafic Dike
Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Guichon phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bin occurrence area is underlain by the Early Jurassic-Late Triassic Guichon Creek batholith Guichon phase (mapped as Border phase rocks on Map 30.) Rocks comprise quartz diorite and granodiorite. Hornblende and biotite constitute 15 to 25 per cent of the rock with hornblende grains, locally chloritized, enclosing feldspar and quartz in a poikilitic texture. Biotite occurs as evenly distributed aggregates. Fine to medium-grained, orthoclase-rich, leucocratic dykes and swarms of porphyritic, mafic dykes intrude Guichon phase rocks. Dominant fault directions and joint sets are southeast and south-southeast respectively.

Minor irregular masses of bornite with associated weak chloritization occur in leucocratic dykes. A bornite vein is reported in old underground workings (Assessment Report 2088). Potassic alteration in the form of crystalline films and powdery secondary argillic alteration occur on fracture planes in shear zones. Abundant malachite and azurite are seen filling spaces and coating breccia fragments in a shear zone to the north of the property.

BIBLIOGRAPHY

EMPR ASS RPT *2087, *2088, 2089
EMPR BULL 56; 62
EMPR GEM *1969-248
EMPR MAP *30
EMPR PF (Geology map, 1969)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 838
REPORT: RGEN0100

BIBLIOGRAPHY

Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/28

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW023**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIN 1-28 (NORANDA)**, RIO 30-52, NB

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 21 40 N

NORTHING: 5580558

LONGITUDE: 121 04 21 W

EASTING: 637096

ELEVATION: 1545 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Drill hole 2 kilometres west of Skuhost Creek and in the centre of the Bin 1-28 claims (Assessment Report 780).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcopyrite

ASSOCIATED: Quartz

ALTERATION: Feldspar Sericite Epidote

ALTERATION TYPE: Potassic Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Shear

CLASSIFICATION: Hydrothermal

Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite

Gabbro

Pyroxenite

HOSTROCK COMMENTS: Chataway variety

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

CAPSULE GEOLOGY

The Bin 1-28 (Noranda) occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Chataway variety granodiorite. Small, isolated outcrops (inclusions?) of diorite, gabbro and pyroxenite are reported (Assessment Report 997).

Narrow quartz veins in shears may contain bornite and chalcopyrite. Sparse epidote and pink feldspar alteration are reported (Geology, Exploration and Mining in British Columbia 1969). Diamond drill-hole 74-1 intersected unmineralized granodiorite with irregular pink potassium feldspar alteration, replacement and veining with some sericite and possible epidote alteration (Assessment Report 5182).

BIBLIOGRAPHY

EMPR ASS RPT *780, *997, *1973, 3377, *5182, 14231, 11590, 15518

EMPR BULL 56; 62

EMPR GEM *1969-248; 1971-342; 1974-130

EMPR MAP *30

EMPR PF (Report on the NB-HK-GB Group of Claims by H. Wober, 1971;

Property description, drill logs, geology map (Noranda))

GSC MAP 1010A; 1386A; 42-1989

GSC MEM 262

GSC P 46-8; 47-10

CIM Spec. Vol. 15 (1976), pp. 85-104

Northcote, K.E. (1968): Geology and Geochronology of the Guichon

Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

University of British Columbia

DATE CODED: 1987/03/27

CODED BY: AFW

FIELD CHECK: N

DATE REVISED: 1991/04/08

REVISED BY: SNB

FIELD CHECK: N

MINFILE NUMBER: **092ISW024**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRANK 63**, PIM

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 42 N
LONGITUDE: 121 04 36 W
ELEVATION: 1670 Metres

NORTHING: 5582465
EASTING: 636750

LOCATION ACCURACY: Within 1 KM

COMMENTS: Outcrop below the southwest corner of the F (Frank) 63 claim
(Assessment Report 160).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ALTERATION: Malachite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
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>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Hornblendite Dike
Granodiorite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Frank 63 showing is located south of Spaist Mountain below the southwest corner of the F63 claim. The exact location is uncertain (Assessment Report 160).

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorites. Minor disseminated chalcopyrite and malachite staining occur in a hornblendite dyke cutting diorite, and in narrow fracture zones in granodiorite to the east.

BIBLIOGRAPHY

EMPR ASS RPT *160, 853, 2793, 3053
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/10

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 841
REPORT: RGEN0100

MINFILE NUMBER: **092ISW025**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 28 24 N
LONGITUDE: 121 08 37 W
ELEVATION: 1440 Metres

NORTHING: 5592906
EASTING: 631727

LOCATION ACCURACY: Within 500M

COMMENTS: Trench on the Jan 13 claim, just north of Inkikuh Creek and 1.5 kilometres southwest of Big O.K. Lake, occasionally referred to as Island Lake (Assessment Report 4887).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide
COMMENTS: Copper mineralization
ALTERATION: Sericite
ALTERATION TYPE: Sericitic
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>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Guichon variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Jan showing is located in a trench just north of Inkikuh Creek and 1.5 kilometres southwest of Big O.K. Lake, occasionally referred to as Island Lake.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Guichon variety granodiorites (Map 30). Copper mineralization occurs in shears and fractures in sericitized intrusive rock.

BIBLIOGRAPHY

EMPR AR 1958-70
EMPR ASS RPT 1739, *4887, 9217
EMPR BULL 56; 62
EMPR EXPL 1982-200
EMPR GEM *1969-255; 1973-173
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/25

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW025**

MINFILE NUMBER: **092ISW026**

NATIONAL MINERAL INVENTORY:

NAME(S): **AYE**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 29 31 N

NORTHING: 5595204

LONGITUDE: 121 01 09 W

EASTING: 640501

ELEVATION: 1215 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Diamond drill-holes on Indian Reserve 13 (Minister of Mines Annual Report 1968).

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite

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

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Altered Granodiorite

HOSTROCK COMMENTS: Bethlehem phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

PHYSIOGRAPHIC AREA: Thompson Plateau

TERRANE: Quesnel

CAPSULE GEOLOGY

The Aye claims were located on Reserve 13, east of Quiltanton Lake. There is no outcrop in the area. The showing is located in drill holes.

Geology, Exploration and Mining in British Columbia 1969 reports that drilling has revealed disseminated chalcopyrite and molybdenite in hydrothermally altered Bethsaida granodiorite in holes 4 and 6 (7 holes drilled in total). Overburden depths of 150 to 180 metres have been reported for each drill hole.

Map 30 shows the rocks in that area to be Early Jurassic-Late Triassic Guichon Creek batholith Bethlehem phase granodiorites.

BIBLIOGRAPHY

EMPR AR *1968-182

EMPR BULL 56; 62

EMPR GEM *1969-245

EMPR MAP *30

EMPR PF (Geology and drill location map, 1970; Drill sections)

GSC MAP 1010A; 1386A; 42-1989

GSC MEM 262

GSC P 46-8; 47-10

CIM Spec. Vol. 15 (1976), pp. 85-104

Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/29

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW027**

NATIONAL MINERAL INVENTORY: 09216 Cu4

NAME(S): **KATHLEEN (L.5632)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5590474
EASTING: 634530

LATITUDE: 50 27 03 N
LONGITUDE: 121 06 18 W
ELEVATION: 1670 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Old shaft, 1000 metres south of Calling Lake (Assessment Report 170).

COMMODITIES: Copper Molybdenum Gold

MINERALS

SIGNIFICANT: Bornite Chalcopyrite Molybdenite
ASSOCIATED: Quartz
ALTERATION: Quartz Sericite Malachite
ALTERATION TYPE: Silicific'n Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Sericite Porphyry
Quartz Monzonite
Granodiorite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Channel

YEAR: 1956

COMMODITY	GRADE	
Gold	0.3400	Grams per tonne
Copper	2.1700	Per cent
Molybdenum	0.1500	Per cent

COMMENTS: Sample taken over 0.6 metres.
REFERENCE: Assessment Report 170.

CAPSULE GEOLOGY

The Kathleen occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase quartz monzonite to granodiorite. Guichon variety quartz diorite outcrops to the southwest and Skeena variety granodiorite to the south of the showing.

Mineralization is localized along faulting and shearing of which the main trends are 010 degrees and 045 to 065 degrees respectively. Mineralization tends to be of better grade and in larger bodies in the latter. Joints are well-developed and vary in intensity being more numerous close to faulting. The north trending Kathleen fault has been traced for over 300 metres. The main showing occurs on a minor offshoot east of the fault.

At the shaft, sheared, silicified sericitic porphyry (described in Assessment Report 750 as a green altered rock composed of coarse quartz and sericite) is exposed with minor disseminated bornite and chalcopyrite. Three hundred metres south, trenching the Kathleen fault exposed similar geology with a 0.6 metre wide zone sparsely mineralized with bornite, chalcopyrite and minor molybdenite. A channel sample across the zone assayed 2.17 per cent copper, 0.15 per cent molybdenum and 0.34 grams per tonne gold (Assessment report 170).

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 844
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1922-N141; 1923-A159; 1924-B139; 1956-45; 1961-29
EMPR ASS RPT *170, 380, 381, 632, *750
EMPR BULL 56; 62
EMPR MAP *30
EMR MP CORPFILE (Laco Mines Ltd.)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262-100
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/23

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW028**

NATIONAL MINERAL INVENTORY:

NAME(S): **JON**, BRENNAN, BON,
MC

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 26 56 N
LONGITUDE: 121 08 04 W
ELEVATION: 1670 Metres

NORTHING: 5590205
EASTING: 632446

LOCATION ACCURACY: Within 500M
COMMENTS: Outcrop, 2 kilometres southwest of Calling Lake (Assessment Report 2700).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite
ALTERATION: Epidote Chlorite Sericite Malachite Limonite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Hornblende Biotite Granodiorite
Quartz Diorite
Aplite
Pegmatite

HOSTROCK COMMENTS: Chataway variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Jon showing is located in outcrop 2 kilometres southwest of Calling Lake.

The area is underlain by several phases of the Early Jurassic-Late Triassic Guichon Creek batholith. The showing occurs in Highland Valley phase, Chataway variety, hornblende-biotite granodiorite to quartz diorite. These rocks are coarse grained and weakly foliated. Hornblende crystals are characteristically regularly distributed, equidimensional, euhedral and markedly poikilitic. Bethlehem and Bethsaida phase granodiorites are in normal fault contact to the east. Highland Valley Guichon variety granodiorites outcrop to the west (Map 30). Numerous, small aplite and pegmatite dykes cut the intrusives.

Irregular hydrothermal alteration is widespread and locally intense. Alteration minerals include epidote, chlorite, sericite and minor limonite. Trace malachite, chalcopyrite or bornite occur as coatings on fractures in shear zones associated with epidote alteration.

BIBLIOGRAPHY

EMPR ASS RPT 2233, 2234, 2235, *2700
EMPR BULL 56; 62
EMPR GEM 1969-257
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 846
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/17

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW029**

NATIONAL MINERAL INVENTORY:

NAME(S): **GREEN GOLD**, PEP, IDO

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 46 N
LONGITUDE: 121 55 22 W
ELEVATION: 2280 Metres

NORTHING: 5557285
EASTING: 576940

LOCATION ACCURACY: Within 500M

COMMENTS: Several pits over a large area on the western slopes of Antimony Mountain, close to the saddle between Doss Peak and Antimony Mountain (Assessment Report 14885). Vesuvianite rock, which may originally have been thought to be nephrite.

COMMODITIES: Jade/Nephrite Gemstones

MINERALS

SIGNIFICANT: Vesuvianite
ASSOCIATED: Grossularite Thuringite
ALTERATION: Serpentine Quartz
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic-Mesozoic	Bridge River	Undefined Formation	

LITHOLOGY: Serpentinite
Argillaceous Sediment/Sedimentary
Hornblende Diorite Porphyry Sill
Jade

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional
RELATIONSHIP:
GRADE: Greenschist Amphibolite
PHYSIOGRAPHIC AREA: Pacific Ranges

COMMENTS: Upper greenschist/lower amphibolite facies

CAPSULE GEOLOGY

The Green Gold occurrence area is underlain by upper greenschist/lower amphibolite facies rocks of the Permian(?) to Lower Cretaceous Bridge River Complex (Group) rocks comprising siliceous and actinolite schists and local biotite-garnet schists. These occur in fault contact with Bridge River serpentinite and are intruded by Late Cretaceous Scuzzy pluton granitic rocks.

In several locations, "vesuvianite-type jade" occurs within serpentinite in thinly bedded, fine-grained, argillaceous sediments. Sediments are intruded by porphyritic hornblende diorite sills.

There are several differing descriptions of the mineralization. The following description is taken from a 1975 report by the then District Geologist, G.P.E. White. Vesuvianite is associated with grossularite and thuringite. Where vesuvianite is the principal mineral, grossularite occurs as a reddish aggregate and veins up to 10 centimetres wide within the green vesuvianite. Where grossularite is the principal mineral, it is buff-coloured with vesuvianite occurring as green flecks or indistinct aggregates. Thuringite occurs as 1 to 5 millimetre veinlets in the buff grossularite or disseminated in the vesuvianite.

In the same report "considerable quantities" were still present, however a 1985 assessment report noted that the jade has been exhausted. Also, in 1973, 6.8 tonnes of vesuvianite were shipped although this was not substantiated by Minister of Mines Annual Reports (Assessment Report 14885).

BIBLIOGRAPHY

EMPR ASS RPT *2528, *14885

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 848
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1970-498
EMPR PF (*Rpt. by G.P.E. White 1975)
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262-114
GSC P 46-8; 47-10; 78-19
Fraser, J.R. (1972): Nephrite in British Columbia, Unpublished M.Sc.
Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/14

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW030**

NATIONAL MINERAL INVENTORY: 092I5,6 Cu1

NAME(S): **ROCKY**, TOM, NAV,
MACO, PIT 1-2, R-1

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 16 23 N
LONGITUDE: 121 28 25 W
ELEVATION: 790 Metres

NORTHING: 5570105
EASTING: 608769

LOCATION ACCURACY: Within 500M
COMMENTS: Main zone, 1.7 kilometres west of Shushten Creek (Assessment Report 2534).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Magnetite Pyrrhotite
ALTERATION: Chlorite Quartz Calcite
ALTERATION TYPE: Albitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION:
COMMENTS: Layering in intrusives.

STRIKE/DIP: 325/30E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cretaceous
Triassic

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Mount Lytton Complex

LITHOLOGY: Anorthosite
Granodiorite
Gabbro
Andesite Dike
Quartz Diorite
Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Rocky showing is located near Pitquah, north of the Thompson River and about 1.7 kilometres west of Shushten Creek.

The area is underlain by Triassic Mount Lytton Complex intrusives in fault contact with Middle and Upper Cretaceous Spences Bridge Group volcanics to the north.

Disseminated chalcopyrite with associated minor magnetite and pyrrhotite occur in layered intrusives comprising anorthosite, granodiorite and gabbro. Intense albitization occurs along fractures and faults. Chlorite is common. Quartz, calcite and minor chalcopyrite fill fractures. General attitude of the layering strikes 325 degrees and dips 30 degrees east. Layered rocks are intruded by andesite dykes and quartz diorite. Twelve vertical drill holes (less than 800 metres) were drilled in 1963 and some trenching completed. Assessment Report 17729 reports a massive sulphide outcrop "well up in Rainbow Creek" but no other information is available.

BIBLIOGRAPHY

EMPR AR *1963-42,46; 1964-84
EMPR ASS RPT *2534, *17729
EMPR GEM 1969-239; 1970-327
EMR MP CORPFILE (Lytton Minerals Ltd.)
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 850
REPORT: RGEN0100

BIBLIOGRAPHY

CIM Vol.64, May 1971, pp. 37-61

DATE CODED: 1987/03/27
DATE REVISED: 1991/02/08

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW031**

NATIONAL MINERAL INVENTORY:

NAME(S): **CALCO**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

BC MAP:

LATITUDE: 50 28 10 N

LONGITUDE: 121 03 32 W

ELEVATION: 1610 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Outcrop, 2.4 kilometres southwest of Quilntanton Lake (Minister of Mines Annual Report 1966). Exact location is uncertain from descriptions given.

UTM ZONE: 10 (NAD 83)

NORTHING: 5592628

EASTING: 637749

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite

ALTERATION: Sericite

ALTERATION TYPE: Sericitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Calco showing is located in outcrop 2.4 kilometres southwest of Quilntanton Lake. The exact location is somewhat uncertain.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorites. Weak (disseminated?) chalcopyrite and pyrite mineralization occurs within weak sericite alteration.

BIBLIOGRAPHY

EMPR AR 1906-175; 1956-45; 1957-27; *1966-158

EMPR ASS RPT 145

EMPR GEM *1970-350

EMPR MAP *30

EMPR PF (Geology and claim location maps)

GSC MAP 1010A; 1386A; 42-1989

GSC MEM 262

GSC P 46-8; 47-10

CIM Spec. Vol. 15 (1976), pp. 85-104

Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27

DATE REVISED: 1991/04/29

CODED BY: AFW

REVISED BY: SNB

FIELD CHECK: N

FIELD CHECK: N

MINFILE NUMBER: **092ISW032**

NATIONAL MINERAL INVENTORY:

NAME(S): **COWBIRD**, JAY ZONE, NW 24

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5591912
EASTING: 627748

LATITUDE: 50 27 55 N
LONGITUDE: 121 12 00 W
ELEVATION: 1445 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches on a north tributary of Pimainus Creek, 12.8 kilometres northeast of Spences Bridge (Assessment Report 2395).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite	Hematite	
ALTERATION:	Epidote	Chlorite	Sericite	Malachite
ALTERATION TYPE:	Epidote		Chloritic	Sericitic
MINERALIZATION AGE:	Unknown			

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 18 Metres
COMMENTS: Mineralized shear zone.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Copper

YEAR: 1969

GRADE
0.1100 Per cent

COMMENTS: Random sample over 9 metres.
REFERENCE: Assessment Report 2395.

CAPSULE GEOLOGY

The Cowbird showing is located in old trenches on a north tributary of Pimainus Creek, 12.8 kilometres northeast of Spences Bridge.

The area is underlain by the Early Jurassic-Late Triassic Guichon Creek batholith Border phase quartz diorites. Outcrop is restricted to old trenches and roadcuts. Blebs of chalcopyrite occur with hematite and pyrite in an 18 metre wide epidote chlorite altered shear zone. A random chip sample over 9 metres assayed 0.11 per cent copper (Assessment Report 2395). Chalcopyrite, malachite and hematite are described in another report as being sporadically disseminated in extensively chlorite and sericite altered diorite (Assessment Report 151).

BIBLIOGRAPHY

EMPR ASS RPT *151, 335, 2358, *2395, 2396, 2682
EMPR BULL 56; 62
EMPR GEM 1970-336,337,338
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 853
REPORT: RGEN0100

BIBLIOGRAPHY

Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/19

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW033**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALAMO**, SV

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 21 46 N
LONGITUDE: 121 00 05 W
ELEVATION: 1580 Metres

NORTHING: 5580877
EASTING: 642149

LOCATION ACCURACY: Within 500M

COMMENTS: J trench, east of Skuhost Creek (Assessment Report 2327).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Chalcopyrite
ALTERATION: Zeolite Malachite
ALTERATION TYPE: Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Monzonite
Dacite Porphyry Dike
Aplite Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Alamo claims covered a large area east of Skuhost Creek and was often amalgamated with the San Jose showing (092ISW020) immediately south. Very little outcrop is exposed. Geological information is very limited. Most of the work involved geophysical surveys.

The area is underlain by Bethsaida phase quartz monzonites of the Early Jurassic-Late Triassic Guichon Creek batholith. Dacite porphyry and aplite dykes have been reported. Trace malachite, chalcocite and chalcopyrite were reported in shattered rocks. Varying degrees of argillic alteration and zeolite are present (Assessment Report 7836). Disseminated malachite occurs along flat-lying fractures in the J trench (Assessment Report 2327).

BIBLIOGRAPHY

EMPR AR 1966-247; 1967-283
EMPR ASS RPT 762, 1081, 1828, 1898, *2327, 3076, 3728, 4328, 6611, *7836, 9039, 10146, 14231
EMPR BULL 56; 62
EMPR EXPL 1977-E143, E144; *1979-165; 1980-223
EMPR GEM 1969-242; 1970-330; 1971-344; 1972-157; 1973-168
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/28

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW034**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAM**, BJ, HIGHLAND CHIEF

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

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

LATITUDE: 50 23 00 N
LONGITUDE: 121 06 09 W
ELEVATION: 1650 Metres

NORTHING: 5582974
EASTING: 634899

LOCATION ACCURACY: Within 1 KM

COMMENTS: Outcrop at the approximate centre of a grid, 2 kilometres south of Pimainus Lakes (Assessment Report 2385). The claims covered a large area between Pimainus Lakes and Skuhun Creek.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Bornite
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote
ALTERATION TYPE: Chloritic Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Tam showing is located in outcrop at the approximate centre of a grid 2 kilometres south of Pimainus Lakes. The claims covered a very large area between Pimainus Lakes and Skuhun Creek. Most of the work done was geophysical. There is very little outcrop and little geology documented.

The area is underlain by Border phase granodiorite of the Early Jurassic-Late Triassic Guichon Creek batholith (Map 30). Chalcocite occurs with quartz in shears within the intrusive (Assessment Report 2385). Blebs and stringers of bornite associated with chlorite-epidote alteration is also described (Geology, Exploration and Mining in British Columbia 1970).

BIBLIOGRAPHY

EMPR AR 1967-158
EMPR ASS RPT 231, 2220, 2221, *2385, 2613, 3322, 4584
EMPR BULL 56; 62
EMPR GEM 1970-341,351; 1971-343
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/11

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW035**

NATIONAL MINERAL INVENTORY:

NAME(S): T, FIL, REBECCA,
BURGOYNE, RACHEL, CHERYL,
SHERYL, MELLISA, ASHTON COPPER PROSPECT

MINING DIVISION: Kamloops

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I06W 092I03W

UTM ZONE: 10 (NAD 83)

BC MAP:
LATITUDE: 50 15 25 N
LONGITUDE: 121 21 51 W
ELEVATION: 700 Metres

NORTHING: 5568480
EASTING: 616607

LOCATION ACCURACY: Within 500M

COMMENTS: Trench 'C' located 400 metres east of the Nicoamen River and 18.1 kilometres directly south of Spences Bridge (Assessment Report 2533).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Arsenopyrite
COMMENTS: Bornite is rare.
ASSOCIATED: Quartz Calcite Magnetite Pyrite
ALTERATION: Epidote Chlorite Pyrite Garnet Calcite
 Malachite Azurite Hematite
ALTERATION TYPE: Propylitic Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Stratabound Disseminated
CLASSIFICATION: Skarn
 TYPE: K01 Cu skarn L04 Porphyry Cu ± Mo ± Au
DIMENSION: 350 Metres STRIKE/DIP: 100/70 TREND/PLUNGE:
COMMENTS: Copper mineralization is coincident with a 350-metre long magnetic anomaly.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Spius Creek	
Triassic-Jurassic			Mount Lytton Complex

ISOTOPIC AGE: 82 +/- 3.2 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Whole rock

ISOTOPIC AGE: 212 +/- 1 Ma
DATING METHOD: Unknown
MATERIAL DATED: Unknown

Mount Lytton Complex

LITHOLOGY: Diorite
Diorite Dike
Limestone
Skarn
Tuff
Basalt
Andesitic Flow
Andesitic Pyroclastic
Sandstone
Shale

HOSTROCK COMMENTS: Spius Creek age date: Geological Survey of Canada Paper 87-2.
Mount Lytton Complex age date: Geological Survey of Canada Paper 91-2.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1993
SAMPLE TYPE: Drill Core

COMMODITY: Copper GRADE: 0.1900 Per cent

COMMENTS: A 6.10-metre interval from reverse circulation percussion drillhole 93-5.

REFERENCE: Assessment Report 23495.

CAPSULE GEOLOGY

samples yielded an average of 0.57 per cent copper from a 5-metre wide band of calcsilicate minerals hosting disseminated chalcopyrite and malachite staining (Assessment Report 23116). Significant intersections obtained from reversed circulation percussion drilling in 1993 are as follows (Assessment Report 23495):

Drillhole (metres)	Interval (%)	Copper (%)	Hostrock
93-1	18.28	0.12	Leucodiorite
93-2	24.38	0.11	Felsitic Diorite
93-3	15.24	0.10	Limy Diorite
93-4	9.14	0.10	Diorite
	6.10	0.13	Diorite
93-5	6.10	0.19	Limy Diorite

Drill core logging revealed that copper mineralization occurs as disseminations throughout multiple intrusive phases and in veins or stockworks hosted in intrusive rocks.

BIBLIOGRAPHY

EMPR AR 1969-241
EMPR ASS RPT *2532, *2533, 20252, 23028, *23116, *23495
EMPR EXPL 1976-E91
EMPR PF (Antal, J.W. (1969): Report)
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358; *87-2, p. 1
CIM Vol.64, May 1971, pp. 37-61
WWW <http://www.infomine.com/>

DATE CODED: 1987/03/27
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW036**

NATIONAL MINERAL INVENTORY: 092I6,7 Cu3

NAME(S): **HIGHMONT (WEST)**, WEST PIT, HIGHLAND VALLEY COPPER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I06E 092I07W
BC MAP:
LATITUDE: 50 26 13 N
LONGITUDE: 121 00 27 W
ELEVATION: 1615 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Open pit

Open Pit

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5589111
EASTING: 641493

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite Chalcocite
ASSOCIATED: Quartz Pyrite Specularite
ALTERATION: Kaolinite Chlorite Epidote Sericite Albite
Calcite
ALTERATION TYPE: Potassic Sericitic Argillic Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE: Triassic-Jurassic
GROUP: _____
FORMATION: _____
IGNEOUS/METAMORPHIC/OTHER: Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite
Biotite Quartz Feldspar Porphyry
Quartz Porphyry
Plagioclase Quartz Porphyry Dike
Aplite Dike
Lamprophyre Dike
Andesite Porphyry Dike

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: WEST PIT
CATEGORY: Unclassified
QUANTITY: 800000 Tonnes
COMMODITY: Copper Molybdenum
GRADE: 0.1500 0.0480
Per cent Per cent
YEAR: 1988
REFERENCE: CIM Special Volume 46, page 175.

CAPSULE GEOLOGY

The Highmont deposits are located in the central core of the Late Triassic to Early Jurassic Guichon Creek batholith and are hosted primarily by Skeena variety quartz diorite to granodiorite. Skeena rocks are intruded by the composite Gnawed Mountain porphyry dyke which trends west-northwest and dips vertically in the central portion of the property. This dyke consists of biotite-quartz-feldspar porphyry derived from the Bethsaida phase leucocratic quartz porphyry and breccia. Small, pre-mineral plagioclase-quartz porphyry and aplite dykes are scattered throughout the property. Tertiary lamprophyre and andesite porphyry dykes also occur. The property is cut by several north striking faults.

Potassic, phyllic, argillic and propylitic alteration on the property is weak compared to that at other deposits in the Highland Valley district. Argillic and propylitic alteration are entirely fracture-related, grading outward from a central vein or fracture through a zone of intense kaolinite alteration into chlorite-epidote-sericite-albite alteration and finally into

CAPSULE GEOLOGY

unaltered rock. Alteration zones vary from several centimetres to 50 metres wide.

The principal economic minerals are chalcopyrite, bornite and molybdenite occurring in veins and fractures. Chalcocite is present in minor amounts. Pyrite and specular hematite are gangue minerals. Minor chalcopyrite disseminations occur within a few centimetres of mineralized veins and shears. Veins of grey, brecciated quartz are up to 1 metre wide and are cut by seams of molybdenite and clay minerals. Mineralized clay gouge also occurs at the edges of veins. These zones consist mainly of quartz, albite, calcite and kaolinite and are usually accompanied by several metres of intensely argillized wallrock.

The West pit was mined first; East pit production began concurrently. See Highmont mine (092ISE013) for production statistics.

Reserves for the East Pit are reported as 800,000 tonnes of 0.15 per cent copper and 0.048 per cent molybdenum (CIM Special Volume 46, page 175).

BIBLIOGRAPHY

- EMPR AR 1957-27; 1959-30; 1962-49; 1963-47; 1964-89; 1965-148;
*1966-158; 1967-158; 1968-189
EMPR ASS RPT 286, 5342, 5409, 5754, 6556, 7770, 13257, 13802
EMPR BULL 56; 62
EMPR EXPL 1975-E83; 1977-E145; 1979-169; 1984-205
EMPR GEM 1969-244; 1970-330; 1971-344; 1974-131
EMPR MAP *30; 65 (1989)
EMR MP CORPFILE (Torwest Resources (1962) Ltd.; Highmont Mining Corp.;
Teck Corporation Ltd.; Anaconda Co. (Canada) Ltd.)
EMR MP RESFILE (Ide)
GSC MAP 886A; 1010A; 42-1989
GSC MEM 249; 262
GSC OF 980; 2167, pp. 99-114
GSC P 46-8; 47-10; 77-12
CIM Special Volume 15 (1976); 64, No.716 (1971); *46, pp. 161-191
GAC Fieldguide 1, 1985
GCNL #202,#208, 1977; #105, 1981
N MINER, Oct.27, 1977; Jan.28, 1982
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia
Placer Dome File
Falconbridge File

DATE CODED: 1987/03/27
DATE REVISED: 1988/03/10

CODED BY: AFW
REVISED BY: LKW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW037**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARB 72**, GUS

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I03E 092I02W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 12 37 N
LONGITUDE: 121 00 26 W
ELEVATION: 1300 Metres

NORTHING: 5563911
EASTING: 642188

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop, 600 metres north of Shackelly Creek and 19 kilometres northwest of Merritt (Assessment Report 735).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Magnetite
ALTERATION: Epidote Garnet Actinolite Chlorite Malachite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear Breccia
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Triassic-Jurassic

GROUP

Nicola

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Skarn
Hornfels
Pegmatite
Massive Andesite
Tuff
Agglomerate

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Marb 72 showing is located in outcrop 600 metres north of Shackelly Creek and 19 kilometres northwest of Merritt.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase quartz diorite and Upper Triassic Nicola Group massive fine-grained and porphyritic andesites, tuffs and agglomerates. Outcrop is generally sparse. The intrusive/volcanic contact zone is brecciated, sporadically mineralized and is hornfelsed with minor magnetite. Apophyses of quartz diorite and volcanic blocks are visible within the contact zone. Gneissosity in the intrusive is parallel to the contact.

Minor disseminated pyrite and pyrrhotite occur in altered volcanic fragments and with chalcopyrite in small shears in the contact zone. One skarn outcrop appears brecciated and is comprised of epidote, garnet, actinolite and chlorite with minor chalcopyrite and trace malachite.

BIBLIOGRAPHY

EMPR AR 1961-39
EMPR ASS RPT 232, *735, 1923, 2096, 9757, *10195
EMPR BULL 56; 62
EMPR MAP *30
GSC MAP 886A; 1010A; 1386A; 42-1989
GSC MEM 249, 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 862
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/21

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW038**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROYAL**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 27 44 N
LONGITUDE: 121 03 43 W
ELEVATION: 1645 Metres

NORTHING: 5591819
EASTING: 637554

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop on the Royal 23 claim, 1.2 kilometres east of the north end of O.K. Lake (Assessment Report 2812).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Bornite			
ALTERATION:	Sericite	Epidote	Chlorite	Malachite	Limonite
ALTERATION TYPE:	Sericitic		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Monzonite
Aplite Dike
Quartz Feldspar Porphyry Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Royal showing is located 1.2 kilometres east of the north end of O.K. Lake within Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase granodiorites and quartz monzonites. Anhedral quartz "eyes" and biotite "books" distinguish this phase of the batholith. It is intruded by pinkish quartz porphyry and pink, fine-grained, sugary aplite dykes. The aplite dykes are commonly less than 15 centimetres wide and strike north.

Alteration is associated with fracturing and jointing and consists mainly of strong sericitization. Alteration minerals include green sericite, epidote, chlorite and occasional limonite. Chalcopyrite, bornite and malachite occur as sparse disseminations and fracture coatings within altered rock on the Royal 23, 24 and 28 claims. Percussion drill programs in 1975 and 1981 revealed occasional minor limonite but no mineralization (Assessment Reports 5715 and 9071).

BIBLIOGRAPHY

EMPR ASS RPT *2812, 2813, 5715, 5975, 9071
EMPR BULL 56; 62
EMPR EXPL 1980-223
EMPR GEM 1969-263; 1973-170; 1975-E81; 1976-E92
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1991/04/24
DATE REVISED: 1991/06/11

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW038**

MINFILE NUMBER: **092ISW039**

NATIONAL MINERAL INVENTORY:

NAME(S): **ACE 1-8**, DIANA 24, A,B,C,
VICTORY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

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

LATITUDE: 50 29 11 N
LONGITUDE: 121 40 12 W
ELEVATION: 1520 Metres

NORTHING: 5593557
EASTING: 594351

LOCATION ACCURACY: Within 500M

COMMENTS: The Ace 7 claim post on the west end of a ridge between Lалуwissen and McGillivray creeks (Assessment Report 11371).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION:
COMMENTS: Fault zone dips nearly vertical.

STRIKE/DIP: 300/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cretaceous
Triassic

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Mount Lytton Complex

LITHOLOGY:

Gossan
Pyritic Breccia
Quartz Diorite
Andesite
Cherty Tuff
Limestone
Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Ace showing is located at the Ace 7 claim post at the west end of the ridge between Lалуwissen and McGillivray creeks. Mineralization generally occurs above 1360 metres elevation.

Limonitic gossans containing pods of fine-grained pyrite are associated with the fault zone between Triassic Mount Lytton Complex dioritic rocks and the Middle and Upper Cretaceous Spences Bridge Group volcanics and volcanoclastics. The fault strikes 300 degrees and dips nearly vertical at the showing.

Chalcopyrite with magnetite and bornite is reported exposed in trenches on the south side of the ridge. Malachite staining occurs in feldspar porphyry talus. Host rocks include pyritized and extensively brecciated quartz diorite, andesite, cherty tuffs, limestone and feldspar porphyry dykes.

BIBLIOGRAPHY

EMPR AR 1927-197; 1936-D53; 1972-149,228; 1974-158
EMPR ASS RPT 4455, 7027, *11371
EMPR EXPL 1978-E159
EMPR GEM 1971-293; 1972-149
EMPR PF (Rpt. by E.O. Ohisholm 1971)
GSC MAP 1010A; 42-1989
GSC MEM 262-102
GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 865
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/27
DATE REVISED: 1991/02/19

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW040**

NATIONAL MINERAL INVENTORY:

NAME(S): **DIANA**, JUDY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5590667
EASTING: 593396

LATITUDE: 50 27 38 N
LONGITUDE: 121 41 03 W
ELEVATION: 470 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Trench, south of the Laluwissin Creek-Highway 12 junction (Assessment Report 3154). Location is uncertain from the description in the report.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite
ALTERATION: Chlorite Epidote Malachite Azurite Pyrite

ALTERATION TYPE: Chloritic Epidote Oxidation Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated

CLASSIFICATION: Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION: STRIKE/DIP: 330/75N TREND/PLUNGE:
COMMENTS: Mineralized shear zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Chloritic Andesite
Basalt
Andesite Porphyry
Dioritic Rock
Feldspar Porphyry

HOSTROCK COMMENTS: Possible Nicola Group pendant within the Mount Lytton Complex.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Pavilion Ranges
TERRANE: Quesnel

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1970
SAMPLE TYPE: Grab
COMMODITY: Copper GRADE: 0.6000 Per cent

COMMENTS: Representative sample from Diana 2 claim.
REFERENCE: Assessment Report 3154.

CAPSULE GEOLOGY

The Diana showing is located just south of the Laluwissin Creek-Highway 12 junction.

The area is underlain by Triassic Mount Lytton Complex intrusives comprising layered dioritic rocks as well as amphibolite, mylonite and younger intrusions of quartz diorite and andesite dykes. A pendant of possible Upper Triassic Nicola Group volcanic rocks host the Diana showing.

Disseminated chalcopyrite with pyrite is exposed in a 93 metre trench in local narrow shear zones in chlorite altered andesite. Shearing strikes 330 degrees and dips approximately 75 degrees north. A grab sample from the trench assayed 0.6 per cent copper (Assessment Report 3154). Malachite staining in narrow shear zones occurs north and south of the main showing.

Other volcanics on the property include basalt and andesite porphyry. Chlorite and epidote alteration and calcite veinlets are

CAPSULE GEOLOGY

common. Gossanous zones occur locally with disseminated pyrite and chalcopyrite. Azurite is reported to occur along fractures.

The contact of the intrusives is not exposed but a lineation has been outlined by a magnetometer survey (Assessment Report 3154). Intrusives outcrop on the upper slopes to the east. They include diorite, quartz diorite and feldspar porphyry. Alteration minerals along fractures include chlorite, epidote, up to 10 per cent pyrite and reticulate quartz veins.

BIBLIOGRAPHY

EMPR ASS RPT *3154, *4455
EMPR GEM 1971-293; 1972-149
EMPR PF (Rpt. by E.O. Chisholm 1971)
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358
CIM Vol.64, May 1971, pp. 37-61

DATE CODED: 1987/03/27
DATE REVISED: 1991/02/18

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW041**

NATIONAL MINERAL INVENTORY:

NAME(S): **JAC**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 54 N
LONGITUDE: 121 09 08 W
ELEVATION: 1520 Metres

NORTHING: 5595671
EASTING: 631047

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches on the Jac 17 claim, 2.2 kilometres west of Jac Lake (Assessment Report 1739).

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Bornite

ALTERATION: Chlorite

ALTERATION TYPE: Chloritic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION: 60 x 9 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite
Porphyry Dike

HOSTROCK COMMENTS: Chataway variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Jac claims were incorporated with the Tam, Raf, Kam and Mer claims which covered a large area north and west of Jac Lake on map sheets 92I/6E and 92I/11E. The Jac showing is located in trenches close to an old adit, 2.2 kilometres west of Jac Lake (Assessment Report 1739).

Early Jurassic-Late Triassic Guichon Creek batholith Chataway variety granodiorites outcrop over most of the area. Bethlehem phase granodiorites outcrop to the east and Guichon variety granodiorite to the west. Porphyry dyke swarms cut intrusives.

Quartz diorite is weakly mineralized in a 60 by 9 metre zone. Nests and platings of coarsely crystallized chalcopyrite and molybdenite adjoin north trending fractures which dip steeply west (Minister of Mines Annual Report 1966). Weak chlorite altered rock with trace sulphides outcrops 45 metres to the west of the trenching.

Minor bornite and chalcopyrite occur in fractures in Bethlehem rocks just west of Jac Lake.

BIBLIOGRAPHY

EMPR AR 1965-148; *1966-154; 1967-153; 1968-182,183
EMPR ASS RPT 1638, *1739, 1837, *2602, 9217, 10327, 10622
EMPR BULL 56; 62
EMPR EXPL 1982-200
EMPR GEM 1969-264; 1970-351,352; 1971-342
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 869
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/25

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW042**

NATIONAL MINERAL INVENTORY: 09216 Cu6

NAME(S): **BETHSAIDA**, TAMARAC (L.1244A), VALLEY

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 28 33 N

NORTHING: 5593325

LONGITUDE: 121 03 57 W

EASTING: 637238

ELEVATION: 1580 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Trenching on the Tamarac claim, 2.3 kilometres southwest of Quiltanton Lake (Assessment Report 537). This corresponds to Lot 1244A on topographic map sheet 92/16E.

COMMODITIES: Copper

Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Pyrite Bornite

ASSOCIATED: Quartz

ALTERATION: Sericite Malachite

ALTERATION TYPE: Sericitic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION:

STRIKE/DIP: 045/

TREND/PLUNGE:

COMMENTS: Quartz vein zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Quartzite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bethsaida showing is located in trenches on the Tamarac claim, 2.3 kilometres southwest of Quiltanton Lake.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase quartz diorites. Faulting and shearing is extensive, the strongest direction being 115 to 120 degrees with moderate to steep dips. Other fault directions are 055 to 060, 095 to 100, and 135 to 140 degrees. Intense sericite alteration and oxidation is associated with faulting. Mineralization occurs locally in quartz veins within alteration envelopes.

Original workings (shafts and trenches) on the Tamarac claim were developed on a considerable number of parallel quartz veins carrying locally disseminated chalcopyrite, molybdenite, pyrite and trace bornite with abundant malachite on surface. The quartz veins strike northeast and vary in width up to 1.3 metres.

Surface work (1956) exposed a west striking zone of sheeting 4.5 to 6.1 metres wide containing narrow quartz stringers mineralized with chalcopyrite and molybdenite.

Approximately 800 metres to the east on the MB 6 claim, a pendant of quartzite 1.5 metres wide within quartz diorite, is intensely mineralized with disseminated chalcopyrite (Assessment Report 537).

BIBLIOGRAPHY

EMPR AR 1902-192; 1907-136; *1915-280; 1916-265; 1918-474; 1922-N141;
*1956-45; 1957-27; 1958-24; 1963-46; 1964-85; 1965-147; 1966-155;
1967-156;
EMPR ASS RPT *537
EMPR BULL 56; 62
EMPR MAP *30
EMPR PF (Plans of mining claims, drillhole locations, roads, etc.;

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 871
REPORT: RGEN0100

BIBLIOGRAPHY

Trench plan maps, geology maps)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/29

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW043**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIN 93**

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

BC MAP:

LATITUDE: 50 20 07 N

LONGITUDE: 121 01 01 W

ELEVATION: 1370 Metres

UTM ZONE: 10 (NAD 83)

NORTHING: 5577790

EASTING: 641124

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralization near a tributary creek, 1.3 kilometres north of Skuhun Creek and east of Skuhost Creek (Assessment Reports 2085 and 7836).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Chalcocite

COMMENTS: Trace chalcocite.

ALTERATION: K-Feldspar Malachite

ALTERATION TYPE: Potassic

Oxidation

Argillic

Propylitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear

CLASSIFICATION: Hydrothermal

Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Monzonite

Granodiorite

Leucocratic Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Bin 93 showing is located 1.3 kilometres north of Skuhun Creek and east of Skuhost Creek.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase quartz monzonites and granodiorites. These rocks are strikingly porphyritic, characterized by coarse-grained, euhedral "books" of biotite phenocrysts. Large, anhedral "quartz eyes" are also present. Fine to medium-grained, equigranular, pinkish, leucocratic dykes cut all phases of the batholith and are very common in the Bethsaida phase.

Dominant fault/shear directions are north, northwest and east. Weak propylitic alteration associated with shearing is widespread. Potassic alteration in the form of crystalline potassium feldspar films and powdery secondary argillic alteration occur on fracture planes within shear zones.

Minor hypogene bornite occurs on fracture planes as isolated, irregular coatings, occasionally enclosed by malachite. Trace chalcocite occurs as blebs in granodiorite or on fracture planes where it is altered to malachite. It is also reported in leucocratic dykes.

BIBLIOGRAPHY

- EMPR ASS RPT 1944, *2085, 2086, 2488, 2806, 3181, *7836, 10146, 14231
- EMPR BULL 56; 62
- EMPR EXPL 1985-C193
- EMPR GEM 1969-246; 1970-332; 1971-341
- EMPR MAP *30
- EMPR PF (Geology and geochemistry map (1969), drill logs, memo)
- GSC MAP 1010A; 1386A; *42-1989
- GSC MEM 262
- GSC P 46-8; 47-10
- CIM Spec. Vol. 15 (1976), pp. 85-104
- Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 873
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/28

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW044**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORD, PM**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 23 54 N
LONGITUDE: 121 06 37 W
ELEVATION: 1560 Metres

NORTHING: 5584628
EASTING: 634304

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop, 200 metres south of the second of the Pimainus Lakes from the west (Assessment Report 160).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Hornblende Quartz Diorite
Granodiorite
Aplite Dike

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Nord showing is located in outcrop 200 metres south of the second of the Pimainus Lakes from the west.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase quartz diorite. A northwest trending gradational contact with Guichon variety granodiorites occurs to the northwest (Map 30). Small aplite dykes cut the intrusive. Extensive fracturing and shearing is common. There is approximately 3 per cent outcrop in the area.

Minor chalcopyrite and malachite occur in weak fracture zones within coarse-grained, foliated hornblende quartz diorite. Trace chalcopyrite occurs as an accessory mineral in the Border phase. Intense epidote veining and alteration is common.

BIBLIOGRAPHY

EMPR AR 1968-192
EMPR ASS RPT 158, *160, 163, 191, 853, 2385, *2793, 3053
EMPR BULL 56; 62
EMPR GEM 1970-342; 1971-343
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/04/10

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW045**

NATIONAL MINERAL INVENTORY: 09216 Cu2

NAME(S): **LORNEX**, LORNEX MINE, HIGHLAND VALLEY COPPER,
HIGHLAND VALLEY, HVC

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:
LATITUDE: 50 27 01 N
LONGITUDE: 121 02 35 W
ELEVATION: 1550 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Open pit at the Discovery zone. See also Valley (092ISW012).

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5590526
EASTING: 638929

COMMODITIES: Copper Molybdenum Silver Gold Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Molybdenite Chalcocite
Covellite Copper
ASSOCIATED: Quartz Malachite Limonite Pyrolusite Azurite
Cuprite
ALTERATION: Quartz K-Feldspar Sericite Kaolinite Chlorite
Epidote Calcite Gypsum
ALTERATION TYPE: Silicific'n Potassic Sericitic Argillic Propylitic
Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 1900 x 750 x 500 Metres
COMMENTS: Lornex deposit

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite
Quartz Porphyry Dike

HOSTROCK COMMENTS: Skeena variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Lornex deposit lies in the central core of the Late Triassic-Early Jurassic Guichon Creek batholith and occurs within Skeena variety granodiorite to quartz diorite. This rock is medium to coarse-grained and slightly porphyritic. The Lornex property straddles the north trending, west dipping Lornex fault which juxtaposes Skeena rocks on the east side with Bethsaida phase quartz monzonite on the west. A pre-mineral quartz porphyry dyke, probably related to the Bethsaida phase, trends northwest and pinches out in the Lornex deposit.

Mineralization is controlled by the distribution and density of fracture sets. Three major sets of copper-molybdenum veins strike north-northeast to east and dip moderately southeastward. There are two sets of post-mineral fault and fracture systems; one which roughly parallels the mineralized veins and another which offsets the first up to 2 metres. The most prominent structural feature is the Lornex fault which dips 55 degrees to the west in the southern part of the orebody, and steepens to nearly vertical in the north. This fault truncates the northwestern part of the deposit. It is characterized by a 10 centimetre to 1.5-metre wide black gouge on the footwall and discontinuous mylonite pods 1 to 50 metres wide in the hanging wall.

Five main types of hydrothermal alteration are related to quartz and sulphide mineralization. Pervasive silicification, consisting of close spaced quartz veins with associated quartz alteration, is hosted by the Skeena rocks. The quartz porphyry dyke is only weakly affected by hydrothermal alteration. Potassium feldspar veinlets and hydrothermal biotite are erratically distributed. Argillic

CAPSULE GEOLOGY

alteration is pervasive throughout the ore zone and is characterized by quartz, sericite, kaolinite, montmorillonite and chlorite. Copper grades generally correspond to the intensity of argillization. Within the argillic zone, phyllic alteration consists of grey quartz-sericite envelopes on mineralized veins. Pervasive propylitization, consisting of epidote (zoisite), chlorite and carbonates (calcite), is peripheral to the argillic zone. There is also an irregular zone of late-stage gypsum.

The Lornex deposit is 1900 metres long, 500 metres wide and plunges northwest to a depth of at least 750 metres. Chalcopyrite, bornite and pyrite constitute 1.5 per cent of the ore zone and occur in three roughly concentric sulphide zones respectively. Sulphides occur mainly with quartz as fracture-fillings and coatings. Veins average 5 to 15 millimetres in width. Molybdenite occurs as thin laminae in banded quartz veins and less often as rosettes in vuggy quartz veins.

The oxide zone averages 3 to 30 metres in thickness and thins toward the east. Supergene minerals are malachite, limonite, pyrolusite, azurite, cuprite, chalcocite, covellite, and native copper.

Highland Valley Copper was created in mid-1986 by bringing together the Highland Valley mining operations of Lornex Mining Corporation Ltd. and Cominco Ltd. into a new single entity, structured as a partnership.

On the south side of the valley was the Lornex mine which started mining in 1972. In 1981, the Lornex concentrator had been expanded to become one of the largest in the industry.

On the north side was Bethlehem Copper (092ISE001) which started mining in 1963. In 1981, this operation was absorbed by Cominco who already owned the Valley orebody (092ISW012) located west of the Lornex pit on the south side of the valley. Mining of the original Bethlehem Copper pits ceased in 1982.

The Highmont mill on the south side of the valley was acquired in 1988 when Highmont Mining Company joined the partnership. This mill had been closed down in 1984 when the Highmont deposit (092ISE013) became uneconomical.

Lornex Mining Corporation Ltd. was wound up at the end of 1988 with the result that Rio Algom Limited, Teck Corporation and Highmont Mining Company obtained direct participation in the cash flow from the partnership. Today's participation in the cash flow is:

50.	per cent-Cominco Ltd.
33.6	per cent-Rio Algom Limited
13.9	per cent-Teck Corporation (including 2.5 per cent from Highmont)
2.5	per cent-Highmont Mining Company (excluding Teck's 2.5 per cent)

Highland Valley Copper operates two distinct mines, the Valley mine and the Lornex mine, and between the two has measured and indicated ore reserves of 761 million tonnes of 0.408 per cent copper and 0.0072 molybdenum. The ore reserves of each mine are: Valley mine - 627 million tonnes at 0.418 per cent copper and 0.0056 per cent molybdenum; Lornex mine - 135 million tonnes at 0.364 per cent copper and 0.0144 per cent molybdenum. The individual mine reserves are calculated at an equivalent cutoff grade of 0.25 per cent copper using a molybdenum multiplying factor of 3.5 (CIM Bulletin July/August 1992, pages 73,74).

Mining is carried out in the two mines simultaneously at a proportion of 80 per cent in the Valley mine and 20 per cent in the Lornex mine, and the ratio is projected to remain much the same over mine life. Based on current plans, the property has a life of approximately 18 years at conservative metal prices and an average stripping ratio of 0.8 (CIM Bulletin July/August 1992, pages 71-73).

Published reserves at January 1, 1995 were 539.7 million tonnes grading 0.42 per cent copper and 0.0073 per cent molybdenum. The mine life is estimated to be about fourteen more years (Information Circular 1995-9, page 6).

See Valley mine (092ISW012) for reserves, and production figures from 1987 onward.

BIBLIOGRAPHY

- EMPR AR 1964-88; 1965-148; 1966-155-158; 1967-157; 1968-187
EMPR BC METAL MM00038
EMPR BULL 56; 62
EMPR ENG INSP Annual Report 1989, 1990
EMPR EXPL 1986-A37; 1987-A37; 1988-A4; 1989-3
EMPR GEM 1969-260; 1970-344; 1971-340; 1972-150; 1973-169; 1974-135
EMPR INF CIRC 1994-19, p. 4; 1995-1, p. 4; 1996-1, p. 6; 1997-1, p. 8; 1998-1, p. 8

BIBLIOGRAPHY

- EMPR MAP *30; 65 (1989)
EMPR MIN STATS 1985, pp. 47,48; 1987, pp. 35,37,65,66
EMPR MINING Vol.1 1975-1980; 1981-1985; 1986-1987; 1988
EMPR OF 1992-1
EMPR PF (Numerous air photos; Map of Final Blast, Section 4472 North;
Lornex Mining Corporation Ltd. Information brochure)
EMR MIN RES BR FILE (Lornex)
EMR MIN BULL MR 166
EMR MP CORPFILE (Lornex Mining Corp. Ltd.; Rio Algom Mines Ltd.;
The Yukon Consolidated Gold Corp. Ltd.)
EMR MP RESFILE (Lornex Mine)
GSC MAP 886A; 1010A; 42-1989
GSC MEM 242; 249; 262
GSC OF 980; *2167, pp. 99-124
GSC P 46-8; 47-10; 77-9; 77-12
CIM Bulletin *July/August 1992, pp. 71-88
CIM Special Volume *15 (1976), pp. 120-129; *46, pp. 161-191
CMH 1987-251
CMJ Vol.94, No.8 (1973), pp. 23-26
GAC FIELDGUIDE No. 1 (Geology and Ore Deposits of the Highland Valley
Camp by W.J. McMillan, 1985)
GCNL Feb.28, 1975; Apr.29, Sept.9, Oct.27, 1976; Feb.23, Mar.29, Nov.11,
1977; Feb.22, Mar.2, Apr.21, Jul.24, Oct.25, 1978; #77, #145, #204, 1979;
#145, #209, 1980; #155, #217, 1981; #46, #68, #152, #216, 1982; #207,
1983; #96, #209, 1984; #78 (Apr.24), 1989
N MINER Mar.24, 1977; Mar.2, 1978; Apr.26, Oct.25, Nov.29, 1979; Mar.
27, 1980; Jan.15, Aug.20, 1981; Jan.28, Mar.11, Apr.18, May 13,
Jul.29, Oct.28, Nov.4, Dec.23, 1982; Mar.3, Apr.21, Jul.28,
Oct.27, 1983; Mar.15, 29, Jul.26, 1984; May 1, 1989;
Mar. (Anniversary Issue), 19, 1990, Apr. 28, 1997
N MINER MAG July 1989
W MINER Aug. 1972; Apr. 1977; Feb., Apr., May, Dec., 1979; Dec. 1980;
Apr., May, 1982
WWW <http://www.teckcominco.com>; <http://www.infomine.com>;
<http://www.mining-technology.com/projects/highland/index.html>
Cominco Ltd., 1991 Annual Report
Globe and Mail Nov. 25, 1981
Highland Valley Copper, 1994 The Year in Summary
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia
Teck Cominco Limited Annual Reports
Falconbridge File
EMPR OF 1998-10

DATE CODED: 1987/03/27
DATE REVISED: 1998/04/08

CODED BY: AFW
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW046**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOKETIC**, DORA KAY, GD,
NW 12, TJM

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 27 35 N

LONGITUDE: 121 13 01 W

ELEVATION: 1260 Metres

NORTHING: 5591266

EASTING: 626560

LOCATION ACCURACY: Within 500M

COMMENTS: An adit on a tributary creek north of Pimainus Creek, 10 kilometres east of Spences Bridge (Assessment Report 5002).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 60 x 24 Metres STRIKE/DIP: 345/65E TREND/PLUNGE:
COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Cretaceous
Triassic-Jurassic

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Diorite
Quartz Diorite

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Toketic showing is located in an adit on one of the north tributaries of Pimainus Creek, 10 kilometres east of Spences Bridge.

The area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Border phase granitic rocks which intrude Upper Triassic Nicola Group pyroclastics and sediments to the east. Middle and Upper Cretaceous Spences Bridge Group volcanics occur in fault contact to the south.

Stringers and veins of specular hematite with minor chalcopyrite and pyrite are erratically distributed along a strong shear zone and brecciated wallrock within diorite and quartz diorite of the Guichon Creek batholith. The shear zone strikes 345 and dips approximately 65 degrees east (Minister of Mines Annual Report 1961). Stringers are described as rarely more than 5 centimetres wide and a few are continuous for more than 0.9 metres. A 15 metre adit was driven along the mineralized shear zone (Geological Survey of Canada Memoir 262). Underground workings and drilling are known to have taken place over a 60 by 24 metre zone with assays averaging 0.3 per cent copper (Assessment Report 5002).

BIBLIOGRAPHY

EMPR AR 1926-194; 1958-171; *1961-29; 1963-43; 1964-85
EMPR ASS RPT 151, 335, 4121, *5002, 6943
EMPR BULL 56; 62
EMPR EXPL 1978-E160
EMPR GEM 1972-150; 1974-135
EMPR MAP *30
EMPR PF (General surface plans, 1956; Field notes and map)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM *262, p. 105
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 879
REPORT: RGEN0100

BIBLIOGRAPHY

Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/19

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW047**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPENCES BRIDGE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 23 08 N
LONGITUDE: 121 22 14 W
ELEVATION: 700 Metres

NORTHING: 5582769
EASTING: 615838

LOCATION ACCURACY: Within 500M

COMMENTS: Coal seam in a dry gully 4.2 kilometres directly southwest of Spences Bridge (Geological Survey of Canada Memoir 262).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Cretaceous

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Fossil Fuel Sedimentary
SHAPE: Tabular
DIMENSION: 30 x 2 Metres
COMMENTS: Lignite seam

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Cretaceous

Spences Bridge

Spius Creek

LITHOLOGY: Sandstone
Mafic Volcanic Rock
Coal

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Spences Bridge Coal showing is located in a dry gully 4.2 kilometres directly southwest of Spences Bridge. A stratabound lignite seam, 30 by 2 metres, outcrops in a partly consolidated sandstone bed of very limited extent within Middle and Upper Cretaceous Kingsvale Group mafic volcanics. The Kingsvale Group has been redefined to the Spius Creek Formation of the Spences Bridge Group (Geological Survey of Canada Map 42-1989). Two short adits were reported in 1952. No other information is available.

BIBLIOGRAPHY

GSC MAP *1010A; 1386A; *42-1989
GSC MEM *262, p. 110
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/27
DATE REVISED: 1991/02/06

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW048**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOAP LAKE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 38 N
LONGITUDE: 121 19 15 W
ELEVATION: 910 Metres

NORTHING: 5581921
EASTING: 619394

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Soap Lake, 5 kilometres southeast of Spences Bridge
(Geological Survey of Canada Memoir 262).

COMMODITIES: Sodium Carbonate Sodium Sulphate Sodium Chloride

MINERALS

SIGNIFICANT: Salts
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Industrial Min. Evaporite
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Spius Creek	
Quaternary			Unnamed/Unknown Informal

LITHOLOGY: Salts
Mafic Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1926
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Sodium Chloride	2.1700	Per cent	
Sodium Carbonate	81.4200	Per cent	
Sodium Sulphate	5.9300	Per cent	

COMMENTS: Sample of brine taken 0.6 metres below the lake surface.
REFERENCE: Geological Survey of Canada Memoir 262, page 114.

CAPSULE GEOLOGY

Soap Lake is located 5 kilometres southeast of Spences Bridge in a northeast trending valley.

The area is underlain by Middle and Upper Cretaceous Kingsvale Group (redefined to the Spius Creek Formation of the Spences Bridge Group) mafic volcanics (Geological Survey of Canada Map 42-1989).

Salts are evidently leached from surrounding volcanic rocks, carried into the basin by springs and concentrated there during dry summer seasons. No outlet is visible. A sample of brine taken in 1926 yielded 81.42 per cent sodium carbonate, 5.93 per cent sodium sulphate and 2.17 per cent sodium chloride (Geological Survey of Canada Memoir 262).

Salt was not produced commercially but reported as being used locally. Ecological Reserve 3 presently includes Soap Lake (see claim map 92I 06W).

BIBLIOGRAPHY

EMPR AR 1922-N155
EMPR BULL 4, p. 32
GSC MAP 1010A; 1386A; *42-1989
GSC MEM *262, pp. 213,214
GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 882
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/27
DATE REVISED: 1991/02/07

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW049**

NATIONAL MINERAL INVENTORY:

NAME(S): **LYTTON GOLD**

MINING DIVISION: Kamloops

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I04E 092I04W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 12 19 N
LONGITUDE: 121 43 50 W
ELEVATION: 2400 Metres

NORTHING: 5562226
EASTING: 590588

LOCATION ACCURACY: Within 500M

COMMENTS: Trenches in "main zone", 1.1 kilometres southwest of the apex of Mount Roach (Assessment Report 17945).

COMMODITIES: Gold Lead Zinc

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Galena Sphalerite

COMMENTS: Trace galena and sphalerite.

ASSOCIATED: Quartz Carbonate

ALTERATION: Sericite Albite Chlorite Epidote Pyrite

Limonite

ALTERATION TYPE: Sericitic Chloritic Pyrite Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Tabular

MODIFIER: Faulted Sheared

DIMENSION: 1700 x 400 x 3 Metres STRIKE/DIP: 315/75

COMMENTS: Quartz vein; shear zone strikes 315 degrees and dips 45 to 75 degrees.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous Scuzzy Pluton

LITHOLOGY: Biotite Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Pacific Ranges

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Chip

COMMODITY GRADE
Gold 3.4600 Grams per tonne

COMMENTS: Average of 23 samples taken over a 165 metre section.

REFERENCE: Assessment Report 17945.

CAPSULE GEOLOGY

The Lytton Gold showing is exposed by trenches in the "main zone" on a ridge 1.1 kilometres southwest of the Mount Roach apex.

A major strike-slip fault/shear zone up to 100 metres wide and traced for 3000 metres trends 315 degrees and dips 45 to 75 degrees in Late Cretaceous Scuzzy pluton biotite granodiorite. Sparsely mineralized quartz veins occur in the hanging wall of the shear zone. Quartz veins can be traced for a strike length of 1700 metres and a vertical distance of 400 metres. They are up to 3 metres wide and milky white.

Carbonate, locally altered to limonite, occupies up to 20 per cent of vein material in places. Arsenopyrite, pyrite and trace galena and sphalerite occur in parallel bands or chloritic lenses adjacent to the quartz veins. Weak sericitic, chloritic and pyritic alteration occurs in metre wide halos. In areas of cross faulting, alteration halos are up to 10 metres wide. Alteration minerals include sericite, albite, chlorite, epidote and pyrite.

Twenty-two trenches were blasted and sampled in the "main zone" where the quartz vein is very "strong". Twenty-three samples taken over a 165 metre section of vein averaged 3.46 grams per tonne gold

CAPSULE GEOLOGY

over 1.4 metres (Assessment Report 17945).

M.Y. Williams examined the property in 1934 for Lytton Gold Mines Ltd. In his report, references are made to extensive previous workings in several areas of the property, specifically a series of opencuts and a 24 metre adit. Williams reports that a 0.9 tonne sample shipment was made about 20 years prior to his visit.

Rea Gold reported in 1988 (Assessment Report 17945) that several adits and many opencuts are visible on the property and a substantial mining camp had existed on the south branch of "Styron" (Stryen) Creek which included at least six major buildings and a compressor.

Conwest Exploration drilled at least one x-ray diamond drill in 1972. Rea Petro Corporation optioned the property in 1981 and carried out a program of soil sampling and mapping. By 1988, the property was owned by Rea Gold Corporation and Shamrock Resources Inc. Prospecting was carried out and 143 rock samples and 107 soil samples were collected. Twenty-two trenches totalling 33 metres were excavated.

BIBLIOGRAPHY

EMPR ASS RPT 8758, 9919, *17945
EMPR EXPL *1980-222
EMPR PF (Report by M.Y. Williams, 1934)
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262, p. 105
GSC P 46-8; 47-10

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/15

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 885
REPORT: RGEN0100

MINFILE NUMBER: **092ISW050**

NATIONAL MINERAL INVENTORY: 092I4 Sb1

NAME(S): **CLARKE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 54 N
LONGITUDE: 121 54 10 W
ELEVATION: 2800 Metres

NORTHING: 5557553
EASTING: 578364

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in outcrop on the western slopes of Antimony Mountain, about 24 kilometres southwest of Lytton. The exact location is uncertain. (Geological Survey of Canada Memoir 262).

COMMODITIES: Antimony

MINERALS

SIGNIFICANT: Stibnite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I09 Stibnite veins and disseminations

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous			Scuzzy Pluton

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Pacific Ranges

CAPSULE GEOLOGY

The Clarke showing is located in outcrop on the western slopes of Antimony Mountain, about 24 kilometres southwest of Lytton. A fault zone which can be traced for "several hundred feet" cuts a Late Cretaceous Scuzzy pluton granodiorite plug. Sporadic stibnite mineralization occurs in irregular quartz veinlets that form a stockwork along the fault zone.

BIBLIOGRAPHY

EMPR AR 1915-253; 1916-264,518
GSC MAP 1010A; 1386A; *42-1989
GSC MEM *262, p. 95
GSC P 46-8; 47-10

DATE CODED: 1987/03/27
DATE REVISED: 1991/03/13

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW050**

MINFILE NUMBER: **092ISW051**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAWHIDE, BLUE, GREEN,
SKIHIST MOUNTAIN, VALLEY**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092I04W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 28 N
LONGITUDE: 121 49 39 W
ELEVATION: 1860 Metres

NORTHING: 5556831
EASTING: 583753

LOCATION ACCURACY: Within 500M

COMMENTS: Located in 3 recent trenches 6.3 kilometres southeast of Skihist Mountain, on the southern slopes above North Kwoiek Creek (Assessment Report 18024).

COMMODITIES: Talc Magnesite Asbestos

MINERALS

SIGNIFICANT: Talc Magnesite Asbestos
ASSOCIATED: Tremolite Quartz Magnetite Siderite Ankerite
 Pyrrhotite
ALTERATION: Talc Serpentine Carbonate
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Massive
CLASSIFICATION: Hydrothermal Replacement Industrial Min.
 TYPE: M07 Ultramafic-hosted talc-magnesite
SHAPE: Tabular
MODIFIER: Fractured Sheared
DIMENSION: 450 x 75 Metres STRIKE/DIP: 110/
COMMENTS: Steeply dipping lenticular talc body up to 75 metres wide striking 110 to 120 degrees for 450 metres. TREND/PLUNGE: /

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic Bridge River Undefined Formation

LITHOLOGY: Serpentinite
 Argillite
 Graphitic Schist
 Micaceous Schist
 Quartzite
 Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Lower greenschist facies.

INVENTORY

ORE ZONE: MAIN REPORT ON: Y
CATEGORY: Inferred YEAR: 1990
QUANTITY: 8700000 Tonnes
COMMODITY GRADE
Magnesite 33.9000 Per cent
Talc 41.6000 Per cent
COMMENTS: Talc grades between 41.6 and 57.6 per cent. Magnesite grades between 33.9 and 52.9 per cent.
REFERENCE: Assessment Report 21769.

CAPSULE GEOLOGY

The Rawhide occurrence is located 6.3 kilometres southeast of Skihist Mountain on the southern slopes of North Kwoiek Creek, 19.5 kilometres west-southwest of Lytton.

These serpentinite masses were first explored for asbestos by Magnetron Mining Ltd. in 1970. They were subsequently assessed for their talc and magnesite potential by D. Cardinal and Highland Talc Minerals Ltd. between 1987 and 1990.

The area is underlain by a northwest trending belt of lower

CAPSULE GEOLOGY

greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists. These occur in normal and fault contact with Bridge River serpentinitized ultramafics and metasediments of the Upper Jurassic-Lower Cretaceous Relay Mountain Group. Serpentinite belts (sills?) are interbedded with argillite, graphitic phyllite, micaceous and chloritic schists, and occasional bands of quartzite and limestone. Granodiorite plugs related to the Late Cretaceous Scuzzy pluton intrudes all of the above units to the north and south.

A lenticular, steeply dipping body of talc varying up to 75 metres in width, occurs within one of the serpentinite belts, and strikes 110 to 120 degrees for a distance of 450 metres. The width varies from 50 to 75 metres. In fresh opencuts and trenches the mineralization is massive and homogeneous. It is occasionally cut by small remnant serpentinite bodies or incipient talc-serpentine.

The talc is greenish white to light green and varies from being very soft and soapy to harder and gritty in texture. Associated crystalline magnesite is light grey. Siderite and ankerite are associated. Minor magnetite and pyrrhotite are also present.

In 1990 and 1991, a detailed grid was established on the talc showing. Eight blast-trenches were excavated and mapped. Continuous chip sampling was conducted in 6 trenches. The samples were shipped to the Alberta Research Council for quantitative analysis. The results of chemical and physical analysis of these samples are as follows (Assessment Report 21769):

Sample#	Length (metres)	Talc (%)	Magnesite (%)
TS12345	10.5	46.8	45.8
T6100A	8.0	41.6	52.9
T6040	8.5	57.6	33.9
T6100	7.5	51.0	39.1
T6490	9.0	51.9	40.0
T6210	9.5	52.9	41.2

A 1.5 kilogram grab sample of greenish white talc exposed over 20 metres assayed 94.48 per cent talc (Assessment Report 16545). The results of whole rock analysis for magnesium, iron, aluminum, calcium and silica were as follows:

Sample#	MgO	SiO2	Fe2O3	Al2O3	CaO	LOI
MT-89-CL-80.1	37.89	30.00	6.24	0.49	0.23	25.14
MT-89-CL-80.2	40.23	24.28	4.39	0.15	0.22	30.72
MT-89-CL-80.3	36.89	33.79	6.57	0.29	0.15	22.30
MT-89-CL-80.4	37.06	33.29	6.72	0.61	0.21	22.10
MT-89-CL-80.5	36.86	33.10	6.40	0.70	0.20	22.73
MT-89-CL-80.5	37.24	31.92	6.45	0.36	0.14	23.89

A small trench 300 metres northeast of the main deposit exposes a 6 by 2 metre pod concordant with foliation. Fibrous tremolite grades into white masses of medium grade talc and serpentine. The serpentine is a light mottled buff to brown carbonate-rich combination of talc and serpentine. Quartz and minor magnetite occur within these talc bodies. Low grade pods up to 12 centimetres wide occur in low angle, randomly oriented fractures within dark blue serpentinite.

Asbestos occurs in tremolite-talc-carbonate pods hosted in serpentinite in a 150 metre wide, fractured and sheared serpentinite/metasediment contact zone north of the main talc body. The asbestos occurs in limited quantity and is of questionable quality (Assessment Report 2536).

Inferred reserves are estimated at 8.7 million tonnes grading between 41.6 and 57.6 per cent talc and 33.9 to 52.9 per cent magnesite (D. Cardinal, personal communication, 1991).

The Valley claims were staked over the property in 1996 by Heligold Canada Limited and examined the following year (Assessment Report 25188).

BIBLIOGRAPHY

EMPR AR 1929-C237
 EMPR ASS RPT 2536, *16545, *18024, *21769, 25188
 EMPR GEM 1970-486
 EMPR INF CIRC 1991-1, pp. 18,61
 EMPR OF *1988-19, pp. 38-39; 1995-25
 GSC MAP 42-1989; 1010A; 1386A
 GSC MEM 262, p. 104
 GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 888
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10; 90-1E, pp. 173-185

DATE CODED: 1987/03/27
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW052**

NATIONAL MINERAL INVENTORY:

NAME(S): **KWOIEK NEEDLE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04W
BC MAP:
LATITUDE: 50 05 06 N
LONGITUDE: 121 48 28 W
ELEVATION: 1525 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: Approximate centre of large area containing several showings (Open File 1988-26).

MINING DIVISION: Kamloops
New Westminster
UTM ZONE: 10 (NAD 83)
NORTHING: 5548762
EASTING: 585291

COMMODITIES: Sillimanite Kyanite Andalusite Garnet

MINERALS

SIGNIFICANT: Sillimanite Kyanite Garnet Andalusite
ASSOCIATED: Muscovite
MINERALIZATION AGE: Mesozoic

DEPOSIT

CHARACTER: Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

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

LITHOLOGY: Kyanite Garnet Schist

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Shuksan
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: Syn-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

In the Kwoiek Needle-Nahatlatch River area, south of Lytton, sillimanite, kyanite, garnet and andalusite are present in northwest trending phyllites and schists which occur in fault contact with Permian(?) to Lower Cretaceous Bridge River Complex (Group) rocks. These phyllites and schists are reported to occur as roof pendants or screens in the Late Cretaceous Scuzzy pluton (Geological Survey of Canada Memoir 262; Geological Society of America Bulletin 80; American Journal of Science, Volume 267). The schists may be equivalents of the Settler Schist, exposed to the south.

The garnet and aluminosilicate minerals are clearly products of contact metamorphism related to the emplacement of the Scuzzy pluton, and isograds marking the first appearance of the various aluminosilicate polymorphs can locally be mapped around intrusions (Geological Society of America Bulletin 80; American Journal of Science, Volume 267).

Garnets average one millimetre in diameter and commonly comprise up to 15 per cent of the rock (Geological Society of America Bulletin 80). Aluminosilicate polymorphs commonly are two centimetres long and comprise six to seven per cent of the rock (Geological Society of America Bulletin 80); however, in places, andalusite crystals up to five centimetres long are so crowded in certain layers as to form most of the rock (Geological Survey of Canada Memoir 262). Locally, the aluminosilicates are completely altered to muscovite.

BIBLIOGRAPHY

EMPR OF *1988-26
GSC MAP *42-1989
GSC MEM *262
AJS *267, pp. 352-370
GSA BULL *80, pp. 2465-2494

DATE CODED: 1988/03/30
DATE REVISED: 1991/03/13

CODED BY: JP
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW053**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLACIER**, RAWHIDE, VALLEY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04W
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5556914
EASTING: 583117

LATITUDE: 50 09 31 N
LONGITUDE: 121 50 11 W
ELEVATION: 2065 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Adit, close to a tributary of North Kwoiek Creek, 5.8 kilometres southeast of Skihist Mountain and 3 kilometres northeast of Klept Creek (Assessment Report 14715).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Chalcopyrite Tetrahedrite
COMMENTS: Tetrahedrite in quartz vein in granite.
ASSOCIATED: Quartz Andalusite Garnet Asbestos
ALTERATION: Actinolite Garnet Magnetite Pyrrhotite Silica
Serpentine Talc Malachite

COMMENTS: Malachite with tetrahedrite.
ALTERATION TYPE: Skarn Silicific'n Serpentin'zn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Concordant
CLASSIFICATION: Mesothermal Skarn
TYPE: K04 Au skarn M07 Ultramafic-hosted talc-magnesite
DIMENSION: 150 x 100 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	
Jurassic-Cretaceous	Relay Mountain	Undefined Formation	

LITHOLOGY: Skarn
Chlorite Schist
Argillaceous Phyllite
Granodiorite
Serpentinite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Lower greenschist facies

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 0.6800 Grams per tonne
Gold 8.8400 Grams per tonne
COMMENTS: Chip sample taken across 1.5 metres at adit entrance.
REFERENCE: Assessment Report 10680.

CAPSULE GEOLOGY

The Glacier showing is located in an old adit close to a tributary of North Kwoiek Creek, 6.8 kilometres southeast of Skihist Mountain and 3 kilometres northeast of Klept Lake.

The area is underlain by a northwest trending belt of lower greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists. These occur in fault contact with Bridge River serpentinized ultramafics, and Upper Jurassic-Lower Cretaceous Relay Mountain Group metasediments. Late Cretaceous granitic plugs and dykes intrude all of the above units.

Disseminated arsenopyrite, pyrite and minor chalcopyrite occur in massive, sugary quartz exposed at the portal of a 13 metre adit in

CAPSULE GEOLOGY

a sheared fault contact between argillaceous phyllite and chlorite schist. There appears to be some skarning represented by actinolite, garnet, magnetite and pyrrhotite present in the zone. A chip sample taken over the width of the quartz (1.5 metres) at the portal assayed 8.84 grams per tonne gold and 0.68 grams per tonne silver (Assessment Report 10680).

The quartz vein pinches and swells along a 100 metre strike length. Secondary quartz veins cut the major vein. Host rocks are silicified. Phyllites are locally fossiliferous and contain minor garnet and andalusite. The shear zone is 150 metres wide and contains pods of serpentine and talc. Several lensoid bodies of talc have been discovered on the property and minor asbestos also occurs along slickensides. See the Rawhide occurrence (092ISW051) for further details on nearby talc, magnesite and asbestos mineralization.

A one metre wide quartz vein with disseminated tetrahedrite and minor malachite staining is reported to occur in granite (Assessment Report 15311). The location is not mentioned but granodiorite is reported to outcrop to the north of the portal (Assessment Report 10680).

In 1929, a 13 metre adit and 4 opencuts were excavated. Between 1977 and 1982, Aquarius Resources took 273 soil sample, 52 silt samples and 7 rock samples. From 1984 to 1988, D.G. Cardinal staked 71 units and the property was transferred to Westerra Resources Ltd. During this period geological and limited geophysical surveys were conducted and 51 meters in 3 trenches were excavated. In 1996, the Valley claims were staked by Heligold Canada Inc. to cover the open ground (Assessment Report 25188).

BIBLIOGRAPHY

EMPR AR 1929-C236
EMPR ASS RPT 6854, 7455, 9542, *10680, *14715, *15311, 25188
EMPR EXPL 1978-E159; 1979-164; 1982-199
EMPR OF 1995-25
GSC MAP 1386A; *42-1989
GSC MEM 262, p. 104
GSC P 46-8; 47-10

DATE CODED: 1987/03/27
DATE REVISED: 1999/01/04

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW054**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAYSTREAK, RANDI**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 05 58 N
LONGITUDE: 121 41 34 W
ELEVATION: 1900 Metres

NORTHING: 5550506
EASTING: 593490

LOCATION ACCURACY: Within 500M

COMMENTS: Old trench on the northeast side of Pyramid Lake, 14.3 kilometres northwest of Keefers (Assessment Report 13210).

COMMODITIES: Silver Gold Copper

MINERALS

SIGNIFICANT: Tetrahedrite
COMMENTS: Chalcopyrite, malachite and azurite in boulders in trench pile.

ASSOCIATED: Quartz
ALTERATION: Tremolite Talc Ankerite Pyrite Limonite
Chlorite Mariposite

ALTERATION TYPE: Serpentin'zn Oxidation Pyrite Chloritic Quartz-Carb.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Shear Vein
CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I01 Au-quartz veins

DIMENSION: 500 Metres STRIKE/DIP:

COMMENTS: Shear zone TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	
Jurassic-Cretaceous	Relay Mountain	Undefined Formation	

LITHOLOGY: Phyllite
Serpentinite
Graphitic Schist
Phyllitic Schist
Quartzite
Chloritic Hornblende Diorite
Diorite Dike
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Pacific Ranges

TERRANE: Bridge River

Methow

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

COMMENTS: Lower greenschist facies

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

5.9600

Grams per tonne

COMMENTS: Sample taken over 3 metres; includes quartz vein and phyllite.

REFERENCE: Assessment Report 15360.

CAPSULE GEOLOGY

The Paystreak showing is located in an old trench on the northeast side of Pyramid Lake, 14.3 kilometres northwest of Keefers. The area is underlain by the lower greenschist facies of the

Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists, and Upper Jurassic-Lower Cretaceous Relay Mountain Group phyllites, semi-schists and local sedimentary units. Pods of Bridge River serpentinized ultramafics occur in fault and normal contacts with both groups. Late Cretaceous quartz monzonite plugs intrude all rocks.

An intensely sheared, northwest striking, steeply dipping belt of serpentinite, intermittently exposed over a 500 metre width, is in

CAPSULE GEOLOGY

fault contact to the northeast with micaceous and graphitic phyllites, schists and phyllitic schists, quartzites and minor black quartz, and on the southwest with grey to black phyllite, argillite and conglomerates. Phyllites are locally folded. Weakly chloritized hornblende diorite outcrops close to Pyramid Mountain. Fine-grained diorite dykes are common. Phyllites are locally tightly folded.

Local alteration zones within the serpentinite commonly comprise tremolite and talc with ankerite veinlets. Fault gouge is limonite/hematite stained. Quartz-carbonate-mariposite alteration occurs infrequently. Phyllites are pyritized.

Fine-grained sparsely disseminated argentiferous tetrahedrite blebs and fracture coatings occur in quartz veins in sheared phyllite. Chalcopyrite with malachite and azurite staining is visible in boulders in the trench pile (northeast of Pyramid Lake). Quartz veins, up to 3 centimetres wide, are surrounded by pyrite/limonite zones up to 10 centimetres wide.

Vein samples (1986) assayed up to 3.3 grams per tonne gold and 2.6 grams per tonne silver. A 3.0 metre chip sample of phyllite host assayed 5.96 grams per tonne gold (Assessment Report 15360).

BIBLIOGRAPHY

EMPR ASS RPT 8606, *9757, 10873, 11699, *13210, 13599, *15360
EMPR EXPL 1981-110; 1982-198; 1983-272; 1984-204; 1986-C192,C226
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262, p. 107
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1987/03/27
DATE REVISED: 1991/02/27

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW055**

NATIONAL MINERAL INVENTORY:

NAME(S): **SERPENTINE**, SUMMIT, GOLD RIDGE,
MARISOL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

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

LATITUDE: 50 04 38 N
LONGITUDE: 121 39 40 W
ELEVATION: 1910 Metres

NORTHING: 5548075
EASTING: 595799

LOCATION ACCURACY: Within 500M

COMMENTS: Old trench, 11 kilometres northwest of Keefers. Access is via a logging road from Boston Bar and then a steep cat trail from Log Creek (Assessment Reports 8608 and 16857).

COMMODITIES: Gold Silver Copper Lead

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz
ALTERATION: Siderite Ankerite Mariposite Quartz Sericite

ALTERATION TYPE: Quartz-Carb.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Shear
CLASSIFICATION: Hydrothermal
TYPE: I01 Au-quartz veins
SHAPE: Tabular

STRIKE/DIP: 345/ TREND/PLUNGE: /

COMMENTS: Average strike of quartz veins.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Jurassic-Cretaceous

GROUP

Bridge River
Relay Mountain

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greenschist
Ultramafic Dike
Biotite Quartz Monzonite
Serpentinized Ultramafic
Phyllite
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

COMMENTS: Lower greenschist facies

PHYSIOGRAPHIC AREA: Pacific Ranges

Methow

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Serpentine showing is located in an old trench 11 kilometres northwest of Keefers. Access is via a logging road from Boston Bar and then a steep cat trail from Log Creek.

The area is underlain by lower greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists, and Upper Jurassic-Lower Cretaceous Relay Mountain Group phyllites, semi-schists and local sedimentary units. Pods of Bridge River serpentinized ultramafics occur in fault and normal contacts with both groups. Late Cretaceous quartz monzonite plugs intrude all rocks.

At the showing, steep dipping, northwest trending, intensely foliated greenschist is intercalated with phyllites and argillites. This package is in fault contact with northwest trending serpentinized ultramafics and intruded by biotite quartz monzonite.

Abundant finely disseminated arsenopyrite, pyrrhotite and pyrite with minor chalcopyrite and galena occur in greenschist wallrock immediately adjacent to massive quartz veins up to 1.5 metres wide, in a northwest trending shear zone. The shear zone occurs in greenschist parallel to an ultramafic dyke and close to the biotite quartz monzonite contact.

Quartz-carbonate alteration minerals (siderite, ankerite, mariposite and quartz with sericite and actinolite) occur in the

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 895
REPORT: RGEN0100

CAPSULE GEOLOGY

shear zone. The average strike of the quartz veins is 345 degrees.

BIBLIOGRAPHY

EMPR ASS RPT *8606, *16857
EMPR EXPL 1980-222; 1984-204
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262, p. 104
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1987/03/30
DATE REVISED: 1991/02/27

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW057**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOLLY B**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 13 36 N
LONGITUDE: 121 28 11 W
ELEVATION: 1200 Metres

NORTHING: 5564953
EASTING: 609152

LOCATION ACCURACY: Within 1 KM

COMMENTS: Outcrop at the approximate centre of the claim, 3.2 kilometres southeast of Gladwin (Meyer, 1969).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Sulphide Malachite
ASSOCIATED: Quartz
ALTERATION: Chlorite Malachite
ALTERATION TYPE: Chloritic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Epigenetic Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Triassic			Mount Lytton Complex

LITHOLOGY: Diorite
Quartz Diorite
Pegmatite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Molly B showing is located in outcrop on Gladwin Creek, 3.2 kilometres southeast of Gladwin.

Small local occurrences of malachite are found in shear zones within Triassic Mount Lytton Complex diorites and quartz diorites. Chlorite alteration of the intrusives is extensive. Pegmatite dykes cut intrusives. In one locality wide lenses of mineralized quartz is reported although no details are given (Meyer, 1969).

Areas of intense alteration were outlined by a magnetometer survey and scattered anomalies found from the soil survey. No other information is available.

BIBLIOGRAPHY

EMPR GEM 1969-242
EMPR PF (Rpt. by W. Meyer, 1969)
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/30
DATE REVISED: 1991/02/12

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW058**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOB**, COP

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 24 38 N
LONGITUDE: 121 36 25 W
ELEVATION: 1640 Metres

NORTHING: 5585207
EASTING: 598982

LOCATION ACCURACY: Within 500M

COMMENTS: Drill collar, 2.7 kilometres east of Izman Creek and 5.7 kilometres northeast of its mouth (Assessment Report 6294).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Magnetite Molybdenite

COMMENTS: Trace molybdenite.

ASSOCIATED: Quartz

ALTERATION: Garnet Epidote Calcite Hematite Chlorite

Quartz Malachite

ALTERATION TYPE: Skarn Chloritic Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Skarn Hydrothermal

TYPE: L04 Porphyry Cu ± Mo ± Au Epigenetic K01 Cu skarn

DIMENSION: 182 x 61 Metres

STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Main skarn zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic			Mount Lytton Complex

LITHOLOGY: Limestone
Skarn
Amphibolite
Quartz Monzonite
Dioritic Rock
Quartz Diorite Gneiss
Hornblende Andesite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Bob occurrence area is underlain by Triassic Mount Lytton Complex intrusives. These comprise dioritic rocks in gradational contact with amphibolite, mylonite and layered sequences of anorthosite, granodiorite and gabbro. These are intruded by andesite dykes and quartz diorite.

Blebs and pods of chalcopyrite with minor bornite and trace molybdenite occur in quartz stringers and as disseminations in skarn altered crystalline limestone. Quartz stringers are 1 to 5 centimetres wide and locally up to 45 centimetres wide. The main showing is 182 by 61 metres wide. Other skarn minerals include garnet, epidote, calcite, hematite and chlorite. Magnetite is reported as locally disseminated in the skarn and in the amphibolites. On the lower flanks of the mountain, disseminated pyrite and chalcopyrite occur in fractures in quartz monzonite. Malachite is common throughout the whole area.

Limestone bedding and amphibolite foliation trend northwest. Limestone is folded anticlinally with limbs dipping to the southwest and northeast. Rocks are extensively fractured. Other rocks on the property include chloritic to siliceous andesite, dioritic rocks, quartz diorite gneiss and hornblende andesite dykes.

BIBLIOGRAPHY

EMPR AR 1971-292; 1972-148
EMPR ASS RPT 2985, 3937, 3938, 4119, 4120, 4451, *6294
EMPR GEM *1977-E141

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 898
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Reports by Santana International Resources)
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358
CIM Vol.64, May 1971, pp. 37-61

DATE CODED: 1987/03/30
DATE REVISED: 1991/02/13

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW059**

NATIONAL MINERAL INVENTORY:

NAME(S): **B & B, FOLLY**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 19 N
LONGITUDE: 121 36 24 W
ELEVATION: 1520 Metres

NORTHING: 5577208
EASTING: 599151

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop at the headwaters of Conte Creek, 11.5 kilometres northwest of Lytton and 3.6 kilometres east of the Fraser River (Assessment Report 2261).

COMMODITIES: Copper

MINERALS

SIGNIFICANT:	Chalcopyrite	Arsenopyrite	Bornite		
ASSOCIATED:	Quartz	Pyrite			
ALTERATION:	Malachite	Limonite	Chlorite	Epidote	Sericite
	Pyrite				
ALTERATION TYPE:	Oxidation		Potassic		Pyrite
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Disseminated Vein
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>
Triassic			Mount Lytton Complex

LITHOLOGY: Altered Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The B & B showing is located in outcrop at the headwaters of Conte Creek, 11.5 kilometres northwest of Lytton and 3.6 kilometres east of the Fraser River.

The area is underlain by Triassic Mount Lytton Complex intrusives comprising dioritic rocks in gradational contact with mylonite, amphibolite and layered sequences of anorthosite, granodiorite and gabbro. These are intruded by andesite dykes and quartz diorite intrusions.

Minor disseminated chalcopyrite and arsenopyrite associated with pyrite and malachite staining occurs in quartz veins in fractured potassic and pyritic gabbro. Disseminated bornite and pyrite occur throughout the gabbro. Chlorite, epidote and sericite are seen in fractures. Limonitic gossanous zones occur locally.

Other rocks on the property, diabase dykes, quartz diorite and granodiorite, are devoid of mineralization.

BIBLIOGRAPHY

EMPR ASS RPT *2261, *3194, 4302
EMPR GEM 1971-292; 1972-148; 1973-167
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358
CIM Vol.64, May 1971, pp. 37-61

DATE CODED: 1987/03/30
DATE REVISED: 1991/02/18

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW060**

NATIONAL MINERAL INVENTORY:

NAME(S): **KAREN**, BOD, RAINBOW

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 16 05 N
LONGITUDE: 121 26 41 W
ELEVATION: 760 Metres

NORTHING: 5569592
EASTING: 610839

LOCATION ACCURACY: Within 500M

COMMENTS: Old tunnel, 1.3 kilometres north of the Thompson River and 5.5 kilometres northeast of Lytton (Assessment Report 3529).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Chalcocite
ASSOCIATED: Magnetite Pyrite
ALTERATION: Epidote Chlorite Malachite Quartz Kaolin
 Sericite Albite
ALTERATION TYPE: Propylitic Albitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Undefined Formation	Mount Lytton Complex
Triassic			

LITHOLOGY: Anorthosite
Granodiorite
Gabbro
Amphibolite
Mylonite
Quartz Diorite
Andesite Dike
Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Karen showing is located 1.3 kilometres north of the Thompson River and approximately 5.5 kilometres northeast of Lytton. The area is underlain by Triassic Mount Lytton Complex intrusives. These rocks include layered sequences of anorthosite, granodiorite and gabbro; also amphibolite, mylonite and younger quartz diorite intrusions and andesite dykes. Middle and Upper Cretaceous Spences Bridge Group volcanics occur in normal and fault contact to the southeast and north respectively. There is widespread faulting and fracturing on the property. Propylitic and albitic alteration is extensive. Alteration minerals include epidote, chlorite, albite, quartz, kaolin and sericite. Disseminated chalcopyrite with associated magnetite, pyrite, chalcocite and malachite occurs throughout the intrusives in zones up to 30 metres wide and as fracture-fillings. Massive chalcocite occurs in several narrow veins in the northern parts of the claims.

BIBLIOGRAPHY

EMPR AR 1971-293
EMPR ASS RPT *3529, 8771
EMPR EXPL 1980-223
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 901
REPORT: RGEN0100

BIBLIOGRAPHY

CIM Vol.64, May 1971, pp. 37-61

DATE CODED: 1987/03/30
DATE REVISED: 1991/02/11

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW061**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPIN**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 30 N
LONGITUDE: 121 37 26 W
ELEVATION: 1685 Metres

NORTHING: 5581231
EASTING: 597851

LOCATION ACCURACY: Within 500M

COMMENTS: Trench 2 of 5 on the western slopes of Botanie Mountain, 15.8 kilometres northwest of Lytton and 3.6 kilometres east of the Fraser River (Assessment Report 3827).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Tetrahedrite
COMMENTS: Possible trace tetrahedrite.
ASSOCIATED: Quartz Pyrite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Mount Lytton Complex

LITHOLOGY: Altered Diorite
Andesite Dike
Rhyolite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Spin showing is located in trench 2 of 5 on the western slopes of Botanie Mountain, 15.8 kilometres northwest of Lytton and 3.6 kilometres east of the Fraser River.

The area is underlain by Triassic Mount Lytton Complex intrusives. These rocks include layered sequences of anorthosite, granodiorite and gabbro; also amphibolite, mylonite and younger quartz diorite intrusions and andesite dykes.

Minor disseminated chalcopyrite, bornite and possible trace tetrahedrite occur in and close to fractures in altered diorite. The diorite is cut by andesite and rhyolite dykes. Malachite and azurite staining is common. Specks of chalcopyrite associated with disseminated pyrite and malachite staining also occur in quartz veins up to 8 centimetres wide in altered diorite. Diorite is locally oxidized and bleached.

BIBLIOGRAPHY

EMPR ASS RPT *3827, *4302
EMPR GEM 1972-148; 1973-167
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358
CIM Vol.64, May 1971, pp. 37-61

DATE CODED: 1987/03/30
DATE REVISED: 1991/02/10

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW062**

NATIONAL MINERAL INVENTORY:

NAME(S): **Laurie**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 22 23 N
LONGITUDE: 121 39 47 W
ELEVATION: 608 Metres

NORTHING: 5580964
EASTING: 595070

LOCATION ACCURACY: Within 500M

COMMENTS: Drill collar, 17.3 kilometres northeast of Lytton and 500 metres east of Highway 12 (Assessment Report 18806).

COMMODITIES: Copper Zinc

MINERALS

SIGNIFICANT:	Tetrahedrite	Chalcopyrite	Pyrite	Sphalerite
ASSOCIATED:	Calcite	Quartz	Ankerite	
ALTERATION:	Azurite	Chlorite	Sericite	Talc Quartz
ALTERATION TYPE:	Ankerite			
MINERALIZATION AGE:	Oxidation	Chloritic		Carbonate
	Unknown			

DEPOSIT

CHARACTER:	Shear	Vein	Breccia
CLASSIFICATION:	Epigenetic	Hydrothermal	
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>
Triassic			Mount Lytton Complex

LITHOLOGY: Feldspathic Dike
Siliceous Chlorite Schist

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1989
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Copper		1.0300	Per cent
Zinc		0.1100	Per cent

COMMENTS: Sample taken over 43 centimetres.
REFERENCE: Assessment Report 18806.

CAPSULE GEOLOGY

The Laurie showing is located 17.3 kilometres northwest of Lytton and 500 metres east of Highway 12, directly beneath the power transmission line.

The area is underlain by Triassic Mount Lytton Complex intrusives comprising dioritic rocks in gradational contact with mylonite, amphibolite and layered sequences of quartzofeldspathic rocks. These are intruded by andesite dykes and quartz diorite intrusions.

Tetrahedrite, azurite and minor chalcopyrite, pyrite and sphalerite occur in two highly fractured, brecciated, branching calcisilicate veins 3 to 100 centimetres wide. A chip sample from the main vein assayed 1.03 per cent copper and 0.11 per cent zinc over 43 centimetres (Assessment Report 18806). The vein occurs in a fractured, fine-grained, feldspathic dyke within siliceous chlorite schist. Alteration minerals include quartz, chlorite, sericite and talc. Three hundred and ten metres southeast, minor sphalerite occurs in a 6 centimetre wide quartz-calcite-ankerite vein in siliceous chlorite schist.

BIBLIOGRAPHY

EMPR ASS RPT 8762, 18133, *18806
EMPR EXPL 1980-222

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 904
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/30
DATE REVISED: 1991/02/21

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW063**

NATIONAL MINERAL INVENTORY:

NAME(S): **TALC LAKE DEPOSIT, H (NORTH ZONE), H 7, 9,**
KWOIEK CREEK, GOLD RIDGE, LATCH

STATUS: Developed Prospect

REGIONS: British Columbia

NTS MAP: 092I04E

BC MAP:

LATITUDE: 50 03 42 N

LONGITUDE: 121 38 34 W

ELEVATION: 1932 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Talc deposit centred on a lake, 4 kilometres southeast of Pyramid Mountain and 5.6 kilometres due north of the confluence of Log Creek and Nahatlatch River (Assessment Report 22665).

MINING DIVISION: Kamloops

New Westminster

UTM ZONE: 10 (NAD 83)

NORTHING: 5546369

EASTING: 597142

COMMODITIES: Talc

Magnesite

MINERALS

SIGNIFICANT: Talc

Magnesite

ASSOCIATED: Magnetite

Carbonate

Chlorite

ALTERATION: Serpentine

Talc

Magnesite

ALTERATION TYPE: Serpentin'zn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive

Stratabound

CLASSIFICATION: Hydrothermal

Epigenetic

Residual

Industrial Min.

TYPE: M07 Ultramafic-hosted talc-magnesite

DIMENSION: 800 x 100 x 80 Metres

STRIKE/DIP: 110/55S

TREND/PLUNGE:

COMMENTS: The Talc Lake deposit has been traced on surface for a strike length of 800 metres. The width varies from 25 to 100 metres. Eighty metres depth was used for reserve calculations.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Serpentinite

Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Pacific Ranges

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: LAKE

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1992

QUANTITY: 5231600 Tonnes

COMMODITY

GRADE

Magnesite

41.0000

Per cent

Talc

57.0000

Per cent

COMMENTS: Reserves estimated for 800 metres strike length and 80 metres depth. Average talc grade for ten trench samples analyzed by XRD is 57 per cent and magnesite is 41 per cent.

REFERENCE: Assessment Report 22665.

CAPSULE GEOLOGY

The Talc Lake prospect outcrops north and south of an unnamed lake atop a ridge west of the Fraser River, 19.5 kilometres south-southwest of Lytton.

Significant talc occurrences were first reported in this area in the early 1950s by Geological Survey of Canada geologists. In 1973, talc was first reported in the Talc Lake prospect area by J.A. Chamberlain Consultants while conducting surveys for nickel, chromite and talc. Low grade nickel (0.2 per cent) was identified over a wide area and a zone of talc-magnesite mineralization was outlined. The zone is now referred to as the Talc Lake deposit. Between 1986 and 1988, 3000 hectares of ground was staked to cover potential talc (magnesite) lenses. In 1989 and 1990, Highland Talc Minerals Ltd. began systematically geological mapping the Talc Lake deposit. Late in 1990, a second talc zone referred to as the South Talc deposit was

CAPSULE GEOLOGY

defined. Four exploratory drillholes were completed in 1990. Between 1991 and 1992, detailed geological surveys, surface stripping, and four follow-up drillholes were completed. In 1992, the North Talc deposit and 5 smaller satellite lenses were discovered. In 1993, a 100-kilogram bulk sample was taken from the South Talc deposit and a 120-tonne bulk sample was taken from the North Talc deposit shipped to Finland for Pilot Scale tests. In 1994, an additional 10 drillholes were completed on the South Talc deposit.

The area is underlain by phyllite, schist and foliated greenstone of the Permian(?) to Lower Cretaceous Bridge River Complex (Group) and by phyllite, schist and local conglomerate of the Upper Jurassic to Lower Cretaceous Relay Mountain Group. Pods of serpentinized ultramafics of the Bridge River Complex occur in fault and normal contact with both units. All units are intruded by stocks of Late Cretaceous quartz monzonite and granodiorite.

The Bridge River Complex and Relay Mountain Group are separated along the ridge by an intervening fault-bounded mass of serpentinite striking northwest for 5.9 kilometres, generally following the crest of the ridge, and varying up to 900 metres in width. The ultramafic rock is dark green to black and weathers buff to reddish brown. The serpentinite consists of fine grained, massive serpentine with minor carbonate and 5 per cent magnetite.

Since 1990, several systematic programmes were completed on the Talc Lake deposit that has included geological surveys, bulldozer stripping, trenching and drilling. The deposit consists of a lens of talc on the north side of the lake, which has been exposed over a length of 800 metres and a width of 25 to 100 metres, near the north end of the serpentinite mass. The talc lens strikes 110 degrees and dips 55 degrees south. The zone continues southeast across the lake for an additional 300 metres, for a total strike length of up to 800 metres.

The talc is pale green to white with a creamy buff weathered surface and contains small quantities of disseminated magnetite. Thin sections show the rock to be composed of 50 per cent talc and 50 per cent carbonate and magnesite. Although strongly schistose in outcrop, the talc does not appear so in thin section. Trenches show a homogeneous admixture of talc and magnesite. Ten-metre continuous chip samples were collected from each trench and analysed by XRD. They yielded an average of 57 per cent talc, 41 per cent magnesite, 1 per cent chlorite and less than 1 per cent siderite (Assessment Report 22665). Previous sampling in 1973 yielded 62 per cent talc, 30 per cent magnesite, 8 per cent chlorite and 6 per cent iron oxide (Assessment Report 22665). A bulk sample taken from the north side of the lake showed the talc to be very high grade, but the iron content makes it unsuitable for whitener or for a refractory base. The percentages given are:

Talc - 62
Magnesite - 30
Chlorite - 8
Fe2O3 - 5.8
Brightness factor - 63.1

The Talc Lake deposit reserve calculation is based solely on surface exposures and thus categorized as geologically inferred reserves. Total geologically inferred reserves are 5,231,600 tonnes, using a depth of 80 metres (Assessment Report 22665).

BIBLIOGRAPHY

EMPR ASS RPT *4508, *4985, 5111, 7058, 13167, *22665, 22688, 23691
EMPR EXPL 1978-E159; 1984-204; 1996-A25
EMPR GEM 1973-166,167; 1974-403
EMPR INF CIRC 1991-1, pp. 18,61; 1996-1, p. 20; 1997-1, p. 23
EMPR OF *1988-19, pp. 35-37
GSC MAP 42-1989; 1010A; 1386A
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 90-1E, pp. 183-195

DATE CODED: 1987/03/30
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

began systematically geological mapping the Talc Lake deposit. Late in 1990, a second talc zone referred to as the South Talc deposit was defined. Four exploratory drillholes were completed in 1990. Between 1991 and 1992, detailed geological surveys, surface stripping, and four follow-up drillholes were completed. In 1992, the North Talc deposit and 5 smaller satellite lenses were discovered. In 1993, a 100-kilogram bulk sample was taken from the South Talc deposit and a 120-tonne bulk sample was taken from the North Talc deposit shipped to Finland for Pilot Scale tests. In 1994, an additional 10 drillholes were completed on the South Talc deposit.

The area is underlain by phyllite, schist and foliated greenstone of the Permian(?) to Lower Cretaceous Bridge River Complex (Group) and by phyllite, schist and local conglomerate of the Upper Jurassic to Lower Cretaceous Relay Mountain Group. Pods of serpentinized ultramafics of the Bridge River Complex occur in fault and normal contact with both units. All units are intruded by stocks of Late Cretaceous quartz monzonite and granodiorite.

The Bridge River Complex and Relay Mountain Group are separated along the ridge by an intervening fault-bounded mass of serpentinite striking northwest for 5.9 kilometres, generally following the crest of the ridge, and varying up to 900 metres in width. The ultramafic rock is dark green to black and weathers buff to reddish brown. The serpentinite consists of fine grained, massive serpentine with minor carbonate and 5 per cent magnetite.

Since 1990, several systematic programmes were completed on the Talc Lake deposit that has included geological surveys, bulldozer stripping, trenching and drilling. A total of 8 drillholes totalling 746.3 metres have been drilled. The deposit consists of a steeply dipping, talc lens that has been traced along strike for at least 500 metres and varies in width from 50 to 120 metres. Drilling has tested the deposit to 128 metres depth and talc mineralization continues below. A relatively thin (0.5 to 3.0 metres) of overburden covers the deposit. Chlorite and minor pentlandite, pyrrhotite and magnetite are also present in the deposit.

The talc is pale green to white with a creamy buff weathered surface and contains small quantities of disseminated magnetite. Several sections of drill core were analysed by XRD and yielded an average grade of 68 per cent talc, 28 per cent magnesite with a low percentage of chlorite and ankerite (Assessment Report 22665). Thin sections show the rock to be composed of 50 per cent talc and 50 per cent carbonate and magnesite.

In 1994, a 100-kilogram composite sample was shipped to Finnminerals in Finland for pilot tests. Tests included were beneficiation from grinding, flotation, and micro-ionizing. Tests were also conducted on the chemical and physical properties of the talc, particle size distribution and paper-grade rheology tests. The final product produced included talc filler and extender with an average particle size 10 microns and brightness of 80 to 83 per cent (ISO), and a pitch control with an average particle size of 2 microns and a brightness of 83 to 85 per cent (ISO). A coating-grade, slurry talc pigment was also produced meeting rheological specification of light weight coated (LWC) papers (Assessment Report 23691). These tests were followed-up by LWC paper trial runs where several different weights of coated-grade papers were produced using the talc slurry. The results of some these tests are summarized as follows:

Mineralogy Ore		Concentrate	
talc	56		94.9
chlorite	7		1.7
magnesite	35		3.1
dolomite	2		0.3
sulphides	0.03		0.02
magnetite	0.10		0.03
brightness	56		66
yellowness	15		11
Composition			
Talc		Magnesite	
SiO ₂	62.2	MgCO ₃	78.2
Al ₂ O ₃	0.04	CaCO ₃	0.1
MgO	29.4	MnCO ₃	0.1
FeO	2.6	FeCO ₃	21.3
NiO	0.22		

The low brightness and high yellowness are caused by the presence of iron hydroxide minerals, the latter being indicative of surface weathering.

Drill indicated reserves are calculated at 11,947,456 tonnes using a 50-metre area of influence (Assessment Report 22665). Geological inferred reserves are 1,387,650 tonnes for a total reserve

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 909
REPORT: RGEN0100

CAPSULE GEOLOGY

estimation of 13,335,106 tonnes.

BIBLIOGRAPHY

EMPR ASS RPT *4508, *4985, 5111, 7058, 13167, *22665, 22688, 23691
EMPR EXPL 1978-E159; 1984-204
EMPR GEM 1973-166,167; 1974-403
EMPR INF CIRC 1991-1, pp. 18,61
EMPR OF *1988-19, pp. 35-37
GSC MAP 42-1989; 1010A; 1386A
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 90-1E, pp. 183-195

DATE CODED: 1987/03/30
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW065**

NATIONAL MINERAL INVENTORY:

NAME(S): **H**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5546229
EASTING: 597940

LATITUDE: 50 03 37 N
LONGITUDE: 121 37 54 W
ELEVATION: 1550 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Sample grid on claim H14 on the ridge east of the Fraser River, 22 kilometres of Boston Bar. Location is uncertain from location on map (Assessment Report 4985).

COMMODITIES: Nickel Silver Chromium

MINERALS

SIGNIFICANT: Magnetite Chromite Pentlandite Heazlewoodite
COMMENTS: Possible millerite.
ALTERATION: Serpentine Magnetite Talc Magnesite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epithermal

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Bridge River

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Serpentinite
Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Pacific Ranges

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The H showing is located on a sample grid on the H14 claim on the ridge east of the Fraser River, 22 kilometres northwest of Boston Bar. The exact location is uncertain from the description and map provided (Assessment Report 4985).

The claims cover a 900 metre wide serpentinized ultramafic body which trends northwest; a band of phyllite is preserved within the ultramafic body. The ultramafics and metasediments are part of the Permian(?) to Lower Cretaceous Bridge River Complex (Group). The ultramafic rock is dark green to black and weathers buff to reddish brown. The rock is a fine-grained, massive serpentine with minor carbonate and 5 per cent magnetite.

Magnetite occurs with pentlandite, heazlewoodite and possibly millerite, as disseminations and veinlets and rims chromite. Nine sample assays averaged 0.19 per cent nickel (Assessment Report 4508).

BIBLIOGRAPHY

EMPR ASS RPT *4508, *4985, 5111, 7058, 13167
EMPR EXPL 1978-E159; 1984-204
EMPR GEM 1973-166,167; 1974-403
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1987/03/30
DATE REVISED: 1991/03/04

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW066**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

MINING DIVISION: Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5588202
EASTING: 639839

LATITUDE: 50 25 45 N
LONGITUDE: 121 01 52 W
ELEVATION: 1640 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop at the headwaters of Skuhost Creek, immediately adjacent and southeast of the Lornex mine (092ISW045) (Assessment Report 5888).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Molybdenite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic-Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Quartz Monzonite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Ken showing is located at the headwaters of Skuhost Creek immediately southeast of the Lornex mine (092ISW045).

Chalcopyrite, bornite and molybdenite is reported to occur as thin veneers on joint and fracture faces in Bethsaida phase quartz monzonites of the Early Jurassic-Late Triassic Guichon Creek batholith.

BIBLIOGRAPHY

EMPR ASS RPT 4980, *5888
EMPR BULL 56; 62
EMPR GEM *1974-132
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/30
DATE REVISED: 1991/04/17

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW067**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASHCROFT**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

Underground

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 38 N
LONGITUDE: 121 17 53 W
ELEVATION: 274 Metres

NORTHING: 5594929
EASTING: 620716

LOCATION ACCURACY: Within 500M

COMMENTS: Adit just up from Highway 1 along the Thompson River, about 8 kilometres north of the community of Spences Bridge (Assessment Report 21031).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Volcanic

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

LITHOLOGY: Andesite Volcaniclastic
Andesite
Argillite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Thompson Plateau

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Ashcroft showings comprise a series of milky quartz veins striking 140 degrees and dipping between 60 to 70 degrees northwest. They occur in shear zones in Upper Triassic Nicola Group andesite volcaniclastics and argillites near a contact with granitic rock. The veins pinch and swell and vary from 5 centimetres to 1.8 metres wide; one vein, 60 centimetres wide, was drifted along by a decline. Eleven veins have been found (Minister of Mines Annual Report 1933). Minor euhedral pyrite occurs along small cracks in the veins. In some faulted zones there is abundant limonite.

In 1933, the Ashcroft group of twenty-seven claims were optioned to Rufus Argenta Mines, Limited who carried out exploration work consisting of opencuts, trenches and tunnels followed by diamond drilling. Development work was done on the lower series of veins only. The owners stated that gold values were obtained in all exposures although samples taken from exposed faces yielded only traces of gold. In 1989-90, work done on behalf of J. Fleishman consisted of locating the old workings and rock sampling; samples did not yield significant results.

BIBLIOGRAPHY

EMPR AR 1931-A114; *1933-A183
EMPR ASS RPT 21031
EMPR BULL *1 (1932), pp. 69,70
EMPR FIELDWORK 1981, pp. 270,271
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 165; 866; 980
GSC P 46-8; 47-10; 69-23; 73-1A, p. 212; 74-49; 81-1A, pp. 185-189,
217-222; 82-1A, pp. 293-297; 85-1A, pp. 349-358
CJES Vol.15, No.1 (January 1978), pp. 99-116

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 913
REPORT: RGEN0100

BIBLIOGRAPHY

Grette, J.F. (1978): Cache Creek and Nicola Groups near Ashcroft,
British Columbia, M.Sc. Thesis, University of British Columbia

DATE CODED: 1985/07/24
DATE REVISED: 1998/09/10

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW068**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAD**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 15 35 N
LONGITUDE: 121 33 50 W
ELEVATION: 330 Metres

NORTHING: 5568495
EASTING: 602364

LOCATION ACCURACY: Within 500M

COMMENTS: Drill hole, 3.5 kilometres northeast of Lytton (Assessment Report 6118).

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Uraninite
ALTERATION: Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Triassic

GROUP

Pasayten

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Mount Lytton Complex

LITHOLOGY: Hematitic Sandstone
Shale
Granodiorite

HOSTROCK COMMENTS: Pasayten Group is correlative with the Spences Bridge Group.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Methow

Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Rad occurrence area is underlain by Triassic Mount Lytton Complex dioritic intrusives and Lower-Middle Cretaceous Pasayten Group (correlative with the Spences Bridge Group) mafic volcanics, shales, arkose and conglomerate. Major faults lie along Botanie Creek and the Fraser River. Uranium mineralization occurs in sheared, hematitic sandstone adjacent to a shale unit and a granodiorite contact. A sample from the area assayed 0.038 per cent uranium (George Cross News Letter #107, 1976).

BIBLIOGRAPHY

EMPR ASS RPT *6118, 6131, 6590
EMPR EXPL 1976-91
EMPR OF 1990-32
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 551; 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358
GCNL #95, #107, 1976
N MINER Apr.8, 1976, p. 21

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/20

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW069**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOREX**, BEAR 19

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 25 16 N
LONGITUDE: 121 04 43 W
ELEVATION: 1675 Metres

NORTHING: 5587218
EASTING: 636489

LOCATION ACCURACY: Within 500M

COMMENTS: Old trenches, 1.7 kilometres north of the east end of Pimainus Lakes
(Assessment Report 2814).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite Malachite Chalcopyrite

COMMENTS: Trace amounts.

ALTERATION: Chlorite Sericite Kaolinite K-Feldspar Epidote
Calcite Malachite Limonite

ALTERATION TYPE: Argillic Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Quartz Monzonite
Granodiorite
Aplite Dike

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Lorex showing is located in old trenches 1.7 kilometres north of the east end of Pimainus Lakes. It lies within the central core of the Late Triassic-Early Jurassic Guichon Creek batholith and is underlain by Bethsaida phase quartz monzonite to granodiorite. This rock is slightly porphyritic, coarse grained and characteristically contains large books of biotite and subrounded quartz phenocrysts. The Bethsaida rocks are intruded by pink aplite dykes 5 to 10 centimetres wide, many of which trend north.

Hydrothermal alteration is generally weak. There is a weak epidote-calcite zone in the northern part of the property. Very weak argillization, consisting of chlorite, sericite and kaolinite, is widespread. Some minor secondary potassium feldspar is reported.

Copper mineralization on the Lorex 105, 107, 109, 112, and 134 claims consists of trace amounts of bornite, malachite and chalcopyrite associated with weak argillic alteration. Sulphides occur as thin coatings on fracture planes (Assessment Report 5888).

BIBLIOGRAPHY

EMPR AR 1968-175,279
EMPR ASS RPT 1248, 2812, *2814, *5888
EMPR BULL 56; 62
EMPR EXPL 1976-E92; 1977-E143
EMPR GEM 1970-349
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 916
REPORT: RGEN0100

BIBLIOGRAPHY

University of British Columbia

DATE CODED: 1987/03/31
DATE REVISED: 1991/04/15

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW070**

NATIONAL MINERAL INVENTORY:

NAME(S): **LL**, TC, ALL

STATUS: Showing

MINING DIVISION: Kamloops

REGIONS:

NTS MAP: 092106E

UTM ZONE: 10 (NAD 83)

BC MAP:

LATITUDE: 50 20 04 N

NORTHING: 5577612

LONGITUDE: 121 03 44 W

EASTING: 637904

ELEVATION: 1460 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop near a tributary creek on the west side of Skuhost Creek and approximately 2.5 kilometres upstream of Skuhost Creek (Assessment Report 6352).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcocite Bornite

ASSOCIATED: Quartz

ALTERATION: K-Feldspar Chlorite Epidote Malachite

ALTERATION TYPE: Potassic Chloritic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork

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>
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Hornblende Augite Biotite Granodiorite

HOSTROCK COMMENTS: Guichon variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The LL showing is located near a tributary creek on the west side of Skuhost Creek, approximately 2.5 kilometres upstream from Skuhost Creek.

The area is underlain by Guichon variety granodiorites of the Early Jurassic-Late Triassic Guichon Creek batholith (Map 30). Locally, northeast striking fracture systems cut hornblende-augite-biotite granodiorite. Potassium feldspar, epidote and chlorite alteration is common within a fracture system. Chalcocite, minor bornite, quartz and secondary malachite occur in veinlets and as fracture-fillings.

BIBLIOGRAPHY

EMPR ASS RPT *6352, 14231
EMPR BULL 56; 62
EMPR EXPL 1985-CI93
EMPR GEM 1975-E81; *1977-E143
EMPR MAP *30
EMPR PF (Morgan, D.R. (1976): A Geological Report on the 15 Claim Property of All Star Resources Ltd. in All Star Resources Ltd. Prospectus, October 1, 1976; Memos, sketch and claim maps)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/31
DATE REVISED: 1991/03/28

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW071**

NATIONAL MINERAL INVENTORY: 092I4 Ni1

NAME(S): **KEEFERS**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 00 01 N
LONGITUDE: 121 32 51 W
ELEVATION: 370 Metres

NORTHING: 5539672
EASTING: 604094

LOCATION ACCURACY: Within 500M

COMMENTS: Old opencuts on the north side of Nahatlatch River, 2.4 kilometres southwest of Keefers and 27 kilometres south of Lytton (Open File 1986-7).

COMMODITIES: Copper Nickel Cobalt Platinum Palladium

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ladner	Undefined Formation	
Paleozoic-Mesozoic	Bridge River	Undefined Formation	

LITHOLOGY: Argillite
Slate
Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow
METAMORPHIC TYPE: Regional
COMMENTS: Lower greenschist facies

PHYSIOGRAPHIC AREA: Pacific Ranges
Bridge River
RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1955
SAMPLE TYPE: Rock
COMMODITY GRADE

Cobalt	0.1500	Per cent
Copper	1.4200	Per cent
Nickel	2.2400	Per cent
Palladium	0.7890	Grams per tonne
Platinum	3.7700	Grams per tonne

COMMENTS: Described only as a representative sample sent to Sudbury for assay.
REFERENCE: National Mineral Inventory 92I/4 Ni1.

CAPSULE GEOLOGY

The Keefers showing is located in old opencuts north of the Nahatlatch River, 2.4 kilometres southwest of Keefers. The area is underlain by Lower and Middle Jurassic Ladner Group metasediments comprising argillite, slate and phyllite. These occur in normal contact with a northwest trending belt of lower greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists. The showings were staked by D. Pride in 1954 then optioned to Northwest Ventures in 1955. Opencutting, surface work and diamond drilling are reported. A representative sample sent to Sudbury is reported to have assayed 1.42 per cent copper, 2.24 per cent nickel, 0.15 per cent cobalt, 3.77 grams per tonne platinum and 0.79 gram per tonne palladium (National Mineral Inventory 92I/4 Ni1).

BIBLIOGRAPHY

EM GEOFILE 2000-2; 2000-5
EMPR OF *1986-7, p. 21
EMR MP CORPFILE (Northwest Ventures Ltd.)
GSC MAP 1010A; 1386A; *42-1989

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 919
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1987/03/31
DATE REVISED: 1991/03/11

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW072**

NATIONAL MINERAL INVENTORY:

NAME(S): **ORLEAN**, PAQUET

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 18 40 N
LONGITUDE: 121 38 35 W
ELEVATION: 200 Metres

NORTHING: 5574103
EASTING: 596618

LOCATION ACCURACY: Within 500M

COMMENTS: Roadcut, 11.7 kilometres north of Lytton on the Lillooet highway
(Minister of Mines Annual Report 1955).

COMMODITIES: Uranium Copper

MINERALS

SIGNIFICANT: Metazeunerite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 2 x 1 Metres
COMMENTS: Slate bed. STRIKE/DIP: 310/50E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Undefined Formation	

LITHOLOGY: Slate
Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Pavilion Ranges
TERRANE: Quesnel

CAPSULE GEOLOGY

The Orlean showing is located in a roadcut 11.7 kilometres north of Lytton on the Lillooet highway.
The area is underlain by Triassic Mount Lytton Complex dioritic intrusives and Middle and Upper Cretaceous Spences Bridge Group volcanics, slates and sandstone. Major faults lie along the Fraser River. A shear zone striking 130 degrees and dipping 50 degrees northeast, lies within black slate which lies within massive reddish sandstone. Malachite and azurite occur in fractures within slate. Uranium is reported to occur as metazeunerite (Geological Survey of Canada Economic Geology 16). A sample assayed 0.0045 per cent uranium oxide equivalent (Minister of Mines Annual Report 1955).

BIBLIOGRAPHY

EMPR AR *1955-33
EMPR MAP 22; 39
GSC EC GEOL *16 (Rev.), p. 234
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 551; 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/20

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW073**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAR FR., JDG**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 26 18 N
LONGITUDE: 121 02 02 W
ELEVATION: 1630 Metres

NORTHING: 5589216
EASTING: 639615

LOCATION ACCURACY: Within 500M

COMMENTS: Diamond drill-hole 192, immediately adjacent and southeast of the Lornex mine (092ISW045) (Assessment Report 8829).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Molybdenite Pyrite

COMMENTS: Trace.

ALTERATION: Sericite Kaolinite Chlorite Epidote Quartz

Hematite Limonite

ALTERATION TYPE: Argillic Propylitic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal Porphyry

TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Granodiorite
Quartz Diorite

HOSTROCK COMMENTS: Bethsaida phase, Skeena variety.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Copper

0.0100

Per cent

Molybdenum

0.0010

Per cent

COMMENTS: Sample over 3 metres.

REFERENCE: Assessment Report 8829.

CAPSULE GEOLOGY

The Bear Fr. occurrence area is entirely underlain by Bethsaida phase granodiorite of the Early Jurassic-Late Triassic Guichon Creek batholith. A vertical diamond drill-hole (192) is reported to have encountered mostly Skeena variety coarse-grained quartz diorite with varying intensities of argillic and locally intense propylitic alteration. Alteration minerals include sericite, kaolinite, chlorite, epidote, quartz, hematite and limonite. Only trace amounts of chalcopyrite, molybdenite and pyrite were reported. Copper and molybdenum assayed 0.01 and 0.001 per cent respectively over 3 metres (Assessment Report 8829). No surface mineralization is described.

Percussion and diamond drilling to the south and east on Bear 5, 9, 10, 13-18 claims encountered little to no mineralization.

BIBLIOGRAPHY

EMPR ASS RPT 1248, 2812, 2814, *8829, 9071, 9685
EMPR BULL 56; 62
EMPR EXPL 1976-E91; 1980-223
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 922
REPORT: RGEN0100

BIBLIOGRAPHY

CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1991/04/16
DATE REVISED: 1991/04/16

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW074**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUNE**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 14 48 N
LONGITUDE: 121 28 38 W
ELEVATION: 340 Metres

NORTHING: 5567166
EASTING: 608571

LOCATION ACCURACY: Within 500M

COMMENTS: Old adit just south of the Thompson River on Gladwin Creek (Bulletin 1).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Sulphide

ASSOCIATED: Pyrite Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Epigenetic Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic			Mount Lytton Complex

LITHOLOGY: Altered Volcanic Rock
Quartz Felsite Dike
Dioritic Rock
Layered Quartzofeldspathic Rock
Amphibolite
Mylonite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The June showing is located just south of the Thompson River on Gladwin Creek.

The area is underlain by Triassic Mount Lytton Complex intrusives comprising dioritic and layered quartzofeldspathic rocks, mylonite and amphibolite. Faulting and fracturing is common in this area with extensive quartz and disseminated pyrite. Gold is reported to have been found in an 80 metre adit tunnelled into white, glassy quartz in an altered volcanic formation close to a granitic contact and intersected by a series of quartz felsite dykes (Bulletin 1).

BIBLIOGRAPHY

EMPR AR 1931-A114
EMPR BULL *1 (1932), pp. 70,71
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/12

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW075**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHRIS**, BO, JAE,
LF

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06E
BC MAP:
LATITUDE: 50 24 33 N
LONGITUDE: 121 02 22 W
ELEVATION: 1600 Metres

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

NORTHING: 5585962
EASTING: 639306

LOCATION ACCURACY: Within 500M
COMMENTS: Drill holes and trenches, 1.5 kilometres northeast of the last of the Pimainus Lakes and 500 metres west of Skuhost Creek (Minister of Mines Annual Report 1966).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Bornite
COMMENTS: Trace.
ASSOCIATED: Sericite Quartz
ALTERATION: Sericite Quartz
ALTERATION TYPE: Sericitic Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic-Jurassic			Guichon Creek Batholith

LITHOLOGY: Quartz Diorite
Granodiorite

HOSTROCK COMMENTS: Bethsaida phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Chris occurrence area is underlain by Early Jurassic-Late Triassic Guichon Creek batholith Bethsaida phase quartz diorites and granodiorites. Trenches expose local strongly sheared, altered, weathered granodiorite with some quartz-sericite veins and traces of bornite. Argillic material was reported in faults.

BIBLIOGRAPHY

EMPR AR 1965-151; *1966-160,161; 1969-250
EMPR ASS RPT 2277
EMPR BULL 56; 62
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1991/04/30
DATE REVISED: 1991/05/02

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW076**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER CANYON**, DUKE, S.O.S.,
EAGLE, TT, MINE,
MIME

MINING DIVISION: Nicola

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 10 23 N
LONGITUDE: 121 12 16 W

NORTHING: 5559421
EASTING: 628207

ELEVATION: 1576 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: The approximate location of the main showing, 1300 metres southeast of Mimenuh Mountain and 500 metres north of Copper Creek Canyon (Assessment Report 20912).

COMMODITIES: Copper Silver Gold

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Cretaceous Spences Bridge Spius Creek

LITHOLOGY: Biotite Feldspar Porphyry
Andesite Flow
Dacite Flow
Rhyolite Flow
Intermediate Volcaniclastic
Sandstone

HOSTROCK COMMENTS: The middle to Late Cretaceous Spius Creek Formation was formerly known as the Kingsvale Group.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1962
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Copper 0.6300 Per cent
COMMENTS: A 57.91-metre interval from drillhole #4, drilled in 1962 or 1963 by Hurley River Gold Mines.
REFERENCE: Assessment Report 20912.

CAPSULE GEOLOGY

The Copper Canyon prospect is located on the eastern slopes of Mimenuh Mountain at the headwaters of Nuaitch Creek, 15.2 kilometres northwest of Canford.

The mining history of the region has focused on the Highland Valley camp, 32 kilometres to the north-northeast. The Copper Canyon claims were initially staked in the early 1960s by L. Fournier. The claims were optioned to Amalgamated Resources and later to Hurley River Gold Mines in 1962. Between 1962 and 1963, Hurley River Gold Mines drilled 12 holes totalling approximately 1524 metres around Copper Canyon Creek. Geological mapping, soil sampling and magnetic and electromagnetic surveys were also completed. In 1964, a magnetic geophysical survey was carried out. In 1965, it is reported that a comprehensive review and diamond drill program were carried out. In 1969, New Cinch Uranium Mines Ltd. conducted geochemical soil

CAPSULE GEOLOGY

and magnetometer survey. In 1979, the ground was restaked as the Duke claims by T.D. Lewis. Noranda Exploration Co. Ltd. performed geological mapping, soil geochemistry, electromagnetic and magnetic geophysical surveys in 1980. In 1990, the Mime claims were staked by United Mineral Services Ltd. Geological mapping, rock sampling, soil sampling and stream sediment sampling were conducted.

Regionally, the Copper Canyon Creek prospect area is underlain by a succession of Paleozoic to Tertiary volcanic and sedimentary rocks that have been intruded by Triassic to Jurassic granodiorite intrusions. The oldest rocks in the area are chert, argillite, altered volcanic rocks and limestone of the Permian Cache Creek Group. The Upper Triassic Nicola Group consists of felsic to mafic volcanics, mafic flows, argillite, chert, greywacke and limestone that has been contact metamorphosed by the Guichon batholith. The Cretaceous Spences Bridge Group consists predominantly of andesite, dacite and rhyolite flows; local volcanics and minor sandstone. The Cretaceous Kingsvale Group, underlying the Copper Canyon Creek prospect and unconformably overlying the Spences Bridge Group, consists mostly of basaltic and andesitic flows, locally amygdaloidal. Intrusions range in age from Triassic to Early Cretaceous and in composition from granite to diorite, averaging granodiorite. The Eocene Kamloops Group consists of basalt, andesite, dacite and rhyolite flows with minor tuffs and sediments. The Guichon Creek and Mount Lytton batholiths comprise the bulk of intrusive rocks in the area.

The Copper Canyon Creek prospect is underlain by middle and Upper Cretaceous Kingsvale Group mafic volcanics (redefined to the Spius Creek Formation of the Spences Bridge Group; Geological Survey of Canada Map 42-1989). Occasional outliers of the Eocene Kamloops Group within the Spences Bridge Group comprise volcanic flows, breccias and porphyritic rhyolites. The Kamloops Group consists predominantly of massive, fine grained basalt, amygdaloidal basalt flows and flow breccias. Amygdules are commonly filled with chalcedony rimmed with (celadonite?). Fine to medium grained, biotite feldspar porphyry is exposed in four main areas and are interpreted as feeder dikes and/or sills of the overlying Kamloops Group volcanics. A fault is inferred along Copper Canyon Creek. This fault and related fractures were conduits for quartz veins and mineralization hosted in biotite feldspar porphyry.

The Main showing, located along drill road No. 2, is a sheeted shear zone 3 to 4 metres wide, hosting a quartz vein stockwork with disseminated chalcopyrite, pyrite and magnetite with minor malachite and azurite. Mineralization occurs in the centre of the veins and is enveloped by silicification and pyritization up to 10 centimetres width. Veins vary in width. Volcanics close to the stockwork show weak propylitic alteration of the groundmass.

Significant drillhole intersections from the Hurley River Gold Mines drill program in 1962 and 1963 were as follows (Assessment Report 20912):

Hole #	Intersection (metres)	Interval (metres)	Copper (%)
1	0.00 - 80.77	80.77	0.22
2	74.68 - 126.49	51.82	0.55
3	6.10 - 29.87	23.77	0.60
4	8.53 - 66.45	57.91	0.63
6	18.29 - 51.82	33.53	0.61

Several rock samples taken in 1990 yielded anomalous results. From the Main showing area, grab sample MR-5 yielded greater than 1 per cent copper, 3.2 grams per tonne silver and 0.34 gram per tonne gold (Assessment Report 20912). Grab sample MR-5B yielded 0.55 per cent copper, 6.9 grams per tonne silver and 0.28 gram per tonne gold. The best chip sample (Sample MIM90-A20R) across 3.3 metres yielded 0.09 per cent copper. Sample MR-9, taken 200 metres northeast of Mimenuh Mountain, yielded 1 per cent copper, 50 grams per tonne silver and 0.08 gram per tonne gold. Four copper soil anomalies were outlined in the drill road area surrounding the Main showing.

BIBLIOGRAPHY

- EMPR AR 1965-155
- EMPR ASS RPT 613, 2122, 2123, *8152, *20912
- EMPR EXPL 1980-221
- EMPR GEM 1969-273
- GSC MAP 1010A; 1386A; *42-1989
- GSC MEM *262, pp. 66,67
- GSC OF 980
- GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358
- CIM Vol.64, May 1971, pp. 37-61

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 927
REPORT: RGEN0100

BIBLIOGRAPHY

STOCKWATCH Nov.15, 2001
WWW <http://www.infomine.com/>

DATE CODED: 1987/03/31
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW077**

NATIONAL MINERAL INVENTORY:

NAME(S): **PI**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092106E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 28 07 N
LONGITUDE: 121 13 49 W
ELEVATION: 1064 Metres

NORTHING: 5592231
EASTING: 625590

LOCATION ACCURACY: Within 1 KM

COMMENTS: Old grid, 27 kilometres south of Ashcroft. Location is very uncertain in description given. The Toketic showing (092ISW046) was included in the claims (Assessment Report 2244).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Undefined Formation	Guichon Creek Batholith
Triassic-Jurassic			

LITHOLOGY: Quartz Diorite

HOSTROCK COMMENTS: Border phase.

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Pi showing is located on an old grid about 27 kilometres south of Ashcroft. The exact location is uncertain but it is known that the claims incorporated the Toketic showing (092ISW046). The claims straddled the contact between the Early Jurassic-Late Triassic Guichon Creek batholith Border phase quartz diorites and Middle and Upper Cretaceous Spences Bridge Group volcanics (mapped as Upper Triassic Nicola Group on Geological Survey of Canada Map 42-1989). Hematite with minor chalcopyrite occur in a shear zone within quartz diorites.

BIBLIOGRAPHY

EMPR ASS RPT *2244
EMPR BULL 56; 62
EMPR GEM 1970-347
EMPR MAP *30
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The University of British Columbia

DATE CODED: 1987/03/31
DATE REVISED: 1991/03/19

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW078**

NATIONAL MINERAL INVENTORY:

NAME(S): **VAN WINKLE BAR**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 16 00 N
LONGITUDE: 121 36 23 W
ELEVATION: 145 Metres

NORTHING: 5569210
EASTING: 599321

LOCATION ACCURACY: Within 500M

COMMENTS: Black sands of Van Winkle Bar on the Fraser River, 3 kilometres northwest of Lytton (Open File 1986-7).

COMMODITIES: Platinum Iridium

MINERALS

SIGNIFICANT: Platinum Iridium

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Sand
Volcanic Rock
Sediment/Sedimentary Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Pavilion Ranges

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Bulk Sample
COMMODITY: Platinum

YEAR: 1934

GRADE: 5681.1000 Grams per tonne

REFERENCE: Open File 1986-7.

CAPSULE GEOLOGY

The Van Winkle Bar showing is located on the Fraser River, 3 kilometres northwest of Lytton.

Platinum and iridium occur in the black sands of Van Winkle Bar. Source rocks are believed to be Carboniferous-Jurassic Cache Creek Complex (Group) volcanic and sedimentary rocks to the north.

BIBLIOGRAPHY

EM FIELDWORK 2001, pp. 303-312
EM GEOFILE 2000-2; 2000-5
EMPR OF *1986-7, pp. 17,67
GSC EC GEOL 13 (1934), p. 101
GSC MAP 42-1989

DATE CODED: 1991/05/07
DATE REVISED: 1991/06/12

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW080**

NATIONAL MINERAL INVENTORY:

NAME(S): **GYPSUM**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 14 N
LONGITUDE: 121 16 54 W
ELEVATION: 350 Metres

NORTHING: 5594215
EASTING: 621895

LOCATION ACCURACY: Within 1 KM

COMMENTS: Near the mouth of Inkikuh Creek. The location is uncertain from the description given (Geological Survey of Canada Memoir 262).

COMMODITIES: Gypsum

MINERALS

SIGNIFICANT: Gypsum Selenite
ALTERATION: Silica Pyrite
ALTERATION TYPE: Silicific'n Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Industrial Min. Hydrothermal
TYPE: F09 Playa and Alkaline Lake Evaporites

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Triassic-Jurassic

GROUP

Cache Creek

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY: Gypsum
Meta Sediment/Sedimentary Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The location of the Gypsum showing is described only as near the mouth of the Inkikuh Creek, a tributary of the Thompson River.

Gypsum nodules and widely spaced selenite stringers occur in silicified and pyritized Carboniferous-Jurassic Cache Creek Complex (Group) metasediments close to the contact with the Early Jurassic-Late Triassic Guichon Creek batholith. These metasediments could be Upper Triassic Nicola Group rocks (see Geological Survey of Canada Map 42-1989).

The gypsum is reported to be now caved and buried in slide material. The highest assay, obtained in 1941, was 21.48 per cent gypsum (Geological Survey of Canada Memoir 262).

BIBLIOGRAPHY

GSC MAP 1010A; 1386A; *42-1989
GSC MEM *262, p. 110
GSC P 46-8; 47-10

DATE CODED: 1987/03/31
DATE REVISED: 1991/03/20

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW081**

NATIONAL MINERAL INVENTORY:

NAME(S): **CANFORD**

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 09 16 N
LONGITUDE: 121 01 17 W
ELEVATION: 600 Metres

NORTHING: 5557677
EASTING: 641341

LOCATION ACCURACY: Within 1 KM

COMMENTS: Outcrop, north of the Merritt-Spences Bridge road, 1.5 kilometres west of Canford (CANMET Report 714-69). Location is uncertain from the description given.

COMMODITIES: Gypsum

MINERALS

SIGNIFICANT: Gypsum
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Industrial Min. Hydrothermal
TYPE: F02 Bedded gypsum

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP
Upper Triassic Nicola

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gypsite
Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The location of the Canford showing is described only as north of the Merritt-Spences Bridge Road, 1.5 kilometres west of Canford. Rocks in the area are Upper Triassic Nicola Group volcanics. Gypsite, as much as 2 metres thick, underlies an area 280 metres long and 65 metres wide. British Columbia Cement Company shipped over 0.9 tonnes from the deposit in 1926.

BIBLIOGRAPHY

GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 46-8; 47-10
CANMET RPT *714-69

DATE CODED: 1987/03/31
DATE REVISED: 1991/03/21

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW082**

NATIONAL MINERAL INVENTORY:

NAME(S): **PROSPECT CREEK**, PEARL

MINING DIVISION: Nicola

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 00 48 N
LONGITUDE: 121 04 05 W
ELEVATION: 760 Metres

NORTHING: 5541901
EASTING: 638414

LOCATION ACCURACY: Within 500M

COMMENTS: Perlite layer on the west bank of Prospect Creek, approximately 0.8 kilometres from its confluence with Spius Creek (Assessment Report 13336).

COMMODITIES: Perlite

MINERALS

SIGNIFICANT: Perlite
MINERALIZATION AGE: Cretaceous

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Volcanogenic Industrial Min.
TYPE: R12 Volcanic glass - perlite
SHAPE: Tabular
DIMENSION: 6 x 3 Metres

STRIKE/DIP: 030/40E TREND/PLUNGE: /

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Cretaceous	Spences Bridge	Spius Creek	

LITHOLOGY: Perlite
Rhyolite
Andesite
Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Prospect Creek showing is located on the west bank of Prospect Creek, approximately 0.8 kilometres from its confluence with Spius Creek.

The area is underlain by Middle and Upper Cretaceous Kingsvale Group mafic volcanics (redefined to the Spius Creek Formation of the Spences Bridge Group; Geological Survey of Canada Map 42-1989). Rocks close to the showing comprise volcanic breccia and aphanitic, amygdaloidal, vesicular, porphyritic and spherulitic andesites and basalts.

Two parallel amber to brown perlite layers are exposed over 6 by 3 metres and separated by spherulitic, glassy rhyolite (possibly dykes or chilled contact zones) striking 030 degrees and dipping 40 to 60 degrees southeast (Assessment Report 13336). Another two metre wide perlite layer is exposed 30 metres to the south (upslope). Perlite layers are terminated by flat-lying andesite.

Perlite displays pitchy lustre and contains scattered feldspar and quartz crystals and spherules.

BIBLIOGRAPHY

EMPR AR 1954-A185
EMPR ASS RPT 11852, *13336
EMPR EXPL 1983-270; 1984-203
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/07

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW083**

NATIONAL MINERAL INVENTORY:

NAME(S): **LYTTON GEMS**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 14 03 N
LONGITUDE: 121 35 07 W
ELEVATION: 140 Metres

NORTHING: 5565625
EASTING: 600894

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in gravel bars of the Fraser River at Lytton (Canadian Rockhound, August 1964).

COMMODITIES: Jade/Nephrite Agate Garnet Gemstones

MINERALS

SIGNIFICANT: Jade Agate Garnet Jasper
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Unknown Unnamed/Unknown Group Unnamed/Unknown Formation

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Methow

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

Nephrite (jade) boulders, agate, garnet and jasper pebbles are found in Fraser River gravels at Lytton. The source is unknown. No other information is available.

BIBLIOGRAPHY

GSC MAP 1010A; 42-1989
GSC MEM *262, p. 110
GSC OF 980
GSC P 46-8; 47-10
Canadian Rockhound *Nov. 1964, pp.12,17,18

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/08

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW084**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAW SPRINGS GEMS**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 17 40 N
LONGITUDE: 121 19 28 W
ELEVATION: 1030 Metres

NORTHING: 5572712
EASTING: 619344

LOCATION ACCURACY: Within 500M

COMMENTS: Located on a Nicoamen River tributary east of Shaw Springs Resort
(Canadian Rockhound, August 1966).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Cretaceous

GROUP

Spences Bridge

FORMATION

Spilus Creek

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Shaw Springs Gems occurrence consists primarily of banded agate nodules, many with plume, in various locations north (Drynoch slide) and east of Shaw Springs Resort. Black and grey agate nodules are found in and below basalt bluffs on a north tributary of Nicoamen River. The area is underlain by Middle and Upper Cretaceous Spences Bridge Group (Spilus Creek Formation) volcanics.

BIBLIOGRAPHY

GSC MAP 1010A; *42-1989
GSC P 46-8; 47-10; *72-53, pp. 32,33
Canadian Rockhound Nov. 1964, p. 17; *Aug. 1966, pp. 119-122
Lapidary Bulletin Aug. 1958; Nov. 1959
Western Homes & Living Oct. 1961, Guide to B.C. Rocks & Gems

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/08

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW085**

NATIONAL MINERAL INVENTORY:

NAME(S): **KANAKA BAR GEMS**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 07 11 N
LONGITUDE: 121 34 17 W
ELEVATION: 120 Metres

NORTHING: 5552919
EASTING: 602128

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the Kanaka Bar gravels (Canadian Rockhound, November 1964).

COMMODITIES: Agate

Gemstones

MINERALS

SIGNIFICANT: Agate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer

Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Gravel
Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Overlap Assemblage

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

Agate is reported to occur in the Kanaka Bar gravels. Source rocks are probably Middle and Upper Cretaceous Spences Bridge Group volcanics to the north in which several agate localities are known.

BIBLIOGRAPHY

GSC MAP 1010A; 42-1989
GSC P 46-8; 47-10; *72-53, pp. 32,33
Canadian Rockhound *Nov. 1964

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/08

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW086**

NATIONAL MINERAL INVENTORY:

NAME(S): **DIANE**, HARLEY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 20 55 N
LONGITUDE: 121 23 24 W
ELEVATION: 200 Metres

NORTHING: 5578631
EASTING: 614545

LOCATION ACCURACY: Within 1 KM

COMMENTS: On the east bank of the Thompson River in Goldpan Park, 8 kilometres south-southwest of Spences Bridge (Exploration in British Columbia 1977).

COMMODITIES: Copper Nickel

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous	Spences Bridge	Spius Creek	

LITHOLOGY: Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Diane showing is located in a drill hole on the east bank of the Thompson River in Goldpan Park, approximately 8 kilometres south-southwest of Spences Bridge.

The area is underlain by Middle and Upper Cretaceous Kingsvale Group volcanics. The Kingsvale Group has been redefined to the Spius Creek Formation of the Spences Bridge Group by the Geological Survey of Canada.

Calcite stringers occur in basalt. Trace copper and nickel are reported.

BIBLIOGRAPHY

EMPR EXPL *1977-E142
EMPR OF 1991-10
GSC MAP 42-1989

DATE CODED: 1991/05/01
DATE REVISED: / /

CODED BY: SNB
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW087**

NATIONAL MINERAL INVENTORY:

NAME(S): **PICA**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I03W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 04 39 N
LONGITUDE: 121 24 17 W
ELEVATION: 1220 Metres

NORTHING: 5548466
EASTING: 614142

LOCATION ACCURACY: Within 500M

COMMENTS: Roadcut east of Mowhokam Creek, approximately 22 kilometres southeast of Lytton and 11.1 kilometres northeast of the mouth of the creek (Assessment Report 11200).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Magnetite
ALTERATION: Epidote Feldspar Malachite
ALTERATION TYPE: Propylitic Potassic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 20 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Shear zones.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic			Mount Lytton Complex

LITHOLOGY: Granodiorite
Hornblende Quartz Diorite
Amphibolite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane PHYSIOGRAPHIC AREA: Cascade Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1982
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 6.8000 Grams per tonne
Copper 0.5800 Per cent
REFERENCE: Assessment Report 11200.

CAPSULE GEOLOGY

The Pica showing is located in a roadcut east of Mowhokam Creek, approximately 11.1 kilometres northeast of the mouth of the creek.

The area is underlain by Triassic Mount Lytton Complex dioritic rocks and amphibolites. Locally altered medium to coarse-grained granodiorite and hornblende quartz diorite are sheared and jointed near the showing. Joint sets strike northeast and northwest.

Mineralization appears structurally controlled. Propylitic and potassic alteration is typical within joint sets and shear zones with characteristic epidote, feldspar and malachite staining. Disseminated chalcopyrite, pyrite and magnetite occur in shear zones up to 20 metres wide. A rock sample (1982) assayed 0.58 per cent copper, 6.8 grams per tonne silver and 0.17 grams per tonne gold (Assessment Report 11200). The exact location of the sample is uncertain.

BIBLIOGRAPHY

EMPR ASS RPT *11200
EMPR EXPL 1982-197
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 938
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1985/08/29
DATE REVISED: 1991/02/13

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW088**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALICE (L.1073)**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I05E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 58 N
LONGITUDE: 121 42 02 W
ELEVATION: 650 Metres

NORTHING: 5594970
EASTING: 592158

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on Lot 1073 (Alice claim), 650 metres north of McGillivray Creek and east of the Fraser River (Fieldwork 1980).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Tennantite Chalcocite

COMMENTS: Possible chalcocite.

ALTERATION: Quartz

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Concordant

CLASSIFICATION: Unknown

DIMENSION:

STRIKE/DIP: 130/50N

TREND/PLUNGE:

COMMENTS: Volcanic rocks.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Unknown

Unnamed/Unknown Group

Unnamed/Unknown Formation

Mount Lytton Complex

Triassic

LITHOLOGY: Siliceous Dolomite Breccia
Siliceous Limestone
Basalt
Rhyolite
Diorite
Quartz Diorite
Quartz Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Alice claim (Lot 1073) is located 650 metres north of McGillivray Creek east of the Fraser River.

Two adits are mapped on the property where tennantite, with what appears to be secondary chalcocite veinlets, occurs as ribbon-like, 1 to 2 centimetre bands and discontinuous blebs concordant with host siliceous dolomite breccia. Dolomitic beds and siliceous limestone occur in basaltic to rhyolitic flows and flow breccias. In general, the tennantite occurs within 30 centimetres of the dolomite-volcanic rock contact. Volcanic sequences strike 130 degrees and dip 50 degrees northeast. Tight drag folds and faults occur in the carbonates.

The volcanic sequence is in sinuous contact with Triassic Mount Lytton Complex diorite and quartz diorite. Quartz-feldspar porphyry dykes intrude all rock types.

BIBLIOGRAPHY

EMPR FIELDWORK *1980, p.115
GSC MAP 1010A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358
CIM Vol.64, May 1971, pp. 37-61

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/20

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW089**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARION**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092103W
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 12 59 N
LONGITUDE: 121 29 20 W
ELEVATION: 1550 Metres

NORTHING: 5563783
EASTING: 607808

LOCATION ACCURACY: Within 500M

COMMENTS: Drill hole PDH 82-2, 3.4 kilometres south-southeast of Gladwin, south of the Thompson River (Assessment Report 10881).

COMMODITIES: Copper Molybdenum

MINERALS

SIGNIFICANT: Chalcopyrite Bornite Pyrite Molybdenite
ASSOCIATED: Quartz
ALTERATION: Chlorite Hematite Limonite Cuprite Malachite
Kaolinite Sericite
ALTERATION TYPE: Chloritic Oxidation Leaching
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Disseminated Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L04 Porphyry Cu ± Mo ± Au
DIMENSION: 200 x 15 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Steeply dipping, southeast striking shear zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic Mount Lytton Complex

LITHOLOGY: Chlorite Altered Diorite
Quartz Diorite
Amphibolite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Marion showing is located in one of two percussion drill holes 3.4 kilometres south-southeast of Gladwin, south of the Thompson River.

The area is underlain by Triassic Mount Lytton Complex intrusives comprising diorites, quartz diorites and amphibolites. Steeply dipping, southeast striking shear zones and fractures are extensive. Dioritic host rocks have been chlorite altered and intense oxidation and leaching are typical within shear zones. Characteristic alteration minerals are chlorite, hematite, sericite and kaolin. Oxidation minerals include limonite, cuprite and malachite. Shear zones up to 15 metres wide in drill core and traced for 200 metres, host quartz veins which carry locally disseminated bornite and malachite. Pyrite, chalcopyrite and molybdenite were reported, but not defined in drill logs (Assessment Report 10881).

BIBLIOGRAPHY

EMPR ASS RPT *10881
EMPR EXPL 1982-196
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/03/31
DATE REVISED: 1991/02/13

CODED BY: AFW
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW090**

NATIONAL MINERAL INVENTORY:

NAME(S): **NATCH**, LATCH, GOLD RIDGE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

MINING DIVISION: New Westminster

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 01 31 N
LONGITUDE: 121 36 17 W
ELEVATION: 820 Metres

NORTHING: 5542374
EASTING: 599941

LOCATION ACCURACY: Within 500M

COMMENTS: Drillhole GL84-1, 2.2 kilometres north of Nahatlatch River on the west bank of an unnamed creek (locally known as Goldenlatch Creek), 5 kilometres west of Keefers (Assessment Report 13634).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite Arsenopyrite
ASSOCIATED: Quartz
ALTERATION: Chlorite Biotite K-Feldspar Ankerite Carbonate
Talc Microcline Actinolite

COMMENTS: Albite is also present.

ALTERATION TYPE: Chloritic Potassic Carbonate Silicific'n Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Stratabound
CLASSIFICATION: Hydrothermal Epigenetic Skarn
TYPE: I01 Au-quartz veins I06 Cu±Ag quartz veins
K04 Au skarn
DIMENSION: 310 x 160 x 50 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Six diamond-drill holes have tested the structure over 310 metres along strike and to a depth of 160 metres. The shear zone is 50 metres wide.

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	
Jurassic	Ladner	Undefined Formation	

LITHOLOGY: Micaceous Phyllite
Graphitic Phyllite
Phyllitic Schist
Microcline Actinolite Skarn
Dioritic Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional
Methow
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Pacific Ranges
GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Drill Core
COMMODITY
Silver 4.7000 Grams per tonne
Gold 4.0400 Grams per tonne
COMMENTS: Sample taken over 3.52 metres true width.
REFERENCE: Assessment Report 13634.

CAPSULE GEOLOGY

The Natch showing is located on an unnamed creek locally known as Goldenlatch Creek, which flows into Nahatlatch River 5 kilometres west of Keefers.

In 1936, H.C. Horwood briefly examined the geology of this region and reported prospectors working a gold showing. The property lay inactive until 1952, when S. Durfell and K.C. McTaggart conducted geological surveys in this region. In the late 1970s and 1980s, sporadic exploration was conducted in the area by junior exploration companies. The old gold showing was rediscovered in 1982. Between 1983 and 1985, Hudson Bay Exploration and Development Company Ltd.

CAPSULE GEOLOGY

conducted a series of exploration programs. An anomalous gold-bearing structure was outlined over the gold showing. Six diamond-drill holes tested the structure over 310 metres along strike and to a depth of 160 metres. The structure was found to carry subeconomic to economic gold at that time.

The area is underlain by a northwest trending belt of lower greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists. These occur in normal and fault contact with Bridge River serpentinitized ultramafics, and metasediments of the Lower and Middle Jurassic Ladner Group and the Upper Jurassic to Lower Cretaceous Relay Mountain Group. Late Cretaceous granitic plugs and dikes intrude all of the above units.

The showing is underlain by a thick sequence of monotonous micaceous and graphitic phyllites and phyllitic schists. The sequence typically has a north-northwest foliation and dips steeply. The sequence is in fault contact with a band of sheared talc and talcose serpentinite. Structurally, the phyllite and argillite schists host a number of subparallel, northwest trending shears, which are offset by major northeast trending faults.

The Natch gold zone occurs along a steep gully exposed in Latch Creek. The zone is mineralized and altered along a series of subparallel narrow shears. The 50-metre wide shear zone is ankerite-carbonate-talc altered with minor silicification and irregular quartz veinlets and shears crosscut and parallel schistosity. The shear tends to carry higher gold values whereas the quartz veins tend to carry only minor pyrite and arsenopyrite with low gold values. Altered and sulphide-bearing lenses up to 3 metres wide occur between quartz veins and shears. Pyrite and pyrrhotite with minor chalcopyrite and arsenopyrite comprise sulphides. Chlorite, biotite, potassium feldspar and albite comprise associated alteration minerals.

Interbedded bands of microcline-actinolite skarn, up to 4 metres wide, occur adjacent to intruding dioritic monzonite. Gold and silver values within the skarn are associated with arsenopyrite (Assessment Report 13634).

Drillhole GL84-1, drilled on the west bank of Goldenlatch Creek, 2.2 kilometres north of Nahatlatch River, yielded values of 4.04 grams per tonne gold and 4.7 grams per tonne silver over a true width of 3.52 metres (Assessment Report 13634).

Six continuous chip samples and one grab sample were taken in 1991. Some of the better results were obtained from samples LG90-1C and LG90-4. Sample LG90-1C was taken across oxidized limonite shears and narrow quartz veins. The sample yielded 9.0 grams per tonne silver and 1.23 per cent arsenic (Assessment report 21926). Sample LG90-4, taken from a highly oxidized shear zone with 2 to 4 centimetre seams of pyrite, yielded 56.8 grams per tonne silver, 1.90 per cent arsenic and 0.12 gram per tonne gold. Sample LG90-1A yielded 0.15 per cent copper.

BIBLIOGRAPHY

EMPR ASS RPT 10872, 11301, *13634, *21926
EMPR EXPL 1982-198; 1983-272; 1985-C192
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1987/03/31
DATE REVISED: 1997/07/30

CODED BY: AFW
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW091**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSYD**, BOTANIE

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 14 54 N
LONGITUDE: 121 34 19 W
ELEVATION: 200 Metres

NORTHING: 5567218
EASTING: 601815

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on the east bank of the Thompson River, approximately 1.6 kilometres north of Lytton (Minister of Mines Annual Report 1955).

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Unknown
ALTERATION: Ankerite Hematite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 45 Metres
COMMENTS: Limestone band.

STRIKE/DIP: 310/75S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Triassic

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Mount Lytton Complex

LITHOLOGY: Limestone
Biotite Granite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1955

SAMPLE TYPE: Grab

COMMODITY

GRADE

Uranium

0.0520

Per cent

REFERENCE: Minister of Mines Annual Report 1955.

CAPSULE GEOLOGY

The Rosyd showing is located in an adit on the east bank of the Thompson River, approximately 1.6 kilometres north of Lytton.

The area is underlain by Triassic Mount Lytton Complex dioritic intrusives and Middle and Upper Cretaceous Kingsvale Group volcanics and volcanoclastics. The Kingsvale Group is redefined to the Spius Creek Formation of the Spences Bridge Group (Geological Survey of Canada Map 42-1989). Limestone lenses occur within the volcanics. Major faults lie along the Fraser River.

A sheared limestone band lies within grey, biotite granite. Radioactive stringers with ankerite and hematite occur within the limestone. Shearing strikes 310 degrees and dips 75 degrees southwest. A sample assayed 0.052 per cent uranium (Minister of Mines Annual Report 1955). A 12 metre adit was driven in the limestone in 1955 but no uranium minerals were found.

BIBLIOGRAPHY

EMPR AR *1955-34
EMPR MAP 22; 39
EMPR OF 1990-32, p. 40
GSC EC GEOL 16 (Rev.), p. 234
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 551; 980

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 944
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10; 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1987/09/03
DATE REVISED: 1991/02/20

CODED BY: LDJ
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW092**

NATIONAL MINERAL INVENTORY:

NAME(S): **LYTTON BAR**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 14 58 N
LONGITUDE: 121 35 46 W
ELEVATION: 150 Metres

NORTHING: 5567309
EASTING: 600089

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the Lytton Bar black sands on the west side of the Fraser River, 1.6 kilometres north of the Fraser and Thompson rivers confluence (Minister of Mines Annual Report 1948).

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Uraninite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Quaternary Unnamed/Unknown Group

FORMATION
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Bulk Sample
COMMODITY

YEAR: 1948

Uranium

GRADE
0.1600 Per cent

COMMENTS: Equivalent uranium oxide.

REFERENCE: Minister of Mines Annual Report 1948.

CAPSULE GEOLOGY

The Lytton Bar showing is located in the Lytton Bar black sands on the west side of the Fraser River, 1.6 kilometres north of the Fraser and Thompson rivers confluence.

The black sands are radioactive. A concentrate assayed 0.16 per cent equivalent uranium oxide (Minister of Mines Annual Report 1948). Uraninite is the likely source of radioactivity (Geological Survey of Canada Economic Geology 16).

BIBLIOGRAPHY

EMPR AR *1948-180
EMPR MAP 22; 39
EMPR OF 1990-32
GSC EC GEOL 16, p. 45; 16 (Rev.), p. 234
GSC MAP 1010A; 42-1989
GSC MEM 262
GSC OF 551; 980
GSC P 46-8; 47-10; 81-1A, pp.185-189; 85-1A, pp. 349-358

DATE CODED: 1987/09/03
DATE REVISED: 1991/02/20

CODED BY: LDJ
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW093**

NATIONAL MINERAL INVENTORY:

NAME(S): **HANNA (EAST ZONE)**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 01 50 N
LONGITUDE: 121 32 43 W
ELEVATION: 395 Metres

NORTHING: 5543042
EASTING: 604188

LOCATION ACCURACY: Within 1 KM

COMMENTS: Trench on the north side of the lower reaches of Hanna Creek. The location is uncertain from the description and maps (Assessment Report 12028).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Arsenopyrite Gold
ASSOCIATED: Quartz
ALTERATION: Quartz Limonite Serpentine
ALTERATION TYPE: Silicific'n Oxidation Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: 150 x 5 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	
Jurassic-Cretaceous	Relay Mountain	Undefined Formation	

LITHOLOGY: Graphitic Phyllite
Siltstone
Mafic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Bridge River Methow
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Lower greenschist facies

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Rock
COMMODITY: Gold GRADE: 17.1000 Grams per tonne
COMMENTS: Highest gold assay.
REFERENCE: Assessment Report 12028.

CAPSULE GEOLOGY

The Hanna (East Zone) is located in the lower reaches of Hanna Creek. Recent trenching is reported on the north side of the creek but the exact location is uncertain.

The area is underlain by a northwest trending belt of lower greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists. These occur in normal and fault contact with Bridge River serpentinitized ultramafics, and metasediments of the Lower and Middle Jurassic Ladner Group and the Upper Jurassic-Lower Cretaceous Relay Mountain Group. Late Cretaceous granitic plugs and dykes intrude all of the above units.

The showing is underlain by highly foliated graphitic phyllite and fine-grained siltstone cut by a narrow fine-grained mafic dyke. A northwest trending shear zone, up to 3 metres wide and parallel to foliation, is locally silicified and sporadically mineralized. Siltstones are bleached close to shear zones.

Arsenopyrite occurs as disseminations and veinlets in quartz veins concordant to foliation and within narrow silicified shears.

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 947
REPORT: RGEN0100

CAPSULE GEOLOGY

The exposed strike length of the shear zone is 150 metres; widths vary from 2 to 5 metres. Fine visible gold is reported in small quartz stringers and oxidized arsenopyrite cavities.

Two samples of mineralized material assayed 0.4 and 17.1 grams per tonne gold respectively (Assessment Report 12028).

BIBLIOGRAPHY

EMPR ASS RPT *12028
EMPR EXPL 1983-271
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1991/03/06
DATE REVISED: 1991/06/12

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW094**

NATIONAL MINERAL INVENTORY:

NAME(S): **HANNA (WEST ZONE)**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 01 35 N
LONGITUDE: 121 33 53 W
ELEVATION: 790 Metres

NORTHING: 5542552
EASTING: 602804

LOCATION ACCURACY: Within 1 KM

COMMENTS: Trench in the upper reaches of Hanna Creek. The location is uncertain from the description and map (Assessment Report 12028).

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Argentite
ASSOCIATED: Quartz
ALTERATION: Limonite Serpentine Carbonate Talc
ALTERATION TYPE: Oxidation Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: 250 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized zone.

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	
Jurassic-Cretaceous	Relay Mountain	Undefined Formation	

LITHOLOGY: Graphitic Phyllite
Siltstone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River Methow
METAMORPHIC TYPE: Regional RELATIONSHIP: PHYSIOGRAPHIC AREA: Pacific Ranges
COMMENTS: Lower greenschist facies GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Rock
COMMODITY: Silver GRADE
256.7000 Grams per tonne
COMMENTS: Highest silver assay.
REFERENCE: Assessment Report 12028.

CAPSULE GEOLOGY

The Hanna (West Zone) showing is located in trenches in the upper reaches of Hanna Creek, approximately 2.4 kilometres northwest of Keefers. The location is uncertain from the descriptions and maps (Assessment Report 12028).

The area is underlain by a northwest trending belt of lower greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists. These occur in normal and fault contact with Bridge River serpentinitized ultramafics, and metasediments of the Lower and Middle Jurassic Ladner Group and the Upper Jurassic-Lower Cretaceous Relay Mountain Group. Late Cretaceous granitic plugs and dykes intrude all of the above.

Graphitic phyllites, fine-grained siltstones and argillites are intensely sheared and fractured in a northwest trending fault zone that is up to 20 metres wide. Intense weathering, decomposed serpentine-carbonate-talc zones and limonite are characteristic.

Argentite occurs sporadically as narrow seams (up to 0.5 centimetres) and blebs (2 to 4 centimetres) in highly fractured quartz veins over a strike length of 250 metres within the fault

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 949
REPORT: RGEN0100

CAPSULE GEOLOGY

zone. A rock sample had an assay high of 256.7 grams per tonne silver and 0.06 grams per tonne gold (Assessment Report 12028).

BIBLIOGRAPHY

EMPR ASS RPT *12028
EMPR EXPL 1983-271
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1991/03/06
DATE REVISED: 1991/06/12

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW095**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 00 40 N
LONGITUDE: 121 32 14 W
ELEVATION: 470 Metres

NORTHING: 5540891
EASTING: 604807

LOCATION ACCURACY: Within 500M

COMMENTS: Old trench, 1 kilometre south of Keefers, just west of the transmission line (Assessment Report 14550).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Chalcopyrite Bornite Pyrrhotite

Magnetite

ALTERATION: Quartz Pyrite Malachite Limonite

ALTERATION TYPE: Silicific'n Pyrite Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Breccia Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

DIMENSION: 25 Metres

COMMENTS: Mineralized zone.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Jurassic-Cretaceous

GROUP

Bridge River
Relay Mountain

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Siliceous Brecciated Argillite
Peridotite Dike
Graphitic Phyllite
Chloritic Schist
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline

PHYSIOGRAPHIC AREA: Cascade Mountains

TERRANE: Bridge River

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: Lower greenschist facies

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Rock

COMMODITY

GRADE

Silver	4.4500	Grams per tonne
Gold	0.3700	Grams per tonne
Copper	0.2500	Per cent

COMMENTS: Sample taken over 1.2 metres from a gossan/peridotite.

REFERENCE: Assessment Report 14550.

CAPSULE GEOLOGY

The Gold showing is located in old trenches 1 kilometre south of Keefers and just west of the transmission line.

The area is underlain by a northwest trending belt of lower greenschist facies Permian(?) to Lower Cretaceous Bridge River Complex (Group) phyllites and schists. These occur in normal and fault contact with Bridge River serpentized ultramafics, and metasediments of the Lower and Middle Jurassic Ladner Group and the Upper Jurassic-Lower Cretaceous Relay Mountain Group. Late Cretaceous granitic plugs and dykes intrude all of the above units.

The showing is underlain by intercalated silty and black argillites, graphitic phyllites in the east, and chloritic schists in the west. Granodiorite intrudes the chloritic schists. The most abundant rock type is thinly-bedded, locally siliceous, silty argillite grading to almost totally graphitic equivalents in shear

CAPSULE GEOLOGY

zones. Intense shearing is characterized by crenulated, slickensided, graphitic horizons.

Trenching has exposed a 25 metre wide zone comprising intensely silicified, brecciated argillites, peridotite dykes 2 to 4 metres wide and barren quartz veins. Fine-grained disseminated pyrite with minor arsenopyrite, chalcopyrite, bornite, pyrrhotite and magnetite occur in the argillite. Peridotite dykes are locally pyritic.

In trench 2, intensely silicified, brecciated argillites host fine-grained, disseminated pyrite and arsenopyrite with minor chalcopyrite. An isoclinally folded quartz vein, mantled by a peridotite dyke and then a 0.5 metre wide gossan, cuts the argillites. The gossan contains 30 per cent weathered pyrite and minor malachite. A sample of gossan/peridotite taken over 1.2 metres assayed 0.37 grams per tonne gold, 4.45 grams per tonne silver and 0.25 per cent copper. Samples of the siliceous argillite assayed up to 0.5 grams per tonne gold over 2 metres (Assessment Report 14550).

BIBLIOGRAPHY

EMPR ASS RPT 11185, *14550
EMPR EXPL 1982-197; 1985-C191
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1991/03/07
DATE REVISED: 1991/06/12

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW096**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCY**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 02 45 N
LONGITUDE: 121 40 54 W
ELEVATION: 790 Metres

NORTHING: 5544559
EASTING: 594390

LOCATION ACCURACY: Within 500M

COMMENTS: Roadcut on the Log Creek gravel road, 16 kilometres northwest of North Bend (Assessment Report 15012).

COMMODITIES: Gold

MINERALS

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

DEPOSIT

CHARACTER: Stockwork Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 5 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized shear zone.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	

LITHOLOGY: Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Shuksan
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Amphibolite

CAPSULE GEOLOGY

The Lucy showing is located in a roadcut on the Log Creek gravel road, 16 kilometres northwest of North Bend.

The area is underlain by Cretaceous metamorphic rocks (amphibolite facies), possibly derived from the Permian(?) to Lower Cretaceous Bridge River Complex (Geological Survey of Canada Map 42-1989). These rocks are in fault contact with the Bridge River Complex (Group) to the east, and intruded by Late Cretaceous granitic plugs.

Black phyllite which is locally pyritic (less than 5 per cent pyrite), trends northwest and dips steeply east. Quartz veins, parallel to foliation, are common. Unaltered quartz diorite and hornblende diorite dykes cut the phyllites in two locations. A 5 metre wide, well-fractured shear zone striking northeast crosscuts the regional foliation and hosts a mineralized quartz stockwork.

Pyrite and arsenopyrite occur as disseminations and in quartz veinlets over a strike length of 2.5 metres within the centre of the quartz stockwork. Sulphides decrease towards margins of the zone. Phyllites are silicified.

The stockwork does not extend along strike to the northeast and is covered by thick overburden to the southwest.

BIBLIOGRAPHY

EMPR EXPL 1986-C225
EMPR ASS RPT *15012
GSC MAP *42-1989
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10

DATE CODED: 1991/03/08
DATE REVISED: 1991/06/12

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW097**

NATIONAL MINERAL INVENTORY:

NAME(S): **AB**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I06W
BC MAP:

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 29 10 N
LONGITUDE: 121 19 56 W
ELEVATION: 1275 Metres

NORTHING: 5594010
EASTING: 618312

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop, 7 kilometres north of Spences Bridge on a ridge of the locally named "Log-back Hill" (Assessment Report 3799).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
COMMENTS: Occasional specks of chalcopyrite.

ALTERATION: Chlorite Epidote

ALTERATION TYPE: Chloritic Epidote

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Epigenetic Hydrothermal

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Paleozoic-Mesozoic
Cretaceous

GROUP

Cache Creek
Spences Bridge

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Intermediate Volcanic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Cache Creek

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The AB showing is located in outcrop 7 kilometres north of Spences Bridge on a ridge of the locally named Log-back Hill.

The area is underlain by Carboniferous-Jurassic Cache Creek Complex (Group) rocks in fault contact with Middle and Upper Cretaceous Spences Bridge Group volcanics.

Finely disseminated pyrite with occasional specks of chalcopyrite occur in weakly chlorite and epidote altered intermediate volcanics.

BIBLIOGRAPHY

EMPR ASS RPT 2584, *3799
EMPR GEM 1970-327; 1971-294; 1972-149; 1973-167
GSC MAP 1010A; 1386A; *42-1989
GSC MEM 262
GSC P 81-1A, pp. 185-189; 85-1A, pp. 349-358

DATE CODED: 1991/03/18
DATE REVISED: 1991/05/23

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW098**

NATIONAL MINERAL INVENTORY:

NAME(S): **GORDON CREEK COAL**

MINING DIVISION: Kamloops

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I03E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 14 43 N
LONGITUDE: 121 03 40 W
ELEVATION: 805 Metres

NORTHING: 5567701
EASTING: 638241

LOCATION ACCURACY: Within 500M

COMMENTS: Located in a trench close to a swampy area off a logging road, approximately 100 metres south of Gordon Creek and 3 kilometres east of Highway 8 (Assessment Report 243).

COMMODITIES: Coal

MINERALS

SIGNIFICANT: Coal
MINERALIZATION AGE: Cretaceous

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Fossil Fuel Sedimentary

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cretaceous
Triassic-Jurassic

GROUP

Spences Bridge

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Guichon Creek Batholith

LITHOLOGY:

Sandstone
Mudstone
Coal
Porphyritic Andesite
Vesicular Basalt
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Gordon Creek Coal showing is exposed in a trench close to a swamp off a logging road, approximately 100 metres south of Gordon Creek and 3 kilometres east of Highway 8.

The area is underlain by Middle and Upper Cretaceous Spences Bridge Group volcanic and sedimentary sequences comprising mainly porphyritic andesites and vesicular basalts (Map 30). Early Jurassic-Late Triassic Guichon Creek batholith quartz diorites occur to the east. Some sources describe the underlying rocks as Upper Triassic Nicola Group volcanics (Assessment Report 245).

A coal-bearing stratabound sedimentary horizon is exposed at shallow depth in Spences Bridge Group sandstones and mudstones.

BIBLIOGRAPHY

EMPR ASS RPT 190, *243, *245
EMPR BULL 56; 62
EMPR MAP *30
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 242
GSC P 46-8; 47-10

DATE CODED: 1991/03/25
DATE REVISED: 1991/03/25

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW099**

NATIONAL MINERAL INVENTORY:

NAME(S): **GORDON CREEK**

STATUS: Showing

REGIONS:

NTS MAP: 092103E

BC MAP:

LATITUDE: 50 14 38 N

LONGITUDE: 121 03 07 W

ELEVATION: 1000 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Outcrop, south of Gordon Creek and east of a trench on the Gordon Creek Coal showing (092ISW098). Exact location is uncertain (Assessment Report 245).

MINING DIVISION: Kamloops

Nicola

UTM ZONE: 10 (NAD 83)

NORTHING: 5567564

EASTING: 638899

COMMODITIES: Copper

Mercury

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Specularite Cinnabar

ASSOCIATED: Quartz Calcite

COMMENTS: Possible albite.

ALTERATION: Silica Malachite

ALTERATION TYPE: Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

Vein

Breccia

Shear

CLASSIFICATION: Hydrothermal

Epigenetic

TYPE: L04 Porphyry Cu ± Mo ± Au

DIMENSION: 60 x 60 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Mineralized fault zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Cretaceous

Spences Bridge

Undefined Formation

Triassic-Jurassic

Guichon Creek Batholith

LITHOLOGY: Porphyritic Andesite

Quartz Diorite

Vesicular Basalt

GEOLOGICAL SETTING

TECTONIC BELT: Intermontane

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Thompson Plateau

CAPSULE GEOLOGY

The Gordon Creek showings are located in outcrops south of Gordon Creek and to the east of the Gordon Creek Coal showing (092ISW098), however the exact locations are uncertain.

The area is underlain by Middle and Upper Cretaceous Spences Bridge Group volcanic and sedimentary sequences comprising mainly porphyritic andesites and vesicular basalts (Map 30). Early Jurassic-Late Triassic Guichon Creek batholith quartz diorites occur to the east. Some sources describe the underlying rocks as Upper Triassic Nicola Group volcanics (Assessment Report 245). Mineralization is sparse.

Four occurrences are described as: 1) a 15 centimetre wide quartz vein with chalcopyrite and malachite cutting porphyritic andesite; 2) a vein as above (1) cutting quartz diorite; 3) massive quartz diorite containing sparsely disseminated chalcopyrite; and 4) a steeply dipping fault zone striking approximately north cuts porphyritic andesite where the andesite is silicified, sheared, brecciated and mineralized with chalcopyrite, pyrite, specularite and minor cinnabar. White minerals, calcite and possibly albite, cement fragments within the fault zone. The mineralized zone is up to 60 centimetres wide and can be traced discontinuously for 60 metres.

BIBLIOGRAPHY

EMPR ASS RPT 190, 243, *245
EMPR BULL 56; 62
EMPR MAP *30
EMPR PF (Geological map, 1958)
GSC MAP 1010A; 1386A; 42-1989
GSC MEM 242

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 956
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 46-8; 47-10
CIM Spec. Vol. 15 (1976), pp. 85-104
Northcote, K.E. (1968): Geology and Geochronology of the Guichon
Creek Batholith, British Columbia, Unpublished Ph.D. Thesis, The
University of British Columbia

DATE CODED: 1991/03/25
DATE REVISED: 1991/06/12

CODED BY: SNB
REVISED BY: SNB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW100**

NATIONAL MINERAL INVENTORY:

NAME(S): **COBELDICK DREDGE**, FRASER RIVER GOLD DREDGING CO.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

Open Pit

MINING DIVISION: Kamloops

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 15 00 N
LONGITUDE: 121 36 05 W
ELEVATION: 150 Metres

NORTHING: 5567363
EASTING: 599712

LOCATION ACCURACY: Within 5 KM

COMMENTS: The Cobeldick dredge worked along the Fraser River north of Lytton.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
MINERALIZATION AGE: Unknown

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: Quesnel

PHYSIOGRAPHIC AREA: Pavilion Ranges

CAPSULE GEOLOGY

The Cobeldick dredge worked leases along the Fraser River north of Lytton, particularly the Van Winkle Bar, between 1899 and 1904. During this time, an unspecified amount of gold was recovered.

The Cobeldick Dredge No. 1 Co. was bought out by Fraser River Gold Dredging Co., Ltd. in 1903. The dredge ceased operation in about 1904.

BIBLIOGRAPHY

EMPR AR 1899-611,728, facing 742,745; 1900-906; 1901-1089;
*1902-104-105,193; 1903-182; 1904-234; 1905-205; 1906-177
GSC MAP 1010A; 42-1989

DATE CODED: 1987/09/03
DATE REVISED: 1993/10/12

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW101**

NATIONAL MINERAL INVENTORY:

NAME(S): **EAGLE RIDGE**

MINING DIVISION: New Westminster

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092104E
BC MAP:

UTM ZONE: 10 (NAD 83)

LATITUDE: 50 08 23 N
LONGITUDE: 121 42 52 W
ELEVATION: 991 Metres

NORTHING: 5554957
EASTING: 591863

LOCATION ACCURACY: Within 500M

COMMENTS: The location of three talc samples analyzed by XRD (Assessment Report 22632).

COMMODITIES: Talc

MINERALS

SIGNIFICANT: Talc
ASSOCIATED: Tremolite Serpentine Chlorite
ALTERATION: Talc Serpentine
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Massive
CLASSIFICATION: Hydrothermal Replacement Industrial Min.
TYPE: M07 Ultramafic-hosted talc-magnesite
COMMENTS: The hostrocks strike southeast and dip steeply southwest.

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	Scuzzy Pluton
Upper Cretaceous			

LITHOLOGY: Phyllite
Serpentinite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional
COMMENTS: Lower greenschist facies.

PHYSIOGRAPHIC AREA: Pacific Ranges
RELATIONSHIP: Syn-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Grab
COMMODITY: Talc
GRADE: 65.0000 Per cent

COMMENTS: Grab sample 87701, analyzed by XRD.
REFERENCE: Assessment Report 22632.

CAPSULE GEOLOGY

The Eagle Ridge showing is located at the eastern end of Eagle Ridge, near the confluence of North Kwoiek Creek with Kwoiek Creek and 3.25 kilometres south-southwest of Klowa Mountain.

The claim was first staked when talc exposures were identified in roadcuts adjacent to North Kwoiek Creek. The exploration work carried out by Ismay Associates Inc. is the first known on the property. The claim was staked on the basis of its potential for an economic talc deposit.

Regionally, the Eagle Ridge showing is underlain by lower greenschist facies metamorphosed phyllite and schist of the Paleozoic and/or Mesozoic Bridge River Complex. Granodiorite of the Late Cretaceous Scuzzy pluton occurs to the immediate east of the showing.

The main rock types at the Eagle Ridge showing is medium to dark green-grey phyllite, which strikes southeast and dips near vertical to the southwest. The phyllite hosts talc discovered on the claim. The talc is platy, light to dark greyish green and weathers buff to brown. Serpentinite is associated with the talc mineralization. The talc zones are very narrow, ranging from several centimetres up to 5 metres width .

CAPSULE GEOLOGY

In 1992, three grab samples were taken and submitted for XRD analysis of talc, tremolite, serpentine and chlorite. The results, in per cent, are given below (Assessment Report 22632):

Sample#	Talc	Tremolite	Serpentine	Chlorite
87701	65	18	0	17
87702	7	0	93	7
87703	26	24	0	50

The initial prospecting on the property has not identified any significant zones of talc mineralization. The zones discovered to date are very narrow and are exposed along a roadcut.

BIBLIOGRAPHY

EMPR ASS RPT *22632
EMPR OF 1988-19; 1995-25
GSC MAP 42-1989; 1010A; 1386A
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 90-1E

DATE CODED: 1997/07/30
DATE REVISED: / /

CODED BY: KJM
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW102**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH TALC DEPOSIT**, GOLD RIDGE, LATCH

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:
LATITUDE: 50 04 20 N
LONGITUDE: 121 40 16 W
ELEVATION: 1646 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The North Talc deposit located 4 kilometres southeast of Pyramid Mountain on a north tributary of Log Creek, 2.5 kilometres northwest of the Talc Lake deposit (092ISW063) (Assessment Report 2265).

MINING DIVISION: New Westminster
Kamloops
UTM ZONE: 10 (NAD 83)
NORTHING: 5547506
EASTING: 595093

COMMODITIES: Talc Magnesite

MINERALS

SIGNIFICANT: Talc Magnesite
ASSOCIATED: Chlorite Dolomite Magnetite Chlorite
ALTERATION: Serpentinite Talc Magnesite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Stratabound
CLASSIFICATION: Hydrothermal Epigenetic Residual Industrial Min.
TYPE: M07 Ultramafic-hosted talc-magnesite
DIMENSION: 800 x 150 Metres STRIKE/DIP:
COMMENTS: The North Talc deposit has a strike length of 800 metres and a width of 50 to 150 metres. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	

LITHOLOGY: Serpentinite
Phyllite
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline PHYSIOGRAPHIC AREA: Pacific Ranges
TERRANE: Bridge River
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: NORTH REPORT ON: Y
CATEGORY: Possible YEAR: 1992
QUANTITY: 13000000 Tonnes
COMMODITY GRADE
Magnesite 35.0000 Per cent
Talc 56.0000 Per cent

COMMENTS: Possible reserves for the North Talc deposit are based on 200 metres length, 150 metres width and 150 metres depth. Grades are those reported for ore by Finnminerals during pilot testing.

REFERENCE: Assessment Report 22665.

CAPSULE GEOLOGY

The North Talc deposit located 4 kilometres southeast of Pyramid Mountain on a north tributary of Log Creek, 2.5 kilometres northwest of the Talc Lake deposit (092ISW063) (Assessment Report 2265). Significant talc occurrences were first reported in this area in the early 1950s by Geological Survey of Canada geologists. In 1973, talc was first reported in the Talc Lake prospect area by J.A. Chamberlain Consultants while conducting surveys for nickel, chromite and talc. Low grade nickel (0.2 per cent) was identified over a wide area and a zone of talc-magnesite mineralization was outlined. The zone is now referred to as the Talc Lake deposit. Between 1986 and 1988, 3000 hectares of ground was staked to cover potential talc (magnesite) lenses. In 1989 and 1990, Highland Talc Minerals Ltd. began systematically geological mapping the Talc Lake deposit. Late in 1990, a second talc zone referred to as the South Talc deposit was defined. Four exploratory drillholes were completed in

CAPSULE GEOLOGY

1990. Between 1991 and 1992, detailed geological surveys, surface stripping, and four follow-up drillholes were completed. In 1992, the North Talc deposit and 5 smaller satellite lenses were discovered. In 1993, a 100-kilogram bulk sample was taken from the South Talc deposit and a 120-tonne bulk sample was taken from the North Talc deposit shipped to Finland for Pilot Scale tests. In 1994, an additional 10 drillholes were completed on the South Talc deposit.

The area is underlain by phyllite, schist and foliated greenstone of the Permian(?) to Lower Cretaceous Bridge River Complex (Group) and by phyllite, schist and local conglomerate of the Upper Jurassic to Lower Cretaceous Relay Mountain Group. Pods of serpentinized ultramafics of the Bridge River Complex occur in fault and normal contact with both units. All units are intruded by stocks of Late Cretaceous quartz monzonite and granodiorite.

The Bridge River Complex and Relay Mountain Group are separated along the ridge by an intervening fault-bounded mass of serpentinite striking northwest for 5.9 kilometres, generally following the crest of the ridge, and varying up to 900 metres in width. The ultramafic rock is dark green to black and weathers buff to reddish brown. The serpentinite consists of fine grained, massive serpentine with minor carbonate and 5 per cent magnetite.

Since 1992, a systematic program was completed on the North Talc deposit that has included geological surveys, bulldozer stripping, trenching and drilling. The deposit consists of a lens of talc on the north side of the lake, which has been exposed over a length of 800 metres and a width of 50 to 150 metres. The talc lens is covered by 1 to 2 metres overburden but has been recently exposed by new logging roadcuts. The deposit is fault bound on its west-southwest side where a thick sequence of phyllite and argillite occur. Serpentinite occurs on the northeast side of the talc deposit.

The talc is pale green to white with a creamy buff weathered surface and contains small quantities of disseminated magnetite.

In 1993, a 120-tonne composite sample was extracted and then in 1994 shipped to Finnminerals in Finland for pilot tests. Tests included were beneficiation from grinding, flotation, and micro-ionizing. Tests were also conducted on the chemical and physical properties of the talc, particle size distribution and paper-grade rheology tests. The final product produced included talc filler and extender with an average particle size 10 microns and brightness of 80 to 83 per cent (ISO), and a pitch control with an average particle size of 2 microns and a brightness of 83 to 85 per cent (ISO). A coating-grade, slurry talc pigment was also produced meeting rheological specification of light weight coated (LWC) papers (Assessment Report 23691). These tests were followed-up by LWC paper trial runs where several different weights of coated-grade papers were produced using the talc slurry. The results of some of these tests are summarized as follows:

Mineralogy	Ore	Concentrate
talc	56	94.9
chlorite	7	1.7
magnesite	35	3.1
dolomite	2	0.3
sulphides	0.03	0.02
magnetite	0.10	0.03
brightness	56	66
yellowness	15	11

Composition

	Talc	Magnesite
SiO ₂	62.2	MgCO ₃ 78.2
Al ₂ O ₃	0.04	CaCO ₃ 0.1
MgO	29.4	MnCO ₃ 0.1
FeO	2.6	FeCO ₃ 21.3
NiO	0.22	

The low brightness and high yellowness are caused by the presence of iron hydroxide minerals, the latter being indicative of surface weathering.

Possible reserves based on 200 metres length, 150 metres width and 150 metres depth are 13,000,000 tonnes (Assessment Report 22665).

BIBLIOGRAPHY

EMPR ASS RPT *4508, *4985, 5111, 7058, 13167, *22665, 22688, *23691
 EMPR EXPL 1978-E159; 1984-204
 EMPR GEM 1973-166,167; 1974-403
 EMPR INF CIRC 1991-1, pp. 18,61
 EMPR OF *1988-19, pp. 35-37
 GSC MAP 42-1989; 1010A; 1386A

RUN DATE: 26-Jun-2003
RUN TIME: 11:06:24

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 962
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 90-1E, pp. 183-195

DATE CODED: 1997/07/30
DATE REVISED: 1997/07/30

CODED BY: KJM
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **092ISW103**

NATIONAL MINERAL INVENTORY:

NAME(S): **JACK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 092I04E
BC MAP:

MINING DIVISION: Kamloops
New Westminster
UTM ZONE: 10 (NAD 83)

LATITUDE: 50 04 28 N
LONGITUDE: 121 37 25 W
ELEVATION: 1219 Metres

NORTHING: 5547815
EASTING: 598488

LOCATION ACCURACY: Within 500M

COMMENTS: The Jack showing is located 6.5 kilometres southeast of Pyramid Mountain in the headwaters of 4 Barrell Creek, 2 kilometres northeast of the Talc Lake deposit (092ISW063) (Assessment Report 23081).

COMMODITIES: Talc

MINERALS

SIGNIFICANT: Talc
ASSOCIATED: Chlorite
ALTERATION: Serpentinite Talc Chlorite
ALTERATION TYPE: Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Stratabound
CLASSIFICATION: Hydrothermal Epigenetic Residual Industrial Min.
TYPE: M07 Ultramafic-hosted talc-magnesite

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic-Mesozoic	Bridge River	Undefined Formation	

LITHOLOGY: Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Coast Crystalline
TERRANE: Bridge River
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Pacific Ranges
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Jack showing is located 6.5 kilometres southeast of Pyramid Mountain in the headwaters of 4 Barrell Creek, 2 kilometres northeast of the Talc Lake deposit (092ISW063) (Assessment Report 23081).

Significant talc occurrences were first reported in this area in the early 1950s by Geological Survey of Canada geologists. In 1973, talc was first reported in the Talc Lake prospect area by J.A. Chamberlain Consultants while conducting surveys for nickel, chromite and talc. Low grade nickel (0.2 per cent) was identified over a wide area and a zone of talc-magnesite mineralization was outlined. The zone is now referred to as the Talc Lake deposit (092ISW063). Between 1986 and 1988, 3000 hectares of ground was staked to cover potential talc (magnesite) lenses. In 1989 and 1990, Highland Talc Minerals Ltd. began systematic geological mapping of the Talc Lake deposit. Late in 1990, a second talc zone referred to as the South Talc deposit (092ISW064) was defined. Four exploratory drillholes were completed in 1990. Between 1991 and 1992, detailed geological surveys, surface stripping, and four follow-up drillholes were completed. In 1992, the North Talc deposit (092ISW102) and 5 smaller satellite lenses were discovered. In 1993, a 100-kilogram bulk sample was taken from the South Talc deposit and a 120-tonne bulk sample was taken from the North Talc deposit shipped to Finland for Pilot Scale tests. In 1994, an additional 10 drillholes were completed on the South Talc deposit. In 1992, the area to the northwest was staked as the Jack claims by Pacific Talc Ltd. Prospecting was carried out in 1993 to determine the extent of talc mineralization.

The area is underlain by phyllite, schist and foliated greenstone of the Permian(?) to Lower Cretaceous Bridge River Complex (Group) and by phyllite, schist and local conglomerate of the Upper Jurassic to Lower Cretaceous Relay Mountain Group. Pods of serpentinitized ultramafics of the Bridge River Complex occur in fault and normal contact with both units. All units are intruded by stocks of Late Cretaceous quartz monzonite and granodiorite.

The Bridge River Complex and Relay Mountain Group are separated

CAPSULE GEOLOGY

along the ridge by an intervening fault-bounded mass of serpentinite striking northwest for 5.9 kilometres, generally following the crest of the ridge, and varying up to 900 metres in width. The ultramafic rock is dark green to black and weathers buff to reddish brown. The serpentinite consists of fine grained, massive serpentine with minor carbonate and 5 per cent magnetite.

At the showing, the main rock type is medium to dark green-grey phyllite, striking north to northwest and dip vertically. The phyllite hosts the talc mineralization, which is platy and light to dark green, weathering buff to brown. Variable amounts of chlorite are also present.

Nine grab samples were collected along a talc outcrop along 10-metre intervals, along a logging road in 1993. Analysis of these samples are not available.

BIBLIOGRAPHY

EMPR ASS RPT 4508, 4985, 5111, 7058, 13167, 22665, 22688, *23081,
23691
EMPR EXPL 1978-E159; 1984-204
EMPR GEM 1973-166,167; 1974-403
EMPR INF CIRC 1991-1, pp. 18,61
EMPR OF 1988-19, pp. 35-37
GSC MAP 42-1989; 1010A; 1386A
GSC MEM 262
GSC OF 980
GSC P 46-8; 47-10; 90-1E, pp. 183-195

DATE CODED: 1997/07/30
DATE REVISED: 1997/07/30

CODED BY: KJM
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>092INE001</u>		NAME:	<u>HARPER RANCH</u>		STATUS:	Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>		
2002	260,000	260,000	Limestone		260,000,000		
2001	260,000	260,000	Limestone		260,000,000		
2000	260,000	260,000	Limestone		260,000,000		
1999	260,000	260,000	Limestone		260,000,000		
1998	260,000	260,000	Limestone		260,000,000		
1997	260,000	260,000	Limestone		260,000,000		
1996	260,000	260,000	Limestone		260,000,000		
1995	260,000	260,000	Limestone		260,000,000		
1994	260,000	260,000	Limestone		260,000,000		
1993	260,000	260,000	Limestone		260,000,000		
1992	260,000	260,000	Limestone		260,000,000		
1991	605,342	605,342	Limestone		605,342,000		
1990	282,280	282,280	Limestone		282,280,000		
1989	211,115	211,115	Limestone		211,115,000		
1988	166,750	166,750	Limestone		166,750,000		
1987	155,336	155,336	Limestone		155,336,000		
1986	126,894	126,894	Limestone		126,894,000		
1985	68,444	68,388	Limestone		68,444,000		
1984	86,558	86,558	Limestone		86,558,000		
1983	169,244	169,244	Limestone		169,244,000		
1982	244,367	242,806	Limestone		244,367,000		
1981	300,439	300,439	Limestone		300,439,000		
1980	250,884	250,884	Limestone		250,884,000		
1979	243,821	243,821	Limestone		243,821,310		
1978	266,537	266,537	Limestone		266,537,000		
1977	267,586	267,586	Limestone		267,585,920		
1976	255,766	255,766	Limestone		255,766,210		
1975	259,934	259,934	Limestone		259,933,810		
1974	188,540	201,616	Limestone		188,540,190		
1973	203,270	205,347	Limestone		203,270,150		
1972	157,176	156,275	Limestone		157,176,090		
1971	141,469	141,531	Limestone		141,469,100		
1970	73,151	52,232	Limestone		73,150,838		

SUMMARY TOTALS: 092INE001

NAME: **HARPER RANCH**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7,584,903 tonnes	8,360,924 tons
Milled:	7,576,681 tonnes	8,351,861 tons
Recovery: Limestone:	7,584,903,618 kilograms	16,721,845,384 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	092INE007		NAME:	GALAXY		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>		
1917	22	22	Copper				738
1916	26	26	Silver	902			
			Copper				1,814

SUMMARY TOTALS: 092INE007

NAME: **GALAXY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	48 tonnes	53 tons
Milled:	48 tonnes	53 tons
Recovery:	Silver: 902 grams	29 ounces
	Copper: 2,552 kilograms	5,626 pounds

Comments: 1916: Operated by A.S. McArthur.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE008	NAME: LUCKY STRIKE (L.1036)	STATUS: Showing
Production Year	Tonnes Mined	Tonnes Milled
1901	27	27
		Commodity
		Silver
		Copper
		Grams Recovered
		31
		Kilograms Recovered
		5,634

SUMMARY TOTALS: 092INE008

NAME: **LUCKY STRIKE (L.1036)**

		<u>Metric</u>		<u>Imperial</u>
	Mined:	27 tonnes		30 tons
	Milled:	27 tonnes		30 tons
Recovery:	Silver:	31 grams		1 ounces
	Copper:	5,634 kilograms		12,421 pounds

Comments: 1901: Operator unknown.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092INE010** NAME: **IRON MASK (L.878)** 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>
1928	9,535	9,535	Silver Gold Copper	10,482 4,883	93,871
1927	13,140	13,128	Silver Gold Copper	14,805 5,879	124,578
1923	29,458	29,458	Silver Gold Copper	43,295 17,480	382,381
1920	9,958	9,912	Silver Gold Copper	13,498 6,874	118,300
1919	27,066	27,065	Silver Gold Copper	35,022 14,245	252,505
1918	28,988	27,528	Silver Gold Copper	36,608 11,135	226,553
1917	5,911	3,230	Silver Gold Copper	35,426 11,104	167,980
1916	10,713	4,725	Silver Gold Copper	42,798 15,240	270,609
1915	5,855	1,344	Silver Gold Copper	19,502 3,017	105,594
1914	1,012	1,012	Silver Gold Copper	1,742 435	9,119
1913	2,021	2,021	Silver Gold Copper	3,919 778	18,418
1911	3,862	3,848	Silver Gold Copper	10,669 1,617	69,273
1907	275	275	Silver Gold Copper	4,230 622	13,209
1906	3,481	3,481	Silver Gold Copper	32,160 6,687	161,195
1905	13,271	13,271	Silver Gold Copper	118,440 14,618	308,808
1904	822		Silver Gold Copper	19,439 2,582	94,519
1903	20	20	Silver Gold Copper	467 93	2,907
1902	51	51	Silver Gold Copper	16,858 156	7,251
1901	116	116	Silver Gold Copper	2,302 560	18,107

SUMMARY TOTALS: 092INE010

NAME: **IRON MASK (L.878)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	165,555 tonnes	182,493 tons
Milled:	150,020 tonnes	165,369 tons
Recovery:		
Silver:	461,662 grams	14,843 ounces
Gold:	118,005 grams	3,794 ounces
Copper:	2,445,177 kilograms	5,390,691 pounds

Comments:

1928: Concentrate 415 tonnes.
 1927: Crude ore 13 t; conc. 557 t to Tacoma. Continental Copper Co.Ltd.
 1923: Concentrate 2678 tonnes.

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 6
REPORT: RGEN0200

MINFILE NUMBER: **092INE010**

NAME: **IRON MASK (L.878)**

STATUS: Past Producer

Comments:

1920: Crude ore 46 tonnes; concentrate 883 tonnes.
1919: Concentrate 1982 tonnes.
1918: Crude ore 1461 tonnes; concentrate 1200 tonnes.
1917: Crude ore 2682 tonnes; concentrate 162 tonnes.
1916: Crude ore 1181 to 5988 tonnes.
1915: Crude ore 1821 tonnes; Kamloops Copper Co. Ltd.
1914: Concentrate 253 tonnes.
1913: Concentrate 505 tonnes.
1911: Concentrate 655 tonnes; operated by E.G. Wallinder.
1904: Shipped to Trail smelter; Kamloops Mines Ltd.
1903: Crude ore to Granby.
1902: Crude ore to Granby.
1901: Crude ore to Granby; BC Exploration Syndicate.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE011		NAME: BIG ONION		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	30	30	Silver	809		
			Gold	249		
			Copper		2,897	

SUMMARY TOTALS: 092INE011

NAME: **BIG ONION**

	<u>Metric</u>	<u>Imperial</u>
Mined:	30 tonnes	33 tons
Milled:	30 tonnes	33 tons
Recovery:		
Silver:	809 grams	26 ounces
Gold:	249 grams	8 ounces
Copper:	2,897 kilograms	6,387 pounds

Comments: 1929: Operator unknown.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE012		NAME: AJAX (WEST)		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>	
1997	1,081,206	1,081,206	Silver	777,000		
			Gold	451,229		
			Copper		5,390,075	
1996	2,972,500	2,972,500	Silver	1,689,644		
			Gold	813,097		
			Copper		11,516,579	

SUMMARY TOTALS: 092INE012

NAME: **AJAX (WEST)**

	<u>Metric</u>		<u>Imperial</u>
Mined:	4,053,706 tonnes	4,468,446	tons
Milled:	4,053,706 tonnes	4,468,446	tons
Recovery:	Silver: 2,466,644 grams	79,304	ounces
	Gold: 1,264,326 grams	40,649	ounces
	Copper: 16,906,654 kilograms	37,272,781	pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE013		NAME: AJAX (EAST)		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	3,110,805	2,928,922	Silver	1,559,000		
			Gold	830,929		
			Copper		11,824,989	
1994	925,966	925,966	Silver	172,469		
			Gold	74,866		
			Copper		1,108,131	

SUMMARY TOTALS: 092INE013

NAME: **AJAX (EAST)**

	<u>Metric</u>		<u>Imperial</u>
Mined:	4,036,771 tonnes	4,449,778	tons
Milled:	3,854,888 tonnes	4,249,287	tons
Recovery:	Silver: 1,731,469 grams	55,668	ounces
	Gold: 905,795 grams	29,122	ounces
	Copper: 12,933,120 kilograms	28,512,641	pounds

RUN DATE: 26-Jun-2003
 RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 10
 REPORT: RGEN0200

MINFILE NUMBER: 092INE018		NAME: IRON CAP (L.875)		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	201		Silver	12,286	
			Gold	6,003	
			Copper		4,531
1938	33		Silver	1,213	
			Gold	498	
			Copper		269
1897	4		Silver		
			Gold		

SUMMARY TOTALS: 092INE018

NAME: **IRON CAP (L.875)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	238 tonnes	262 tons
Milled:	tonnes	tons
Recovery:		
Silver:	13,499 grams	434 ounces
Gold:	6,501 grams	209 ounces
Copper:	4,800 kilograms	10,582 pounds
Comments:		
1897:	\$58 in gold and silver.	

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 11
REPORT: RGEN0200

MINFILE NUMBER: **092INE022** NAME: **CLIFF (L.899)** 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	3,679		Magnetite		3,679,000
1960	1,841		Magnetite		1,841,000
1936	4		Gold	31	

SUMMARY TOTALS: 092INE022

NAME: **CLIFF (L.899)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,524 tonnes	6,089 tons
Milled:		
Gold:	31 grams	1 ounces
Magnetite:	5,520,000 kilograms	12,169,513 pounds

Recovery:
Comments: 1961: Operated by Dutton-Mannix Ltd.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>092INE023</u>	NAME:	<u>AFTON</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>
1991	2,255,583	2,009,209	Silver Gold Copper	1,035,435 568,883	7,754,765
1990	4,018,828	2,843,475	Silver Gold Copper	1,590,570 783,154	10,947,053
1989	2,919,005	2,547,533	Silver Gold Copper	1,722,759 453,862	8,797,260
1988	3,309,026	3,094,452	Silver Gold Copper	2,750,791 1,004,518	7,710,706
1987	3,354,857	2,861,570	Silver Gold Copper	8,391,625 1,496,295	19,805,639
1986	3,650,651	2,693,784	Silver Gold Copper	9,797,689 1,814,266	21,853,185
1985	3,270,528	2,651,281	Silver Gold Copper	9,488,738 1,510,354	22,365,480
1984	3,771,366	2,639,082	Silver Gold Copper	7,855,930 972,015	15,802,578
1983	1,176,212	1,075,853	Silver Gold Copper	3,384,014 472,275	7,312,220
1982	746,266	655,464	Silver Gold Copper	1,780,643 240,243	3,869,000
1981	2,543,648	2,324,119	Silver Gold Copper	6,459,290 1,089,617	16,247,062
1980	2,995,058	2,739,799	Silver Gold Copper	8,859,577 1,431,195	24,221,282
1979	3,173,024	2,822,850	Silver Gold Copper	9,365,673 1,860,022	25,611,766
1978	3,484,846	2,456,757	Silver Gold Copper	5,524,701 1,022,791	15,429,468
1977	122,340	122,340	Silver Gold Copper	7,778,580 106,652	24,462,130
1899	9		Silver Gold Copper	156 31	435

SUMMARY TOTALS: 092INE023

NAME: **AFTON**

	<u>Metric</u>	<u>Imperial</u>
Mined:	40,791,247 tonnes	44,964,653 tons
Milled:	33,537,568 tonnes	36,968,840 tons
Recovery:		
Silver:	85,786,171 grams	2,758,085 ounces
Gold:	14,826,173 grams	476,672 ounces
Copper:	232,190,029 kilograms	511,891,246 pounds

Comments:

- 1991: Ore from Ajax West. Shutdown in August 1991.
- 1990: Ore from Ajax West (092INE012).
- 1989: Ore from Crescent (092INE026) and Ajax West (092INE012).
- 1988: Ore from Pothook and Crescent (092INE026).
- 1982: Closed from June 1982 to May 1983.
- 1977: Commenced production in December.
- 1899: Pothook operated by H.G. Ashley.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE024		NAME: COPPER KING (L.1457)		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	717	717	Silver	6,096		
			Gold	3,452		
			Copper		19,657	
1939	3,756	3,756	Silver	25,349		
			Gold	12,037		
			Copper		50,996	
1938	967	967	Silver	23,887		
			Gold	12,503		
			Copper		38,961	
1937	112	112	Silver	2,644		
			Gold	1,337		
			Copper		4,515	
1929	276	276	Silver	10,544		
			Gold	3,732		
			Copper		12,112	
1904	907	907	Gold	3,110		
			Copper		54,431	
1901	33	33	Silver	2,706		
			Gold	622		
			Copper		3,345	

SUMMARY TOTALS: 092INE024

NAME: **COPPER KING (L.1457)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6,768 tonnes	7,460 tons
Milled:	6,768 tonnes	7,460 tons
Recovery:	Silver: 71,226 grams	2,290 ounces
	Gold: 36,793 grams	1,183 ounces
	Copper: 184,017 kilograms	405,688 pounds

Comments: 1904: 680 tonnes to Tacoma, 181 tonnes to Revelstoke.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE025		NAME: GLEN IRON (L.1415)		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>
1902	3,381		Magnetite		3,381,000
1901	2,945		Magnetite		2,945,000
1900	526		Magnetite		526,000
1899	363		Magnetite		363,000
1898	227		Magnetite		227,000
1897	1,814		Magnetite		1,814,000
1896	453		Magnetite		453,000
1895	1,088		Magnetite		1,088,000
1894	907		Magnetite		907,000
1893	453		Magnetite		453,000
1892	2,086		Magnetite		2,086,000
1891	862		Magnetite		862,000

SUMMARY TOTALS: 092INE025

NAME: **GLEN IRON (L.1415)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	15,105 tonnes	16,650 tons
Milled:	tonnes	tons
Recovery: Magnetite:	15,105,000 kilograms	33,300,815 pounds

Comments:

- 1902: Shipped to Hall Mines smelter in Nelson.
- 1901: Shipped to Hall Mines smelter.
- 1899: Shipped to Trail smelter.
- 1898: Shipped to Nelson smelter.
- 1897: Shipped to Everett smelter.
- 1896: Shipped to Tacoma.
- 1895: Shipped to Tacoma.
- 1894: Shipped to Tacoma.
- 1893: Shipped to Tacoma.
- 1892: Shipped to Tacoma, and Portland and Oswego in Oregon.
- 1891: 680 tonnes to Tacoma and 182 tonnes to Revelstoke Smelting Works.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092INE032** NAME: **MAXINE** 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>
1918	12	12	Silver	404	
			Copper		957
1917	18	18	Silver	747	
			Gold	31	
			Copper		2,084

SUMMARY TOTALS: 092INE032

NAME: **MAXINE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	30 tonnes	33 tons
Milled:	30 tonnes	33 tons
Recovery: Silver:	1,151 grams	37 ounces
Gold:	31 grams	1 ounces
Copper:	3,041 kilograms	6,704 pounds

Comments: 1917: Operated by C.B. Frederick.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE033	NAME: TENDERFOOT (L.882)	STATUS: Prospect
Production Year	Tonnes Mined	Tonnes Milled
1899	4	4
		Commodity
		Silver
		Gold
		Copper
		Grams Recovered
		840
		31
		Kilograms Recovered
		728

SUMMARY TOTALS: 092INE033

NAME: **TENDERFOOT (L.882)**

		<u>Metric</u>	<u>Imperial</u>
Mined:	4 tonnes	4 tons	
Milled:	4 tonnes	4 tons	
Recovery:			
Silver:	840 grams	27 ounces	
Gold:	31 grams	1 ounces	
Copper:	728 kilograms	1,605 pounds	

Comments: 1899: Operated by O. Batchelor.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE039	NAME: TUNKWA LAKE	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1941		Commodity
		Mercury
		Grams Recovered
		45
		Kilograms Recovered

SUMMARY TOTALS: 092INE039

	NAME: TUNKWA LAKE	
	<u>Metric</u>	<u>Imperial</u>
	tonnes	tons
Recovery:	Mined:	tonnes
	Milled:	tons
	Mercury:	45 kilograms
		99 pounds
Comments:	1941:	Mined from opencut; Geological Survey of Canada Memoir 249.

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 19
REPORT: RGEN0200

MINFILE NUMBER:	092INE046	NAME:	RIVERSIDE	STATUS:	Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1941	64	64	Silver Gold	6,687 809	
SUMMARY TOTALS: 092INE046		NAME:	RIVERSIDE		
		<u>Metric</u>	<u>Imperial</u>		
	Mined:	64 tonnes	71 tons		
	Milled:	64 tonnes	71 tons		
Recovery:	Silver:	6,687 grams	215 ounces		
	Gold:	809 grams	26 ounces		
Comments:	1941:	Operated by G.F. Dickson.			

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE047	NAME: CAMPBELL CREEK	STATUS: Showing
Production Year	Tonnes Mined	Tonnes Milled
1939	1	1
		Commodity
		Silver
		Gold
		Grams Recovered
		342
		62
		Kilograms Recovered

SUMMARY TOTALS: 092INE047

NAME: **CAMPBELL CREEK**

		<u>Metric</u>	<u>Imperial</u>
Mined:	1 tonnes	1 tons	
Milled:	1 tonnes	1 tons	
Recovery:			
Silver:	342 grams	11 ounces	
Gold:	62 grams	2 ounces	
Comments:			
1939:	Operated by Clairdon Mines Ltd.		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE054	NAME: LANES CREEK	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1940		
		Commodity
		Gold
		Grams Recovered
		124
		Kilograms Recovered

SUMMARY TOTALS: 092INE054

NAME: **LANES CREEK**

	<u>Metric</u>		<u>Imperial</u>
Mined:	tonnes		tons
Milled:	tonnes		tons
Recovery:			
	Gold:	124 grams	4 ounces
Comments:			
	1940:	Production for 1936-40; Bulletin 28.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE058	NAME: HARDIE HILL	STATUS: Prospect
Production Year	Tonnes Mined	Tonnes Milled
1942	3	3
		Commodity
		Mercury
		Grams Recovered
		25
		Kilograms Recovered

SUMMARY TOTALS: 092INE058

	NAME: HARDIE HILL	
	<u>Metric</u>	<u>Imperial</u>
Mined:	3 tonnes	3 tons
Milled:	3 tonnes	3 tons
Recovery:		
Mercury:	25 kilograms	55 pounds
Comments:		
1942:	Property File - Mathews, 1942.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE077	NAME: LAKE 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>
1935	227		Sodium Carbonate		227,000
1934	408		Sodium Carbonate		408,000
1933	272		Sodium Carbonate		272,000

SUMMARY TOTALS: 092INE077

NAME: **LAKE NO. 1**

	<u>Mined:</u>	<u>Milled:</u>	<u>Metric</u>	<u>Imperial</u>
Recovery:			907 tonnes	1,000 tons
Sodium Carbonate:			907,000 kilograms	1,999,592 pounds

Comments:

1935:	Minister of Mines Annual Report 1935.
1934:	Minister of Mines Annual Report 1934.
1933:	Minister of Mines Annual Report 1933.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE097	NAME: HILLTOP (BATCHELOR)	STATUS: Prospect
Production Year	Tonnes Mined	Tonnes Milled
1905	12	12
		Commodity
		Silver
		Gold
		Grams Recovered
		1,711
		156
		Kilograms Recovered

SUMMARY TOTALS: 092INE097

NAME: **HILLTOP (BATCHELOR)**

		<u>Metric</u>	<u>Imperial</u>
Mined:	12 tonnes	13 tons	
Milled:	12 tonnes	13 tons	
Recovery:			
	Silver:	1,711 grams	55 ounces
	Gold:	156 grams	5 ounces

Comments: 1905: Operated by O. Batchelor.

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	092INE103	NAME:	CLAIRDON	STATUS:	Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1939	1	1	Silver Gold	342 62	

SUMMARY TOTALS: 092INE103

NAME: **CLAIRDON**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1 tonnes	1 tons
Milled:	1 tonnes	1 tons
Recovery:		
Silver:	342 grams	11 ounces
Gold:	62 grams	2 ounces
Comments:		
1939:	Operated by Clairdon Mines Ltd.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE104		NAME: CRISS CREEK		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1945			Gold	529	
1920			Gold	1,057	

SUMMARY TOTALS: 092INE104

NAME: **CRISS CREEK**

	<u>Mined:</u>	<u>Milled:</u>	<u>Gold:</u>	<u>Metric</u>	<u>Imperial</u>
Recovery:				tonnes	tons
				tonnes	tons
Comments:				1,586 grams	51 ounces
	1945:	Production from 1941-45 (Bulletin 28).			
	1920:	Production from 1916-20 (Bulletin 28).			

RUN DATE: 26-Jun-2003
 RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 27
 REPORT: RGEN0200

MINFILE NUMBER: 092INE106		NAME: TRANQUILLE 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			Gold	2,799	
1940			Gold	7,402	
1935			Gold	2,021	
1905			Gold	14,337	
1890			Gold	1,182	
1885			Gold	15,239	
1880			Gold	31,411	

SUMMARY TOTALS: 092INE106

NAME: **TRANQUILLE RIVER PLACER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 74,391 grams	2,392 ounces

Comments:

1945: Production for 1941-45; Bulletin 28.
 1940: Production for 1936-40; Bulletin 28.
 1935: Production for 1931-35; Bulletin 28.
 1905: Production for 1901-05; Bulletin 28.
 1890: Production for 1886-90; Bulletin 28.
 1885: Production for 1881-85; Bulletin 28.
 1880: Production for 1876-80; Bulletin 28.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INE123		NAME: BUSE LAKE			STATUS: Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1992	11,533	11,533	Volcanic Ash		11,533,000	
1991	17,689	17,689	Volcanic Ash		17,689,000	
1990	10,217	10,217	Volcanic Ash		10,217,000	
1989	8,677	8,677	Volcanic Ash		8,677,000	
1988	8,528	8,528	Volcanic Ash		8,528,000	
1987	11,237	11,237	Volcanic Ash		11,237,000	
1986	6,299	6,299	Volcanic Ash		6,299,000	
1985	3,849	3,849	Volcanic Ash		3,849,000	
1984	6,167	6,167	Volcanic Ash		6,167,000	
1983	14,830	14,830	Volcanic Ash		14,830,000	
1982	23,112	23,112	Volcanic Ash		23,112,000	
1981	22,361	22,361	Volcanic Ash		22,361,000	
1980	32,975	32,975	Volcanic Ash		32,975,000	
1979	25,423	25,423	Volcanic Ash		25,423,000	
1978	28,690	28,690	Volcanic Ash		28,690,000	
1977	33,427	33,427	Volcanic Ash		33,427,000	
1976	28,892	28,892	Volcanic Ash		28,892,000	
1975	10,482	10,482	Volcanic Ash		10,482,000	
1974	25,650	25,650	Volcanic Ash		25,650,000	
1973	26,240	26,240	Volcanic Ash		26,240,000	
1972	19,729	19,729	Volcanic Ash		19,729,000	
1971	21,646	21,646	Volcanic Ash		21,646,000	
1970	9,388	9,388	Volcanic Ash		9,388,000	

SUMMARY TOTALS: 092INE123

NAME: **BUSE LAKE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	407,041 tonnes	448,686 tons
Milled:	407,041 tonnes	448,686 tons
Recovery:	Volcanic Ash: 407,041,000 kilograms	897,371,544 pounds

Comments: 1992: 1970-1992: Crystal (quartz, biotite?) clay-altered vitric ash.

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 29
REPORT: RGEN0200

MINFILE NUMBER:	092INW001	NAME:	SCOTTIE CREEK	STATUS:	Developed Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1929	114		Chromium		
1918	453		Chromium		

SUMMARY TOTALS: 092INW001

NAME: **SCOTTIE CREEK**

<u>Metric</u>		<u>Imperial</u>
Mined:	567 tonnes	625 tons
Milled:	tonnes	tons
Chromium:	0 kilograms	pounds

Recovery:

Comments:

1929: Test shipment to Trail assayed 13.3 per cent chromium.
1918: Mined by Stewart and Calvert but no shipments made.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1915	20	20	Silver	1,959	
			Gold	31	
			Copper		2,479

SUMMARY TOTALS: 092INW011

NAME: **GLOSSIE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	20 tonnes	22 tons
Milled:	20 tonnes	22 tons
Recovery:		
Silver:	1,959 grams	63 ounces
Gold:	31 grams	1 ounces
Copper:	2,479 kilograms	5,465 pounds

Comments: 1915: Carefully selected ore shipped to the Tacoma smelter, by V. Burr.

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 31
REPORT: RGEN0200

MINFILE NUMBER: 092INW015	NAME: MAGGIE	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1907	41	41	Silver Copper	2,271	3,175

SUMMARY TOTALS: 092INW015

	NAME: MAGGIE
	<u>Metric</u>
	41 tonnes
	41 tonnes
Recovery:	
	2,271 grams
	3,175 kilograms
	<u>Imperial</u>
	45 tons
	45 tons
	73 ounces
	7,000 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INW036		NAME: BIG SLIDE		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	272		Silver	1,680		
			Gold	1,866		
			Copper			76
1936			Gold	435		
1935	3,901	3,901	Silver	43,980		
			Gold	20,652		
			Copper			4,020
			Lead			54
1934	3,041	2,994	Silver	30,947		
			Gold	16,951		
			Copper			2,714

SUMMARY TOTALS: 092INW036

NAME: **BIG SLIDE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7,214 tonnes	7,952 tons
Milled:	6,895 tonnes	7,600 tons
Recovery:		
Silver:	76,607 grams	2,463 ounces
Gold:	39,904 grams	1,283 ounces
Copper:	6,810 kilograms	15,013 pounds
Lead:	54 kilograms	119 pounds

Comments:

1940: Clean up by R. Downey.
 1935: Bullion, ore, concentrate to Tacoma.
 1934: Bullion, ore, concentrate to Tacoma; operated by Grange Mines Ltd.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INW043		NAME: BASQUE 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>
1942		59	Magnesium Sulphate		59,000
1938	2,721	2,721	Magnesium Sulphate		2,721,000
1923	2,086	453	Magnesium Sulphate		453,000
1922	1,088	1,088	Magnesium Sulphate		1,088,000
1920	725	725	Magnesium Sulphate		725,000
1919	125	125	Magnesium Sulphate		125,000
1918	181	181	Magnesium Sulphate		181,000

SUMMARY TOTALS: 092INW043

NAME: **BASQUE NO. 1**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6,926 tonnes	7,635 tons
Milled:	5,352 tonnes	5,900 tons
Recovery: Magnesium Sulphat:	5,352,000 kilograms	11,799,137 pounds

Comments:

1942: Shipped from the refinery at Ashcroft; Bulletin 4, page 112.
 1938: Production from 1934 to 1938; Bulletin 4, page 112.
 1923: 1633 tonnes is stockpiled; Goudge, 1924.
 1922: Shipped.
 1920: Shipped.
 1919: Shipped.
 1918: Stockpiled.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INW047		NAME: HAT 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>
1977	6,350		Coal		6,350,000
1945	47		Coal		47,000
1944	515		Coal		515,000
1943	1,410		Coal		1,410,000
1942	1,794		Coal		1,794,000
1937	363		Coal		363,000
1936	287		Coal		287,000
1924	112		Coal		112,000

SUMMARY TOTALS: 092INW047

NAME: **HAT CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	10,878 tonnes	11,991 tons
Milled:	tonnes	tons
Recovery:	Coal: 10,878,000 kilograms	23,981,878 pounds

Comments:

1977: Coal from two trenches for burning and other tests.
 1937: Last three months of the year.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	092INW063		NAME:	FRASER RIVER (LILLOET)		STATUS:	Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>			
1945			Gold	15,488				
1940			Gold	85,618				
1935			Gold	53,150				
1930			Gold	2,737				
1925			Gold	6,189				
1920			Gold	14,182				
1915			Gold	11,320				
1910			Gold	66,523				
1905			Gold	186,320				
1900			Gold	325,462				
1895			Gold	389,341				
1890			Gold	665,416				
1885			Gold	590,869				
1880			Gold	323,751				
1875			Gold	182,930				

SUMMARY TOTALS: 092INW063

NAME: **FRASER RIVER (LILLOET)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 2,919,296 grams	93,857 ounces

Comments:

- 1945: Production from 1941-1945 (Bulletin 28, page 41).
- 1940: Production from 1936-1940 (Bulletin 28, page 41).
- 1935: Production from 1931-1935 (Bulletin 28, page 41).
- 1930: Production from 1926-1930 (Bulletin 28, page 41).
- 1925: Production from 1921-1925 (Bulletin 28, page 41).
- 1920: Production from 1916-1920 (Bulletin 28, page 41).
- 1915: Production from 1911-1915 (Bulletin 28, page 41).
- 1910: Production from 1906-1910 (Bulletin 28, page 41).
- 1905: Production from 1901-1905 (Bulletin 28, page 41).
- 1900: Production from 1896-1900 (Bulletin 28, page 41).
- 1895: Production from 1891-1895 (Bulletin 28, page 41).
- 1890: Production from 1886-1890 (Bulletin 28, page 41).
- 1885: Production from 1881-1885 (Bulletin 28, page 41).
- 1880: Production from 1876-1880 (Bulletin 28, page 41).
- 1875: Production from 1874-1875 (Bulletin 28, page 41).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INW066		NAME: FRASER RIVER (CLINTON)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1945			Gold	12,378	
1940			Gold	59,930	
1935			Gold	15,581	
1910			Gold	1,742	
1905			Gold	24,911	
1885			Gold	107,762	

SUMMARY TOTALS: 092INW066

NAME: **FRASER RIVER (CLINTON)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 222,304 grams	7,147 ounces

Comments:

- 1945: Production from 1941-1945 (Bulletin 28, page 33).
- 1940: Production from 1936-1940 (Bulletin 28, page 33).
- 1935: Production from 1931-1935 (Bulletin 28, page 33).
- 1910: Production from 1906-1910 (Bulletin 28, page 33).
- 1905: Production from 1901-1905 (Bulletin 28, page 33).
- 1885: Production from 1881-1885 (Bulletin 28, page 33).

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 37
REPORT: RGEN0200

MINFILE NUMBER:	092INW073	NAME:	THOMPSON RIVER	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1945			Gold	2,612	
1940			Gold	871	
1935			Gold	7,029	
1895			Gold	12,782	

SUMMARY TOTALS: 092INW073

NAME: **THOMPSON RIVER**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	tonnes		tons	
	Milled:	tonnes		tons	
Recovery:	Gold:	23,294 grams		749 ounces	

Comments:

1945: Production from 1941-1945 (Bulletin 28, page 40).
1940: Production from 1936-1940 (Bulletin 28, page 40).
1935: Production from 1931-1935 (Bulletin 28, page 40).
1895: Production from 1891-1895 (Bulletin 28, page 40).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INW081		NAME: PAVILION LIMESTONE		STATUS: Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
2000	200,000	200,000	Limestone		200,000,000
1999	200,000	200,000	Limestone		200,000,000
1998	200,000	200,000	Limestone		200,000,000
1997	200,000	200,000	Limestone		200,000,000
1996	200,000	200,000	Limestone		200,000,000
1995	200,000	200,000	Limestone		200,000,000
1994	200,000	200,000	Limestone		200,000,000
1993	200,000	200,000	Limestone		200,000,000
1992	200,000	200,000	Limestone		200,000,000
1991	275,000	275,000	Limestone		275,000,000
1990	277,549	273,484	Aggregate Limestone		4,065,000 273,484,000
1989	208,505	205,714	Aggregate Limestone		2,791,000 205,714,000
1988	215,088	214,400	Aggregate Limestone		688,000 214,400,000
1987	135,570	135,002	Aggregate Limestone		568,000 135,002,000
1986	141,152	139,306	Aggregate Limestone		1,826,000 139,306,000
1985	123,522	121,842	Aggregate Limestone		1,680,000 121,842,000
1984	112,861	111,292	Aggregate Limestone		1,569,000 111,292,000
1983	137,481	136,964	Aggregate Limestone		517,000 136,964,000
1982	145,527	144,390	Aggregate Limestone		1,137,000 144,390,000
1981	154,600	152,054	Aggregate Limestone		2,546,000 152,054,000
1980	154,895	151,868	Aggregate Limestone		3,027,000 151,868,000
1979	129,180	127,080	Aggregate Limestone		2,100,000 127,080,000
1978	89,536	88,110	Aggregate Limestone		1,426,000 89,110,000
1977	84,569	84,569	Limestone		84,568,664
1976	77,003	76,164	Aggregate Limestone		839,146 76,163,598
1975	49,491	49,315	Aggregate Limestone		176,901 49,314,560

SUMMARY TOTALS: 092INW081

NAME: **PAVILION LIMESTONE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,311,529 tonnes	4,752,647 tons
Milled:	4,286,554 tonnes	4,725,117 tons
Recovery: Aggregate:	24,956,047 kilograms	55,018,650 pounds
Limestone:	4,287,552,822 kilograms	9,452,433,278 pounds

Comments:

2000: From 1999, production is about 200,000 tonnes annually.
 1999: From 1999, production is about 200,000 tonnes annually.
 1998: From 1999, production is about 200,000 tonnes annually.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INW087		NAME: RIVERSIDE PYROPHYLLITE			STATUS: Prospect	
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered	
1952	172	126	Pyrophyllite		126,000	
1951	97	97	Pyrophyllite		97,000	
1950	82	82	Pyrophyllite		82,000	

SUMMARY TOTALS: 092INW087

NAME: **RIVERSIDE PYROPHYLLITE**

	<u>Mined:</u>	<u>Milled:</u>	<u>Metric</u>	<u>Imperial</u>
Recovery:	351 tonnes	305 tonnes	351 tonnes	387 tons
Pyrophyllite:		305,000 kilograms		672,410 pounds

Comments:

1952: Industrial mineral fiche.
 1951: Industrial mineral fiche.
 1950: Test lot (Minister of Mines Annual Report 1951, page A222).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092INW091	NAME: BONAPARTE RIVER	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1880		
		Commodity
		Gold
		Grams Recovered
		1,431
		Kilograms Recovered

SUMMARY TOTALS: 092INW091

NAME: **BONAPARTE RIVER**

	<u>Metric</u>		<u>Imperial</u>
Mined:	tonnes		tons
Milled:	tonnes		tons
Recovery:			
	Gold:	1,431 grams	46 ounces
Comments:			
	1880:	Production from 1876-1880 (Bulletin 28, page 38).	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>092ISE001</u>	NAME:	<u>BETHLEHEM</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>
1982	2,228,831	2,228,831	Silver Gold Copper	4,251,939 76,732	15,281,276
1981	7,174,464	6,496,250	Silver Gold Copper Molybdenum	3,662,092 54,151	16,264,628 275,049
1980	6,808,998	6,281,765	Silver Gold Copper Molybdenum	6,503,270 129,204	22,715,445 93,299
1979	6,985,101	6,525,449	Silver Gold Copper Molybdenum	6,535,338 122,797	21,260,613 306,288
1978	6,572,018	6,490,726	Silver Gold Copper Molybdenum	7,299,470 124,661	18,312,007 133,777
1977	5,568,004	5,554,855	Silver Gold Copper	7,778,580 106,652	24,462,130
1976	7,031,578	6,763,838	Silver Gold Copper	4,618,236 57,230	23,006,380
1975	6,451,247	5,864,500	Silver Gold Copper	4,206,432 20,061	22,154,586
1974	5,859,240	5,757,329	Silver Gold Copper	5,530,331 21,274	26,542,261
1973	5,655,347	5,750,725	Silver Copper	5,474,128	33,248,601
1972	5,323,799	5,411,053	Silver Gold Copper	4,717,423 42,767	22,030,233
1971	5,502,236	5,103,794	Silver Copper	4,789,862	24,539,865
1970	5,180,423	4,944,808	Silver Gold Copper	5,700,931 70,013	23,428,415
1969	5,173,648	4,886,698	Silver Gold Copper	4,930,883 64,508	19,460,185
1968	4,722,388	4,622,771	Silver Gold Copper	6,027,450 87,306	23,955,766
1967	3,929,701	3,581,668	Silver Gold Copper	4,765,664 50,605	18,199,732
1966	2,333,995	2,746,289	Silver Gold Copper Molybdenum	3,103,893 15,645	12,695,711 6,282
1965	1,622,374	1,622,374	Silver Gold Copper Molybdenum	2,757,188 49,609	10,042,483 23,541
1964	1,251,390	1,251,390	Silver Gold Copper Molybdenum	4,386,985 113,650	11,631,508 12,812
1963	949,728	949,728	Silver Gold Copper	2,786,798 72,968	8,880,720

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 42
REPORT: RGEN0200

MINFILE NUMBER: **092ISE001**

NAME: **BETHLEHEM**

STATUS: Past Producer

SUMMARY TOTALS: 092ISE001

NAME: **BETHLEHEM**

	<u>Metric</u>	<u>Imperial</u>
Mined:	96,324,510 tonnes	106,179,596 tons
Milled:	92,834,841 tonnes	102,332,894 tons
Recovery:		
Silver:	99,826,893 grams	3,209,504 ounces
Gold:	1,279,833 grams	41,148 ounces
Copper:	398,112,545 kilograms	877,687,675 pounds
Molybdenum:	851,048 kilograms	1,876,239 pounds

Comments:

1979: Iona pit mined from 1976 to 1979.
1976: Heustis pit mined from 1970 to 1976.
1974: Jersey, East Jersey and Huestis pits.
1966: 1964-66: Molybdenum production from the East Jersey (092ISE002).
1965: East Jersey pit mined from 1962 to 1965.
1964: Jersey pit mining begins.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISE005		NAME: BETHLEHEM (SNOWSTORM)		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>
1916	36		Silver	5,443	
			Copper		8,604
1915	87		Silver	19,097	
			Gold	249	
			Copper		26,211

SUMMARY TOTALS: 092ISE005

NAME: **BETHLEHEM (SNOWSTORM)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	123 tonnes	136 tons
Milled:	tonnes	tons
Recovery:		
Silver:	24,540 grams	789 ounces
Gold:	249 grams	8 ounces
Copper:	34,815 kilograms	76,754 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 44
REPORT: RGEN0200

MINFILE NUMBER:	092ISE009	NAME:	FORD	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1930	19		Silver	155	
			Copper		640
1929	27		Silver	280	
			Copper		590

SUMMARY TOTALS: 092ISE009

NAME: **FORD**

Metric

46 tonnes
tonnes

Imperial

51 tons
tons

Recovery:

Mined:
Milled:

Silver:
Copper:

435 grams
1,230 kilograms

14 ounces
2,712 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 45
REPORT: RGEN0200

MINFILE NUMBER: 092ISE012	NAME: BERTHA - MOLLY	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1942	31		Silver Copper	218	626

SUMMARY TOTALS: 092ISE012

	NAME: BERTHA - MOLLY		
	<u>Metric</u>	<u>Imperial</u>	
	31 tonnes	34 tons	
	Milled:	tons	
Recovery:	Silver:	218 grams	7 ounces
	Copper:	626 kilograms	1,380 pounds

RUN DATE: 26-Jun-2003
 RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 46
 REPORT: RGEN0200

MINFILE NUMBER: 092ISE013		NAME: HIGHMONT		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>	
1984	8,565,800	8,565,800	Copper		16,321,000	
			Molybdenum		2,131,692	
1983	10,486,070	8,796,983	Copper		15,993,486	
			Molybdenum		1,550,333	
1982	9,136,164	8,905,999	Copper		10,267,974	
			Molybdenum		2,021,988	
1981	9,059,365	6,397,689	Copper		7,636,480	
			Molybdenum		1,161,600	

SUMMARY TOTALS: 092ISE013

NAME: **HIGHMONT**

	<u>Metric</u>	<u>Imperial</u>
Mined:	37,247,399 tonnes	41,058,229 tons
Milled:	32,666,471 tonnes	36,008,620 tons
Recovery:		
Copper:	50,218,940 kilograms	110,713,780 pounds
Molybdenum:	6,865,613 kilograms	15,136,081 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 47
REPORT: RGEN0200

MINFILE NUMBER:	092ISE023	NAME:	DOT	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1925	77		Silver Copper	1,866	8,409

SUMMARY TOTALS: 092ISE023

	Mined:	77 tonnes	85 tons
	Milled:		tons
Recovery:	Silver:	1,866 grams	60 ounces
	Copper:	8,409 kilograms	18,539 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISE024		NAME: ABERDEEN (L.960)		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>
1960	34		Silver	560	
			Copper		2,631
1926	39		Silver	498	
			Copper		3,901
1925	75		Silver	1,928	
			Copper		8,404
1917	330		Silver	5,816	
			Gold	218	
			Copper		19,790
1916	1,150		Silver	10,108	
			Copper		73,270
1915	36		Silver	4,976	
			Gold	62	
			Copper		2,540
1907	10		Silver	435	
			Copper		1,173

SUMMARY TOTALS: 092ISE024

NAME: **ABERDEEN (L.960)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,674 tonnes	1,845 tons
Milled:		
Recovery:		
	24,321 grams	782 ounces
	280 grams	9 ounces
	111,709 kilograms	246,276 pounds

RUN DATE: 26-Jun-2003
 RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 49
 REPORT: RGEN0200

MINFILE NUMBER: 092ISE027		NAME: LUCKY MIKE		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>
1924	5		Silver	1,991	
			Gold	62	
			Lead		795
1917	19		Silver	2,271	
			Copper		876

SUMMARY TOTALS: 092ISE027

NAME: **LUCKY MIKE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	24 tonnes	26 tons
Milled:	tonnes	tons
Recovery:		
Silver:	4,262 grams	137 ounces
Gold:	62 grams	2 ounces
Copper:	876 kilograms	1,931 pounds
Lead:	795 kilograms	1,753 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092ISE028** NAME: **ENTERPRISE (L.651)** 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>
1980		10	Silver Gold Lead Zinc	4,541 62	 162 152
1979	9		Silver Gold Lead Zinc	3,473 111	 239 168
1952	1		Silver Lead Zinc	7,838	 139 105
1944	5		Silver Gold Lead Zinc	11,757 311	 2,015 318
1941	3,878		Silver Gold Lead Zinc	223,164 4,386	 5,466 17,237
1940	4,317		Silver Gold Lead Zinc	658,544 13,592	 52,140 31,140
1937	11,293		Silver Gold Copper Lead Zinc	417,558 19,439	 4,896 87,571 20,384
1936	17,136		Silver Gold Copper Lead Zinc	911,536 33,778	 13,221 163,521 59,642
1935	6,478		Silver Gold Lead Zinc	691,700 21,399	 100,193 28,002
1934	5,529		Silver Gold Lead Zinc	799,223 24,167	 85,095 21,708
1933	8		Silver Gold Lead Zinc	33,436 1,058	 3,706 644
1931	853		Silver Gold Copper Lead Zinc	333,175 8,958	 2,971 41,791 6,446
1930	15,422		Silver Gold Copper Lead Zinc	2,339,848 102,484	 28,474 283,125 47,605
1929	6,355		Silver Gold Lead Zinc	1,324,894 24,696	 214,094 498
1926	29		Silver Gold Lead Zinc	20,963 342	 1,039 1,099

SUMMARY TOTALS: 092ISE028

NAME: **ENTERPRISE (L.651)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	71,313 tonnes	78,609 tons
Milled:	10 tonnes	11 tons
Recovery:		
Silver:	7,781,650 grams	250,185 ounces
Gold:	254,783 grams	8,191 ounces
Copper:	49,562 kilograms	109,265 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 51
REPORT: RGEN0200

MINFILE NUMBER: **092ISE028**

NAME: **ENTERPRISE (L.651)**

STATUS: Past Producer

Lead:	1,040,296 kilograms	2,293,459 pounds
Zinc:	235,148 kilograms	518,412 pounds

RUN DATE: 26-Jun-2003
 RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 52
 REPORT: RGEN0200

MINFILE NUMBER: 092ISE031		NAME: JENNY LONG (L.718)		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	635		Silver	106,248	
			Gold	5,785	
			Lead		8,284
			Zinc		2,602

SUMMARY TOTALS: 092ISE031

NAME: **JENNY LONG (L.718)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	635 tonnes	700 tons
Milled:		
Recovery:		
Silver:	106,248 grams	3,416 ounces
Gold:	5,785 grams	186 ounces
Lead:	8,284 kilograms	18,263 pounds
Zinc:	2,602 kilograms	5,736 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	092ISE035		NAME:	CRAIGMONT		STATUS:	Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>			
1997		60,000	Magnetite		60,000,000			
1996		60,000	Magnetite		60,000,000			
1995		60,000	Magnetite		60,000,000			
1994		60,000	Magnetite		60,000,000			
1993		60,000	Magnetite		60,000,000			
1992		60,000	Magnetite		60,000,000			
1991		60,000	Magnetite		60,000,000			
1990		56,936	Iron		56,936,000			
1989		44,856	Iron		44,856,000			
1988		39,271	Iron		39,271,000			
1987		32,300	Iron		32,300,000			
1986		35,821	Iron		35,821,000			
1985		54,225	Iron		54,225,000			
1984		48,634	Iron		48,634,000			
1983		23,906	Iron		23,906,000			
1982	690,029	690,029	Copper		3,018,203			
1981	1,450,995	1,450,995	Copper		9,545,277			
1980	1,950,551	1,950,551	Copper		10,794,185			
1979	2,010,812	1,924,570	Copper		16,188,137			
1978	1,885,916	1,899,934	Copper		26,290,618			
1977	1,849,726	1,884,335	Copper		17,659,393			
1976	1,767,514	1,763,219	Gold	7,838				
			Copper		21,107,071			
1975	1,771,102	1,774,731	Gold	26,997				
			Copper		20,564,778			
1974	1,589,488	1,629,923	Copper		24,260,910			
1973	1,275,143	1,296,865	Copper		17,511,143			
			Iron		35,197,677			
1972	1,703,775	1,699,641	Copper		21,270,715			
			Iron		35,439,894			
1971	1,658,561	1,663,279	Gold	23,421				
			Copper		18,186,143			
			Iron		21,692,776			
1970	1,635,680	1,630,396	Gold	19,595				
			Copper		17,844,056			
			Iron		16,841,797			
1969	1,642,771	1,642,771	Copper		17,068,488			
1968	1,600,474	1,600,474	Copper		13,833,332			
1967	1,087,820	1,755,221	Copper		27,123,960			
1966	1,246,554	1,233,250	Copper		15,322,908			
1965	1,192,215	1,192,215	Copper		13,806,392			
1964	1,668,357	1,668,357	Copper		25,023,404			
1963	1,621,781	1,621,781	Copper		27,065,033			
1962	1,678,512	1,678,512	Copper		36,205,997			
1961	439,141	439,141	Silver	242,510				
			Copper		3,014,326			

SUMMARY TOTALS: 092ISE035

NAME: **CRAIGMONT**

	<u>Metric</u>	<u>Imperial</u>
Mined:	33,416,917 tonnes	36,835,845 tons
Milled:	34,846,139 tonnes	38,411,293 tons
Recovery:		
Silver:	242,510 grams	7,797 ounces
Gold:	77,851 grams	2,503 ounces
Copper:	402,704,469 kilograms	887,811,132 pounds
Iron:	445,121,144 kilograms	981,323,867 pounds
Magnetite:	420,000,000 kilograms	925,941,240 pounds

Comments: 1994: 1991-1994: Annual production (Information Circular 1996-1, p. 10)
 1990: 1983-1990: Iron concentrates.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISE052	NAME: LEADVILLE	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1947	33	
		Commodity
		Silver
		Lead
		Zinc
		Grams Recovered
		2,115
		Kilograms Recovered
		5,643
		258

SUMMARY TOTALS: 092ISE052

	NAME: LEADVILLE	
	<u>Metric</u>	<u>Imperial</u>
Mined:	33 tonnes	36 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,115 grams	68 ounces
Lead:	5,643 kilograms	12,441 pounds
Zinc:	258 kilograms	569 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **092ISE055** NAME: **TURLIGHT (L.4841)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1956	41		Silver	2,426	
			Copper		2,806
1947	146		Silver	6,656	
			Gold	124	
			Copper		6,566

SUMMARY TOTALS: 092ISE055

NAME: **TURLIGHT (L.4841)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	187 tonnes	206 tons
Milled:	tonnes	tons
Recovery: Silver:	9,082 grams	292 ounces
Gold:	124 grams	4 ounces
Copper:	9,372 kilograms	20,662 pounds

RUN DATE: 26-Jun-2003
 RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 56
 REPORT: RGEN0200

MINFILE NUMBER: 092ISE063		NAME: WIZ		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>	
1915	20		Silver	1,959		
			Gold	62		
			Copper		2,217	
1908	52		Silver	715		
			Copper		1,483	

SUMMARY TOTALS: 092ISE063

NAME: **WIZ**

	<u>Metric</u>	<u>Imperial</u>
Mined:	72 tonnes	79 tons
Milled:		tons
Recovery:		
Silver:	2,674 grams	86 ounces
Gold:	62 grams	2 ounces
Copper:	3,700 kilograms	8,157 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 57
REPORT: RGEN0200

MINFILE NUMBER: 092ISE094	NAME: OLD ALAMEADA (L.4507)	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1926	3		Silver	1,711	
			Gold	31	
			Lead		290

SUMMARY TOTALS: 092ISE094

NAME: **OLD ALAMEADA (L.4507)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3 tonnes	3 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,711 grams	55 ounces
Gold:	31 grams	1 ounces
Lead:	290 kilograms	639 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISE101		NAME: THELMA (L.4510)		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>
1938	15		Silver	175,203	
			Lead		2,544
			Zinc		3,530
1928	65		Silver	49,112	
			Gold	31	
			Lead		1,908
			Zinc		1,932
1926	1		Silver	11,508	
			Lead		180

SUMMARY TOTALS: 092ISE101

NAME: **THELMA (L.4510)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	81 tonnes	89 tons
Milled:	tonnes	tons
Recovery:		
Silver:	235,823 grams	7,582 ounces
Gold:	31 grams	1 ounces
Lead:	4,632 kilograms	10,212 pounds
Zinc:	5,462 kilograms	12,042 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISE109		NAME: JOSHUA (L.588)		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>
1920	56		Silver	48,054	
			Gold	435	
			Lead		1,234
1919	7		Silver	9,860	
			Gold	218	
			Lead		535
1918	8		Silver	746	
			Gold	31	
			Copper		523
1917	90		Silver	92,438	
			Gold	3,079	
			Copper		439
			Lead		4,852
1916	24		Silver	1,213	
			Gold	31	
			Lead		1,015

SUMMARY TOTALS: 092ISE109

NAME: **JOSHUA (L.588)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	185 tonnes	204 tons
Milled:	tonnes	tons
Recovery:		
Silver:	152,311 grams	4,897 ounces
Gold:	3,794 grams	122 ounces
Copper:	962 kilograms	2,121 pounds
Lead:	7,636 kilograms	16,834 pounds

RUN DATE: 26-Jun-2003
 RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 60
 REPORT: RGEN0200

MINFILE NUMBER: **092ISE115** NAME: **MARY REYNOLDS (L.674)** 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>
1967	17		Silver	5,941	
			Gold	31	
			Lead		174
			Zinc		139
1919	117		Silver	201,361	
			Gold	560	
			Lead		1,549
1889	2		Gold	249	

SUMMARY TOTALS: 092ISE115

NAME: **MARY REYNOLDS (L.674)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	136 tonnes	150 tons
Milled:	tonnes	tons
Recovery:		
Silver:	207,302 grams	6,665 ounces
Gold:	840 grams	27 ounces
Lead:	1,723 kilograms	3,799 pounds
Zinc:	139 kilograms	306 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 61
REPORT: RGEN0200

MINFILE NUMBER: 092ISE121	NAME: COPPER BELLE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1913	40		Silver Copper	10,108	2,301

SUMMARY TOTALS: 092ISE121

	NAME: COPPER BELLE
	<u>Metric</u>
	40 tonnes
	Milled: tonnes
Recovery:	
	Silver: 10,108 grams
	Copper: 2,301 kilograms
	<u>Imperial</u>
	44 tons
	325 ounces
	5,073 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 62
REPORT: RGEN0200

MINFILE NUMBER:	092ISE140	NAME:	MERRITT GYPSUM	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1911	454		Gypsum		454,000
SUMMARY TOTALS: 092ISE140		NAME:	MERRITT GYPSUM		
	Mined:	<u>Metric</u>		<u>Imperial</u>	
	Milled:	454 tonnes		500 tons	
Recovery:	Gypsum:	454,000 kilograms		1,000,898 pounds	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISE148	NAME: LAW	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1967	66	
		Commodity
		Silver
		Gold
		Lead
		Grams Recovered
		21,181
		187
		Kilograms Recovered
		926

SUMMARY TOTALS: 092ISE148

	NAME: LAW	
	<u>Metric</u>	<u>Imperial</u>
Mined:	66 tonnes	73 tons
Milled:	tonnes	tons
Recovery:		
Silver:	21,181 grams	681 ounces
Gold:	187 grams	6 ounces
Lead:	926 kilograms	2,041 pounds

RUN DATE: 26-Jun-2003
RUN TIME: 11:14:19

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 64
REPORT: RGEN0200

MINFILE NUMBER:	092ISW005	NAME:	VICTOR	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1968	27,215		Copper		4,809
SUMMARY TOTALS: 092ISW005		NAME:	VICTOR		
	Mined:	<u>Metric</u>		<u>Imperial</u>	
	Milled:	27,215 tonnes		29,999 tons	
Recovery:	Copper:	4,809 kilograms		10,602 pounds	
Comments:	1968:	Leaching			

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISW010		NAME: ALWIN		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			Silver	301,000		
			Gold	5,112		
			Copper		311,955	
1981	107,129	107,129	Silver	1,773,333		
			Gold	35,432		
			Copper		2,082,134	
1980	48,223	48,223	Copper		1	
1972	75,852	75,852	Silver	618,545		
			Gold	5,692		
			Copper		1,151,858	
1918	426	426	Silver	1,555		
			Copper		10,977	
1917	1,343	1,343	Silver	25,473		
			Copper		221,888	
1916	103	103	Copper		7,423	

SUMMARY TOTALS: 092ISW010

NAME: **ALWIN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	233,076 tonnes	256,922 tons
Milled:	233,076 tonnes	256,922 tons
Recovery:		
Silver:	2,719,906 grams	87,447 ounces
Gold:	46,236 grams	1,487 ounces
Copper:	3,786,236 kilograms	8,347,219 pounds

Comments:
 1982: Ore milled (unknown tonnage) was from 1981 production.
 1980: Shipments commenced in 1981.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISW012		NAME: HIGHLAND VALLEY COPPER		STATUS: Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
2002	36,900,000	36,900,000	Copper		137,100,000
2001	78,886,000	48,892,000	Silver	97,539,000	
			Gold	449,000	
			Copper		180,530,000
			Molybdenum		1,850,800
2000	85,012,000	46,694,000	Silver	70,356,000	
			Gold	491,440	
			Copper		190,700,000
			Molybdenum		2,000,000
1999	57,303,000	30,165,000	Silver	41,368,000	
			Gold	289,000	
			Copper		109,600,000
			Molybdenum		1,400,000
1998	98,421,000	48,963,705	Silver	65,091,000	
			Gold	438,217	
			Copper		166,650,000
			Molybdenum		2,374,000
1997	92,138,000	44,975,604	Silver	56,148,000	
			Gold	369,760	
			Copper		156,040,379
			Molybdenum		1,676,991
1996	42,620,245	42,620,245	Silver	56,626,943	
			Gold	361,423	
			Copper		153,838,084
			Molybdenum		1,336,740
1995	45,625,259	45,521,812	Silver	58,791,000	
			Gold	396,538	
			Copper		163,139,166
			Molybdenum		1,564,859
1994	43,438,122	43,484,454	Silver	60,616,291	
			Gold	395,916	
			Copper		166,463,926
			Molybdenum		1,644,393
1993	44,609,633	44,472,524	Silver	59,453,954	
			Gold	398,498	
			Copper		162,010,791
			Molybdenum		1,718,350
1992	44,016,882	44,064,369	Silver	65,176,403	
			Gold	429,570	
			Copper		176,742,074
			Molybdenum		1,808,010
1991	46,349,872	46,291,933	Silver	73,927,739	
			Gold	651,120	
			Copper		177,394,055
			Molybdenum		1,426,548
1990	46,371,798	46,263,361	Silver	67,978,377	
			Gold	582,524	
			Copper		169,093,894
			Molybdenum		1,695,982
1989	32,589,813	32,323,729	Silver	47,571,741	
			Gold	421,110	
			Copper		117,016,997
			Molybdenum		1,658,597
1988	44,039,200	44,109,498	Silver	66,399,175	
			Gold	597,529	
			Copper		175,501,685
			Molybdenum		1,939,262
1987	41,992,321	41,999,458	Silver	46,366,979	
			Gold	296,416	
			Copper		161,897,636
			Molybdenum		4,726,702
1986	25,755,436	25,546,863	Silver	29,002,818	
			Gold	115,361	
			Copper		94,542,685
			Molybdenum		2,043,572
1985	9,466,592	9,295,598	Silver	13,948,978	
			Gold	118,815	
			Copper		39,000,115
1984	8,450,952	8,437,148	Silver	14,484,515	
			Gold	121,086	
			Copper		39,506,773

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISW012		NAME: HIGHLAND VALLEY COPPER			STATUS: 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	7,461,980	7,171,985	Silver	11,747,100		
			Gold	92,936		
			Copper		29,965,965	

SUMMARY TOTALS: 092ISW012

		NAME: HIGHLAND VALLEY COPPER			
		<u>Metric</u>		<u>Imperial</u>	
Mined:		931,448,105 tonnes		1,026,745,772 tons	
Milled:		738,193,286 tonnes		813,718,801 tons	
Recovery:	Silver:	1,002,594,013 grams		32,234,099 ounces	
	Gold:	7,016,259 grams		225,578 ounces	
	Copper:	2,766,734,225 kilograms		6,099,603,141 pounds	
	Molybdenum:	30,864,806 kilograms		68,045,230 pounds	

Comments:

2002: Jan.- Sept. 2002.
 1996: Production from Valley pit, with less than 5% from Lornex pit.
 1995: Production from the Valley pit, with 5 per cent from Lornex pit.
 1994: Production from Valley pit, with 20 per cent from Lornex pit.
 1991: 1987-1991: Production includes the Lornex mine (092ISW045).
 1986: Combined with Lornex (092ISW045) in July.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 092ISW045		NAME: LORNEX		STATUS: Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1986	15,864,000	15,943,000	Silver	12,813,296	47,829,875	
			Copper		2,009,903	
			Molybdenum			
1985	29,257,397	29,211,503	Silver	28,732,801	105,822,586	
			Copper		3,151,589	
			Molybdenum			
1984	28,036,467	28,162,932	Silver	22,580,533	77,744,825	
			Copper		3,082,566	
			Molybdenum			
1983	28,885,257	28,766,769	Silver	24,992,888	87,442,989	
			Copper		2,768,393	
			Molybdenum			
1982	27,829,432	27,842,904	Silver	28,849,936	102,788,005	
			Copper		2,109,237	
			Molybdenum			
1981	21,099,986	20,739,392	Silver	17,921,014	66,180,006	
			Copper		1,732,772	
			Molybdenum			
1980	16,011,095	16,037,591	Silver	18,372,886	63,431,872	
			Copper		2,168,136	
			Molybdenum			
1979	16,102,384	16,126,103	Silver	16,562,009	60,858,558	
			Copper		2,059,851	
			Molybdenum			
1978	15,865,501	15,927,064	Silver	17,486,200	63,114,028	
			Copper		1,864,355	
			Molybdenum			
1977	15,583,834	15,480,725	Silver	19,209,555	66,156,450	
			Gold	12,597	1,846,837	
			Copper			
			Molybdenum			
1976	14,731,696	15,436,575	Silver	17,316,751	68,313,748	
			Gold	26,851	1,715,590	
			Copper			
			Molybdenum			
1975	11,468,765	11,696,413	Silver	13,042,545	50,239,447	
			Gold	7,745	1,406,082	
			Copper			
			Molybdenum			
1974	14,648,770	14,918,993	Silver	13,546,538	48,763,749	
			Gold	20,466	1,785,876	
			Copper			
			Molybdenum			
1973	12,688,727	12,688,727	Silver	13,405,393	46,347,826	
			Gold	23,732	1,535,645	
			Copper			
			Molybdenum			
1972	2,587,118	2,587,118	Silver	4,308,512	16,047,187	
			Gold	6,780		
			Copper			

SUMMARY TOTALS: 092ISW045

NAME: **LORNEX**

	<u>Metric</u>	<u>Imperial</u>
Mined:	270,660,429 tonnes	298,352,049 tons
Milled:	271,565,809 tonnes	299,350,060 tons
Recovery:		
Silver:	269,140,857 grams	8,653,067 ounces
Gold:	98,171 grams	3,156 ounces
Copper:	971,081,151 kilograms	2,140,866,869 pounds
Molybdenum:	29,236,832 kilograms	64,456,163 pounds

Comments:

1986: Operated Jan-Jun; July combined with Valley (092ISW012).